The Effect of a Rural High School Combination Supplemental Literacy Program on Emerging Readers' Achievement, Engagement, and Behavior Outcomes

By

Mark L. Adler

A Dissertation

Presented to the Faculty of

The Graduate College of the University of Nebraska

In Partial Fulfillment of Requirements

For the Degree of Doctor of Education

In Educational Administration

Omaha, Nebraska

November 2008

Supervisory Committee

Dr. John W. Hill, Chair

Dr. Kay A. Keiser

Dr. Neal F. Grandgenett

Dr. Larry L. Dlugosh

ABSTRACT

THE EFFECT OF A RURAL HIGH SCHOOL COMBINATION SUPPLEMENTAL LITERACY PROGRAM ON EMERGING READERS' ACHIEVEMENT, ENGAGMENT, AND BEHAVIOR OUTCOMES

Mark L. Adler

University of Nebraska

Advisor: Dr. John W. Hill

Beginning rural high school students with emerging literacy needs (*n* = 10) who participated in regular classroom reading coursework used in combination with a Foundations, Adventures, Mastery, and Explorations supplemental literacy program and beginning rural high school students with emerging literacy needs (*n* = 10) who participated in regular classroom reading coursework alone all realized pretest-posttest gains in their reading comprehension, reading vocabulary, and reading composite Normal Curve Equivalent and grade equivalent test score performance. Overall grade point average statistical comparisons were in the direction of improvement with no statistically significant differences between groups. At posttest students had increased absences in both study arms despite reading test score and grade improvement indicating that absence frequencies remain a concern in small rural high schools. In both arms of the study student absence

frequencies were above the parent contact absence policy threshold. Students in both arms of the study participated in extracurricular activities including sports, clubs, and activities with no pretest-posttest or posttest-posttest frequency differences observed. Teachers received ongoing training in phonemic awareness and content based scripted reading interventions throughout the study. The importance of program continuance was discussed.

ACKNOWLEDGEMENTS

The completion of this dissertation was made possible by the unwavering support and encouragement of numerous individuals along the way. I would like to take this opportunity to extend my gratitude and appreciation to all those who helped me make this immense project a reality.

First of all I would like to thank the faculty and staff of the Department of Educational Administration and Supervision. I would like to extend a special thanks to Dr. John Hill for his authentic leadership as my committee chair. Not only was Dr. Hill exceptional in his guidance and expertise, but Dr. Hill also became a close friend in the process offering valuable and trusted guidance to me while I made life changing career decisions during this project. The members of my committee were also incredible in their guidance and support and include Dr. Kay Keiser, Dr. Neal Grandgenett, and Dr. Larry Dlugosh. I would be remiss if I did not mention Dr. Peter Smith for the great lunch meetings and Ms. Barb Mraz for her many trips to the parking lot and the countless early morning refreshing cups of coffee. You all are deeply appreciated.

Second, I want to thank the faculty and staff of the research school. Many thanks go to Dr. Keith Rohwer, my longtime friend and mentor for encouraging me and allowing

me to complete my project under his supervision. Ed Gogan, David Goswick, Dawn Kelley-Leu, and Ree Shirley all completed extra tasks and accepted added responsibilities to allow me the flexibility to focus on my goal. This would have simply never happened without your support. Not only are you all outstanding professionals and advocates for the students under your care but you are also valued friends. I am deeply grateful to all of you.

Finally, and most importantly, I want to thank my family. To my mom and dad, Ed and Theresa Adler, who were always behind me and taught me the value of a hard days work and commitment to a goal. You taught me this by living the example and never giving up over the years. I only hope I can offer my children the same guidance. To my in-laws, Ron and Eilene Saylor, I always valued your encouragement and interest in the progress along my journey. Your pride in my work made the difference many times. To my beautiful children, Jade, Reid, and Kamille Adler, you all made great sacrifices as I hammered away many nights and weekends working for that final product. You were always patient and respectful. My hope is that I can return the favor as you pursue your hopes and dreams. And finally to my wife, Joni Adler, there is not a stronger person I know. During the scope of this project we faced adversity and realized

success. In all cases you always stood strong and allowed our Faith in God and our family to guide us through. You are a beautiful wife, a great friend, and an awesome mom. Without you and our kids, this project would have never been completed. Thank you all for being so understanding. I will forever be grateful.

TABLE OF CONTENTS

LIST OF TABLES

CHAPTER ONE

Introduction

Concerns for Rural Students

Reading and literacy concerns are not confined to our urban areas. To illustrate, the dropout rate for rural high school students is about 20% and reaches as high as 40% in some extremely rural locations (Colangelo, Assouline, & New, 1999; D'Amico, Matthes, Shukar, Merchant, & Zurita, 1996; McGranahan, 1994; National Center for Education Statistics [NCES], 2001; Stern, 1994). Furthermore, rural students who do decide to drop out of school seldom return to complete their education (Sherman, 1992; Stern, 1994). In the Schools and Staffing Survey (2003-2004), schools in rural areas reported that fewer than 50% of their graduates intended to continue their education at either a two or four year institution (National Center for Education Statistics [NCES], 2005). Moreover, six percent of students in rural areas had no plans to attend college at all (Snyder, Hoffman, & Geddes, 1996).

Rural Education

Many rural students face challenges associated with achievement and dropout risk, such as low socioeconomic status, single-parent families, low parental education, and low parental and community valuing of education (Fowler &

Walberg, 1991; Haller & Virkler, 1993; Murray & Keller, 1991). Over time and examining the sheer number of students not continuing their education, it is believed rural areas will continue to suffer both economically and educationally (Gibbs, 2005; Woods, Doeksen, & St. Clair, 2005).

It is very hard to ignore the issue of teacher preparedness and quality in rural schools. The quality of school staff has been identified as a key factor in influencing student outcomes (Lee, Bryk, & Smith, 1993; U.S. Department of Education [USDOE] 2002). Teacher experience, recruitment, and training are frequently cited as problems in rural areas (Ballou & Podgursky, 1995; Berliner & Scherer, 2001; Larsen, 1993). Recruiting, training, and retaining quality teachers to rural schools are key components to quality instruction for students in reading (Ballou & Podgursky, 1998; Berliner & Scherer, 2001; Lazarus, 2005).

Considering the skills required today to succeed in an increasingly complex and technological world, it may be said that never before has there been a time when high school students needed expert literacy skills more (Jago, 2000; McEwan, 2004; National Institute of Child Health and Human Development [NICHD], 2000). Expecting students with emerging reading abilities to navigate the rigor and

expectations of a demanding high school curriculum without expert literacy skills is unrealistic and even unfair (Denti & Guerin, 2004; McGill-Franzen, 2000). Epidemiological data comparing growth in reading achievement between normal readers and poor readers indicate that while most children reach a plateau in basic reading skills by about the age of 12, deficient readers do so at significantly lower levels (Francis, Shaywitz, Stuebing, Shaywitz, & Fletcher, 1994). Using the skill of reading to learn content is critical as more and more states implement content area tests for high school graduation. Simultaneously, national legislation such as the Individuals with Disabilities Act (IDEA, 1997) amendments and the No Child Left Behind Act (2001) have established accountability and mastery standards for all students, both with and without disabilities. Parents, educators, and policy makers are calling for change and action for the students under their care (McGill-Franzen, 2000; Moore, Bean, Birdyshaw, & Rycik, 1999; Valencia & Wixson, 2000).

In secondary schools the print or on-line textbook becomes the major source of knowledge. Reading comprehension, that is sharing meaning with the author, is a mediating process that results in understanding

(Smagorinsky, 2001). The emphasis in elementary schools is on teaching students the codes of reading including phonics, blends, digraphs, and sight words while in secondary schools teachers expect students to use their mastered reading skills to learn (Allington, 2002). This transformation from learning to read in elementary school to reading to learn in middle and high school is critical. Student success in the classroom is therefore dependent on proficient reading skills (Allington, 2002). Many secondary students who are struggling readers may have been taught reading skills but may not be able to access these skills with sufficient automaticity to successfully complete high school level assignments (Dieker & Little, 2005).

Purpose of the Study

The purpose of this exploratory two-group pretest-posttest comparative survey study was to determine the impact of the Classroom Supplemental Literacy Program (CSLP) used in combination with the Foundations, Adventures, Mastery, and Explorations (FAME) Supplemental Literacy Program on the achievement, behavior outcomes, and school engagement of rural high school students who began high school as emerging readers compared to rural high school students who began high school as emerging readers who participated in the Classroom Supplemental Literacy

Program (CSLP) alone. The study analyzed students' Normal Curve Equivalent and Grade Equivalent national standardized achievement test subtests scores for reading comprehension, reading vocabulary, and reading composite performance, grade point averages, absence frequencies, and participation in sports, clubs, and activities.

All study achievement data related to each of these dependent variables were retrospective, archival, and routinely collected school information. Permission from the appropriate school research personnel was obtained before data were collected and analyzed.

Research Questions

The study was guided by the following 13 research questions and sub-questions:

Overarching Pretest-Only Achievement Research Question #1. Do high school students who qualified for participation in the CSLP used in combination with the FSLP have congruent or different beginning high school reading comprehension, reading vocabulary, and reading composite NRT NCE scores?

