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Evaluating Alternative Methodologies to Teaching Reading to Sixth-Grade Students  
and the Association with Student Achievement

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A dissertation

presented to

the faculty of the Department of Educational Leadership and Policy Analysis

East Tennessee State University

In partial fulfillment

of the requirements for the degree

Doctor of Education

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by

Susan Carol Salyer Lewis

December 2005

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Keywords: Reading, Reading Methodologies, Middle School, Adolescent Reading,  
*Accelerated Reader*, Literature-Based Reading

## ABSTRACT

### Evaluating Alternative Methodologies to Teaching Reading to Sixth-Grade Students and the Association with Student Achievement

by

Susan Carol Salyer Lewis

The purpose of this study was to determine if an association exists between reading methodologies and reading achievement as measured by the Tennessee Comprehensive Assessment Program (TCAP) for sixth-grade students. The four reading methodology groups were: developmental reading, literature-based reading, *Accelerated Reader* program, and *Accelerated Reader* program with vocabulary study. The population included 236 students in one middle school located in Northeast Tennessee during the 2004-2005 school year. Comparisons were made using TCAP criterion-referenced test reading/language arts scores, TCAP proficiency levels for content, meaning, and vocabulary categories for 2005, and pretest and posttest scores on the student assessment of reading. Data were analyzed using the Statistical Package for the Social Sciences (SPSS).

The findings indicated significant differences in the reading methodology groups. The developmental group performed much lower than the other three groups. The literature-based group performed much higher than the other groups. Even when the analysis of the gain scores showed no statistical difference among groups, the literature-based group had the largest gain. The students in this study exceeded the state's annual goal of scoring 80% proficient or higher. The literature-based group and both *Accelerated Reader* groups exceeded the goal by achieving 90% on proficiency levels, whereas the developmental group failed to meet the state's goal in

content and meaning but met the goal for vocabulary. Overall, the *Accelerated Reader* and *Accelerated Reader* with vocabulary groups were similar across all dependent variables.

## DEDICATION

I dedicate this study to my family. I have missed the hours apart from them during the classes, projects, exams, and work on this study. My husband, Jim, has given me unending support, understanding, and encouragement. My daughters, Brooke and Heather, have lifted my spirits with their energy and laughter.

I dedicate my aspirations as a lifelong learner to my parents who taught me to love learning and modeled perseverance and work ethic. My mother, Opal Salyer, continually gives her love, patience, and vision for only the best that life has to offer. My dad, Paul Salyer, who is now in Heaven, is looking down and saying, "I knew you could do it!"

Most of all, I dedicate any accomplishments in my life to my heavenly Father. He continually molds this clay to fulfill His purposes in life's journey. For this challenge, I have once again proven that I can do all things through Him who strengthens me.

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## CHAPTER 1

### INTRODUCTION

A middle school contains a heterogeneous mixture of students from several elementary school communities bringing together diverse perspectives: individual, cultural, ethnic, and linguistic. Consequently, this combination can have a significant impact on reading performance (National Middle-School Association, 2001). In making the transition to middle school, young adolescents often experience stress from a variety of sources such as “a heavier homework load, social pressure of meeting new people, and hormonal changes” (Daniels, 2005, p. 52). Attention is being drawn to beginning readers in the primary grades emphasizing that every child should be reading on grade level by third grade as a result of the implementation of the *No Child Left Behind Act* (2005). A section of the Act states:

Most of the progress in education during President Bush’s first term was at the elementary school level, where *No Child Left Behind Act* programs target most of their resources. . . in too many school districts across the nation, the longer students stay in school, the more they fall behind. (p. 2)

In addition, the Act states, "The president’s 2006 request includes a comprehensive proposal that builds on the stronger accountability provisions of the *No Child Left Behind Act* to improve the quality of secondary education" (p. 4).

From a developmental perspective, several researchers have agreed with the fallacy of the assumption that reading is mastered in the elementary school years (International Reading Association, 1999; Jackson & Davis, 2000; Wood & Harmon, 2001). Younger readers read and interpret from more personal experiences, whereas adolescent readers must comprehend complex and abstract texts. Younger readers learn to read, but adolescents must use reading as a vehicle to learn in nearly every content area. The adolescent’s curriculum requires reading and understanding of complex texts and genres; at the same time, he or she must become proficient in expository texts when learning new content. In a report by the Carnegie Corporation called *Reading Next*, Biancarosa and Snow (2004) contended that third graders who were reading on

grade level would continue to be high achievers if they were to continue to be taught reading in middle and high school.

The 21st century ushered in the “information” age accompanied with loftier expectations for future adults to perform more reading and writing tasks than previously conceived. Snow and Biancarosa (2003) explained, “The disparities observed in literacy outcomes have implications beyond reading and writing skills themselves, because literacy is the prerequisite to academic achievement in middle and secondary school and beyond” (p. 5). The National Assessment of Educational Progress as noted by the Joint Position Statement of the International Reading Association (1999) and National Middle-School Association (2001) reported that reading scores of younger children were stable whereas older students’ reading scores had declined. Researchers Ruddell and Unrau (as cited in Robb, 2000) reported that children’s interest in reading for pleasure and their motivation to learn and read diminished as they progressed through school. In addition, Biancarosa and Snow (2004) wrote that teaching reading to middle-school students was a more difficult task than teaching primary students for two reasons: “First, secondary school literacy skills are more complex, more embedded in subject matter, and more multiply determined; second, adolescents are not as universally motivated to read better or as interested in school-based reading as kindergartners” (p. 2).

### *History of the Reading Six Class*

Educators in a middle school in a small urban school district in Northeast Tennessee have increased their efforts to improve reading performance. The middle school in this study had an enrollment that ranged from 850 to 925 students in the past four years. Each grade level is divided into teaching teams of three or four teachers with one teacher for each academic area. Reading achievement as measured annually by the Tennessee Comprehensive Assessment Program (TCAP) continued to be in the school improvement plan as an area to strengthen. To address reading achievement, a Goals 2000 grant was written. The grant was awarded to the

school as part of a reading initiative to improve students' reading achievement. The specifics of the grant included purchase of the *Accelerated Reader* Program (*Accelerated Reader*, 1999), Standardized Test for the Assessment of Reading (STAR Reading, 1999), and books for the library as well as classroom sets of books and training for the media specialists and language arts teachers. These items were purchased and teachers were trained for implementation of the program in the 2001-2002 school year.

The *Accelerated Reader* Program uses trade books organized according to reading level; for example, a book that is labeled 5.7 has the reading level of fifth grade, seventh month. Students read a book and take a computerized test to check for understanding of the book. The *Accelerated Reader* Program is designed to compute the results and provide immediate feedback for the student. A management system is provided for the teacher and a variety of reports may be generated such as individual reading logs and student or class performance. In order for teachers to match the reading level of books with a student's performance, the Standardized Test for the Assessment of Reading (STAR) is used. This is a computerized reading assessment administered to each child that results in both independent and instructional reading levels.

When reading performance continued to be an area to strengthen, the school administrative team and language arts teachers made the decision to design a class to address reading skills. Thus, a reading class was scheduled daily as the fifth academic subject, resulting in teachers from each area of the curriculum being responsible for teaching reading. Whereas many teachers were novices at teaching reading, the faculty agreed to use the *Accelerated Reader* Program as a “beginning” point in developing a reading curriculum; however, no specific curriculum or method of teaching reading has been designed for the reading class. Teachers in other curricular areas were supported by each team’s language arts teacher. As part of the *Accelerated Reader* Program, the Standardized Test for the Assessment of Reading (STAR Reading, 1999) was administered to students at the beginning, middle, and end of the school year.

Some teachers at this middle school have branched into other facets of teaching reading to students. Reading class methodologies have evolved into diverse approaches; therefore, in 2003-2004, the language arts department agreed to add *Vocabulary Workshop* (Shostak, 2002) to teach vocabulary. *Vocabulary Workshop* used strategies to increase the students' vocabulary. Activities included practice in base or root words, prefixes, and suffixes through the use of definitions, analogies, sentence completing, synonyms, antonyms, and words in context. Some teachers used Shostak's text in the language arts class and some teachers used the text in the reading class. After one year, many teachers decided that vocabulary words in this particular resource were too challenging for the heterogeneous classes. Other teachers said they thought that teaching vocabulary words out of context was not a sound practice and that they preferred teaching vocabulary words from students' writing or content texts.

### *School Testing*

This middle school uses the STAR test to determine reading levels of students. At the sixth-grade level, "20 vocabulary-in-context test items and 5 authentic text passages with multiple-choice literal or inferential questions in the second section of the test are presented" (STAR Reading, 1999, p. 1-5). The test design uses vocabulary-in-context where the student selects an answer through semantic and syntax clues to interpret or comprehend the meaning of a sentence. This computerized test is easily administered and time-efficient as it is taken independently in approximately 10 to 13 minutes.

The STAR Reading approach was designed to yield reliable test results for both the criterion-referenced and norm-referenced component by adjusting item difficulty to the responses of the individual being tested while striving to minimize test length and student frustration. (STAR, p. 1-9)

In the archives of the school, data were located for the 2004-2005 school year where the STAR reading test (STAR Reading, 1999) was administered by sixth-grade teachers to 260 sixth-grade students. Of the 260 students, 124 of these students (or 47.7 %) scored an instructional reading grade equivalent of 4.9 (fourth grade, ninth month) or below. Because of

the large number of below grade-level readers, teachers requested permission to ability group students who were classified at the lowest level in reading in order to teach them at their appropriate instructional levels. In a report by Stallings in 1975 (as cited in Carnine, Silbert, & Kameenui, 1997), it was suggested that children should spend time engaged in reading activities and have access to reading material that matched their skill level. The report further stated:

Students should be placed in a reading series at a place appropriate to their skill level. They should not be placed in material that is too easy, where they just review previously learned material. Nor should their placement be at too advanced a lesson, where they lack essential preskills and make frequent mistakes. (p. 9)

A key provision of the *No Child Left Behind Act* (Educational Research Service, 2003) focused on accountability by requiring yearly testing in grades three through eight in reading and math with the addition of science by 2007-2008. Tennessee relies on the Tennessee Comprehensive Assessment Program (TCAP) for assessment of student progress for reporting data. The *TerraNova* Criterion-Referenced Test (CRT) is the TCAP assessment administered to students in grades three through eight and includes reading, language arts, mathematics, science, and social studies. Spring 2005 is the first year that the TCAP included only criterion-referenced items.

Criterion-referenced items measure a student's performance according to specific standards, rather than to the performance of other test takers. These items are directly aligned with the Content Standards and State Performance Indicators. (Tennessee State Department of Education, 2005c, n. p.)

Students must show "adequate yearly progress and evidence that they are mastering the material and consistently improving their scores on these tests year by year" (p. 8). According to Educational Research Service (2003), within this testing framework, two conditions must be met:

1. high standards for achievement, which requires states to set benchmarks at high level and measure student achievement of these benchmarks grade by grade, and
2. expectation of 100 percent mastery; that is, that all students will reach full mastery of these grade-by-grade benchmarks within a specified timeframe. (p. 8)

Mastery is interpreted by the proficiency levels and is based on Tennessee's benchmarks for Adequate Yearly Progress (AYP) for each subject area and used "to ensure the students' performance is measured against state standards" (Educational Research Service, p. 14). Each state is required to develop and implement an accountability program by establishing a starting point using 2001-2002 data and setting a timeline to ensure that 100% of students are at the proficient or advanced levels by the end of the school year 2013-2014. "Once the threshold is established, the state is required to gradually raise it over time, initially after two years and again at least every three years thereafter" (Educational Research Service, p. 17). The state report card is another requirement of the *No Child Left Behind* legislation. Proficiency levels of basic, proficient, and advanced are listed on the report card.

#### *Statement of the Problem*

The reading methodologies used by sixth-grade teachers at this middle school were diverse. This study should lend evidence to the knowledge base of the relationship of four popular methodologies that were used by sixth-grade teachers at this middle school. The four methods considered for this study were:

1. developmental reading instruction,
2. literature-based reading instruction,
3. *Accelerated Reader* Program, and
4. *Accelerated Reader* Program with vocabulary study.

The association of specific methodologies on students' reading achievement and students' achievement over time is examined in this study.

Since the enactment of *No Child Left Behind* legislation, attention must be given to achievement of all learners. Key components of the *NCLB* legislation included closing the achievement gap for all learners and improving literacy through evidence-based instruction (*No Child Left Behind*, 2005). Increased accountability is measured by annual reading assessments in

grades three through eight. Based on the hypothesis that all children can succeed, data are disaggregated and reported to schools by subgroups with the idea that the achievement gap will be eradicated for all subgroups. According to Snow and Biancarosa (2003), immediate attention must be given to adolescent literacy in order to bring together “research and evaluation to help educators make progress in closing the adolescent and preadolescent achievement gap” (p. 1).

Theoretically, if a particular reading methodology is more effective with a particular group of learners, reading achievement may improve. The problem is that research is limited regarding reading methodologies and reading achievement at this middle school.

The purpose of this study was to determine if an association existed between reading methodologies and reading achievement as measured by the Tennessee Comprehensive Assessment Program (TCAP) for sixth-grade students. The *TerraNova* Criterion-Reference Test (CRT) is the TCAP test administered annually to students in grades three through eight. The Standardized Test for the Assessment of Reading (STAR Reading, 1999) was used to determine if an association exists between reading methodologies and reading achievement over time.

### *Research Questions*

The following research questions guided the study:

1. To what extent are there differences among the results of the four reading methodologies based upon students’ performance on the *TerraNova* Criterion-Reference Test (CRT) reading/language test?

The four methodologies were developmental reading instruction, literature-based instruction, *Accelerated Reader* Program, and *Accelerated Reader* Program with vocabulary study.

2. To what extent are there differences in reading achievement gain scores on the Standardized Test for the Assessment of Reading (STAR) among sixth-grade students who are taught reading through each of the specific methodologies?

The four methodologies were developmental reading instruction, literature-based reading instruction, *Accelerated Reader* Program, and *Accelerated Reader* Program with vocabulary study.

3. To what extent are there differences in the reading methodologies and proficiency levels in the content reporting category of the *TerraNova* CRT reading/language test?

Proficiency levels for content were categorized into: (1) not advanced proficiency and (2) advanced proficiency.

4. To what extent are there differences in the reading methodologies and proficiency levels in the meaning reporting category of the *TerraNova* CRT reading/language test?

Proficiency levels for meaning were categorized into: (1) not advanced proficiency and (2) advanced proficiency.

5. To what extent are there differences in the reading methodologies and proficiency levels in the vocabulary reporting category of the *TerraNova* CRT reading/language test?

Proficiency levels for vocabulary were categorized into: (1) less than advanced proficiency and (2) advanced proficiency.

6. Did students in the current study meet the state's goal for proficiency by the end of the 2004-2005 academic year?

Descriptive statistics were used to evaluate this research question. Specifically, each of the three reporting categories for content, meaning, and vocabulary were into two classifications: (1) below proficiency and (2) proficient and higher. The percentage of all students in the current study as well as those in each of the four reading methodologies who were proficient and higher were compared to the Tennessee target goals for the 2004-2005 academic year.

### *Significance of the Study*

Teaching reading to middle-level learners is challenging. According to Biancarosa and Snow (2004), teachers are facing the challenges of teaching middle-school students new literacy skills. These skills include how to (a) read purposefully, (b) select materials that are of interest, (c) learn from those materials, (d) figure out the meanings of unfamiliar words, (e) integrate new information with information previously known, (f) resolve conflicting content in different texts, (g) differentiate fact from opinion, and (h) recognize the perspective of the writer—in short, they must be taught how to *comprehend* (p. 1).

Results of this study might be used in determining the relative effectiveness of various reading methodologies in one middle school. The study could serve to inform instruction and assist the school in assessing current practices in reading methodologies. The study should lend information to the research base and indicate any need for appropriate policy changes.

### *Definitions*

1. *Accelerated Reader Program*: Students read books and take computerized tests to check for understanding of the book. The *Accelerated Reader* program is designed to compute the results and provide immediate feedback for the student. The program provides a management system for the teacher in order to generate reports of individual reading logs, student performance, and class performance (*Accelerated Reader*, 1999).
2. *Achievement Gap*: According to *No Child Left Behind* (2005), an achievement gap is the difference in achievement between disadvantaged and minority students and their peers.
3. *Basal Reader Program*: A basal reader program consists of reading materials that are sequentially organized to teach developmental reading skills (Harris & Sipay, 1980).