Overarching Pretest-Only Achievement Research Question #2. Do high school students who qualified for participation in the CSLP have congruent or different beginning high

school reading comprehension, reading vocabulary, and reading composite NRT NCE scores?

Overarching Posttest-Only Achievement Research Question #3. Do high school students who qualified for participation in the CSLP used in combination with the FSLP have congruent or different end of 10th-grade high school reading comprehension, reading vocabulary, and reading composite NRT NCE scores?

Overarching Posttest-Only Achievement Research Question #4. Do high school students who qualified for participation in the CSLP have congruent or different end of 10th-grade high school reading comprehension, reading vocabulary, and reading composite NRT NCE scores?

Overarching Pretest-Posttest Achievement Research Question #5. Do high school students who participated in the CSLP used in combination with the FSLP lose, maintain, or improve their end of 8th-grade pretest compared to their end of 10th-grade posttest reading comprehension, reading vocabulary, and reading composite NRT NCE scores, reading comprehension, reading vocabulary, and reading composite Grade Equivalent scores, and Grade Point Average?

Sub-Question 5a. Is there a significant pretest compared to posttest NCE reading comprehension score difference for high school students following their

participation in the CSLP used in combination with the FSLP?

Sub-Question 5b. Is there a significant pretest compared to posttest NCE reading vocabulary score difference for high school students following their participation in the CSLP used in combination with the FSLP?

Sub-Question 5c. Is there a significant pretest compared to posttest NCE reading composite score difference for high school students following their participation in the CSLP used in combination with the FSLP?

Sub-Question 5d. Is there a significant pretest compared to posttest Grade Equivalent reading comprehension score difference for high school students following their participation in the CSLP used in combination with the FSLP?

Sub-Question 5e. Is there a significant pretest compared to posttest Grade Equivalent reading vocabulary score difference for high school students following their participation in the CSLP used in combination with the FSLP?

Sub-Question 5f. Is there a significant pretest compared to posttest Grade Equivalent reading composite score difference for high school students following their

participation in the CSLP used in combination with the FSLP?

Sub-Question 5g. Is there a significant pretest compared to posttest Grade Point Average score difference for high school students following their participation in the CSLP used in combination with the FSLP?

Overarching Pretest-Posttest Achievement Research Question #6. Do high school students who participated in the CSLP lose, maintain, or improve their end of 8th-grade pretest compared to their end of 10th-grade posttest reading comprehension, reading vocabulary, and reading composite NRT NCE scores, reading comprehension, reading vocabulary, and reading composite Grade Equivalent scores, and Grade Point Average?

Sub-Question 6a. Is there a significant pretest compared to posttest NCE reading comprehension score difference for high school students following their participation in the CSLP?

Sub-Question 6b. Is there a significant pretest compared to posttest NCE reading vocabulary score difference for high school students following their participation in the CSLP?

Sub-Question 6c. Is there a significant pretest compared to posttest NCE reading composite score difference

for high school students following their participation in the CSLP?

Sub-Question 6d. Is there a significant pretest compared to posttest Grade Equivalent reading comprehension score difference for high school students following their participation in the CSLP?

Sub-Question 6e. Is there a significant pretest compared to posttest Grade Equivalent reading vocabulary score difference for high school students following their participation in the CSLP?

Sub-Question 6f. Is there a significant pretest compared to posttest Grade Equivalent reading composite score difference for high school students following their participation in the CSLP?

Sub-Question 6g. Is there a significant pretest compared to posttest Grade Point Average score difference for high school students following their participation in the CSLP?

Overarching Posttest-Posttest Achievement Research Question #7. Do high school students who participated in the CSLP used in combination with the FSLP have congruent or different posttest reading comprehension, reading vocabulary, and reading composite NRT NCE scores, reading comprehension, reading vocabulary, and reading composite

NRT Grade Equivalent scores and Grade Point Average scores compared to high school students who participated in the CSLP?

Sub-Question 7a. Is there a significant posttest compared to posttest NRT NCE reading comprehension score difference for high school students who participated in the CSLP used in combination with the FSLP compared to high school students who participated in the CSLP?

Sub-Question 7b. Is there a significant posttest compared to posttest NRT NCE reading vocabulary score difference for high school students who participated in the CSLP used in combination with the FSLP compared to high school students who participated in the CSLP?

Sub-Question 7c. Is there a significant posttest compared to posttest NRT NCE reading composite score difference for high school students who participated in the CSLP used in combination with the FSLP compared to high school students who participated in the CSLP?

Sub-Question 7d. Is there a significant posttest compared to posttest NRT Grade Equivalent reading comprehension score difference for high school students who participated in the CSLP used in combination with the FSLP compared to high school students who participated in the CSLP?

Sub-Question 7e. Is there a significant posttest compared to posttest NRT Grade Equivalent reading vocabulary score difference for high school students who participated in the CSLP used in combination with the FSLP compared to high school students who participated in the CSLP?

Sub-Question 7f. Is there a significant posttest compared to posttest NRT Grade Equivalent reading composite score difference for high school students who participated in the CSLP used in combination with the FSLP compared to high school students who participated in the CSLP?

Sub-Question 7g. Is there a significant posttest compared to posttest Grade Point Average score difference for high school students who participated in the CSLP used in combination with the FSLP compared to high school students who participated in the CSLP?

Overarching Pretest-Posttest Behavior Research Question #8. Do high school students who participated in the CSLP used in combination with the FSLP lose, maintain, or improve 9th-grade behavior compared to 10th-grade behavior as measured by their absence frequencies?

Overarching Pretest-Posttest Behavior Research Question #9. Do students who participated in the CSLP lose,

maintain, or improve 9th-grade behavior compared to 10th-grade behavior as measured by their absence frequencies?

Overarching Posttest-Posttest Behavior Research Question #10. Do students who participated in the CSLP used in combination with the FSLP compared to students who participated in the CSLP have congruent or different end of 10th-grade behavior as measured by their absence frequencies?

Overarching Pretest-Posttest Student Engagement Research Question #11. Do the students who participated in the CSLP used in combination with the FSLP lose, maintain, or improve 9th-grade student engagement compared to 10th-grade student engagement as measured by their participation in (a) sports, (b) clubs, and (c) activities frequencies?

Overarching Pretest-Posttest Student Engagement Research Question #12. Do the students who participated in the CSLP lose, maintain, or improve 9th-grade student engagement compared to 10th-grade student engagement as measured by their participation in (a) sports, (b) clubs, and (c) activities frequencies?

Overarching Posttest-Posttest Student Engagement Research Question #13. Do the high school students who participated in the CSLP used in combination with the FSLP have congruent or different 10th-grade student engagement

compared to high school students who participated in the CSLP 10th-grade student engagement as measured by their participation in (a) sports, (b) clubs, and (c) activities frequencies?

Importance of the Study

This study contributes to research, practice, and policy. It is of significant interest to reading researchers and school administrators who must provide quality interventions to aid rural students entering high school with serious reading skill deficits. The implementation of two research based, highly scripted reading interventions, FSLP and CSLP, for secondary students with emerging literacy skills in a large rural Midwestern high school contributes to our understanding of how best to provide immediate and in many cases emergency literacy program interventions. This research helps determine if participation in highly scripted reading interventions results in improved academic achievement, behavior, and engagement.

The Nebraska City Public Schools, the research school district, has formally recognized that too many students are entering high school with emerging reading skills and that teachers and administrators, alike, express this concern. During the 2005-2006 school year the research high

school developed and implemented two literacy instruction courses for their high school students identified with emerging literacy skills. While both instructional courses were based on research supported best reading and literacy intervention practices, no study has been conducted within the research school district to identify the impact of these programs on student outcomes over time and compared to each other. Furthermore, the research school district has as its primary North Central Association accreditation goal reading improvement for all students. This local school mandate dovetails with the federal No Child Left Behind (2001) legislation that requires improved levels of student literacy proficiency over time in order to avoid being identified as a school in need of improvement.

Assumptions

This study has several strong features. Participating teachers were provided two weeks of initial summer FSLP and CSLP literacy training sufficient to ensure intervention fidelity and implementation consistency. Moreover, literacy staff development and outside the school district expert consultation was provided throughout the school year in order to insure teachers were using the prescribed and scripted intervention methodology. Student attendance in literacy learning activities was sufficient to insure

exposure to all of the skill mastery domain lessons. It is assumed that all teachers in the research school followed the reading instruction interventions. Participating teachers received on-going administrative support on literacy implementation through walk-through observations and reflective conversations throughout the process.

Delimitations of the Study

The unit of analysis for this study was confined to one group of 9th-grade students with literacy skill deficits attending a large rural Midwestern high school. The results, conclusions, and discussion were confined, therefore, to only these students and not generalized to larger schools and urban areas.

Limitations of the Study

Students' parental support at home was not used as a variable controlled for in this study. Because some parents provide home study time for their high school student and some parents do not provide home study for their high school student, this difference may contribute to outcome variance. Furthermore, students participating with literacy issues at the beginning of the study may not have been taught these skills while other students participating in the study may have been taught reading skills but have refused to use them or simply need more practice. The small

number of participants could also skew the study results. These study limitations were taken into consideration when analyzing, interpreting, and discussing the results.