4. *Developmental Reading Instruction*: Developmental reading instruction is the teacher's use of reading activities where reading improvement is the primary goal (Harris & Sipay).
5. *Direct Instruction*: "Direct Instruction is usually used to indicate a specific program; however, a generic definition is a planned sequence of instructional elements designed to produce student learning of predetermined objectives" (J. M. Taylor, personal communication, March 21, 2005).
6. *Explicit Instruction*: Explicit instruction involves teacher talk in the form of "explanation, guided practice, and corrective feedback" (Nokes & Dole, 2004, p. 166). Nokes and Dole cited Roehler and Duffy's mode that suggested, "Teachers make sure students possess declarative, procedural, and conditional knowledge concerning strategies" (p. 167).
7. *Inclusion*: According to the 1997 Amendments to the *Individuals with Disabilities Education Act*, students are educated in the general classroom and services are brought to the students. The term *least restrictive environment* refers to the educational setting that provides the greatest exposure to an interaction with general education students and persons without disabilities (College of Education, 2005). The inclusive classroom is founded on the belief that children should begin in the regular classroom and be moved to another environment only if proper accommodations cannot be made . . . meaning they are in the classrooms for a significant amount of the school day (Mazur, 2004).
8. *Literacy*: According to Cambourne (1988), literacy was used to describe several skills, behaviors, processes, and attitudes. Cambourne stated that literacy encompassed our ability to negotiate with the world through language. "Reading and writing are two linguistic ways of conducting these negotiations. So are talking,

- listening, thinking, reflecting, and a host of other behaviors related to cognition and critical thinking”(p. 3).
9. *Metacognition*: Durkin (1993) defined metacognition as “thinking about one’s thinking” (p. 297). Baker stated, “The knowledge component of metacognition is concerned with the ability to reflect on our own cognitive processes, and it includes knowledge about ourselves as learners, about aspects of the task, and about strategy used” (as cited in Block & Pressley, 2003, p. 77).
  10. *Middle-Level Learner*: Middle-level learner is used interchangeably with middle school and middle-grade learners, as well as with middle schoolers, to refer to learners in grades six through eight.
  11. *Phonemes*: According to the members of the National Reading Panel (2000a), “*Phonemes* are the smallest units constituting spoken language. Phonemes combine to form syllables and words. . . *Phonemic awareness* refers to the ability to focus on and manipulate phonemes in spoken words (p. 2-1).
  12. *Phonics Instruction*: Phonics instruction is a way of teaching reading that stresses the acquisition of letter-sound correspondences and their use in reading and spelling (National Reading Panel, 2000a).
  13. *National Assessment of Educational Progress (NAEP)*: The National Assessment of Educational Progress has systematically conducted assessments of the nation’s students in public and private elementary, junior high and/or middle schools, and high school-levels. The task of the NAEP is to provide reliable information regarding American students’ academic performance in a variety of learning areas. NAEP is an indicator of what students know and can do. Only group's statistics are reported; no individual student or teacher data are ever released (National Assessment Governing Board, 2005). The first assessment was given in 1963 to collect baseline data on America’s schools. Assessments have been re-evaluated and updated as needed and

are under the direction of the Department of Education. At present, Educational Testing Service designs instruments, collects data analysis, and provides reports. The NAEP administers the national assessment every two years to a representative sample of more than 120,000 students from randomly selected schools. (National Assessment Governing Board).

14. *Trade Book*: A trade book is a book designed for the general public and available through an ordinary book dealer, as distinguished from a limited-edition book, textbook, or mass market paperback” (Random House Unabridged Dictionary, 1997).
15. *Whole Language*: For the purpose of this study, whole language is described rather than explicitly defined. Teachers who use the philosophy of whole language base beliefs about teaching on their knowledge of language development and how students learn and develop (Goodman, Goodman, & Hood, 1989). Tierney, Readence, and Dishner (1995) referred to John Dewey, Kenneth Goodman, and Frank Smith as being advocates of whole language assumptions.
16. *Zone of Proximal Development*: The zone of proximal development was described by Vygotsky (Riddle, 2004) as “The distance between the actual development level determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers” (n. p.).

#### *Delimitations*

1. This study was delimited to a sample of 236 sixth-grade students at one middle school located in Northeast Tennessee during the 2004-2005 school year.
2. This study was delimited to 11 sixth-grade teachers who were certified and “highly qualified” as defined in the *No Child Left Behind Act* in grades one through six.

3. This study was delimited to sixth-grade students who had sixth-grade (2004-2005) TCAP reading/language scores.
4. This study was delimited to sixth-grade students who had pretest and posttest scores on the Student Assessment of Reading (STAR) and who were enrolled in the school for a minimum of 120 days.
5. The results of this study might not be generalized to other schools.

#### *Assumptions*

1. It was assumed that teachers responded accurately to the survey.
2. It was assumed that TCAP and STAR test scores reported for students were accurate measures and indicative of students' achievement.
3. It was assumed that all students in this study were given reading instruction according to the objectives issued by the Tennessee Department of Education (2005a).

#### *Organization of the Study*

This study is comprised of five chapters. Chapter 1 contained an introduction to the study including the statement of the problem, research questions, significance of the study, definitions, delimitations, and assumptions. Chapter 2 presents a review of literature related to the issues addressed in the study. Chapter 3 focuses on the research methodology and includes discussion of the population, the instrumentation, data collection, hypotheses, data analysis, and summary. Chapter 4 contains a description of the data analysis. Chapter 5 provides a summary, analysis, and recommendations for practice and future study.

## CHAPTER 2

### REVIEW OF RELATED LITERATURE

#### *History of Reading Instruction in the United States*

Adams (1990) wrote that instruction in reading during the Colonial period involved teaching the alphabet, adding, “The phonemic significance of letters was instilled, for example, through the presentation of key words (for example, *g* for *glass*, practice in reading simple syllables, and exercising reading” (p. 4). There was little to read other than the Bible and patriotic material of the Revolutionary War. The hornbook originated in England and was the first reading material used for instruction (Reutzel, 1981). The hornbook was paddle-shaped, made from thick oak boards, covered with a thin layer of cow’s horn, and measured approximately 9 by 5 inches. As a rule, the hornbook was printed with numbers, the alphabet, and a Bible verse or the Lord’s Prayer (College of Education, 1999). In the late 1700s, Noah Webster revised an earlier publication and authored the *Elementary Spelling Book* that was more commonly known as the *Blue-Backed Speller*. It was used by frontier families to teach their children to read and as a textbook in the settlement schools (encyclopedia.com, 2005).

#### *Phonics, Whole Word, and Politics*

In the following years, letter-sound association was prevalent and was termed “phonics.” Phonics and comprehension became competitive ideas and political issues. As described by Adams (1990), in the mid 1800s, Horace Mann, a politician with intense educational influence, was appointed Secretary of the Massachusetts Board of Education. He described children’s reading material as “skeleton-shaped, bloodless ghostly apparitions” (p. 5) and further decreed, “It is no wonder that the children look and feel so death-like when compelled to face them”(p. 5). Mann further proposed that reading was more meaningful if taught by the whole-word method.

Mann's ideas were not accepted at that time, and a phonics approach continued with children learning speech sounds and their association to letters and letter groupings (Palmaffy, 1997).

By the 1920s, however, Horace Mann's ideas gained popularity. At that time, educators at Columbia University Teachers College denounced the code-emphasis as a boring, unnatural practice that tended to reduce the enjoyment of reading and, as a result, reintroduced Mann's idea (Palmaffy, 1997). Because of Mann's influence, graded books to match children's ages and achievement levels became the norm. According to Adams (1990),

The meaning-first curriculum, however, did not gain true dominance until the 1920s, when education was promoted as the key to dealing with the needs and demands of a multi-cultural society. The meaning-first curriculum was to foster the productive, creative, and responsible citizenry that emerges from knowledgeable and intellectually independent individuals. Its design was to be based upon the growing child's nature and needs. (p. 5)

In the 1930s and 1940s, children continued with instruction using the whole-word method with assistance from pictures and context clues as the focus on comprehension continued. Sound-symbol associations were used sparsely and only in connection with the meaning of the passage. In the 1940s, the "Dick and Jane" basal series was used as a series based on word recognition with a controlled, repetitive vocabulary defined by pictures of Dick, Jane, Sally, Mother, Father, Spot (dog), and Puff (cat). Some educators viewed this text as extremely naive when compared to reading of the colonial era that used political papers and the Bible. John Dewey, an influential educator and proponent of meaningful learning, supported a holistic method that came to be known as the look-say method (Palmaffy, 1997). In "My Pedagogical Creed," first published in 1897, Dewey proposed that literacy was a social instrument and that language was not only the expression of thought but also the communication to share ideas and feelings of others.

The whole-word or look-say method was used consistently until many educators sensed the loss of phonics from the teaching of reading. In 1955, Flesch published *Why Johnny Can't Read* that wholly and passionately supported phonics instruction as a natural way to teach

reading because English was an alphabetic language (Adams, 1990; Flesch; Palmarffy, 1997).

Adams concluded that Flesch's appeal was political and zealous. Flesch declared that the whole-word method denied all individuals their right to read and attacked the whole-word method as equivalent to training animals. Flesch stated, "There is a connection between phonics and democracy--a fundamental connection. Equal opportunity for all is one of the inalienable rights, and the word method interferes with that right" (p. 130). He explained further:

It seems to me a plain fact that the word method consists essentially of treating children as if they were dogs. It is not a method of teaching at all; it is clearly a method of animal training. It's the most inhuman, mean, stupid way of foisting something on a child's mind. (p. 126)

Following Flesch's lead, educators began evaluating reading programs. According to Adams, it appeared that instructional programs using systematic phonics instruction typically produced more positive results than programs without systematic phonics instruction. From 1962 to 1965, Chall (1967) was assigned to work at the Harvard Graduate School of Education with a grant supported by the Carnegie Corporation to study early reading instruction. Chall's study consisted of "a critical analysis of existing research that compared different approaches to beginning reading" (p. 5). Chall investigated three aspects of early reading methods in order to:

1. determine how reading was taught and the relationship between extent and kinds of reading failures and methods of instruction,
2. describe the various approaches to beginning reading methods,
3. interview proponents of each method and observe these methods in schools, and
4. analyze the two most widely used readers, workbooks, and instructional manuals in use. (pp. 5-6)

When Chall began her investigation of current reading texts and workbooks, she found that phonics was a part of reading programs; this was in direct conflict with Flesch's statements that no phonics instruction existed. She explained:

Early stress on code learning produces better word recognition and spelling, and also made it easier for the child eventually to read with understanding—at least up to the

beginning of the fourth grade, after which point there is practically no evidence. . . the research provides no evidence that either a code or meaning emphasis fosters greater love of reading or is more interesting to children. . . some evidence that exists that below-average and average intelligence and children of lower socioeconomic background do better with code emphasis. . . knowledge of letters and their sound values seem to be more essential for success in early stages of reading than high intelligence and good oral language. . . Very little of the research evidence tells us about differences in results with the two kinds of approaches at the end of fourth grade and beyond. (pp. 83-85)

Chall further stated that she found that no one phonics program produced better results than another did. She also emphasized that reading for meaning should be part of the reading program and stressed that effective teachers should continually investigate methods to produce better results.

In 1997, a panel of 14 experts was selected by the director of the National Institute of Child Health and Human Development and the U.S. Secretary of Education to examine a variety of approaches to teaching reading and to determine their effectiveness (National Reading Panel, 2000b). The panel examined 100,000 quantitative reading research studies from 1966 to 1997 and further refined them by specific instructional methods, experimental design, causal relationships between practice and results, and those with a large sample size. The report by the National Reading Panel (2000a) on subgroups, a meta-analysis of struggling readers in grades one through six, indicated that systematic phonics instruction for older children was beneficial for decoding, spelling, and oral reading. However, text comprehension was not significantly better than other methods.

In their study of exemplary fourth-grade classrooms, Allington and Johnston (2002) observed and interviewed the following sample over a two-year period:

Thirty fourth-grade teachers in five states (New York, New Jersey, New Hampshire, Texas, and California) were interviewed. Schools in which the selected teachers taught were in a variety of communities (rural, small city, large city, suburbs) and ranged in size from enrollments of 300 students to 1000 students. In half of the schools at least 25% of the student body were minority students, whereas a third of the schools had 50% or more minority students. Two-thirds of the schools had one of five students who received free and/or reduced lunch, whereas in a quarter of the school, three-quarters or more of the children qualified for such meals. (p. 32)

Allington and Johnston (2002) described the public's view of literacy as that of basic skills acquisition and "systematic phonics instruction" (p. 224). Unfortunately, this type of assessment was the crux of achievement testing required by political mandates. Allington and Johnston reported that many teachers, pressured by high stakes assessments, omitted development of larger-concept understanding. In one phase of their study, they observed six exemplary fourth-grade teachers whose instruction surpassed this narrow view of reading. The teaching and learning environment was constructivist in nature in order to support the learner's need to experience control of his or her learning. In the constructivist environment, teachers' responsibility to the learners was to:

1. ensure integration of learning and a variety of literate activities to give students opportunities to construct intended understandings about power, control, self, and democratic participation; and
2. respond to children with dialogical conversations and coaching that respect their efforts to discern understandings. (p. 225)

The findings of Allington and Johnston supported several features in their cross-case analyses of exemplary teachers. These features were "personal characteristics, beliefs, attitudes and expectations, practice, curriculum materials, organization of instruction, and evaluation" (pp. 214-215).

Having used older studies and not having access to recent statistical techniques, other studies have been conducted since Chall's (1967) *Learning to Read: The Great Debate*. Adams (1990) cited the United States Office of Education's Cooperative Research Program and Follow Through studies. Often referred to as the world's largest educational experiment, Project Follow Through ran from 1967 to 1995 as a component of President Johnson's War on Poverty with a cost estimated at over a billion dollars (Grossen, 2001). The objective of this project was to break the cycle of poverty through improved education. An analysis of Head Start children showed that by third grade, those disadvantaged children who had been enrolled in Head Start

showed few educational advantages. By fourth grade, advantages were practically eliminated. Project Follow Through targeted the most disadvantaged American schools to study philosophies and methods of instruction of children in kindergarten through third grade. These targeted schools were both economically and academically challenged and were to be brought to the level of the average American school with student achievement as a predictor of success. As these students' progress was monitored during grades five, six, and high school, direct instruction continued to emerge as the one approach that resulted in higher achievement on standardized tests when compared to students who were not in the Project Follow Through studies (Adams; Grossen). According to Adams, other analyses of data have been performed on the Follow Through study. Data were collected and evaluated through quantitative statistics and findings have added additional parameters such as characteristics of students, teachers, and schools and their effect on reading instruction. Results of these studies added new information to the effectiveness of reading instruction. According to Adams:

1. approaches that included both systematic phonics and emphasis on connected reading and meaning surpassed the basal-alone approaches;
2. relative effectiveness of the approaches did not vary with the readiness of the students; and
3. certain student characteristics were strong predictors of end-of-year achievement in first grade. The single best predictor, regardless of instructional approaches, was the child's ability at the beginning of the year to recognize upper and lower case letters.

(pp. 9-10)

### *Language Experience*

In the mid-1960s, the connection of children's language and print gained support. Children are born with the aptitude for language acquisition, and according to Tierney et al. (1995):

Proponents of the language experience approach and the role of aptitude should be directed toward the acquisition of reading abilities. Environmental print advocated taking advantage of the experiences that children bring to reading. By conveying these experiences through language, children can move back and forth from oral to written expression (pp. 91-92).

Through the study of language experiences of young children's writing and reading, knowledge of early literacy surfaced including emergent literacy, invented spellings, and the interrelationship of meaningful experiences through reading, writing, speaking, and peer interactions. When one school in the Follow Through study had noticeably high achievement, it was noted that this school's students had been immersed in reading and interpreting stories since the inception of the program (Adams, 1990).

### *Whole Language*

During the 1980s, the philosophy of "whole language" came into being. Whereas whole-word or sight-word reading was based on memorization of a large number of words (Flesch, 1955), whole language was a philosophy that referred to teaching and learning that was real, meaningful, and appropriate (Routman, 1991). Goodman (Goodman et al., 1989) described whole language as a grassroots movement perpetuated among teachers. As educators became more knowledgeable of language development as well as child development, they continued exploring more productive methods of teaching. By using authentic practices to construct literacy experiences, whole-language teachers integrated written and oral language into conceptual learning. Even though many seemed brave for rejecting mandated materials and behavioral objectives, whole-language teachers held on to a strong belief in learning by doing; thus, a child learned to read by reading and to write by writing (Goodman et al.).