Definitions of Terms

Behavior. Behavior is determined by attendance frequencies for each participant. This dependent measure is a direct result of the participants' behavior as recorded and available in the school database.

Classroom Supplemental Literacy Program (CSLP). The CSLP is the scripted reading instruction standard required of all staff in the research school district for all secondary students literacy and reading instruction. The basic expectations of the CSLP include regular vocabulary instruction infused into every subject as well as research based interventions to support reading comprehension.

CSLP students. Students included in the CSLP were all students enrolled at the research school. This group of students will be instructed based upon prescribed curriculum for literacy development appropriate for all students.

Engagement. Engagement is determined by student participation in (a) clubs, (b) sports, and (c) activities. Clubs include participation in Future Farmers of America, Future Business Leaders of America, National Honor Society,

and student drug free association. Sports include participation in football, basketball, baseball, softball, track, golf, tennis, and wrestling. Activities include participation in one-act play productions, varsity chorus, art show, speech team, and musical.

FAME Supplemental Literacy Program (FSLP). The FSLP is based on the Boys and Girls Town FAME Supplemental Literacy Program (1996). The FAME acronym stands for Foundations of Reading, Adventures in Reading, Mastery of Meaning, and Explorations. FSLP is a research based highly scripted reading intervention developed to reverse reading difficulties in adolescents. FSLP is based on Chall's Stages of Reading Development (1996). Curtis and Longo (1996) developed the program under the direction of the Girls and Boys Town in Boys Town, Nebraska.

FSLP students. Students included in the FSLP are students that have been identified as emerging high school readers either through analysis of assessment scores or by being referred from an instructor that has worked closely with the student. Students in the FSLP will be engaged in the highly scripted reading intervention daily as well as being a part of the CSLP required of all students.

Grade equivalent. Grade equivalent is a derived score that expresses a student's performance as the average (the

median or mean) performance for a particular grade; grade equivalents are expressed in grades and months; a decimal point is used in grade scores (for example, 7.1 is grade 7 and one month).

Grade point average (GPA). Grade point average is a numerical scale where a grade of 4 equals the term outstanding, a numerical grade of 3 equals the term above average, a numerical grade of 2 equals the term average, and a numerical grade of 1 equals the term below average.

No Child Left Behind. Public Law 107-110, the No Child Left Behind Amendments to the Elementary and Secondary Education Act of 1964 were signed into law by President George W. Bush on January 8, 2002. This federal statute outlines definitive expectations of all schools in the United States in relation to student achievement and accountability.

Normal curve equivalents (NCE). Normal curve equivalents are standard scores with a mean equal to 100 and a standard deviation equal to 21.06. This scale divides the normal curve into 100 equal intervals.

Norm referenced achievement. Norm referenced achievement is determined by student performance on three different subtests of the *Terra Nova Achievement Test* including (a) reading comprehension, (b) reading

vocabulary, and (c) reading composite Normal Curve Equivalent scores.

Norm-referenced tests (NRTs). Norm-referenced tests are "tests that compare an individual's performance to the performance of his or her peers" (Salvia & Ysseldyke, 2004, p. 691).

Stanines. Stanines are standard-score bands that divide a distribution into nine parts; the middle seven stanines are each 0.50 standard deviations wide, and the fifth stanine is centered on the mean (Salvia & Ysseldyke, 2004, p. 693). Stanines 1, 2, and 3 fall within the below average range; stanines 4,5, and 6 fall within the average range; and stanines 7,8, and 9 fall within the above average range.

Terra Nova Achievement Test. "The Terra Nova-Second Edition is a group administered, multiple-skill battery that provides norm-referenced and objective-mastery scores" (Salvia & Ysseldyke, 2004, p. 420).

Contribution to Research

There is little research to date regarding the achievement of rural high school students participating in the Girls and Boys Town FAME literacy recovery program (Curtis & Longo, 1999). Moreover, achievement, behavior, and engagement outcomes for students participating in the

CSLP used in combination with the FSLP, a pull out program, was compared directly to students participating in the CSLP only where literacy skills are scripted and presented systematically to students in the regular classroom. The results of this study may inform theoretical literature on the effectiveness of literacy programs for students entering high school with delimited reading skills.

Contribution to Practice

The results of this study can assist researchers, practitioners, and other stakeholders in furthering the development and quality of reading interventions and programs for all students in rural high schools. This study will also outline best practice reading interventions for all students as well as recommend action steps for future development and research. Based on the outcomes of this study, the district may decide whether to expand the FSLP or CSLP to more students within the district.

Contribution to Policy

The policies encompassing curriculum and program design are generated from several entities. Individual districts determine curriculum expectations, what is written, taught, and assessed. This determination by each school district is a reflection of both State and National guidelines and expectations. This study will aid

stakeholders at all levels in development and implementation of reading programs for all students. Good reading instruction and policy should be universal. Furthermore, good reading instruction and policy should impact students in all areas no matter if they attend a rural or urban school or if they are intermediate or secondary students. This study will add to the research base available to make sound responsible policy decisions in reading and literacy in all schools.

Outline of the Study

The literature review relevant to this study is presented in Chapter 2. Chapter 3 describes the research design, methodology, independent and dependent variables, and procedures that were used to gather and analyze the data of this study. This includes a comprehensive list of the dependent variables, dependent measures, and the data analysis used to statistically determine if the null hypothesis should be rejected in each case. Chapter 4 reports the research findings, including data analysis, tables and graphs, descriptive statistics, and inferential statistics. Chapter 5 provides conclusions and a discussion of the research findings.

CHAPTER TWO

Review of the Literature

Four main concepts are introduced in this literature review that will specifically outline the basic reading processes required of students both in the primary years developing into the secondary school years. The first concept outlined is the documented long-term problem associated with high school students in reading to include some of the factors that impact that situation. Included in the second section of the literature review are the basics of reading for high school students, the process of learning to read, and the key processes incorporated by the brain during the act of reading. The third element of the literature review addresses the Reading is FAME Program that is used in combination with the Classroom Supplemental Literacy Program (CSLP) in the research school. The final section of the literature discusses in detail the various processes and practices included in the Classroom Supplemental Literacy Program (CSLP).

Documenting a Long Term Problem

Many high school students across the nation are not performing at appropriate levels in reading, thus impacting them globally as they move through their high school years and beyond (Allington, 2002; Brown & Campione, 1990;

Fielding, Kerr, & Rosier, 2004; McEwan, 2007; Pressley, 2000). Educators have documented for over 50 years their concern for the reading proficiency of secondary students. The fact that reading development has been left up to chance dating all the way back to 1941 establishes the historical significance of this crisis in literacy today (Barry, 1997; Bond & Bond, 1941; Langer, 2001). Average reading scores over the past 30 years for 9-year-olds, 13-year-olds, and 17-year-olds have shown little improvement despite the proliferation of reading curricula for younger and older students (U.S. Department of Education [USDOE], 2000). One quarter of 8th-grade students and 12th-grade students are reportedly reading below basic grade levels (U.S. Department of Education [USDOE], 2003a). Over 3 million students in grades 9 through 12 in 1998 exhibited below basic level reading performance (USDOE, 2000). Moats (2001) states an even greater concern that if a student does not read with some degree of proficiency by high school, there is not much chance that reading instruction can change the situation. Furthermore, way too many students who are performing poorly in reading and school turn to self destructive and illegal behavior such as drug and alcohol abuse often associated with deviant peer group membership, chronic school truancy, early school leaving,

unemployment, and a lifetime of low wages (Alexander, Entwistle, & Kabbani, 2001; Battin-Pearson et al., 2000; Loeber, & Dishion, 1983; Snyder & Sickmund, 1999; U.S. Department of Education [USDOE], 2004).

Accountability

Results from the National Assessment of Educational Progress (NAEP) test, among the most comprehensive and reliable measures of educational attainment in the United States, have been reported by the National Center for Educational Statistics [NCES] (2004) to illustrate an almost thirty-year statistical flat line of no significant difference in reading scores for 17-year-olds between the years 1971 and 1999 (Friedman Foundation, 2006). Today, accountability is no longer on the horizon it has arrived. Ten years ago it was considered visionary to assure that each student read at or above grade level by third or fourth grade. Today, however, it is the law (NCLB, 2001) and ten years from now reading at grade level may be considered a civil right (Fielding et al., 2004). Reading deficiencies may further exacerbate the big picture as only 57% of high school graduates take the core academic courses and as a result, only one-third of high school freshmen graduate on time with the academic preparation necessary to succeed in college (Greene & Winters, 2005).

Poverty

Poverty has long been considered a predictor of student underperformance. When predicting levels of academic achievement, family income levels have long been reliable indicators of student success (Chiu & Khoo, 2005; Lee, 1998; Mayer, 2001; Taylor, 2005). Children raised in households where parents did not graduate from high school, long associated with poverty, scored significantly lower on the NAEP reading exam compared to students whose parents completed high school (National Center of Education Statistics [NCES], 2005). Evaluating students reading practices confirms that in low socioeconomic status homes children of poverty spend significantly fewer hours engaged in recreational reading than do their more advantaged peers (NCES, 2005). According to the federal government, students who receive subsidized lunches consistently score the lowest on the NAEP reading tests while students from more affluent families score the highest. This pattern of non-performance holds true for 4th-grade, 8th-grade, and 12th-grade students (NCES, 2005).

High School Readers

Reading is one of the most uniquely human and complex of all cognitive activities (Van den Broek & Kremer, 2000). Reading is also indispensable for adequate, much less

successful, functioning in a literate society. To enter a literate society students must know how to learn by reading, especially in high school, where teachers presuppose that their students have mastered all decoding and comprehension skills and may, therefore, read to understand and wonder (Allington, 2002; Dieker & Little, 2005).

It can be said that researchers have identified for many years a concern for reading among students at the secondary or high school level. Secondary students are asked to be able to read and write at very complex levels (Brand & Partee, 2000). Moreover, older struggling readers report that they do not read because it is taxing, laborious, and extremely frustrating (Moats, 2001). There are many factors that add to the obstacles for older students to improve their reading skills to include limited expertise in reading instruction, master schedules, and student motivation (Fielding et al., 2004). Living in such a global competitive society, literacy and reading instruction cannot end in the 3rd-grade if we want to meet the needs of students facing the challenges of the 21st Century (National Governors Association, 2005). Reading for all students is the greater moral purpose we must insist schools achieve (Fullan, 2001).

To gain a deeper understanding of reading development, we must further explore specific details associated with skill development among the students under our care. In earlier grades, but certainly in high school, students are required to (a) understand the meaning of text, (b) critically evaluate the message, (c) remember the content, and (d) apply the newfound knowledge flexibly (Brown & Campione, 1990; Kamil, 2003; Pressley, 2000).

Understanding the meaning of text. As students advance in their studies and schooling they need to be able to understand and rely on the information they acquire from text. In secondary schools, if not earlier, text becomes the major if not the primary source of information (Smagorinsky, 2001). When reading for comprehension students invent a model or explanation that organizes the information selected from the text in a way that makes sense to them and fits their world knowledge (Alexander & Jetton, 2000). In this process the reader will build relations among parts of the text and between the text and his or her prior knowledge and experience (King, 1994; Wittrock, 1998; Van den Broek & Kremer, 2000) resulting in the reader deriving meaning from both text driven and knowledge driven processes (Goldman & Rakestraw, 2000).

Critically evaluating the message. Once students have identified the meaning of text the step of evaluating what that text is communicating is paramount. Readers can be fluent and not understand or comprehend the message (Healy, 1987). To help readers, especially students in the upper grades, we must equip them with strategies to help them evaluate the message (Langer, 2001). The strategies, when taught and applied within the curriculum, provide for lasting and useable options for students to become more effective in the reading process (Afflerbach, 2002; Pressley, Gaskins, Solic, & Collins, 2005; Wilkinson & Silliman, 2000).

One of the first and most powerful strategies used for comprehension among high school students is reciprocal teaching (Palincsar & Brown, 1986). This instructional technique modeled by the instructor and in small groups asks the students to generate questions, summarize, clarify word meanings or confusing text, and predict what might appear next. Reciprocal teaching introduced after students have been taught some clean up strategies in reading is most effective (Pressley, 2000; Rosenshine, Meister & Chapman, 1996). In reciprocal teaching once the teacher has modeled the process for the students they are then asked to utilize the strategies as they read. This process of

modeling, termed direct explanation (Duffy et al., 1987; Pressley et al., 1990), will help to formalize the reciprocal teaching system for students to use as they read. The reciprocal teaching method was one of the first multiple-strategy reading interventions that promoted reading comprehension among secondary students (NICHD, 2000).

Remembering the content. In the reading process students must be able to remember what they have read once comprehension has been mastered. Remembering the content is similar to the process used in evaluating the message in that students will be questioning, activating, and reverting back to their background knowledge to file and store the information (Alexander & Jetton, 2003; McEwan, 2004; Schoenbach, Greenleaf, Cziko, & Hurwitz, 1999). The process begins with students activating their background knowledge so the information can be associated with something familiar to them. Once this procedure has started a student can continue to ask questions that will help them to formulate information and details to hook it into their memory in a manner unique only to them (Alexander & Jetton, 2003; McEwan, 2004; Schoenbach et al., 1999). Retention of content through the development of background knowledge will help both beginning and advanced readers become more

efficient in their learning (Pressley et al., 2005). In instruction that has the goal of retention, less is more in the fact that students will be able to retain and use direct facts within the material rather than knowing a little about a lot of topics (Graves, Juel, & Graves, 2004; Jetton & Alexander, 2005)

Applying the newfound knowledge flexibly. In the process of reading to learn students must be able to apply the new knowledge they have acquired in a flexible manner that requires a degree of higher order thinking skills (King, 1997; Pressley, 2000). As documented, students exposed to combined strategy instruction will be able to comprehend and apply meaning acquired from reading (Alexander & Jetton, 2000; Schellings & van Hout-Wolters, 1995). Inferencing, or reading between the lines, is the targeted process students should learn to apply the new knowledge acquired to their lives. Students perform better after obtaining inferencing skills which is achieved through activation of prior knowledge leading to higher order thinking and applying processes (King, 1997; Pressley, 2000)

Learning to Read

To get a better understanding of the reading challenges facing many high school students with emerging

reading abilities, it is essential to have a solid understanding of the reading processes used by the brain beginning at birth and continuing into adulthood. The following research outlines emergent literacy skills, the neural pathways used by the brain during the reading process, and the basic processes the brain uses to construct meaning while a person reads. In all situations, every student reads and processes the information they read differently.

For nearly all adults the act of reading has become an unconscious, automatic activity in which its processes have been stored in a type of memory called implicit or unconscious memory (Wolfe & Nevills, 2004). For younger students the act of reading is a deliberate, effortful, and conscious act that had to be learned and carried out specifically each time. After a great deal of practice the act of reading becomes second nature, a seamless automatic activity done without much thought of the process carried out by the brain (Adams, 1990; Wolfe & Nevills, 2004). Students begin the act of learning to read well before the start of formal schooling (Eimas, Siqueland, Jusczyk, & Vigorito, 1971; Kuhl, Williams, Lacerda, Stevens, & Lindblom, 1992). Biological factors of the developing learner are taken into consideration in early literacy

development programs (Berninger & Richards, 2002; Honig, 2001). Emergent literacy skills sometimes called early childhood readiness skills or even pre-reading skills emphasize the sounds of letters in isolation and combination, and the beats or phonemes of early reading consonant-vowel-consonant words such as c-a-t, b-a-t, and r-a-t which children can learn by using multi-sensory methods, saying and clapping to the sounds. The development of emergent literacy skills has been shown to have a high correlation with students reading ability in their later years (Scarborough, 1989; Snow, Burns, & Griffin, 1998). Two prominent emergent literacy skills that appear to be high predictors of later reading ability are knowledge about books and recognizing the alphabet (Adams, 1990; Stuart, Masterson, & Dixon, 2000). To the fluent reader these two skills may seem senseless to mention but to the struggling reader they are critical (Wolfe & Nevills, 2004).

Knowledge about books. The first emergent literacy skill is knowledge about books. This skill seems to be very basic to the fluent reader. Initially children do not necessarily know what a book is or even how it is used. As adults when we read to children they learn some basic information about books that many take for granted such as

how to hold a book, that a book begins in the front where it is opened, that the text is read from left to right, and that the words or text is where most of the information is communicated to the reader (Adams, 1990; Beck, McKeown, & Kucan, 2003). Young children learn quickly that it is not the pictures in books that communicate the message rather it is the text that communicates the message to the reader (Adams, 1990). Moreover, early reading experiences are almost always associated with child/parent nurturance also know as Parentese where a parent holds their child and while reading communicates safety and love (Eliot, 1999).

Recognizing the alphabet. The second emergent literacy skill is that of recognizing the alphabet. English is an alphabetic language in which thousands of words are derived from a base alphabet of 26 letters. A predictive factor in learning to read is the fast and accurate skill of naming and recognizing the letters of the alphabet (Adams, 1990; Moats, 2001). Although many children are able to recite the alphabet song, letter knowledge goes well beyond this skill. Knowing the alphabet is just the first step for children as advanced skills are needed in accurate and speedy recognition of letters both in words that are handwritten and words that are typed (Stuart et al., 2000).

The importance of speed and accuracy in letter recognition is a key factor in future reading success (Moats, Furry, & Brownell, 1998). The skill of recognizing the alphabet leads to what is known as the Alphabetic Principle. The Alphabetic Principle is the understanding that letters have corresponding sounds that make words when they are combined (Adams, 1990; Stuart et al., 2000). By using the alphabetic principle students can relate sounds and symbols from the alphabet to begin the process of phonics development (Joseph, 2002a; Joseph, 2002b; Moats, 2001). Phonics development or instruction will allow students to develop symbols used in alphabetic writing that represent sounds thus enhancing reading development in the early years (Center for the Improvement of Early Reading Achievement, 2001; Joseph, 2002a; Joseph, 2002b).