According to Routman (1991):

Whole language respects the ideas that all the language processes (listening, speaking, reading, and writing—including spelling and handwriting) are learned naturally and in meaningful context as a whole, not in little parts. Learning activities are open-ended and involve student choice, discussion, and sharing in a social, literate environment. (p. 25)

Educator and researcher Donald Graves talked of his experiences in Australia and New Zealand as he observed the print-rich environment that integrated writing and literature (D. Graves, personal communication, February, 1983). Although children's writing was the subject of Graves' initial research, he later investigated their development as readers and writers and the connection to reading and writing (Graves, 1990, 2003). Routeman (1988) referred to Don Holdaway of New Zealand as being the most influential contributor to transition into whole language. Addressing the attack on whole language from a joint effort of politicians and the press, Smith (1997) referred to the 1990 survey of the International Association for the Evaluation of Educational Achievement that "showed that New Zealand children were the highest achievers of the English-speaking nations" (Smith, n. p.). Krashen (2002b) also had arguments with negative publicity given to California regarding low-test scores. Krashen (2002b) was a member of the California Language Arts Framework Committee in 1987 when California made the decision to use a literature-based whole language approach to language arts. Claims that there was "no phonics allowed" were untrue, according to Krashen (2002b). In 1992, California was in the national news based on statements that fourth-grade students' scores had plunged across the state. This negative publicity tended to discredit the whole-language approach. Because this was the first time students had taken the National Assessment of Educational Progress assessment, there were no previous scores for comparisons. McQuillan (as cited by Krashen, 2002b) found that California's performance was linked to lack of print environment as a result of the state's ranking last in the nation for quality of school libraries. Krashen (2002a) referred to a previous article where he reported that when students in classes where ample real reading occurred were compared with students where skills-based instruction was the norm, tests of reading comprehension were similar. These whole-language classrooms with real reading usually produced an increased number of students who displayed positive attitudes toward reading and who were independent readers (Krashen, 2002a).

In 1991, Veatch (as cited in Tierney et al., 1995) noted that the language experience approach was compatible with whole language, process writing, and theme-based approaches to teaching. In 1983, Graves (1990) published a collection of workshops to assist teachers in teaching writing as a process. Later, after collaborations with University of New Hampshire reading professor Jane Hansen, Graves (2003) explored the connections between children's reading and their writing. In Graves' (2003) writing-process approach, skills were taught individually during student-teacher conferences. According to Graves (2003), Lucy Calkins' concept of mini-lessons raised the quality of children's writing by modeling and demonstrating brief lessons at the onset of the writing workshop time. Atwell (1987) expanded the writing workshop to middle-level learners. As adolescents' expertise grew through reading and writing workshops, Atwell grew as a teacher through literary engagement between teacher and student.

Mazzoni and Gambrell (2003) proposed that controversy over literacy practices has wasted much time and effort in teaching and learning. Many educators and literacy researchers have argued that a balanced approach to literacy instruction is needed. Mazzoni and Gambrell found that student-centered instruction built around developmentally appropriate curricula, phonics and comprehension instruction, formative assessments in a diverse context, and purposeful projects and processes resulted in balanced literacy. Fisher, Flood, and Lapp (2003) proposed that a variety of literature, explicit instruction, phonemic awareness, and student engagement produced a balanced literacy program. Both content and context were found important for a balanced approach that included "comprehension, composition, literary aspects, and language conventions" (Fisher et al., p. 34).

### *Comprehension*

Furr (2000) defined comprehension as the "ability to draw meaning from what we read" (p. 44). When an individual engages with print, comprehension has resulted when the reader constructs meaning in his or her head and that meaning is the same as the author intended.

Cambourne (1988) stated, “Reading is comprehension. The end result of interacting with a text (reading) should be comprehension” (p. 161). When the learner reads but lack of knowledge of real world experiences causes gaps in meaning, then less effective comprehension has taken place. Aside from prior knowledge, more effective comprehension has occurred when the learner has a repertoire of skills such as semantic and syntactic knowledge and knowledge of sound-letter association as well as process and procedural skills (Cambourne; Furr). According to Durkin (1993), reading comprehension meant, “constructing meaning from text” (p. 9). She suggested that comprehension was tri-fold: "(a) literal comprehension, (b) text-based inferential comprehension, and (c) knowledge-based inferences” (p. 9).

Underwood and Pearson (2004) posited that the greater part of adolescent students struggle with text comprehension when reading for academic content. Underwood and Pearson said that students must learn strategies in order to take responsibility for their learning. These two literacy researchers developed several assumptions from the 1998 NAEP data. First, if instruction was designed in order that students became engaged in more reading than they would generally do, and if students wrote about what they were reading, their ability to comprehend would increase. The NAEP data indicated that eighth-grade students reading 11 pages or more daily scored approximately 25 points higher than students scored who read fewer than 5 pages daily. Students who wrote long answers to questions on assignments one or more times per week scored 30 and 40 points higher than students who did not engage in writing activities that entailed reading. Similar results held true for 12<sup>th</sup>- grade students. Underwood and Pearson contended that increased importance given to decoding and fluency in the early years tended to intensify difficulties in comprehension skills in the middle grades. By the time students reach the middle grades, they are required to process more difficult information from challenging texts. Consequently, Underwood and Pearson wrote that comprehension strategies must be taught systematically and balanced with decoding and fluency.

The basic structure of reading changes when students transition to middle school. Reading at the middle-school level is used more as a vehicle to learn academic content. More advanced comprehension skills are required to research topics and gather information from the Internet for creating projects (Brown, 2002; Tovani, 2000). Brown cited several studies to differentiate skilled readers, including that of Pressley, El-Dinary, and Brown. These researchers found that “Good readers use comprehension strategies when processing various types of text” (as cited in Brown, p. 338). Brown also cited Garner as concluding, “Good readers are highly metacognitive” (p. 338). Brown cited Wigfield and Asher as establishing, “Good readers are motivated to work hard. They attribute their successes to effort and not to capability” (p. 339). According to Brown, researchers confirmed several reading strategies that improved comprehension for middle level learners including:

1. making connection to background knowledge;
2. capitalizing on text structures;
3. self-questioning before, during, and after reading;
4. summarizing the most important information; and
5. creating mental images of text content. (p. 341)

To these strategies, Block and Pressley (2003) added that extensive reading increased fluency in word recognition and vocabulary resulting in a positive impact on reading comprehension. Trabasso and Bouchard (2002) suggested, “Comprehension strategies are specific, learned procedures that foster active, competent, self-regulated, and intentional reading” (p. 177). Comprehension strategies are taught by classroom teachers through demonstrations or modeling of text. Scaffolding and “think alouds” are suggested methods used by some teachers for explicit teaching of a specific strategy (Think Aloud Strategy, 2005). These guided activities have provided support as students internalize strategies and transition to using them independently. As comprehension strategies are learned, instruction on when and where to use which strategies must also be taught. Brown (2002) noted that students needed instruction and

training to assess their level of understanding. Harvey and Goudvis (2000) cautioned that self-monitoring must be accompanied by reflection in order to comprehend. These researchers added, “The ability to repair comprehension means that a reader can access different strategies--asking questions, visualizing, or inferring--to construct meaning in the face of problems” (pp.18-19). Processes that monitor comprehension are described as metacognitive processes (Baker, 2002; Brown; Nokes & Dole, 2004; Underwood & Pearson, 2004).

Metacognition is described as not only knowing a strategy but also knowing when to use it. Metacognition is involved in knowing how we learn, whether or not a task is understood, and assessing our own strengths and weaknesses. Nokes and Dole (2004) alleged that the dividing line between proficient and struggling readers was their level of strategic knowledge.

Metacognition controls the selection of strategies and how they are used. Nokes and Dole summarized metacognition as follows:

Metacognition applies to the other cognitive strategies, in that through metacognition, an individual recognizes the need for a strategy, weighs potential strategies, determines which strategy to apply, adjusts strategies to meet the needs of specific situations, and evaluates the effectiveness and efficiency of strategy use. (p. 165)

#### *Implications for a Middle-School Reading Program*

Erb (2001) reported, "The goals of the National Forum to Accelerate Middle Grades Reform were to assure that high-performing middle-grade schools would be academically excellent, developmentally responsive, and socially equitable” (p. 7). To accomplish these goals, the decline of reading scores for middle-grade students must be addressed. According to Moore, Bean, Birdyshaw, and Rycik (2001), in order to provide continued development of adolescent readers, the International Reading Association and National Middle-School Association in a joint position statement on adolescent literacy offered the following recommendations stating that adolescents deserved:

1. access to a wide variety of reading material that they can and want to read;

2. instruction that builds both the skill and desire to read increasingly complex materials;
3. assessment that show them their strengths as well as their needs and that guides their teachers to design instruction that will best help them grow as readers;
4. expert teachers who model and provide explicit instruction in reading comprehension and study strategies across the curriculum;
5. reading specialists who assist individual students having difficulty learning how to read;
6. teachers who understand the complexities of individual adolescent readers, respect their differences, respond to their characteristics; and
7. homes, communities, and a nation that will support their efforts to achieve advanced levels of literacy and provide the support necessary for them to succeed. (pp. 4-9)

### *Middle-School Program Design*

According to Robb (2000), Vygotsky's work regarding the social aspect of learning established that "Children learn best in social situations where they work alongside more competent adults and peers" (p. 32). According to Wilhelm, Baker, and Dube (2001), Vygotsky called the place where instruction and learning occurred the zone of proximal development--a place where "a child can learn and do with assistance and support of a teacher, peers, and the instructional environment" (p. 16). Vygotsky's (Riddle, 2004) theories supported social interaction as an important structure for learning. To provide an effective middle-school reading program, teachers should be aware of developmental characteristics of the adolescent child and create stimulating classroom environments where learning and reading are active processes. Active involvement, self-selected texts, and topics relevant to the lives and interests of middle-level students were considered compatible with successful middle-school reading practices (Robb; Wilson, 1999). Robb wrote, "A productive reading program for middle schoolers

considers and makes use of research in these areas: (a) strategic reading, (b) motivation and involvement, and (c) a workshop environment” (p. 13). Kletzien and Hushion (as cited in Educational Research Services, 1999), suggested, "An interactive approach is underscored by other research with at-risk learners. For example, a reading workshop with elements such as self-selected texts and journal responses was found to improve the reading skill of at-risk 9th- and 10th-grade students (p. 6).

Billmeyer and Barton (1998) suggested that readers must construct meaning as they read through three interactive elements: "(a) the text features or specific characteristics of the text, (b) the reader and what he/she brings to the situation, and (c) the learning climate or the environment in which the reading occurs" (p. 1). As a result of the National Reading Panel’s (2000b) analysis of reading research and literature, the panel acknowledged that several instructional strategies for teaching reading comprehension were effective when used in combination. The panel recommended “comprehension monitoring, cooperative learning, graphic and semantic organizers, question answering, question generation, story structure, and summarization” (p.15).

### *Methods and Strategies to be Explored*

#### *Teaching Reading in the Content Areas*

Billmeyer and Barton (1998) defined teaching reading in the content areas as “helping learners make connections between prior knowledge and new information presented in a text and teaching students how to use reading as a tool for thinking and learning” (p. 1). Tovani (2004) described content area teaching as “teaching students how to remember and reuse the information we ask them to read” (p. 7). Teaching reading in the content area does not mean abandoning content; conversely, reading strategies taught simultaneously while students learn content teaches for understanding. Teaching reading strategies in the context of meaningful content was beneficial for all students (Jackson & Davis, 2000). Research cited by Jackson and Davis showed "When students have many chances to read and write in the content areas like

history, math, and science, they become better readers, writers, and critical thinkers” (p. 88). Moss (2005) argued that in order for children to develop literacy skills to survive the 21<sup>st</sup> century, they must be taught how to read expository text from a variety of sources including content textbooks.

At the primary level, at least one third of reading instruction time should be devoted to informational text. At the upper elementary level, the percentage of time devoted to instruction focused on reading informational texts should be increased to approximately 40% by fourth grade, 50% by fifth grade, and 60-65% by sixth grade. (p. 52)

Marzano, Pickering, and Pollock (2001) developed a research-based list of strategies having a high probability of enhancing achievement for all students in all subject areas and grade levels that included:

1. identifying similarities and differences;
2. summarizing and note taking;
3. reinforcing effort and providing recognition;
4. homework and practice;
5. nonlinguistic representations;
6. cooperative learning;
7. setting objectives and providing feedback;
8. generating and testing hypotheses; and
9. using questions, cues, and advance organizers. (p. 7)

Vacca (2001) suggested the “scaffolding” approach for strategic instruction that included explanation, modeling, practice, and application. Wilson (1999) explained that as students began internalizing different strategies in an interactive, supportive environment, they demonstrated “metacognition--an awareness of their thinking processes, and their ability to regulate, evaluate and monitor them” (p. 39).

In a collaborative environment, student-initiated projects that integrated content area objectives were conducive to how adolescents learned. Projects were beneficial for several

reasons. They (a) allowed for heterogeneous groups, (b) reflected what students know and new knowledge they have constructed, (c) integrated several content areas, (d) addressed a wide spectrum of intelligences, (e) used multiple resources, and (f) led to authentic assessment involving feedback (Campbell, Campbell, & Dickinson, 1999; Hart, 1998; Jackson & Davis, 2000; Kovalik, 1994; Wilson, 1999).

### *Reading Methodologies Defined for This Study*

Reading instruction has included a wide spectrum of strategies within each defined methodology of this study. For this study, the following methodologies used to teach reading at this middle school are described: (a) developmental reading instruction, (b) literature-based reading instruction, (c) *Accelerated Reader* Program, and (d) *Accelerated Reader* Program with vocabulary study.

#### *Developmental Reading Instruction*

Harris and Sipay (1980) defined developmental reading instruction as the teacher's use of reading activities where reading improvement was the primary goal. Components of a developmental reading method emphasized categories of specific skills for literal, inferential, and reading comprehension. To manage these reading skills, some teachers have used diagnostic-prescriptive instruction. Emphasis was placed on diagnosing the learners' needs. As skills were assessed, areas of weakness were addressed through a variety of direct instruction strategies in order for the learner to become proficient in the weaker areas. Chall and Curtis (as cited in Educational Research Service, 1999) found that skill instruction is often necessary to address weaknesses in a student's reading achievement and that "Direct instruction in reading components such as phonics and word identification can be quite successful" (p. 6). Harris and Sipay gave the following features as characteristics of diagnostic-prescriptive teaching:

1. list of sequenced behaviors for one or more skill areas, such as word recognition;

2. criterion-referenced tests for each objective, pretests and posttests;
3. sources of instructional materials and methods; and
4. record keeping system. (p. 61)

### *Literature-Based Reading*

Routman (1991) stated that one vehicle to teach with literature was to develop a workshop approach. The main goal of a reading workshop approach was to foster active, engaged, and independent readers resulting in lifelong readers and learners. A reading workshop immersed students in authentic reading experiences for pleasure and entertainment or to research and learn. Reading workshop was interactive, collaborative, and offered choices of self-selected texts and more time to read. According to Atwell (1987), students may predict or respond to literature through response journals that provide students with outlets for self-exploration. The teacher acts as a facilitator who “shares in the responsibility for learning and teaching as a listener, observer, encourager, participator, respondent, and coach” (Routman, p. 18). During reading workshop, the teacher assesses student reading and provides individual, small group, or whole group instruction to develop reading skills and strategies. As need for a new skill or strategy develops, the teacher captures this “optimum learning” time, teaches the skill as a mini-lesson, and then the students practice that skill in authentic work. This reading workshop environment supports individualized instruction, independence, time management, organization, and addresses a variety of ways of learning (Atwell). Hammon and Hess (2004) wrote that “Transferring the power of learning to the student while assuming the role of facilitator is a major goal of middle school reading classes” (p. 9).

Substantiating Atwell’s (1987) thinking, a research project through Johns Hopkins “Student Team Literature Program” used planned elements of literature studies, peer interaction within heterogeneous groups, assessment and feedback, staff development with teacher mentors, and stressed group goals and accountability as the design for the literature teams. Results of the

study showed that reading comprehension increased significantly for all levels of learners (MacIver, Plank, & Belfanz, 1997).