Brain Basics and Reading

The human brain weighs only about 3 pounds yet the small weight is no indication of the immense importance it plays in all human behavior. Gaining a better understanding of the brain and the functions of the brain will allow for increased opportunity and knowledge in helping children to read effectively (Wolfe & Nevills, 2004).

The brain is partitioned into two parts referred to as the right and left hemispheres. A large fissure running

from the back or posterior of the brain to the front or anterior area of the brain separates the hemispheres. A large band of nerve fibers called the corpus callosum connect the two hemispheres together so they can work in concert with one another at any time. Covering both hemispheres is a one-quarter inch thick layer called the cerebral cortex. The cerebral cortex is the area of the brain that allows the ability to process sensory data, communicate using language, and many other functions as well as the ability to read.

Each brain hemisphere is broken into four parts. The occipital lobes are at the very back of the brain and are primarily responsible for taking in and interpreting visual stimuli. The parietal lobes are also located at the back of the brain and are above the occipital lobes. The parietal lobes receive tactile information such as pressure, temperature, and pain and are then responsible for integrating this information with the appropriate sights and sounds. Located on the sides and just above the ears are the temporal lobes. The temporal lobes are responsible for taking in and interpreting auditory stimuli. Further functions within the temporal lobes are responsible for control and production of speech and memory. The frontal lobes are located behind the forehead and extend back over

the top of the brain. The cortex covering these lobes is referred to as the association cortex. One special area that is part of the cerebral cortex is the motor cortex. The motor cortex is located near the back of the frontal lobes and stretches across the top of the brain. The motor cortex controls all motor functions of the body except reflexes.

The Neural Pathways for Reading

In the brain the processes used in language and reading although not definitive in all cases are very similar to one another (Bear, Conners, & Paradiso, 1996; Shaywitz, 2003). Language and written words are a kind of code consisting of spoken and written symbols that represent words of the language for communication (Caplan, 1995). Having an understanding of how the brain processes information during reading is essential to help students be better readers over time.

In reading, once visual information is brought into the brain it is relayed to the thalamus. The job of the thalamus is to relay the information to the appropriate part of the brain for further processing. The thalamus relays the information to the primary visual cortex located in the occipital lobes. It is here at the visual cortex that the brain begins the initial step in reading by

recognizing the visual patterns of the words (Gazzaniga, 1998). The visual cortex processes words by calling into use an extraction system for visual stimuli that has been stored in a way to begin recognition of words (Gazzaniga, 1998). From this point the information is sent to the next processing area called the angular gyrus. Located at the junction of the occipital, parietal, and temporal lobes, the angular gyrus is perfectly situated to be a bridge between the visual word recognition system and the rest of the language processing system. It is at the angular gyrus that strings of letters are perceived as words and begin to make sense (Carter, 1998; Shaywitz, 2003). Without the correct function of the angular gyrus reading and writing would be impossible (Carter, 1998; Shaywitz, 2003).

The angular gyrus in conjunction with Warnekes area is the hub where all relevant information about how a word looks, how it sounds, and what it means is tightly bound together and stored (Shaywitz, 2003). Warnekes area located at the junction of the parietal and temporal lobes in the left hemisphere is responsible for conscious comprehension of both the spoken and written word. Warnekes area uses an internal dictionary to determine whether the incoming phoneme patterns or words are meaningful. From Warnekes area information is sent across the arcuate fasiculus to

Broca's area. Broca's area, located in the left hemisphere at the back of the frontal lobe, is responsible for language production and processing syntax as well as assembling words into sensible phrases that are grammatically correct (Bloom, Beal, & Kupfer, 2003; Shaywitz, 2003). A string of words becomes a sentence only when appropriate grammatical constructions are in place. Broca's area processes the information and words sent to organize them for meaning. If reading aloud, the information is sent from Broca's area further to the motor cortex. Reading aloud activates different structures from those used in reading silently (Bookheimer, Zeffiro, Blaxton, Gaillard, & Theodore, 1995). One should remember that the neural pathway for reading is not always linear and definitive within each person (Bookheimer et al., 1995; Carter, 1998; Shaywitz, 2003).

Reading Processes--Decoding and Comprehension

Basic reading is composed of two main processes: reading decoding and reading comprehension. Both of these processes are independent of one another but both are necessary for literacy development (Wolfe & Nevills, 2004).

Reading decoding. Reading decoding is the process of connecting letter strings to the corresponding unit of speech in which they represent in order to make sense out

of print (Chall, 1996; Curtis & Longo, 1999; Ehri, 2004; Kamil, 2003). In reading decoding a key element and critical piece is the skill of phonemic awareness among readers developing at all levels (Burke, Howard, & Evangelou, 2003; NICHD, 2000). In many cases children appear unable to read well because they lack the essential reading decoding skills (Adams, 1990; Clachman, 1991; Torgesen, 1993). In a comprehensive study of experimental and high quality quasi-experimental research the National Reading Panel (NICHD, 2000) reports that teaching skills in phonemic awareness is effective among beginning and older struggling readers.

Phonemes. Phonemes are the smallest sounds of speech that correspond to the letters of an alphabetic writing system. Phonemes are the basic building blocks of spoken words. There are only 40 to 44 phonemes yet there are almost an infinite number of possible words made up by phonemes. In outlining how a phoneme works one could use the word “cat”. By breaking down the word “cat” we have three phonemes c/a/t. We can take a phoneme away such as the /c/ and we have a different word a/t using the remaining two phonemes. Sounds are often presented to young learners using beats or hand claps for each letter sound. It is possible to replace other phonemes and remove

phonemes to make a myriad of words. Using this reasoning phonemic awareness is the understanding of the simple fact that a few phonemes can be arranged to make many different words (Adams, 1990; Wolfe & Nevills, 2004).

Phonological awareness. A more comprehensive term often confused with phonemic awareness is phonological awareness. Phonological awareness is a broader umbrella term that includes all the items in phonemic awareness as well as recognizing and producing rhymes, breaking words into syllables, and distinguishing parts of syllables. The identification of onset and rimes is essential in distinguishing parts of syllables. An onset is the initial consonant sound of a syllable and a rime is the part of a syllable that contains the vowel and all that follows it in a syllable. This can be illustrated using the word sit. The /s/ is the onset and the /it/ is the rime.

Phonological awareness training has been clearly proven to be effective in helping readers of all ages to hone their reading skills especially in reading comprehension (Burke et al., 2003; NICHD, 2000). Phonological awareness, the ability to hear and manipulate the sounds, syllables, and words of the language is an essential part in developing basic reading skills (Burke et al., 2003; McEwan, 2002; NICHD, 2000).

Reading comprehension. Comprehension of text is an active, intentional thinking process through which the reader constructs meaning (Alexander & Jetton, 2000; NICHD, 2000). In comprehension, higher order cognitive and linguistic reasoning, intelligence, vocabulary, and syntax are all needed to allow children to gain meaning from what they read (Allington, 2001; Ellis, 2001). Also impacting the level of understanding or comprehension in text is the background knowledge and experiences that a reader has and can call upon during the reading process (Pressley, 2002). Fluency and comprehension are separate processes (Lyon, 1995; Torgesen, et al., 2001). A person can be a fluent reader, knowing all of the words on the page, yet still not have comprehension of the meaning of the text when finished. Reading without comprehension has been labeled *barking at print* (Healy, 1987).

In addressing students that have comprehension difficulties research suggests that students can be taught reading comprehension strategies and that such instruction is effective at improving their understanding of the text they read (Duke & Pearson, 2002; NICHD, 2000; Pearson & Fielding, 1991; Pressley, 2000; Pressley, Wharton-McDonald, Mistretta-Hampston, & Echevarria, 1998). Teaching reading comprehension strategies along with developing fluency

among readers is essential in developing students with adequate reading skills (Lyon, 1995, Torgesen, et. al., 2001; Wagner, Torgesen, & Rashotte, 1994; Wise, Ring, & Olson, 1999).

Reading is FAME

The following research will outline the basic principles included in the Reading is FAME Program used as a reading recovery program for emerging readers in the research high school. Each of the four courses included in FAME will be specifically outlined as to the basic goals for the students in those courses. The Reading is FAME Program is used in combination with the Classroom Supplemental Literacy Program (CSLP) in the research high school.

Reading is FAME is a four-course, four-semester, systematic research-based program designed to help adolescents reading one or more years below grade level improve their reading performance (Curtis & Longo, 1999). FAME is an acronym that outlines the four courses included in the program of study: Foundations of Reading, Adventures in Reading, Mastery of Meaning, and Explorations. FAME is a supplemental program of study to enhance regular reading curriculum that is intended to motivate and engage adolescents by focusing on methods of teaching and learning

that have been demonstrated to help overcome reading deficits (Curtis & Longo, 1999). Dr. Mary Beth Curtis and Dr. Ann Marie Longo of the Harvard Reading Laboratory, Harvard University, developed Reading is FAME on the Girls and Boys Town Home Campus in Boys Town, Nebraska (1996). Reading is FAME is based upon Chall's Stages of Reading Development (1996) that contends reading is a process that evolves as the reader's skills increase.

Chall's stages of reading development. Chall's Stages of Reading Development provides the outline and fundamental concepts required for this developmental and differentiated approach to reading instruction (Curtis & Longo, 1999). Students learning to read must first begin by learning alphabetic principles (Adams, 1990; Curtis & Longo, 1999). Continued practice and command of the alphabetic principle will allow students to master fluency and achieve learning to read (Curtis & Longo, 1999; Wise et al., 1999). After *learning to read* is achieved students will then *read to learn* using reading as a powerful tool in their learning (Allington, 2002; Curtis & Longo, 1999; Dieker & Little, 2005). Reading is FAME addresses all stages outlined to form a comprehensive program of reading recovery for adolescents. Developed to meet the academic and social needs of struggling middle and high school students, FAME

uses age appropriate methods and materials to address reading deficits as low as the second grade level. Students in FAME can experience on average a one-year grade equivalent gain per semester of instruction. Using a differentiated approach to reversing reading difficulties in adolescents, FAME provides teachers with services that will help to increase the fidelity and maintenance of the program over time (Biancarosa & Snow, 2004).

Foundations of reading. The first of the four courses of the Reading is FAME Program is Foundations of Reading. Foundations of Reading, also referred to as Foundations, is intended for students who read between the second and fourth grade levels. The primary focus in Foundations is on mastering skill instruction with application of those skills. The goal of the Foundations course is to develop the relationships between the most common letter combinations and sounds using spelling as a means of teaching essential decoding strategies. Students who have trouble decoding and comprehending simultaneously cannot be expected to experience reading success (Kamil, 2003). Foundations, taught appropriately, will address these deficiencies and provide the basics for reading development.

A student must master decoding no matter what their age before attempting fluency mastery (Chall, 1996). The use of advanced phonics and decoding refer to the most basic skills needed to learn to read (Curtis & Longo, 1999; Ehri, 2004; Kamil, 2003). Although phonics has typically been associated with younger readers, research suggests that this can also be a deficit, affecting adolescents (Kamil, 2003). Teaching advanced phonics and decoding to children is clearly effective as outlined in Foundations using very explicit and systematic approaches so that students can overcome deficits (Burke et al., 2003). In Foundations students learn phonics rules, have regular vocabulary and spelling lists, and complete numerous guided practice opportunities that will reinforce application of the rules identified. Oral reading, daily independent practice assignments, and reading independently round out the expectations of students in the Foundations course. The systematic phonics approach used in Foundations is clearly more effective than any non-phonics instruction as it relates to helping at risk students remediate reading difficulties (Burke et al., 2003; NICHD, 2000).

Adventures in reading. The second course in the Reading is FAME Program is Adventures in Reading. Also referred to as Adventures, this course is primarily

designed for students who read between the 4th-grade and 6th-grade levels. The primary focus in Adventures is on improving oral reading fluency and advanced word recognition along with building basic vocabulary. Teaching fluency to students is a very important concept that has just recently been supported by researchers and reading specialists (National Reading Panel [NRP], 2000).

Fluency is the ability to read text accurately and quickly with expression (Hasbrouk, Ihnot, & Rogers, 1999; Shinn, Good, Knutson, Tilley, & Collins, 1992). Students that have a deficit in fluency may have problems with comprehension as well (Stahl, 2004). Students lacking fluency will be unable to achieve their reading goal to understand the message that is conveyed in the text they read (Pressley, 1998). A dysfluent reader is a reader that is not able to identify words quickly and accurately (Lyon, 1995; Torgesen, et. al., 2001; Wise et al., 1999).

To develop fluency students must first have acquired appropriate decoding and phonological awareness skills (Burke et al., 2003; NICHD, 2000; Wagner et al., 1994). To develop these skills students must read a lot in text at their independent reading levels practicing orally, independently, and in guided reading sessions with teachers, parents, and peers. During practice, reading time

is gradually increased as skills are developed and feedback is given to the readers as the teachers, parents, and peers must be active participants in the process (Berliner, 1981; Kuhn & Stahl, 2003; NICHD, 2000; Rasinski & Hoffman, 2003). This process of helping students develop fluency seems quite simple but in secondary classrooms the process is seldom utilized (McEwan, 2002).

Students in Adventures achieve increased fluency through collaboratively reading high interest adolescent novels at least one-half of each class period. Additionally, students participate in guided practice reading and independent practice reading within the classroom with the teacher and teacher helper playing an active role in the learning. Fluency development requires students to choose a reading genre and read at least 20 minutes per day outside of the classroom. These processes added to weekly vocabulary building through direct instruction supports the development of fluency in the Adventures course.

Mastery of meaning. Mastery of Meaning is the third course in the Reading is FAME Program. Mastery of Meaning, also referred to as Mastery, is intended for students reading between the 6th-grade and 8th-grade levels. The main focus in Mastery is to allow students to develop and

build their background knowledge, learn to apply Edgar Dale's Stages of Word Knowledge (Dale, 1965; Dale, O'Rourke, & Bamman, 1971), and to expand their knowledge of word meanings. Using all language modalities students will enhance their word knowledge through direct instruction completing general vocabulary activities and games. In Mastery, vocabulary instruction is imbedded into every aspect of the teaching and learning process to encourage repetition and active engagement that are precursors to learning vocabulary (Kamil, 2003). Mastery students will begin the transformation from learning to read to reading to learn.

Students with a limited vocabulary hinder their own further vocabulary development as they lack the ability to access the content or use the context to predict the meaning of unknown words (Beck, McKeown, Hamilton, & Kucan, 1997). Vocabulary can be taught through direct and indirect vocabulary instruction. Indirect vocabulary instruction takes place when teachers introduce big words in classroom conversations creating a common language among the students (Beck, McKeown, & Kucan, 2002). To develop a common vocabulary in the classroom teachers must work to continually reinforce the importance of vocabulary words to the text of study. This reinforcement can be in the form of

providing the students a friendly definition of the words, using the words in context or connecting them to a known concept, or using the words on multiple occasions and in various contexts (Feldman & Kinsella, 2005). Direct vocabulary instruction happens when content area teachers teach key vocabulary words from each unit to students building key concepts and connections (Biemiller, 2003; Moats, 2004). Direct strategic vocabulary instruction would include the teaching of prefixes, suffixes, and words bases; teaching students how to use context to identify word meaning; and directly teaching students the art of looking up unknown words in the dictionary selecting the correct meaning of words for the context in which they appear (Archer, Gleason, & Vachon, 2003; Carnine, Silbert, Kameenui, & Tarver, 2004; Moats, 2004). Vocabulary should be repetitive and richly supported; vocabulary should be active; vocabulary should be taught both indirectly and directly (NRP, 2000).

In Mastery direct instruction is used to introduce ten new vocabulary words each week. During direct instruction in Mastery the teacher works to *hook* into the students prior knowledge. Further vocabulary development comes from reading short non-fiction selections, responding orally and in writing to teacher prompts, and completing word-building

activities. Indirect vocabulary instruction happens in Mastery through continual reinforcement by the teacher helping to make students aware of words encountered individually or by the class that may be unfamiliar. In a language-rich environment indirect vocabulary instruction is always prevalent.

Explorations. Explorations, the final course in the Reading is FAME Program, is intended for students reading at the 8th-grade level or beyond. Students in Explorations focus on comprehension by integrating information through both reading and writing. All activities in Explorations build background knowledge, critical thinking ability, and problem solving skills. To achieve the focus areas included in Explorations teachers will use direct instruction, guided and independent practice, research activities encompassing higher order thinking skills, and computer based problem-solving skills.

Comprehension is the successful employment of any variety of strategies or actual mental processes used to accomplish a reading task (Duffy, 2002; Duffy et. al., 1987; Pressley, 2002; Wade, Woodrow, & Schraw, 1990). Reading comprehension is constructively responsive as good readers are always changing their processing in response to the text that they are reading (Pressley & Afflerbach,

1995). Good readers employ a myriad of strategies for reading comprehension to include: activating, inferring, monitoring/clarifying, questioning, searching/selecting, summarizing, and visualizing/organizing (McEwan, 2004; NICHD, 2000; Pressley, 2004). Strategic learning holds the power to enhance and enlarge the scope of learning by making it more efficient and permanent allowing students to learn more in a shorter time period with much less frustration (McEwan, 2004; Pressley, 2004).

Explorations students complete research assignments requiring them to access a wide variety of reference materials. Specific skills required of students to accomplish these tasks include distinguishing fact and opinion, identifying bias, and choosing an appropriate source. Written work is assigned to students as both in-class and at-home work. Using higher order thinking processes, students complete the mini research projects from the school content areas. These projects enhance strategy instruction for students with the help of the teacher guiding them to internalize and employ the strategies identified (Pearson & Dole, 1987; Pressley, 2002).