### *Accelerated Reader Program*

For the purpose of this study, students at this middle school were provided with the *Accelerated Reader Program* (*Accelerated Reader*, 1999) when a Goals 2000 grant was awarded to the school as part of a reading initiative to improve students' achievement in reading. According to the Upper Grades Study Council 1943 (as cited in Harris & Sipay, 1980), interest in reading was characterized by “a lure and a ladder” (p. 534). The lure was a wide selection of interesting books while the ladder was the child’s progression to more difficult reading material. This program consisted of several components: reading (usually silent reading) books, taking a computerized test, and trading points (from tests) for rewards. Schools that used *Accelerated Reader* have provided a varied assortment of books to interest students based on the theory that the more students read, the greater their reading level increases. This theory was confirmed by Morrow’s experimental study of the relationship between reading volume and reading achievement (as cited in Allington, 2001). Use of trade books was developed as an integral part of the *Accelerated Reader Program*. In Chall, Jacobs, and Baldwin’s (1990) work, enrichment activities using trade books were related to gains in vocabulary.

An integral part of the *Accelerated Reader Program* used at this school was the Standardized Test for the Assessment of Reading (STAR Reading, 1999) a computerized reading assessment that assists the teacher in assigning reading levels. “Adaptive Branching” is a trademark developed by the company to describe the flexibility of the test that allows the generation of test items that appropriately match the students’ respective proficiency level. Therefore, the test items are selected and the test is customized for an individual student’s achievement level (p. 1-4). According to Kachigan (1991), the concept of reliability is basic to every measurement. Test-retest, alternate-forms, and estimation of generic reliability were all

applied to estimate the reliability of the STAR Reading test. According to Star Reading, the average reliability coefficient for the test-retest method was .85. The alternate forms method for testing reliability had an average reliability coefficient of .85. In the generic reliability study, data from the norming phase were used and the estimated generic reliability ranged from .89 to .92 (pp. 5-3 - 5-5). Test scores provided two kinds of scores to measure students' performance: (a) criterion-referenced scores assessed performance by comparison to a standard criterion, and (b) a score that measured student's performance reported as the Instructional Reading Level. Norm-referenced scores compared a student's performance to other students who were administered the same test. The two ways in which the norm-referenced results were presented were percentile rank and grade equivalent (p. 6-2).

As a result of the STAR test, a student is assigned a range of book levels within the zone of proximal development, the bridge between instructional and independent reading (Riddle, 2004). Chall et al. (1990) discussed the concept of challenge and stated, "The more difficult the material in relation to student ability, the greater is the challenge" (p. 123). The researchers went on to connect this idea with Vygotsky's belief that instruction has more impact if it precedes rather than follows development. The zone of proximal development was described as the optimum level for a student to learn from an adult or a peer. The *Accelerated Reader* (1999) manual described the zone of proximal development score to assist educators in its understanding:

The student's ZPD score relates to the Grade Equivalent estimate of a student's reading ability with the range of most appropriate readability levels to use for reading practice. . . The Institute for Academic Excellence developed the ZPD ranges according to Vygotskian theory, based on an analysis of *Accelerated Reader* book read data from 80,000 students in the 1996-1997 school year. (pp. 6-11)

Students read a book within their reading level range followed by a computerized test that assesses their comprehension and content knowledge of the book. A specific number of points are assigned to books dependent on the readability level and length of the book. A management system is built into the *Accelerated Reader* program and compiles data for individual and class

progress. Another aspect of the program was to create a list of rewards as students reached specific milestones (*Accelerated Reader*, 1999). At this Northeast Tennessee middle school, a menu of incentives was developed by the language arts team and posted in each classroom. Throughout the years, incentives of pencils, bookmarks, and trinkets evolved to include a letter from the principal, dessert at a local restaurant, and being a teacher's aid at an elementary school. The award aspect of the *Accelerated Reader* program seemed questionable in light of the work of Kohn (1993). Kohn castigated the use of rewards for work whether in the secular workplace or school environment. He wrote:

The risk of any incentive or pay-for-performance system is that it will make people less interested in their work and therefore less likely to approach it with enthusiasm and a commitment to excellence. Furthermore, the more closely we tie compensation (or other rewards) to performance, the more damage we do. (p. 140)

Lamme (2003) compared classrooms with and without the *Accelerated Reader* program based on informal interviews with more than 50 people involved in the program. Among those people interviewed were teachers, librarians, parents, students, and principals. Lamme's focus was on literature and the reading process and her observations took place over a five-year period. She characterized *Accelerated Reader* classrooms as incentive-based where students read books quickly with the purpose of taking tests to amass points. In classrooms that were not incentive-based, students kept reading logs and had dialogues with peers and teachers about the books they had read.

From an author's perspective, Tate (2003) hailed *Accelerated Reader* for making her books available to students. Tate further explained that restricted book lists of award winning-books and books to meet specific curriculum needs often omitted certain authors' books from the grasp of children. Tate also included a correspondence from author Kathleen Duey who stated that one of her concerns was that of encouraging students to read books when no points were involved.

Silent reading plays a major part in the *Accelerated Reader* Program. Some studies found that silent reading was a worthy endeavor. In the 1970s, sustained silent reading was

prevalent as a strategy to encourage all members of the organization to devote time to self-selected reading (Durkin, 1993). Sustained silent reading time was encouraged for a school-wide program with everyone in the school reading. Adults served as a model in stressing the importance of reading. Silent reading in this setting was considered pleasure reading; therefore, choices were available from a wide array of genre. Magazines, newspapers, brochures, catalogs, anthologies, as well as trade books were available in classrooms. Allington (2001) reported a 1988 study by Anderson and others that found that as little as 10 minutes per day of independent reading increased reading proficiency. Allington cited other studies in relation to silent reading:

Leinhardt and her colleagues suggested that by increasing the amount of silent reading volume was the most obvious strategy for improving reading achievement. They noted that well over an hour each day was spent in waiting, transitions, management, and other activities that could easily be replaced by additional reading time. (p. 31)

Wilkinson (as cited in Allington, 2001) found that silent reading achievement for learning disabled students had a negative effect on reading comprehension and suggested that "oral reading resulted in a greater impact on achievement" (p. 31). Wilkinson posited that low achieving students' quantity of reading seemed impeded because of difficulty with comprehension, whereas oral reading entailed an explicit response placing greater responsibility on the reader for participation. In another study reported by Allington of reading achievement for fifth- and sixth-grade students, the volume of silent reading was uniquely associated with reading achievement. In the study cited by Allington, it was revealed that silent reading at school positively affected reading achievement while timed reading at home had no affect.

Reutzel and Hollingsworth (1991) examined the time spent in silent reading versus time spent on reading comprehension skills. A sample of 61 fourth graders who attended a middle- to lower-middle class suburban elementary school was randomly assigned to three groups: (a) reading only, (b) reading/skill instruction, and (c) skill instruction only. Students were assessed using a criterion-referenced test for pre- and posttest scores. This was a study of 30 days and quantitative analyses were performed on data. Reutzel and Hollingsworth reported that reading in and out of school had positive effects on increased reading achievement. Their study on

fourth-grade students compared sustained silent reading with direct skill instruction. Reutzel and Hollingsworth surmised that allowing for more time spent in actual reading did not result in a decline in achievement on comprehension skills when assessed by a criterion-referenced test.

#### *Accelerated Reader Program With Vocabulary Study*

A combination of *Accelerated Reader* and vocabulary study was used by some teachers in the *Reading Six* class. Each week, students were assigned one vocabulary unit from Shostak's (2002) *Vocabulary Workshop*. Shostak stated, "One of the purposes of the text was to prepare students for the vocabulary-related parts of standardized tests" (p. 3). Shostak provided strategies for building the student's vocabulary including base or root words, prefixes, and suffixes. Each unit was subdivided into six activities: definitions, analogies, sentence completion, synonyms, antonyms, and words in context (in sentences and in a passage). As indicated on the teachers' survey, the vocabulary lesson could be completed in one class period. Teachers estimated that the remainder of class time was used for *Accelerated Reader* activities (reading, test taking, and checking out books).

#### *Developmental Characteristics of the Middle-School Child*

When designing a reading program for the middle-school child, it would be worthwhile to look at his or her stage of development. Middle-school children are described as:

. . . ranging from 10 to 15 years old and experiencing a growth and change second only to infancy with changes in physical, social, emotional, intellectual, and moral development. Middle schoolers are involved in a stage of development that begins just prior to puberty and extends through the early stages of adolescence. (George & Alexander, 1993, p. 3)

Physical characteristics are readily noted in weight, height, and sexual maturation with girls maturing earlier than boys. Mood swings caused by hormonal changes result in erratic behavior oftentimes associated with middle-school age children. Changes in physical growth and maturation necessitate periods of movement, rest, and varied activity (Allen, 2002; George & Alexander; Wood, 1994). In a case study of 15-year-olds, Jensen (1998) reported on studies suggesting the value of increased motor activity, arts, music, choices, challenges, and feedback.

Rates of development during this time are quite diverse and influence social and emotional growth frequently leading to feelings of inadequacy and lack of self-confidence. Jensen also listed influences of prior learning, character, environment, peers, and life experience. Feinstein (2004) argued that hormonal changes were less responsible for unique changes in adolescent behavior because “teenagers’ brains are growing and changing by adding gray matter and pruning old synapses” (p. 2).

Reflecting on several studies of political thinking and moral development from early to later adolescence, George and Alexander (1993) concluded that adolescents had a special readiness for social and moral learning about group citizenship in the sense of moral identification with groups. Implications for middle-school educators exist in providing opportunities for group involvement, loyalty, duty, responsibility, ownership, commitment, and citizenship. Other researchers have concurred that early adolescence is a time of physical, intellectual, and social change where children forge their own identity, learn new social roles, develop beliefs and values, and exhibit an increased capacity for complex thinking (Jackson & Davis, 2000; Wood, 1994). According to Jackson and Davis:

To meet the challenge of providing optimal educational experiences for adolescents, middle schools should educate the whole child, challenging students to think critically, to work industriously, to contribute to their communities, to care about others, and to care about their own physical and mental health. The result would be ‘whole’ children become adults whose beliefs, attitudes, and behaviors contribute to the success of our democratic society and its own and the world’s citizens. (p. 23)

### *Brain-Friendly Environment*

Intellectual characteristics were previously based on Piaget’s theories of cognition processes, whereby concrete operations were attained by children from 7 to 11 years and formal operations from 11 to 12 years into adulthood (George & Alexander, 1993). Traditional middle-school curriculum was designed to promote the operational thought processes (hypothesizing, conceptualizing, and symbolizing) for which the brain may not be prepared thus causing

frustration and self-esteem problems. Hart (1998) expounded on Piaget's theories by citing recent research confirming brain growth and development. Just as body growth takes place, physical brain growth develops within a broad genetic program developing differently among individuals. Feinstein (2004) reported of remarkable discoveries made in the UCLA Lab of Neuro Imaging. He described:

Adolescents were placed into an MRI scanner to image their brains and actually witnessed the brains growing in size and power. The formation of new gray and white matter, dendrites, and synapses enabled teens to remember more and remember it better. (p. 5)

By relating studies from the past decade, Feinstein made the following conclusions:

1. The brain, not hormones, was the result of the enigmatic behavior of adolescents;
2. short-term memory increased by approximately 30% during adolescence;
3. activities in which teens have invested their time and energy influence activities in adulthood;
4. teens are ruled more by emotions than logic and experience these emotions before they are able to verbally articulate them; and
5. teens are more vulnerable to stress than adults. (pp. 1, 76)

More traditional classrooms with rows of desks and formal instructional methods become "brain-antagonistic" versus "brain-friendly." According to Feinstein, other traditional structures that may impede learning for the adolescent student include:

1. roles of teacher and student where the teacher is active and the student passive;
2. teacher control where teachers feel the need to dictate how students will learn without providing for a variety of learning styles (or preferences); and
3. evaluation that is in some reportable form without regard to teaching through immediate feedback increased student participation in assessing accuracy in her own work. (pp. 235-237)

Jensen (1998) acknowledged that stress and threat encumbered learning; therefore, he listed three goals to prepare the brain for learning in less traditional classrooms. Less traditional

classrooms were capable of: (a) providing an outlet for emotional expression, (b) reconnecting students with teachers and peers, and (c) connecting the learner with the content (p. 2). Kovalik (1994) emphasized brain research acknowledging that every brain was different. Consequently, each individual exhibited preferences or ways of learning that were more effective for one learner whereas another learner might exhibit another preference. Campbell et al. (1999) explained it this way:

When teachers used Howard Gardner's Theory of Multiple Intelligences in the school environment, lesson design and assessment information was presented in a variety of ways meeting the needs and interests of diverse learners. Students' intrinsic motivation for numerous options for success greatly reduced academic failure and frustration. (p. xv)

Armstrong (2003) hypothesized that the Theory of Multiple Intelligences encompassed many approaches of teaching reading. He suggested the theory as an organizing framework from which to teach literacy acquisition; consequently, it was a metacognitive strategy to organize and make sense of a myriad of methods, research, and strategies. Different learners acquire the ability to read through methods such as phonics, whole word, literature, and natural contexts for reading and writing such as environmental print. Movement, color coding, interests, and cultural background may all be related to a student's individual style of learning. According to Armstrong:

Such wide variation among learners suggests that instead of pitting one literacy method against another, we need to discover how a student's unique brain is wired for reading and writing and then use a range of approaches that matches his or her 'literacy style. (p. 21)

Armstrong suggested that educators should reconnect literacy to the brain "by creating environments where reading and writing skills are nourished and supported with music, art, nature experiences, logical analyses, dramatic performances, oral recitation, emotions expression, and social interaction" (p. 136).

Allen (2000) suggested that students decide not to learn in unhealthy learning environments. She attributed this unwillingness to learn to boring studies and contrasted it with exciting and interesting learning:

It is not difficult for students to resist learning when it consists of a steady diet of lecture, rote learning, note taking, and regurgitation of factual information. However, when the conditions for learning are right and students spend their days with engaging texts, generating and pursuing questions that are intriguing to them, and getting feedback that helps them understand there is something larger than the lives they know, it becomes more difficult for them to continue in their unwillingness to learn. Those conditions for learning become the foundation for environments that support reading diversity. (p. 14)

### *Summary*

This chapter has presented a review of literature focusing on the history of reading and more recent literature regarding middle-grade reading. Throughout the history of reading, a variety of theories and philosophies has been evident. Specific themes such as phonics are recurring and at times have been in the political arena. One characteristic of reading instruction has been that of educators pushing innovative methods singly and in combination in an attempt to increase reading achievement. As of late, numerous studies on reading achievement have been compiled into meta-analyses to provide empirical data. For the purpose of this study, features and current methodologies of teaching reading were described. Reading research findings were reported that highlighted the positive and negative approaches of past and present methods of teaching reading. The unique characteristics of middle-level learners and their learning needs in meeting literacy challenges were discussed.

## CHAPTER 3

### METHODS AND PROCEDURES

#### *Introduction*

The purpose of this study was to determine if an association exists between reading methodologies and reading achievement of sixth-grade students as measured by the *TerraNova*, a criterion-referenced test, as part of the Tennessee Comprehensive Assessment Program (TCAP). This test is administered in Tennessee for assessing elementary- and middle-level students. The Standardized Test for the Assessment of Reading (STAR) was used to measure growth over time. This chapter details the following sections: research design, population of the study, instrumentation, data collection, data analysis, hypotheses, and summary.

#### *Research Design*

This was a quantitative study designed to determine if an association exists between reading methodologies and reading achievement of sixth-grade students. For the purposes of this study, preexisting data from the total reading/language section of the *TerraNova* were collected and disaggregated to compare reading achievement associated with methodology. The Standardized Test for the Assessment of Reading (STAR) test data were collected and used to compare gain scores of reading achievement associated with methodology. Criterion-Referenced Test (CRT) scores were reported in reading/language achievement on the *TerraNova* and included objectives grouped into categories. The CRTs for reading categories included content, meaning, and vocabulary. The data were then analyzed to determine if reading methodologies were associated with reading proficiency levels for content, meaning, and vocabulary. The study addressed whether the students' reading achievement scores differed based on the reading methodologies used in their respective reading classes. The study also addressed whether the

students' reading achievement scores differed over time based on the reading methodologies used in their respective reading classes.