Essentials to Reading Instruction

In a meta-analysis the National Reading Panel (NRP, 2000) identified five areas of reading instruction that are essential to successfully teach most children. These five identified areas are congruent with FAME constructs and validate the earlier work of Curtis and Longo (1996): (1) phonemic awareness, the ability to hear, identify and manipulate the individual sounds in spoken words (Burke et al., 2003; NICHD, 2000); (2) phonics, the understanding that there is a predictable relationship between phonemes (the smallest part of spoken language that makes a difference in the meaning of words) and graphemes (the smallest part of written language that represents a phoneme in the spelling of a word) (Burke et al., 2003; NICHD, 2000); (3) fluency, the ability to read text accurately and quickly (Hasbrouk et al., 1999; Shinn et al., 1992); (4) vocabulary, the ability to recall words one must know to communicate effectively in listening, speaking, and reading and writing (Archer et. al., 2003; Carnine et. al, 2004; Moats, 2004); and (5) text comprehension, a clear understanding of what is read (Alexander & Jetton, 2000; Pressley, 2002; Van den Broek & Kremer, 2000). Professional development, formative assessment, and summative assessment are also identified as key components to comprehensive and

effective reading development programs for schools (Biancarosa & Snow, 2004).

Classroom Supplemental Literacy Program

Included in this section of the literature review is information that specifically outlines the basic principles of the Classroom Supplemental Literacy Program (CSLP). All elements of the (CSLP) are research based and incorporated into the daily core instruction in the classrooms in the research high school. Staff development supporting the reading interventions is consistent and continuous.

The Classroom Supplemental Literacy Program (CSLP) has been developed and refined over time to serve all students within the research school in literacy and reading development. The CSLP follows research and data that identifies deficiencies within the student population in reading. The research school district, a member of the North Central Association and Commission on Accreditation and School Improvement [NCA/CASI], used student performance data to identify its continuous school improvement goals and areas in which growth is needed. In this process reading was identified as a growth focus area thus the result of reading development being selected as the primary goal in the NCA/CASI Continuous School Improvement Process. To define the goal even further, school district officials

outlined improvement in reading vocabulary and reading comprehension as primary learning targets for secondary students. Prior to the research school district selecting reading as a school improvement goal, there was not any formal direct instruction or strategy instruction in reading for secondary students.

The CSLP delivered to all students is intended to support the development of reading vocabulary and reading comprehension in the content areas through a combination of scientifically-based reading instruction including: (a) direct instruction, (b) strategy instruction, (c) strategic learning, (d) vocabulary development, (e) reading comprehension development, (f) professional staff development, and (g) developing a reading culture within the school. In delivery of the CSLP all teaching and learning must be delivered within the context of the core academic subjects (Johnston, 2005).

Teaching reading in the content areas. The main focus of the CSLP is to teach reading within the context of the core academic subjects. Although direct highly scripted reading interventions are needed for readers that are reading extremely below grade level (Curtis & Longo, 1999), the main focus must be on providing daily instruction for all students to continually improve their reading skills

and content knowledge (McEwan, 2007). Providing reading instruction within the content area for high school students is the best way to approach reading development for all students (McEwan, 2007; NICHD, 2000; Pressley, 2000; Trabasso & Bouchard, 2000, 2002). Educators must address literacy skills by teaching those skills within the context of core academic subjects rather than apart from challenging content instruction (Johnston, 2005). Within the CSLP, reading and writing should no longer be viewed as stand alone subjects rather they are processes, strategies, and tools to learn the intricate details of subjects within a learning environment (Irvin, 1998).

It is impossible to learn or use these language strategies separately from content (Irvin, 1998). Secondary teachers feel their job is to impart particular content information. All too often they forget that their fundamental role is to teach the process of learning (Santa, 1986). Today an increasing number of educators are recognizing that meaningful strategy instruction is best done in the context of content classes where all students can reap the benefits of instruction, not just a few (McEwan, 2007).

CSLP educators in all subject areas need to have research based instructional strategies in their toolbox

(Irvin, 1998; Langer, 2001; McEwan, 2007; NICHD, 2000). Once CSLP instructors are armed with the research based instructional strategies they can then teach and model these strategies to students (Langer, 2001; Snyder & Pressley, 1995; Wilkinson & Silliman, 2000). Students in turn will then be able to learn these important strategies and employ them appropriately when reading content is needed to gain valuable information.

Each CSLP instructional subject specialist will need to know and teach strategies to the students within their classes. However, not all classes in the high school setting will use the same strategies equally but all teachers will have the same goal in mind for their students--improved content knowledge (Klinger, Vaughn, & Schumm, 1998; Snyder & Pressley, 1995). In many cases several of the research based instructional strategies will cross many curricular areas, while some strategies will be more effective in specific content situations (Brown & Campione, 1994; NICHD, 2000; Trabasso & Bouchard, 2000, 2002). It is imperative that CSLP educators create a skillful union of content and strategy instruction to provide a powerful aid in reading to learn (McEwan, 2007). This practice will allow the content specialist educator to know and enjoy that students are gaining the skills needed

to read and learn within their subject area to gain mastery (McEwan, 2007).

Scientifically based instruction. Scientifically based instruction uses two different interventions with students to remediate learning and improve instruction and classroom effectiveness within the CSLP. As a result of a body of experimental research literature both concepts, direct instruction (DI) and strategy instruction (SI; Swanson, 1999), have been proven to be effective instructional interventions. As a result of direct instruction and strategy instruction being supported by a large body of research literature this combination has been termed scientifically based instruction and used as part of the CSLP.

Direct instruction. Direct instruction addresses several isolated skills necessary in helping students become better readers. Those skills include teaching sound units or letter sounds, linguistic units, and a comprehensive development of phonological awareness (Burke et al., 2003; Lerner, 1997; Lyon, 1995; McEwan, 2002; NICHD, 2000). It has been proven that teaching phonological awareness even to secondary students is effective and important to reading development (Burke et al., 2003; McEwan, 2002; NICHD, 2000). Once students can reflect on

discrete sounds (phonemes) and apply them appropriately they will be on their way to unlocking the mystery of the alphabetic system a requirement for proficient readers (Lerner, 1997; Lyon, 1995; NICHD, 2000). Phonological awareness, the ability to hear and manipulate the sounds, syllables, and words of the language is an essential part in developing basic reading skills (Burke et al., 2003; McEwan, 2002; NICHD, 2000). Students within the CSLP are provided direct instruction to help them gain phonological awareness skills and employ them effectively. Direct instruction, a bottom up behavioral paradigm, promotes small group lessons that are fast paced, well sequenced, highly focused, allows for corrective feedback, repetitive, and organized (Curtis & Longo, 1999; Slavin, 1987; Spector, 1995).

Strategy instruction. Strategy instruction, a top down cognitive processing approach, emphasizes the use of several different instructional procedures to enhance learning and literacy development for students to include graphic organizers, visual summaries, oral summaries, written summaries, and cognitive strategies (McEwan, 2007; Neufeld, 2005; Pressley, 2000). Strategy instruction, often a hands on student directed activity (Grandgenett, Hill, & Lloyd, 1995), can be used to enhance reading (Babyak,

Koorland, & Mathes, 2000), writing (Grandgenett, Lloyd, & Hill, 1991), and learning general content within the secondary classroom (Pressley, 2000).

The use of strategy instruction within the CSLP is intended primarily to enhance reading skills among students. Students are regularly instructed in the use of graphic organizers for both note taking and reading content area assignments both of which support the development of reading comprehension (Duke & Pearson, 2002; Hyerle, 2004). Further instruction is delivered to students on a regular basis to help strengthen their reading processes to include such items as question asking and answering (Rosenshine et al., 1996), clarifying a purpose for reading (Pressley, 2000), overviewing text (Pressley, 2002), activating prior knowledge of relevant text (Alexander & Jetton, 2000), and making predictions about the text (Pressley, 2002). Used and employed appropriately and at the correct times these learned strategies might help students be intentional learners (NICHD, 2000; Pressley, 2002).

Strategic learning. Despite a significant body of research in the 1980's suggesting the effectiveness of strategy instruction, especially for lower-achieving readers, strategy instruction has not been implemented in many American classrooms (Dole, 2000). Strategy instruction

has the power to enhance and enlarge the scope of learning by making it more efficient (McEwan, 2007). Cognitive strategies are the actual mental processes used by readers during the act of reading. Cognitive strategies or strategic learning relates back to verbal protocols, which are verbatim self-reports that people make regarding what is happening in their minds as they think and read (Pressley & Afflerbach, 1995). These verbatim self-reports then access prior knowledge (Alexander & Jetton, 2000) thus creating an ever-changing landscape while reading. Pressley & Afflerbach (1995) conclude that reading is constructively responsive, that good readers are always changing their processing in response to the text they are reading creating the need for strategic teaching, strategic learning, and strategic processing within the content area.

Teaching reading in the content area will rely greatly upon implementation of strategy instruction within the classroom. Students realizing strategy instruction within the classroom will be more efficient learners, remembering more in a shorter time period with far less frustration (McEwan, 2007). Students will be able to complete assignments with greater levels of organization thus raising confidence in their abilities (McEwan, 2007). Strategic learners will need to be taught and nurtured over

time to refine their skills. This refinement will come from strategic teachers, those individuals who are able to weave content and cognitive strategy instruction into a seamless whole (Langer, 2001; Snyder & Pressley, 1995; Wilkinson & Silliman, 2000). It takes educators at least three years to become strategic teachers (Gaskins & Elliot, 1991). Reflecting on the time needed for strategic teachers to develop, we can surmise that developing a strategic learner will also require time and continuous support.