### *Population of the Study*

The focus population of this study consisted of 236 of the 260 sixth-grade students who attended a middle school in a small urban school district in Northeast Tennessee in the school year 2004-2005. The school had 44% of its children receiving free and reduced-priced lunches. According to federal guidelines, 40% is required to apply for Title I monies; the district made the decision to put Title I monies into the elementary school in order to meet the Reading First guideline of the *No Child Left Behind* legislation. The Reading First initiative dedicated federal funds for grades kindergarten through third with the expectation that by third grade, students would be reading on grade level. "Beginning in the 2005-06 school year, all students in grades three through eight will be assessed in those core subjects [reading and math] to help teachers and principals identify weaknesses and make needed changes in instructional practice" (*No Child Left Behind*, 2005).

The students who were the subjects of this study had the following parameters: those sixth-grade students who had 2005 TCAP reading/language scores and those sixth-grade students who had pretest and posttest scores on the Student Assessment of Reading (STAR). Students in the study had been enrolled in the reading classes for a minimum of four of the six 6-weeks' grading periods (or 120 days). All sixth graders in regular education classrooms were included. Fourteen percent of the students qualified for special education services and was served through inclusion in the regular education classrooms.

### *Instrumentation*

A survey instrument was developed in the form of a questionnaire to assist in determining the methods teachers were using to teach reading (see Appendix A). Interest in and creation of the survey instrument was stimulated by a request from the principal to use a general survey of what was being accomplished in the reading class. The survey questionnaire consisted of 10 questions relating to the 45-minute reading class. To increase validity, the instrument was piloted by three 7th-grade teachers in the same school. All 11 sixth-grade academic teachers were given the survey and requested to complete the questions. Teachers were requested to respond to the questions that applied to a minimum of four of the six 6-week grading periods. A panel of three teachers who taught seventh- and eighth-grade reading evaluated the teacher surveys to determine which method was used in each reading class. Teachers were supplied with a current list of students in order to validate those students who had been in their specific reading class a minimum of four of the six 6-weeks grading periods. Of the 11 sixth-grade teachers, all returned the completed surveys.

### *Procedures*

All appropriate approvals were obtained from the East Tennessee State University Institutional Review Board for research with human subjects (see Appendix E). Procedures for the study included the mean reading achievement scores of the 236 sixth-graders at a middle school in a small urban school district in Northeast Tennessee. This study was designed to analyze effects of differing sixth-grade reading methodologies (developmental reading instruction, literature-based reading instruction, *Accelerated Reader Program*, and *Accelerated Reader Program with vocabulary study*) on reading achievement as measured by scores on the *TerraNova Test* and the Student Assessment of Reading Achievement (STAR). Test scores were obtained for students in each of the four groups and were compared using the *TerraNova* achievement test (Tennessee Department of Education, 2005b).

Tennessee has mandated that students in grades three through eight be tested. The test consists of multiple-choice questions, has time limits, and measures skills in reading, language arts, mathematics, science, and social studies. The *TerraNova* is an objective test that supplies an evaluation of basic academic skills (Tennessee Department of Education, 2005a). Questions are used to assess both content knowledge and the application of that knowledge. The criterion-referenced component was new in 2004 and added to meet the terms of the federal directive of the *No Child Left Behind* legislation. The 2005 administration of the test was limited to criterion-referenced items. “To interpret criterion-referenced report, a student’s performance is measured according to specific standards or criteria, rather than to the performance of other test takers” (Tennessee Department of Education, 2004). According to Kachigan (1991), “By validity we mean the extent to which our measurements reflect what we intended them to or what we claim they do” (p. 140). Test blueprints reflect what a Tennessee student knows and is able to do:

The degree to which the test blueprints represent the content domains really determines this validity. Hence, the alignment of the items in the test blueprints to Tennessee’s content and performance standards is critical to the validity of the assessment. (Tennessee Department of Education, 2005a, p. 5)

Kachigan also said, “Reliability is basic to every measurement situation” (p. 139). If a set of measurements can be replicated, we say they have reliability. The Tennessee Department of Education (2005a) described the CRT reliability document:

The area and grade are the number of items, the mean number-correct score (Mean), the standard deviation (SD), and a measure of test reliability (KR20). The KR20 measures internal consistency reliability and is a lower-bound estimate of test reliability. The KR20 values for the TCAP CRT indicate that the tests are providing very good measurement. (p. 14)

The reading/language scores on the *TerraNova* are reported for each student on the Reporting Categories Performance Index (RCPI), whereas three of the categories refer to the reading objectives taught from the state curriculum. The RCPI is “an estimate of the number of items the student would be expected to answer correctly if there had been 100 such items for a

specific category” (Tennessee Department of Education, 2005b). RCPI scores are the basis of the proficiency levels assigned to students (below proficient, proficient, above proficiency). Proficiency levels are meaningful based on Tennessee’s benchmarks for Adequate Yearly Progress (AYP). To achieve the goal of *No Child Left Behind* legislation, a school must reach 100% proficiency by 2013-2014.

The reading/language portion of the *TerraNova* is divided into three reporting areas relating to reading: content, meaning, and vocabulary (CTB/McGraw-Hill, 1997). Students read passages and test items are based on the student’s ability to recall information to assess skills in these three areas of reading. The category “content” assesses skills related to main ideas of plot, author’s purpose, fact or fiction, genre, point of view, and summarizing. The category “meaning” assesses skills associated with text format, clarifying, prediction, inference, sequence of events, cause and effect, and text evaluation. The third category “vocabulary” assesses skills linked to root words, affixes, syllabication and spelling patterns, multiple meanings of words in context, analogies, and vocabulary specific to content (Tennessee Department of Education, 2004).

The Standardized Test for the Assessment of Reading (STAR) was administered to students in the fall as a pretest and in the spring as a posttest by their respective reading teachers. Scale scores for the STAR test were provided by the school and used for measuring group change over time. Test-retest, alternate-forms, and estimation of generic reliability were all applied to estimate the reliability of the STAR test. According to STAR Reading (1999), the average reliability coefficient for the test-retest method was .85. The alternate forms method for testing reliability had an average reliability coefficient of .85. In the generic reliability study, data from the norming phase were used and the estimated generic reliability ranged from .89 to .92 (pp. 5-3 - 5-5).

### *Data Collection*

After approval by the Institutional Review Board, data were collected at the principal's office of the middle school whose students were subjects of the study. Each individual student's test data were given a coded identity to protect his or her privacy and to be in compliance with state and federal regulations.

Students' *TerraNova* CRT scaled scores are interval data and were used as a source for data comparisons between groups. Scaled scores from the STAR reading pretest and posttest were used as a source for data comparison to calculate gains by subtracting the STAR pretest given at the beginning of the school year for 2004-2005 from the STAR posttest administered at the end of the school for 2004-2005.

### *Data Analysis*

This study was designed to evaluate four sixth-grade reading methodologies: developmental reading instruction, literature-based reading instruction, *Accelerated Reader* Program, and *Accelerated Reader* Program with vocabulary study. Data were analyzed using the Statistical Package for the Social Sciences (SPSS).

### *Research Questions and Hypotheses*

Research question #1: To what extent are there differences among the results of the four reading methodologies based upon students' performance on the *TerraNova* Criterion-Reference Test (CRT) reading/language test?

Ho 1: There is no difference among sixth-grade students in the four reading methodologies and their scores on the *TerraNova* CRT reading/language test.

A one-way analysis of variance (ANOVA) was used to test the null hypothesis. In the event the ANOVA was significant, an appropriate post-hoc test (either Tukey if the variances of the

groups are equal or the Tallhmane<sup>2</sup> if the variances are unequal) was used to determine which pair(s) of reading methodologies were different.

Research question #2: To what extent are there differences in reading achievement gain scores on the Standardized Test for the Assessment of Reading (STAR) among sixth-grade students who are taught reading through each of the specific methodologies?

The reading achievement gain score was calculated by subtracting the STAR pretest given at the beginning of the school year for 2004-2005 from the STAR posttest administered at the end of the 2004-2005 school year.

Ho2: There is no difference in reading achievement STAR gain scores among sixth-grade students in the four reading methodologies.

To test the null hypothesis, a one-way ANOVA was conducted. If the ANOVA was significant, an appropriate post-hoc test (based on whether the group variances are equal or not) was used to determine which pair(s) of methodology means was different.

Research question #3: To what extent are there differences in the reading methodologies and proficiency levels in the Content reporting category of the *TerraNova* CRT reading/language test?

Ho 3: There is no difference among the four reading methodologies and proficiency levels in the Content reporting category of the CRT reading/language test.

For this analysis, proficiency levels for content were categorized into two categories: (1) not advanced proficiency and (2) advanced proficiency. A 4 x 2 crosstabulated table was generated and a chi-square test was used to test the hypothesis.

Research question #4: To what extent are there differences in the reading methodologies and proficiency levels in the meaning reporting category of the *TerraNova* CRT reading/language test?

Ho 4: There is no difference between the four reading methodologies and proficiency levels in the meaning reporting category of the CRT reading/language test.

For this analysis, proficiency levels for the reporting category for meaning were categorized into two categories: (1) not advanced proficiency and (2) advanced proficiency. A 4 x 2 crosstabulated table was generated and a chi-square test was used to test the hypothesis.

Research question #5: To what extent are there differences in the reading methodologies and proficiency levels in the vocabulary reporting category of the *TerraNova* CRT reading/language test?

Ho5: There is no difference between the four reading methodologies and proficiency levels in the vocabulary reporting category of the *TerraNova* CRT reading/language test. For this analysis, proficiency levels for content were categorized into two categories: (1) not advanced proficiency and (2) advanced proficiency. A 4 x 2 crosstabulated table was generated and a chi-square test was used to test the hypothesis.

Research question # 6: Did students in the current study meet the state's goal for proficiency by the end of the 2004-2005 academic year?

Ho6: Students failed to meet the state's goal for proficiency by the end of the 2004-2005 academic year.

Descriptive statistics were used to evaluate this research question. Specifically, each of the three reporting categories for content, meaning, and vocabulary was placed into two classifications: (1) below proficiency and (2) proficient and higher. The percentage of all students in the current study, as well as those in each of the four reading methodologies, who were proficient and higher were compared to the Tennessee target goals for the 2004-2005 academic year.

Tennessee's target goals for reading/language arts proficiency for Elementary students are shown in Table 1

Table 1

*Tennessee’s Targets for Reading/Language Arts on the Elementary Level Determined by the Percentage of Students at the Proficient or Above Levels*

School Year	Reading/Language Arts Target
2002-2003 through 2003-2004	77%
2004-2005 through 2006-2007	83%
2007-2008 through 2009-2010	89%
2010-2011 through 2012-2013	94%
2013-through 2014	100%

These target goals, as shown in Table 1, are quantified in terms of the percentage of elementary students whose reading/language arts scores fall within the range of proficient or higher. Because the percentages shown are the targets for two academic years, the table shows a goal increase for proficiency of six percentage points every two years from 2002 to 2013. Although not specifically shown in the table, it can be inferred that the goal for the percentage increase of students performing at the proficient or higher level is 3% per academic year. Therefore, Tennessee's goal for the percentage of students who are proficient or higher for the academic year 2004-2005 was 80%.

CHAPTER 4  
ANALYSIS OF THE DATA

The purpose of this study was to determine if an association existed between reading methodologies and reading achievement as measured by the Tennessee Comprehensive Assessment Program (TCAP) for sixth-grade students. The four reading methodology groups were: developmental reading, literature-based reading, *Accelerated Reader* program, and *Accelerated Reader* program with vocabulary study. The sixth-grade students included in the study met the following criteria: They had TCAP reading/language arts scores for 2005, pretest and posttest scores on the Student Assessment of Reading (STAR), were in reading class enrollment four of the six 6-week grading periods (or 120 days), and were members of regular education classes.

*Demographics*

Table 2 shows demographic information for the participants in the study.

Table 2

*Population of Students in the Study*

	<i>N</i>	%
Gender:		
Female	120	50.8
Male	<u>116</u>	<u>49.2</u>
Total	236	100.0
Ethnicity:		
Minority	28	11.8
White	<u>208</u>	<u>88.1</u>
Total	236	100.0

Table 2 (continued)

	<i>N</i>	%
Reading Methodology:		
Developmental	44	18.6
Literature Based	77	32.6
<i>Accelerated Reader</i>	51	21.6
<i>Accelerated Reader</i> with Vocabulary	<u>64</u>	<u>27.1</u>
Total	236	100.0

The subjects of the study were instructed by 11 regular education teachers. As part of the teacher's survey (See Appendix A), teachers were asked to complete demographic information for the study. All teachers participating in the study were assured confidentiality. As shown in Table 3, teachers' ages ranged from 27 to 59 years old. The median age of teachers was 49 years, and the mean age of teachers was 45.18 years. Teaching experience ranged from 1 to 35 years. The median of teaching experience was 12 years whereas the mean was 17.09 years. The number of years since the highest degree was earned ranged from 2 to 32 years. The median number of years was 19 and the mean was almost 17 years. The number of hours spent in acquiring reading coursework in the last 5 years ranged from 0 to 30 hours. The median of hours spent in acquiring reading coursework in the last 5 years was 0 and the mean was 3.82 hours. The number of hours of professional development in reading ranged from .5 to 42 days. The median number of hours was 4 hours and the mean was 8.41 hours.

Table 3

*Teacher Demographic Data From Teacher Survey*

	Minimum	Maximum	<i>Mdn</i>	<i>M</i>	<i>SD</i>
Age	27.0	59	49.00	45.18	12.06
Years of Teaching Experience	1.0	35	12.00	17.09	13.60
# of Years Since Highest Degree	2.0	32	19.00	16.91	12.45
# of Hours Reading Courses	0.0	30	.00	3.82	9.11
# of Hours Professional Dev.	.5	42	4.00	8.41	12.17

Survey questions 11 and 17 requested open-ended responses. On Question 11, participants were asked, "Please add any ideas you have that might improve reading instruction." Responses to the question are as follows:

Set aside some time each school day for silent reading;

If a teacher is well read in children’s literature, he can often suggest or choose books that will appeal to hesitant readers, which helps to develop the love of reading;

Grouping by ability level;

Smaller groups for lower levels;

Skills instruction for lower achieving readers and novel studies for higher achieving readers;

I would love feedback about my reading instruction. It would be tremendously helpful for a reading specialist to visit my classroom to observe my teaching and meet with me later to identify ways I can improve my teaching;

Have students in a comfortable setting;

Pretest students so that instruction is geared toward their level of learning;

Have high-interest material to read—both fiction and nonfiction;

A class of 20 is not going to help students catch up when they are quite a bit behind;

We need either support from parents or build in time during the day for kids to read;

For middle schools, why not have one related arts period and have one class of reading and one of language arts. Is art or reading more important? We have to make some hard decisions;

I desperately need to go in and watch other reading teachers do their jobs;

Do more formative assessments to more accurately pinpoint skills students need;

Assess students more frequently to determine progress and their need for goals adjustment;

Do more anecdotal assessments regarding students' performance in reading while in other content area classes;

Take a look at the feeder schools the students are coming from. Analyze the diagnostic data to determine if students coming from any one school seem to be better prepared readers than others. What is that feeder school doing that seems to be failing or working. By the same token, if all fifth graders go into middle school could not find main idea, I would want to know that . . . and if all of them could summarize brilliantly, I would also want to know that. By working with the elementary schools to build skills and emulating their successful practices, we should be able to better prepare students for the work they will be doing in high school . . . instead of everyone blaming the level just below because kids can't read;

Provide training for the secondary certified teachers who have not had elementary reading methods and who do not feel comfortable teaching reading;

Try a variety of strategies to teach reading. Some students will never be able to read using phonics because they cannot hear sounds. Others will never be able to decode new words without the phonics training to help them. Some students need one-on-one or small group instruction. Some need skills, skills, skills, while others need help work with fluency;

Whole group instruction will work only with those students who are highly motivated, enthusiastic readers who can already read well. At this age, we need more strategies; and

One-on-one: an adult to a student.

On Question 17, participants were asked to "describe any professional development activities in reading you have completed in the last five years." Responses to the questions are as follows:

The Learning Network® (2);  
Reading in the content areas (3);  
Slingerland Training;  
Reading/literature workshop;  
Guided reading workshop;  
International Reading Association State Conference;

Newspapers in Education workshop;  
Literacy for All workshops;  
Powerful guided reading strategies;  
Nancie Atwell's Center for Teaching and Learning one week on-site training;  
Professional reading (*Teaching Reading in the Middle School*, Robb, 2002);  
Reading workshops sponsored by our school;  
Alternate assessment and training workshop (reading/language arts); and  
Using data & research in teaching reading

The *TerraNova* Criterion-Reference Test (CRT) was the TCAP test administered annually to students in grades three through eight. The Standardized Test for the Assessment of Reading (STAR) was used to determine if an association existed between reading methodologies and reading achievement over time. In addition, the reporting categories for content, meaning, and vocabulary for the reading/language arts test were collapsed into two levels representing less than advanced proficiency versus advanced proficiency in order to determine if there was a relationship between the reading methodologies and these proficiency levels. Finally, the percentage of students who scored at the proficient or higher levels was compared to Tennessee's target goal for the academic year 2004-2005.

The research questions guiding the study included:

1. To what extent are there differences among the results of the four reading methodologies based upon students' performance on the *TerraNova* Criterion-Reference Test (CRT) reading/language arts test?
2. To what extent are there differences in reading achievement gain scores on the Standardized Test for the Assessment of Reading (STAR) among sixth-grade students who are taught reading through each of the specific methodologies?
3. To what extent are there differences in the reading methodologies and proficiency levels in the content reporting category of the *TerraNova* CRT reading/language arts test?

4. To what extent are there differences in the reading methodologies and proficiency levels in the meaning reporting category of the *TerraNova* CRT reading/language arts test?
5. To what extent are there differences in the reading methodologies and proficiency levels in the vocabulary reporting category of the *TerraNova* CRT reading/language arts test?
6. Did students in the current study meet the state's goal for proficiency by the end of the 2004-2005 academic year?

For research questions 3 through 5, proficiency levels were measured as less than advanced proficiency versus advanced proficiency.

For research question 6, proficiency levels were measured as (1) less than proficient and (2) proficient or higher. The change in the measurement of proficiency levels for the analysis of this question was necessary in order to compare the current study's findings with Tennessee's target goal for proficiency for the 2004-2005 academic year.

#### *Results for Research Question #1*

To what extent are there differences among the four reading methodologies and students' performance on the *TerraNova* CRT reading/language arts test?

A one-way analysis of variance was conducted to evaluate the relationship between the reading methodologies and students' performance on the *TerraNova* reading/language arts test. The dependent variable was the reading/language arts test and the independent variable was reading methodology. Reading methodology included four levels: developmental reading, literature-based, *Accelerated Reader* Program, and *Accelerated Reader* Program with vocabulary study.

The ANOVA was significant,  $F(3,232) = 35.66$ ,  $p < .001$ . Therefore, the null hypothesis that there is no difference among sixth-grade students in the four reading

methodologies and their scores on the *TerraNova* CRT reading/language test was rejected. The effect size as measured by  $\eta^2$  was large (.32). Reading methodologies accounted for 32% of the variance in reading/language arts scores.

Because the overall  $F$  was significant, post-hoc tests were conducted to determine which pairs of reading methodology means were different. The Tamhane post-hoc procedure was used because there was a violation of the assumption of equal variances ( $F(3,232) = 3.16, p = .03$ ). The reading/language arts mean for developmental reading was significantly different from the means for literature based ( $p < .01$ ), *Accelerated Reader* ( $p < .01$ ), and *Accelerated Reader* with vocabulary ( $p < .01$ ). In each case, the developmental reading group had the lower mean. The developmental reading group mean was more than 62 points lower than the mean for literature-based reading, 47 points lower than the *Accelerated Reader* group, and almost 34 points lower than *Accelerated Reader* with vocabulary.

There was a difference in the reading/language arts means between literature based and the *Accelerated Reader* ( $p = .02$ ) and between literature based and *Accelerated Reader* with vocabulary study ( $p < .01$ ) with literature-based reading methodology having the higher mean. The mean for literature-based reading was over 15 points higher than the mean for the *Accelerated Reader* group and was 29 points higher than the *Accelerated Reader* with vocabulary mean.

There was no difference in the means of *Accelerated Reader* and *Accelerated Reader* with vocabulary study ( $p = .10$ ). The means, standard deviations, and the 95% confidence intervals for the pairwise differences are shown in Table 4. Figure 1 shows the distribution of reading/language arts by the four reading methods.

Table 4

*Means and Standard Deviations With 95% Confidence Intervals of Pairwise Differences*

Method	<i>N</i>	<i>M</i>	<i>SD</i>	Developmental	Lit. Based	AR
Developmental	44	485.93	30.87			
Lit. Based	77	548.51	34.92	-79.0 to -46.1		
AR	51	533.18	21.69	-62.2 to -32.2	1.9 to 28.7	
AR/ w Vocab.	64	519.48	38.24	-51.45 to -15.7	12.4 to 45.6	-1.5 to 28.9

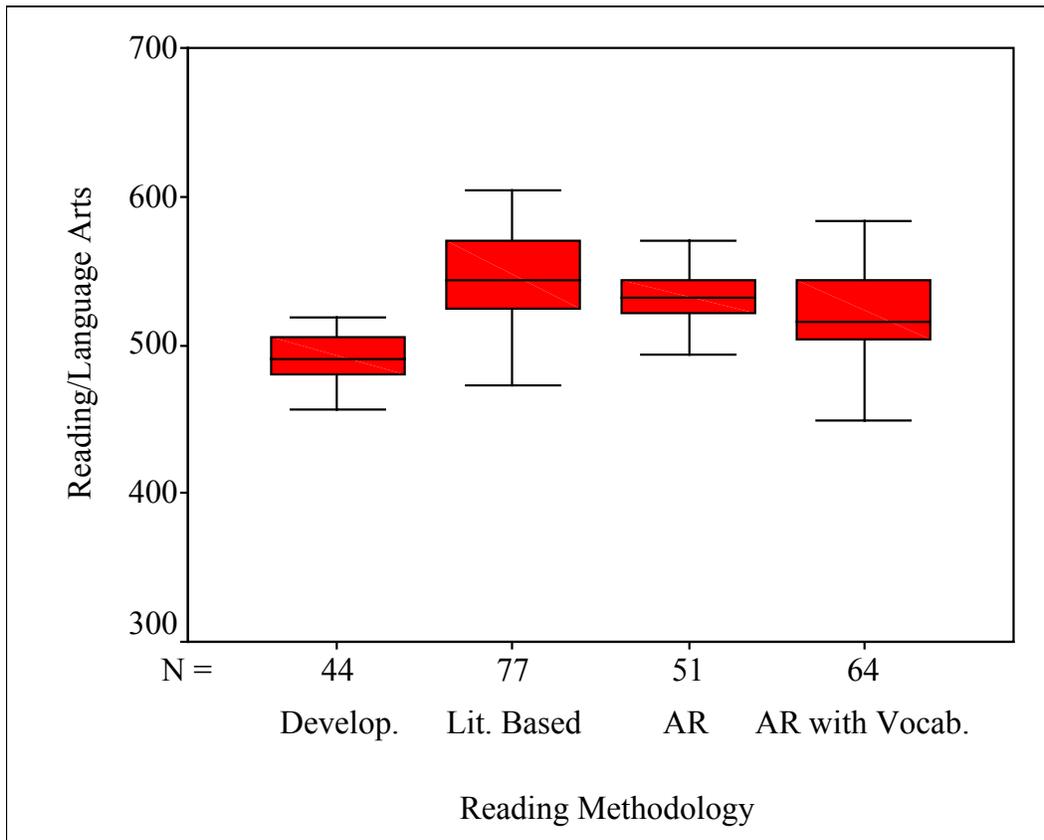


Figure 1. Distribution of Reading/Language Arts Scores by Reading Methodology Group

### *Results for Research Question #2*

To what extent are there differences in reading achievement gain scores on the Standardized Test for the Assessment of Reading (STAR) among sixth-grade students who are taught reading through each of the specific methodologies?

The methodologies included: developmental reading, literature-based, *Accelerated Reader* Program, and *Accelerated Reader* Program with vocabulary study.

For this analysis, the reading achievement gain score was calculated by subtracting the STAR pretest administered at the beginning of the school year for 2004-2005 from the STAR posttest administered at the end of the 2004-2005 school year.

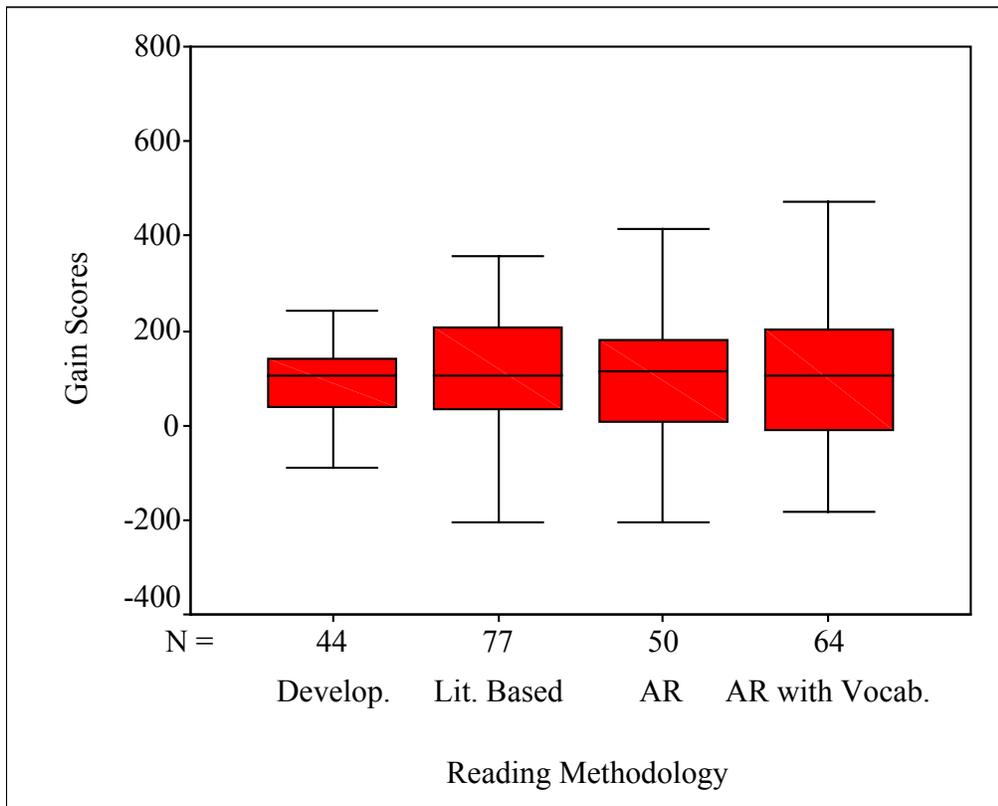
A one-way analysis of variance (ANOVA) was conducted to evaluate the relationship between the reading methodologies and students' performance on the STAR gain scores. The dependent variable was the STAR test gain score and the independent variable was reading methodology. Reading methodology included four levels: developmental reading, literature-based, *Accelerated Reader* Program, and *Accelerated Reader* Program with vocabulary study.

The ANOVA was not significant,  $F(3,231) = .404, p = .75$ . The results indicate that the gain scores were not significantly affected by any of the reading methodologies. Therefore, the null hypothesis that there was no difference in reading achievement STAR gain scores among sixth-grade students in the four reading methodologies was retained. The strength of the relationship between reading methodology and STAR reading gain scores, as assessed by  $\eta^2$ , was very small (.005). The mean gain scores for the four reading methodologies are reported in Table 5. The distribution of gain scores and reading methodology are provided graphically in Figure 2.

Table 5

*Means and Standard Deviations for Gain Scores by Reading Methodology*

Reading Methodology	<i>N</i>	<i>M</i>	<i>SD</i>
Developmental	44	95	91
Literature Based	77	121	143
<i>Accelerated Reader</i>	50	106	143
<i>Accelerated Reader w/ Vocab.</i>	64	103	152



*Figure 2. Distribution of Gain Scores by Reading Methodology*

### *Results for Research Question #3*

To what extent are there differences in the reading methodologies and proficiency levels in the content reporting category of the *TerraNova* CRT reading/language arts test?

For this analysis, proficiency levels for content were categorized into two categories: (1) less than advanced proficiency and (2) advanced proficiency. Less than advanced proficiency was defined as content scores of 84 and below, whereas advanced proficiency included content scores of 85 or greater. *TerraNova* CRT proficiency scores are reported as a Reporting Categories Performance Index (RCPI) and is “an estimate of the number of items the student would be expected to answer correctly if there had been 100 such items for that category” (Tennessee Department of Education, 2005b).

A 4 x 2 crosstabulated table was generated and a chi-square test was conducted to evaluate the relationship between reading methodologies and content proficiency levels. There were significant differences among the reading methods and proficiency levels for content,  $X^2 (3) = 39.52, p < .01$ . Therefore, the null hypothesis that there is no difference among the reading four reading methodologies and proficiency levels for content was rejected. The strength of the relationship as measured by Cramer's V was moderate (.41).

Proficiency levels by reading methodologies are reported in Table 6 and show that there were no students in the developmental reading group who had advanced proficiency in content. Among students who were in the literature-based group, 57% scored in the advanced proficiency level. Among students in the *Accelerated Reader* group, 41% scored in the advanced proficiency level. Among students in the *Accelerated Reader* with vocabulary study group, 36% scored in the advanced proficiency level.

Table 6

*Crosstabulated Table for Content Proficiency Level by Reading Methodologies*

	Devel.		Lit. Based		AR		AR w/ Vocab	
	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%
Less than Advanced	44	100.0	33	42.9	30	58.8	41	64.1
Advanced	0	0.0	44	57.1	21	41.2	23	35.9
Total	44	100.0	77	100.0	51	100.0	64	100.0

#### *Results for Research Question #4*

To what extent are there differences in the reading methodologies and proficiency levels in the meaning reporting category of the *TerraNova* CRT reading/language arts test?

For this analysis, proficiency levels for the reporting category for meaning were categorized into two categories: (1) less than advanced proficiency and (2) advanced proficiency. Less than advanced proficiency was defined as scores of 88 and below on the meaning reporting category whereas advanced proficiency included scores of 89 and higher.

A 4 x 2 crosstabulated table was generated and a chi-square test was conducted to determine if there were differences in the reading methodologies and the proficiency levels for meaning. The chi-square test was significant,  $X^2(3) = 43.1, p < .01$ ; therefore the null hypothesis that there is no difference between the four reading methodologies and proficiency levels for meaning was rejected. The strength of the relationship as measured by Cramer's *V* was moderate (.43).

Proficiency levels by reading methodologies are reported in Table 7 and show that there are no students in the developmental reading group who had advanced proficiency in meaning. Among students who received literature-based reading instruction, 58.4% scored at the advanced proficiency level. Among students who were in the *Accelerated Reader* group, 37.3% scored at

the advanced proficiency level. Students who were in the *Accelerated Reader* group with vocabulary study had 29.7% of students who scored at the advanced proficiency level.

Table 7

*Crosstabulated Table for Meaning Proficiency Level by Reading Methodologies*

	Devel.		Lit. Based		AR		AR w/ Vocab	
	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%
Less than Advanced	44	100.0	32	41.6	32	62.7	45	70.3
Advanced	0	0.0	45	58.4	19	37.3	19	29.7
Total	44	100.0	77	100.0	51	100.0	64	100.0

*Results for Research Question #5*

To what extent are there differences in the reading methodologies and proficiency levels in the vocabulary reporting category of the *TerraNova* CRT reading/language arts test?

For this analysis, proficiency levels for vocabulary were classified into two categories: (1) less than advanced proficiency and (2) advanced proficiency. Scores on the vocabulary of 66 and below were defined as less than advanced proficiency while scores of 67 and above were defined as advanced proficiency.

A 4 x 2 cross-tabulated table was generated and a chi-square test was conducted to evaluate the relationship between reading methods and vocabulary proficiency levels. The chi-square was significant,  $X^2(3) = 45.1, p < .01$ ; therefore, the null hypothesis that there is no difference between the four reading methodologies and proficiency levels for vocabulary was rejected. The strength of the relationship between reading methods and proficiency levels for vocabulary, as measured by Cramer's V, was moderate (.44).

Table 8 provides proficiency levels by reading methodologies. No students in the developmental reading group achieved advanced proficiency in vocabulary. Among students who were in the literature-based group, 61% scored in the advanced proficiency level. Among students in the *Accelerated Reader* group, 47% had scores in the advanced proficiency level. Those students in the *Accelerated Reader* group with vocabulary study had 35.9% who scored advanced proficiency.

Table 8

*Crosstabulated Table for Vocabulary Proficiency Level by Reading Methodologies*

	Devel.		Lit. Based		AR		AR w/ Vocab	
	N	%	N	%	N	%	N	%
Less than Advanced	44	100.0	30	39.0	27	52.9	41	
Advanced	0	0.0	47	61.0	24	47.1	23	
Total	44	100.0	77	100.0	51	100.0	64	100.0

#### *Results for Research Question #6*

Did students in the current study meet the state's goal for proficiency by the end of the 2004-2005 academic year?

For this research question, the definitions of the content, meaning, and vocabulary proficiency levels were modified so that comparisons could be made between the current study and Tennessee's target goal for the 2004-2005 academic year. Descriptive statistics were used to evaluate this research question. Specifically, content, meaning, and vocabulary proficiency levels were defined as: (1) less than proficient and (2) proficient or higher.

Tennessee's target goals for reading/language arts proficiency for elementary students are shown in Table 9. These goals are quantified in terms of the percentage of elementary students whose reading/language arts scores fall within the range of proficient or higher. Because the

percentages shown are the targets for two academic years, the table shows a goal increase of 6 percentage points every two years from 2002 to 2013. Although not specifically shown in the table, it can be inferred that the goal for the percentage increase of students performing at the proficient or higher level is 3% per academic year. Therefore, Tennessee's goal for the percentage of students who are proficient or higher for the academic year 2004-2005 was 80%.

Table 9

*Tennessee's Targets for Reading/Language Arts on the Elementary Level Determined by the Percentage of Students at the Proficient or Above Levels*

School Year	Reading/Language Arts Target
2002-2003 through 2003-2004	77%
2004-2005 through 2006-2007	83%
2007-2008 through 2009-2010	89%
2010-2011 through 2012-2013	94%
2013-through 2014	100%

As shown in Table 10, 215 (91.1%) of the students in the current study had test scores that were proficient or higher for content. Therefore, students in the current study exceeded the target goal of 80% for the 2004-2005 academic year in the content reporting category. Seventy-five students (97.4%) in the literature-based group scored proficient or higher, whereas 49 students (96.1%) in the *Accelerated Reader* and 60 students (93.8%) in the *Accelerated Reader* with vocabulary group scored proficient or higher. Among students in the developmental group, 31 (70.5%) were proficient. The developmental group fell short of the state's target for 2004-2005.

Table 10

*Crosstabulated Table for Reading Methodologies by Below Proficiency Versus Proficient or Higher for Content*

Content Proficiency	Reading Methodology									
	Develop.		Lit. Based		AR		AR w/ Vocab		Total	
	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%
Below proficient	13	29.5	2	2.6	2	3.9	4	6.3	21	8.9
Proficient and above	31	70.5	75	97.4	49	96.1	60	93.8	215	91.1
Total	44	100.0	77	100.0	51	100.0	64	100.0	236	100.0

Table 11 shows the crosstabulated table for reading methodologies by two levels of proficiency for meaning: below proficiency level versus proficient and higher levels. For the meaning category of the reading/language arts test, 218 students (92.4%) in the current study had scores on the meaning reporting category that were proficient or higher. Again, the state's goal of 80% proficiency for the 2004-2005 academic year was exceeded. However, the literature based, *Accelerated Reader*, and *Accelerated Reader* with vocabulary groups had over 90% of students scoring above proficiency or higher, but the developmental group fell below the 80% target goal with 75% of developmental students scoring proficient.

Table 11

*Crosstabulated Table for Reading Methodologies by Below Proficient Versus Proficient or Higher Levels for Meaning*

Meaning Proficiency	Reading Methodology									
	Develop.		Lit. Based		AR		AR w/ Vocab		Total	
	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%
Below proficient	11	25.0	2	2.6	1	2.0	4	6.3	18	7.6
Proficient and above	33	75.0	75	97.4	50	98.0	60	93.8	218	92.4
Total	44	100.0	77	100.0	51	100.0	64	100.0	236	100.0

Table 12 shows the crosstabulated table for reading methodologies by two levels of vocabulary proficiency: below proficient and proficient and higher levels. For vocabulary proficiency, 220 students (93.2%) in the current study scored proficient or higher. Again, the Literature based, *Accelerated Reader*, and *Accelerated Reader* with vocabulary groups exceeded the 80% proficiency target set by the state with each of these three groups showing percentages for proficiency and higher over 90%. In the developmental group, 35 students (79.5%) were proficient. This percentage is sufficiently close to the 80% goal to make the determination that the developmental group also met the state's target goal for proficiency for vocabulary.

Table 12

*Crosstabulated Table for Reading Methodologies by Below Proficient Versus Proficient or Higher Levels for Vocabulary*

	Reading Methodology									
	Develop.		Lit. Based		AR		AR w/ Vocab		Total	
	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%
Below proficient	9	20.5	2	2.6	2	3.9	3	4.7	16	6.8
Proficient and above	35	79.5	75	97.4	49	96.1	61	95.3	220	93.2
Total	44	100.0	77	100.0	51	100.0	64	100.0	236	100.0

### *Summary*

The results of the data analysis showed there was a significant difference among the reading methodologies for the reading/language arts test. In addition, there were significant differences among the reading methodologies and advanced proficiency levels for content, meaning, and vocabulary. However, the findings showed that there was no significant difference among the reading methodologies and the STAR test reading gain scores.

Finally, in a comparison between the findings in the current study and the Tennessee target goal of 80% of students scoring proficient and higher, it was shown that, overall, the students in this study exceeded the 80% target for proficient and higher for all three reporting categories: content, meaning, and vocabulary. However, comparisons of each reading methodology group to the state's goal showed that the literature based and the two *Accelerated Reader* groups exceeded the state's 80% proficient or higher goal whereas the developmental group failed to meet the goal for content and meaning.

Chapter 5 presents further analyses of the results of the study found in this chapter. Each research question is addressed with its specific findings. Conclusions and recommendations for further study are also presented in Chapter 5.

## CHAPTER 5

### SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

The purpose of this study was to determine if an association exists between reading methodologies and reading achievement as measured by the Tennessee Comprehensive Assessment Program (TCAP) for sixth-grade students. The *TerraNova* Criterion-Reference Test is the TCAP test administered annually to students in grades three through eight. The analyses focused on four reading methodologies: developmental reading instruction, literature-based reading instruction, *Accelerated Reader* Program, and *Accelerated Reader* Program with vocabulary study. The reading/language arts subsection of the 2004-2005 *TerraNova* Criterion-Reference Test was used to analyze differences in groups. The reading/language portion of the *TerraNova* is divided into three reporting areas relating to reading: content, meaning, and vocabulary. Students read passages and test items are based on the student's ability to recall information to assess skills in these three areas of reading. Scores for the Reporting Categories for Proficiency Index (RCPI) were used to analyze data for the three objective categories in reading: content, meaning, and vocabulary. The Standardized Test for the Assessment of Reading (STAR) was used to determine if an association exists between reading methodologies and reading achievement over time. The STAR test data were used for reading gain scores analyses in place of *TerraNova* achievement test data from year to year (2004 5th-grade scores; 2005 6th-grade scores). In 2005, the *TerraNova* was changed to a criterion-referenced assessment; therefore, data could not be used for statistical comparison from year to year.

This chapter provides conclusions drawn from the findings of the study presented in Chapter 4 and the review of literature. Recommendations for further practice and research are also addressed.

### *Summary of Findings*

The analysis focused on five research questions. The population consisted of 236 of the 260 sixth-grade students who attended a middle school in a small urban school district in Northeast Tennessee in the school year 2004-2005. The students who were the subjects of this study had the following parameters: those sixth-grade students who had 2005 TCAP reading/language scores and those sixth-grade students who had pretest and posttest scores on the Student Assessment of Reading (STAR). Students in the study were enrolled in the reading classes for a minimum of four of the six 6-weeks' grading periods (or 120 days). All sixth graders in regular education classrooms were included, 14% of who qualified for special education services and were served through inclusion in the regular education classrooms. There were 44 students in the developmental reading group, 77 students in the literature-based group, 51 students in the *Accelerated Reader* group, and 64 students in the *Accelerated Reader* with vocabulary group.

#### *Research Question # 1*

To what extent are there differences among the results of the four reading methodologies based upon students' performance on the *TerraNova* Criterion-Reference Test (CRT) reading/language arts test?

The results of the data analysis showed there was a significant difference in the reading methodologies on the reading/language arts test. Post-hoc pairwise comparisons showed that the developmental reading group scored significantly lower on the reading/language arts test than did the other three groups. Post-hoc tests also showed there were significant differences between the literature-based reading group and both the *Accelerated Reader* and *Accelerated Reader* with vocabulary groups. In each case, the mean for the literature-based reading group was significantly higher. There was no difference between the *Accelerated Reader* group and the *Accelerated Reader* with vocabulary reading group.

### *Research Question # 2*

To what extent are there differences in reading achievement gain scores on the Standardized Test for the Assessment of Reading (STAR) among sixth-grade students who are taught reading through each of the specific methodologies?

The findings also showed that there was no significant difference among the reading methodologies and the STAR test reading gain scores. However, while the differences were not statistically significant, the literature-based reading group had the largest mean gain (M = 121). By comparison, the other three groups had mean gain scores that were not only lower than the literature-based group but also the means for the developmental (M = 95), *Accelerated Reader* (M = 106), and *Accelerated Reader* with vocabulary study (M = 103) were very similar.

### *Research Questions # 3, #4, and # 5*

To what extent are there differences in the reading methodologies and proficiency levels in the content, meaning, and vocabulary reporting categories of the *TerraNova* CRT reading/language arts test?

The analyses of the data for the differences among the reading methodologies and advanced proficiency levels for the content, meaning, and vocabulary showed there were differences among the reading methodologies for all three reporting categories. For each reporting category, the following patterns emerged:

1. None of the developmental reading students scored in the advanced proficiency level.
2. The literature-based reading group consistently had the highest percentage of students who scored in the advanced proficiency level followed by the *Accelerated Reader* group, the *Accelerated Reader* with vocabulary reading, and the developmental groups in that order.

3. The percentage of students in the literature-based group scoring in the advanced proficiency level was considerably higher than the other three groups.
4. The differences between the percentages of students who scored in the advanced proficiency level for the *Accelerated Reader* groups was not nearly as large as the differences between the literature-based group and the remaining three groups.

#### *Research Questions # 6*

Did students in the current study meet the state's goal for proficiency by the end of the 2004-2005 academic year?

Finally, in a comparison of the findings in the current study and Tennessee's target goal of 80% of students scoring proficient and higher, it was shown that overall the students in this study exceeded the 80% target for proficient and higher for all three reporting categories: content, meaning, and vocabulary. In addition, for all three reporting categories, the literature based, *Accelerated Reader*, and *Accelerated Reader* with vocabulary groups exceeded the 80% target goal with more than 90% of the students in each group scoring in the proficient or higher level. The developmental group fell below the state's goal in both content and meaning and barely made the cut for proficiency and higher for vocabulary.

#### *Conclusions*

The study primarily focused on the performance of sixth-grade students who were taught reading with different methodologies. Differences in groups were assessed using the *TerraNova* Criterion Reference Test. Students' scores were compared using scaled scores in the reading/language arts portion of the *TerraNova* CRT. Proficiency scores were compared using the Reporting Categories Performance Index (RCPI) for the reading objectives in the categories of content, meaning, and vocabulary. To measure reading gains over time, the Standardized Test for the Assessment of Reading (STAR) scores were used.

### *Conclusion # 1*

On the *TerraNova* reading/language arts test, the developmental group scored significantly lower than the other groups. The literature-based group scored significantly higher than the developmental, *Accelerated Reader*, and *Accelerated Reader* with vocabulary study groups. There was no difference between the *Accelerated Reader* groups on the reading/language arts test.

### *Conclusion # 2*

When comparisons were made using the STAR pretest and posttest assessments to measure reading gains over time, there were no significant differences. Although the differences were not statistically significant, the smallest gain was in the developmental group. The largest gain was in the literature-based group. There was only a difference of three points in the gain scores of the two *Accelerated Reader* groups.

### *Conclusion # 3*

When considering proficiency levels for content, meaning, and vocabulary, no students in the developmental reading group scored advanced proficiency; therefore, the developmental group was very different from the other three groups. The literature-based group had a much higher percentage of advanced proficiency students than did the other three groups. The difference in the percentages of students in the advanced proficiency level was smallest for the *Accelerated Reader* groups.

It is to be noted that four students were removed from the developmental group after preliminary examination of the data. These students were examined after it was noted that four of the students achieved advanced proficiency in certain areas of the TCAP. Three of the students achieved advanced proficiency in content, meaning, and vocabulary and one student achieved advanced proficiency in content and vocabulary. Upon further investigation, it was

determined that these four students in the developmental group had received an additional reading intervention. These four students received an additional 45 minutes of instruction per day during a related arts period and were enrolled in a Wilson Reading class. According to the Florida Center for Reading Research (2004), the strengths of the Wilson Reading System include:

1. instructional design is explicit and systematic;
2. scope and sequence is detailed and logical;
3. each lesson is placed carefully with a timed guideline to follow;
4. lessons are fast paced with multisensory instruction; and
5. a strong professional development component aims to ensure fidelity of delivery.

(n. p.)

#### *Conclusion # 4*

Overall, the students in this study exceeded the state's annual goal of 80% scoring in the proficient or higher range for each of the three reporting categories: content, meaning, and vocabulary on the *TerraNova* reading/language arts test. When each group was compared to the state's 80% proficient or higher, the literature-based group and both *Accelerated Reader* groups exceeded the goal by at least 90% on each reporting category. The developmental group failed to meet the state's goal in content and meaning, but met the goal for vocabulary. Tennessee's benchmarks for reading/language arts are based on Adequate Yearly Progress (AYP) and reported by proficiency levels. The state requires a percentage of students attaining proficiency with benchmarks set between the years 2002 through 2014 (Tennessee Department of Education, 2005c).

### *Conclusion # 5*

In general, the literature-based group performed much higher than the other three groups. Even when the analysis of the gain scores showed no statistical difference among the groups, the literature-based group had the largest gain. The *Accelerated Reader* and *Accelerated Reader* with vocabulary groups were similar across all dependent variables.

The developmental group performed much lower than did the other three groups. As stated in Chapter 1 of the study, whereas 47.7% of the sixth-grade students had scored at an instructional reading level on the STAR test of 4.9 (fourth grade, ninth month) or below, teachers were given permission to ability group students who were classified at the lowest levels in reading. Teachers grouped the students according to the STAR pretest, 2003-2004 *TerraNova* NCEs in reading/language arts, formative assessments, and teachers' observation during the first six-weeks grading period. According to Harris and Sipay (1980), developmental reading instruction supports assessing of skills and providing direct instruction to improve performance. Chall and Curtis (as cited in Educational Research Service, 1999) found that skill instruction was often necessary to address weaknesses in a student's reading achievement and that "direct instruction in reading components such as phonics and word identification can be quite successful" (p. 6).

### *Conclusion # 6*

Based on the teachers' responses in the demographic portion of the Teacher Survey, suggestions for improving reading instruction were varied. Recurring themes of teacher responses included lower pupil-teacher ratio for underachieving students, increased formative assessments, training in teaching reading, and feedback on teacher instruction for teacher growth. The response for additional classes in teaching reading over the past five years was answered by only one teacher (30 hours). For the question regarding professional development in teaching

reading, teachers listed a variety of workshops and training over the past five years; however, out of 11 teachers, the mean for professional development activities in reading was 3.82 hours.

### *Recommendations for Practice*

It should be noted that students who were heterogeneously grouped (literature based, *Accelerated Reader*, and *Accelerated Reader* with vocabulary) did not reflect a significant increase in reading achievement as a result of the *Accelerated Reader* program. Students who participated in a literature-based approach showed a significant increase in performance. Likewise, students who participated in a literature-based approach showed a significant increase in performance in the number of students who scored advanced proficiency. In a five-year study involving 50 people in the *Accelerated Reader* Program, Lamme (2003) characterized the reading program in one of two ways: (a) classrooms that were incentive based where students read books, took tests, and amassed points; and (b) classrooms that were not incentive based with characteristics of a literature-based program. The latter classes used reading logs accompanied with peer and teacher conferences. This group out performed incentive-based *Accelerated Reader* classrooms. This study reflects the use of the *Accelerated Reader* Program as a tool and not as a program or method of teaching reading. The use of *Accelerated Reader* as a tool includes the leveling of books to meet students at their instructional teaching level or zone of proximal development.

Snow and Biancarosa (2004) in their report, *Reading Next: A Vision for Action and Research in Middle and High School Literacy*, reported recommendations or 15 Elements to improve literacy (see Appendix F). Among those items listed were extending the time for literacy instruction. The authors also suggested that literacy instruction take place in language arts and content classes from two to four hours per day. Explicit reading strategy instruction across the curriculum should also be practiced (Billmeyer & Barton, 1998).

The link between literature-based reading instruction and reading performance is evident in this study. With this result in mind, implications for a literature-based classroom should be considered as a best practice for implementing further change toward a quality reading program for middle-school students. As all teachers who are required to teach a period of reading gain skill in strategic instruction across content areas, it is predicted that performance in other academic areas will improve. With increased focus on reading achievement in the middle-school years, best practices must be implemented to meet current and future challenges of young adolescents.

### *Recommendations for Further Research*

Recommendations for further research include:

1. It is of interest to note that pretest and posttest scores used for gains over time are based on the STAR test. Advantage Learning Systems offers STAR as an integral part of the *Accelerated Reader* Program. After completion of this study, TCAP scores might be used to measure reading gains whereas scores for 2004-2005 and 2005-2006 will be reported in the same manner.
2. Further study considering gains over time could be conducted with a larger population. Even though there was no statistical significant difference among groups, a larger population might provide more insight into interaction of groups.
3. A survey should be conducted to determine (a) attitudes toward teaching reading across content areas, (b) teachers proficient in teaching specific comprehension skills, and (c) teacher proficiency in formative assessments that measure reading achievement in a specific content area.
4. A more thorough investigation into the practices of teachers who are teaching a reading course should be explored. Professional development in research-based best practices in reading instruction should be required of teachers.

5. Accountability for implementation of best practices should be explored. Walkthroughs to gather baseline data, followed by data collection after implementation of specific reading strategies by teachers would measure implementation of best practices.
6. Further investigation relating to the possible relationship between implementing content reading strategies and academic achievement across content areas should be explored.
7. Increased explicit instruction for low performing middle-school students in programs such as the Wilson Reading program is recommended.
8. An investigation of opportunities is needed to increase literacy instruction through an extended block of time with language arts and reading integrated into a workshop approach. Brain compatible elements of the workshop approach involve interaction among students, teachers and peers, meaningful content, and project-based learning (Kovalik, 1994). Armstrong (2003) suggested that the reading and writing environment “be nourished and supported with music, art, nature experiences, logical analyses, dramatic performances, oral recitation, emotions, expression, and social interaction” (p. 136).
9. Whereas reporting of performance of subgroups is required by *NCLB*, there is a need to examine the performance of subgroups and use data to direct explicit instruction in weaker areas of the curriculum.
10. Consideration should be given to the report *Reading Next: A Vision for Action and Research in Middle and High School Literacy* (Snow & Biancarosa, 2004). The middle school might assess which of the 15 Elements (see Appendix F) are in operation. Teacher awareness, training, and implementation of these recommendations are suggested. In adopting the 15 Elements in part, the authors posited:

Any combination should include three specific elements: professional development, formative assessment, and summative assessment. The Fifteen Elements should not be seen as sufficient in themselves to address the wide range of problems experienced by older struggling readers; rather, they act as a foundation for instructional innovations. (pp. 4-5)

Snow and Biancarosa (2004) divided the 15 Elements into two categories: instructional improvements and infrastructure improvements. Instructional strategies can impact students' achievement because of awareness of the individual learner needs. However, infrastructure improvements, such as professional development, leadership, and ongoing assessment of students and programs, support the sustainability of interventions based on researched best practices.

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## APPENDICES

### APPENDIX A

#### Teacher Survey

Teacher # \_\_\_\_\_

The following survey is designed to gather information on a study I am working on at ETSU. Please complete the following questions about your *Reading Six* class, and return to my box.

The following survey is in reference to your *Reading Six* class.

1. Do you typically use all 5 days each week in your *Reading Six* Class for reading activities? Yes \_\_\_\_\_  
No \_\_\_\_\_  
If your answer is NO, how many days are generally devoted strictly to reading activities? Days \_\_\_\_\_
2. How often do you use read-aloud in your RQ class?  
5x/week \_\_\_\_\_ 4x/week \_\_\_\_\_ 3x/week \_\_\_\_\_ 1-2x/week \_\_\_\_\_ Never \_\_\_\_\_
3. How many minutes each day do you use the Accelerated Reading Program (reading, AR testing, reading log)?  
M \_\_\_\_\_ T \_\_\_\_\_ W \_\_\_\_\_ Th \_\_\_\_\_ F \_\_\_\_\_
4. Do you use reading practice sheets (SRA or similar)? Yes \_\_\_\_\_ No \_\_\_\_\_  
If yes, average number of days per week \_\_\_\_\_, average minutes per period \_\_\_\_\_
5. If you use novel studies, please check any of the following that apply.  
1 novel per 6 weeks \_\_\_\_\_ 1 novel per semester \_\_\_\_\_ other (please explain) \_\_\_\_\_
6. Do your students do spelling activities in *Reading Six* class? Yes \_\_\_\_\_ No \_\_\_\_\_  
Number of min/week \_\_\_\_\_ Minutes spent daily w/ independent activity \_\_\_\_\_ Minutes spent daily w/ direct instruction \_\_\_\_\_  
Source of spelling words \_\_\_\_\_
7. Do your students do vocabulary activities in *Reading Six* class? (If this is the same as spelling, please skip this question.) Yes \_\_\_\_\_ No \_\_\_\_\_  
Number of min/week \_\_\_\_\_ Minutes spent daily w/ independent activity \_\_\_\_\_ Minutes spent daily w/ direct instruction \_\_\_\_\_  
Source of vocabulary words \_\_\_\_\_
8. Do you use literature groups in your *Reading Six* class? Yes \_\_\_\_\_ No \_\_\_\_\_  
If so, do you meet with students to teach skills (such as fluency, comprehension, analyze text, evaluate and extend meaning)
  - \_\_\_\_\_ individually,
  - \_\_\_\_\_ small groups, or
  - \_\_\_\_\_ total group: teach a skill and have students apply that specific skill to their book?
9. Do you coordinate writing activities with the literature students are reading?  
No \_\_\_\_\_ Yes \_\_\_\_\_ (please describe)
10. Does your team group for reading? Yes \_\_\_\_\_ No \_\_\_\_\_  
If yes, please explain how you group and which level you teach.

Teacher Survey (Continued)

11. Please add any ideas you have that might improve reading instruction?

Please complete the following demographic section:

12. Age \_\_\_\_\_ 13. Number of years teaching \_\_\_\_\_

14. Highest Degree \_\_\_\_\_ Date Completed \_\_\_\_\_ Major Area \_\_\_\_\_

15. Was reading your specialty or area of concentration? \_\_\_\_\_

16. List any additional class work in reading training in the last 5 years \_\_\_\_\_

17. Describe any professional development activities in reading you have completed in the last 5 years.

If you participated in professional development activities in reading, please estimate the total number of days.

\_\_\_\_\_

18. List any other reading activities not mentioned above (i.e., professional reading).

APPENDIX B

Permission for Using Data--Principal

Dr. XXXXXX, Principal  
XXXXX Middle School  
XXX Avenue  
XXXXXX, TN

Dear Dr. XXXXX,

As a student at East Tennessee State University, I am currently in the process of my dissertation study through the Educational Leadership and Policy Analysis doctoral program. My study will investigate the relationship among various approaches of teaching reading to sixth graders at XXXXX Middle School and student achievement as measured by the *TerraNova* Criterion Referenced Test and the Standardized Test for the Assessment of Reading (STAR).

I am requesting permission to access and use reading scores from the 2004-2005 school year for the students selected for the study. Random numbers will be used to protect the identity of all participants. In preparation for the study, I have met with Dr. XXXXX, Superintendent of XXXX City Schools, and have his approval for the study.

I respectfully request your permission to survey the sixth grade teachers regarding their *Reading Six* class in order to obtain demographic information and knowledge of the methodologies currently used.

I believe the results of my study will assist in identifying approaches to teaching reading that will better meet the needs of our students. Thank you for your cooperation.

Sincerely,

Susan Lewis

Permission is hereby granted to Susan Lewis to access and use *TerraNova* and STAR scores for 6<sup>th</sup> grade students at XXXXX Middle School for the 2004-2005 school year. Mrs. Lewis also has permission to survey sixth grade teachers to obtain demographic information and knowledge of the methodologies used to teach their *Reading Six* class.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

APPENDIX C

Permission for Using Data--Superintendent

Dr. XXXXXXXX  
Superintendent of Schools  
XXXX Street  
XXXX, TN

Dear Dr. XXXXXXX,

As a student at East Tennessee State University, I am currently in the process of my dissertation study through the Educational Leadership and Policy Analysis doctoral program. My study will investigate the relationship among various approaches of teaching reading to sixth graders at XXXX Middle School and student achievement as measured by the *TerraNova* Criterion Referenced Test and Standardized Test for the Assessment of Reading (STAR).

Reading subtest scores from the 2004-2005 school year for the students in the study will be necessary. I am requesting permission to access and use non-identifiable scores from the year 2004-2005 for the students selected for the study. Random numbers will be used to protect the identity of all participants. In preparation for the study, I will contact the principal of XXXXX Middle School and arrange for the collection of all necessary data with a minimum of disruption.

I believe the results of my study will assist in identifying approaches to teaching reading that will better meet the needs of our students. Thank you for your cooperation.

Sincerely,

Susan Lewis

Permission is hereby granted to Susan Lewis to access and use *TerraNova* and STAR scores for 6<sup>th</sup> grade students at XXXXXXX Middle School for the 2004-2005 school year.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

## APPENDIX D

### Narrative Description of the Project

WHEN WRITING THE NARRATIVE, PLEASE **ADDRESS ALL 16 ITEMS** USING THE NUMERICAL DENOTATIONS AS PARAGRAPH HEADINGS. **All items are applicable.**

1. **NAME OF PRINCIPAL INVESTIGATOR**  
Susan Carol Salyer (Meade) Lewis
2. **PROJECT TITLE**  
Evaluating Alternative Methodologies to Teaching Reading to Sixth-Grade Students and the Association with Student Achievement
3. **PLACE**  
This study will be conducted at one middle school located in a small urban school district in Northeast Tennessee.
4. **OBJECTIVES**  
The objective of this study is to determine if an association exists between reading methodologies and reading achievement as measured by the Tennessee Comprehensive Assessment Program (TCAP) for sixth grade students. The Standardized Test for the Assessment of Reading (STAR) will be used to determine if an association exists between reading methodologies and reading achievement over time.
5. **SUMMARY**  
This is a quantitative study of four popular reading methodologies used in middle school reading classes: Developmental Reading Instruction, Literature-based Reading Instruction, *Accelerated Reader* Program, and *Accelerated Reader* Program with Vocabulary Study. The sample of this study will include approximately 250 sixth-grade students at one middle school in Northeast Tennessee. The study will address achievement and proficiency levels of Content, Meaning, and Vocabulary categories on the TCAP. Proficiency levels are important to address due to the *No Child Left Behind Act*, which states that all children must attain 100% proficiency in reading and math by 2014 with specific benchmark goals each school year. The study will serve to inform instruction, assist the school in assessing current practices in reading methodologies, and indicate any need for appropriate policy changes.
6. **METHODS OF RECRUITMENT**  
A letter will be sent to the Superintendent of Schools to explain the scope and sequence of this study. After the system's Superintendent grants permission to begin this study, contact will be made with the building level administrator. The building level administrator will provide TCAP and STAR data on the students involved. All student names and identifying numbers will be deleted as soon as statistics have been completed.

7. RESEARCH DATA  
TCAP and STAR data will be collected at the participating middle school from the building administrator. Each sixth grade student in the study will be assigned a number. No identifiers will be retained.
8. SPECIFIC ROLE OF HUMAN SUBJECTS  
There is no interaction with human subjects.
9. SPECIFIC RISKS TO SUBJECTS  
There are no known risks associated with this research.
10. BENEFITS TO SUBJECTS  
The results of this investigation may be used to determine the relative effectiveness of various reading methodologies in middle-school classrooms.
11. INDUCEMENTS  
No incentives are being offered.
12. SUBJECT CONFIDENTIALITY  
Each subject/participant's right to privacy will be maintained. The research information will be available for inspection by study related personnel and the ETSU IRB. All information about the subject/participants will be treated confidentially and will not be revealed, except as noted above, unless required by law.
13. INFORMED CONSENT  
IRB waiver of the informed consent requirement is respectfully requested since there will be no direct contact with human subjects.
14. ADVERSE REACTIONS REPORTING  
All adverse events (AE) will be reported (for local events) verbally to the IRB within 24 hours of its occurrence and in writing to the IRB (1) for local events – no later than five working days from the date of the event, and (2) for off-site events – no later than five working days from the date of the event.
15. PERTINENT LITERATURE  
A bibliographic listing follows (attached)
16. LOCATION OF RECORDS  
Records will be stored at the home of the principal investigator, Susan Carol Salyer Lewis for at least ten years.

APPENDIX E

Permission to Use 15 Elements

From: Lewis, Susan [mailto:slewis@k12k.com]  
Sent: Monday, October 03, 2005 1:26 PM  
To: Jason Amos  
Subject: Permission to use

To Whom It May Concern:

I am completing a dissertation Evaluating Alternative Methodologies to Teaching Reading to Sixth-Grade Students and the Association with Student Achievement. I have cited the report Reading Next in my dissertation. I would like your permission to use the "Fifteen Elements of Effective Adolescent Literacy Programs" found in the Recommendations section of the Reading Next report.

Thank you for your consideration in this matter.  
Susan Lewis  
Assistant to Principal  
Jackson Elementary  
600 Jackson St.  
Kingsport, TN 37660

---

From: Jason Amos [mailto:jamos@all4ed.org]  
Sent: Mon 10/3/2005 4:29 PM  
To: Lewis, Susan  
Subject: RE: Permission to use

Susan,

We're happy to grant permission for you to use the "15 Elements" chart in the Reading Next report. Best of luck to you in your research.

Regards,  
Jason

Jason Amos  
Editor and Legislative Associate Alliance for Excellent Education  
1201 Connecticut Ave., NW, Suite 901  
Washington, DC 20036  
202-828-0828 (Phone) 202-828-0821 (Fax)  
<http://www.all4ed.org>

## APPENDIX F

### The 15 Elements of Effective Adolescent Literacy Programs

A Report to Carnegie Corporation of New York

The Recommendations

This report delineates Fifteen Elements aimed at improving middle and high school literacy achievement right now.

#### Instructional Improvements:

1. Direct, explicit comprehension instruction, which is instruction in the strategies and processes that proficient readers use to understand what they read, including summarizing, keeping track of one's own understanding, and a host of other practices
2. Effective instructional principles embedded in content, including language arts teachers using content-area texts and content-area teachers providing instruction and practice in reading and writing skills specific to their subject area
3. Motivation and self-directed learning, which includes building motivation to read and learn and providing students with the instruction and supports needed for independent learning tasks they will face after graduation
4. Text-based collaborative learning, which involves students interacting with one another around a variety of texts
5. Strategic tutoring, which provides students with intense individualized reading, writing, and content instruction as needed
6. Diverse texts, which are texts at a variety of difficulty levels and on a variety of topics
7. Intensive writing, including instruction connected to the kinds of writing tasks students will have to perform well in high school and beyond
8. A technology component, which includes technology as a tool for and a topic of literacy instruction
9. Ongoing formative assessment of students, which is informal, often daily assessment of how students are progressing under current instructional practices

Infrastructure Improvements:

10. Extended time for literacy, which includes approximately two to four hours of literacy instruction and practice that takes place in language arts and content-area classes
11. Professional development that is both long term and ongoing
12. Ongoing summative assessment of students and programs, which is more formal and provides data that are reported for accountability and research purposes
13. Teacher teams, which are interdisciplinary teams that meet regularly to discuss students and align instruction
14. Leadership, which can come from principals and teachers who have a solid understanding of how to teach reading and writing to the full array of students present in schools
15. A comprehensive and coordinated literacy program, which is interdisciplinary and interdepartmental and may even coordinate with out-of-school organizations and the local community

VITA

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