The benefits of strategic teaching and learning are many. The data suggests that students at all skill levels will benefit from being taught cognitive strategies (NICHD, 2000, Rosenshine et al., 1996). Teaching students to use cognitive strategies will allow them to tap into higher order thinking skills in response to the unique reading tasks assigned to them (McEwan, 2007).

Vocabulary development. A primary component of the CSLP is vocabulary development. It is essential for secondary students as well as adults to have a wide and diversified vocabulary to aid learning and appropriate functioning in society throughout ones life (Petty, Harold, & Stoll, 1967). Like many processes in reading to learn, vocabulary development and fluency support one another in that if students are struggling with word identification

they will not be able to recognize and process the meaning of text easily (Pressley, 1998; Torgeson et al., 2001; Wise et al., 1999). Predicting the meaning of text while working from a limited vocabulary is difficult (Beck et al., 1997). Fortunately vocabulary development among students can be realized and attained.

There are three basic ways students can develop and build vocabulary: (1) by being read to, (2) by reading themselves, and (3) from direct and indirect instruction in word meanings (Archer, Gleason, & Vachon, 2005; McEwan, 2007). The program of reading development within the CSLP will focus primarily on having students read a lot themselves and direct and indirect vocabulary instruction.

Frequent reading in the classroom. Many teachers within the CSLP have incorporated reading time into their lesson design for students to read material that is leveled and challenging (McEwan, 2007). This activity will not only help to develop appropriate vocabulary but will also enhance fluency, meaning, knowledge, vocabulary, and flow (McEwan, 2007). McEwan (2007) calls this reading in the zone. Having this strategy implemented in the CSLP will help students to be accountable for their reading in an atmosphere supportive of reading development.

Indirect vocabulary instruction. Indirect vocabulary instruction in the CSLP is accomplished through teaching or introducing big words in classroom conversations. The introduction of a big word daily in the secondary classroom, supported by using that word within the content of the curriculum and context of the situation, is very effective in building a vocabulary word base that is easily accessed when reading to learn (Beck et al., 2002; Feldman & Kinsella, 2005; McEwan, 2007). Teachers will indirectly teach vocabulary in context within the content to students in this manner making the attainment of an expanded vocabulary more relevant and permanent. In this process instructors will help students recognize antonyms and synonyms of words, help students associate the words in context or hook them into something the student already knows, which allows each student to ask questions about the words as they use them in class (Beck et al., 2002; Feldman & Kinsella, 2005; McEwan, 2007). The process of teaching vocabulary in an indirect manner should be a common practice, used daily in the classroom making it a familiar activity for students.

Direct vocabulary instruction. Direct vocabulary instruction many times will look like the traditional vocabulary lists completed in classrooms over the years.

Direct vocabulary instruction in the CSLP includes word lists from the content area teachers that support the building of concepts and connections (Biemiller, 2003; Moats, 2004) Additionally, students will also be supported with vocabulary instruction in their language and content area classes with the teaching of prefixes, suffixes, and word bases. This process added to instruction for students in the skill of looking up words in the dictionary and selecting the correct meaning from that definition will create a balance of vocabulary interventions for students to use to build an effective vocabulary (Archer et al., 2003; Carnine et al., 2004; Moats, 2004).

Reading comprehension development. Reading comprehension of text is an active, intentional thinking process in which readers construct meaning (Alexander & Jetton, 2000; NICHD, 2000). Impacting reading comprehension and a similar understanding of the information by all students is their background knowledge of the information being read (Pressley, 2002). Readers' general knowledge of the word and specific knowledge of the topic being studied play a significant role in the comprehension process (Alexander & Jetton, 2000). As with many of the processes included in developing good reading skills, reading comprehension relies on quickly and accurately being able

to recognize words (Adams, 1990). The reading comprehension development program within the CSLP will include important comprehension strategies that are taught to students to increase their effectiveness (Pressley, 2000, 2002). Expert readers consciously use a variety of strategies when challenged with reading difficult text (Pressley, 2000). The use of a few reading strategies taught well within the CSLP will be effective rather than teaching many strategies and not implementing them appropriately (Brown, 2002). In this process students will be taught to use the strategies flexibly and to practice the strategies for learning to comprehend while they read (Brown, 2002; Pressley, 2002).

Visual summaries. A significant body of research supports the use of visual summaries also known by many as graphic organizers for reading comprehension development (Armbruster, Anderson, & Ostertag, 1987; Duke & Pearson, 2002). This process, which would include using such items as semantic webs, graphic organizers for note taking or reading, and Venn Diagrams allows a reader to create reading summaries of the text and visually organize the information at hand (Vacca & Vacca, 1999). Visual organizers include main ideas of text and allow the reader to have a visual representation of how those main ideas relate to one another within the information (Bransford,

Brown, & Cocking, 2000; Duke & Pearson, 2002; Hyerle, 2004). Students and teachers within the CSLP are expected to use visual summaries frequently in all classrooms.

Modeling the reading processes for students. The second important process to teach reading comprehension in the CSLP is to model appropriate reading and cognitive processing for the students from the text. Teachers will regularly take segments from the text of study and read it aloud stopping at times to process the information aloud in class for the students to follow. McEwan (2007) refers to this as thinking aloud daily for students. This process allows students to see teachers model appropriate processing while reading through strategy instruction (Afflerbach, 2002; Duffy, 2002; Pressley et al., 2005). Teachers will help students utilize the appropriate reading strategies they have learned to gain comprehension (McEwan, 2004; Schoenbach et al., 1999). Strategies that teachers would model would include activating prior knowledge, monitoring and clarifying, visualizing, questioning, searching or selecting, organizing, and inferring (McEwan, 2004; Schoenbach et al., 1999).

Developing a reading culture. We must create a climate that believes reading is important in all classes, and all students can use reading skills to learn (Dieker & Little,

2005). Learning theory has focused on the importance of students having positive attitudes and perceptions about the learning environment (Marzano, 1992). The creation of a positive learning climate cannot be emphasized enough as all stakeholders must believe that a positive learning climate can be developed for all students (Dieker & Little, 2005). Creating a critical mass of educators focused on the central task of reading development through an identified instructional time each day for literacy can be achieved with an active administration providing encouragement, skill development, and resources (Fisher, 2001). All educators must emphasize collaboration for success to occur (Dieker & Little, 2005). Success will establish the desired climate for reading development. When teachers are collaborative, an environment is established where diverse expertise is shared and many times very different and exciting instructional practices can be implemented that support struggling readers (Dieker, 2001; Pugach & Johnson, 2002). To create that positive reading culture in any school we must address and control the forces under our jurisdiction such as educational paradigms, goals, curriculum, time dedicated to literacy activities, evaluation, professional development, and student expectations (McEwan, 2007). If, as educators, we address

the things we control, students will be able to complete assignments with greater levels of organization thus raising confidence in their abilities (McEwan, 2007).

Professional staff development. The importance of quality professional staff development supporting reading instruction cannot be overstated. Succinctly, teachers who experience gains as a result of staff development will have students in their classes that experience gains in their reading (Kamil, 2003). Staff development must be an on-going professional partnership that is not limited to a one-time workshop (Biancarosa & Snow, 2004). Staff development within the CSLP as it relates to reading development was aligned with the North Central Association, School Improvement Goals for the research school district, a practice that in turn helped focus staff development and create a seamless plan for progress (Dieker & Little, 2005). Through on-going and focused staff development teachers were able to develop the tools necessary for an effective toolbox of research based instructional strategies. As they apply these strategies teachers will have students who are better and well informed readers regardless of students different reading needs (Fuchs & Fuchs, 1998).

CHAPTER THREE

Research Methods

Purpose of the Study

The purpose of this exploratory two-group pretest-posttest comparative survey study was to determine the impact of the Classroom Supplemental Literacy Program (CSLP) and the CSLP used in combination with the Foundations, Adventures, Mastery, and Explorations (FAME) Supplemental Literacy Program on the achievement, school engagement, and behavior outcomes of rural high school students who began high school as emerging readers. The study analyzed students' grade point averages, performance on national standardized achievement tests, attendance patterns, and participation in sports, clubs, and activities.

Participants

Number of participants. Participants (N = 20) were identified using assessment scores from the Terra Nova Norm Referenced Assessment given to all students in the 8th-grade as well as placement based on teacher recommendation. Participants were selected for each of two groups FSLP used in combination with CSLP and CSLP alone based upon review of achievement scores.

Gender of participants. The gender of the participants was congruent with enrollment patterns in the participating school where females represent 50% (*n* = 10) and males represent 50% (*n* = 10) of the total enrollment.

Age range of participants. The age range of study participants was from 13 years of age to 17 years of age. Participants began FSLP and CSLP near the lower age range listed and complete the study near the higher age range listed. Participants were in FSLP used in combination with CSLP and CSLP alone for two years beginning with identification at the end of the 8th-grade year and concluding with the end of the 10th-grade school year.

Racial and ethnic origin of participants. The racial and ethnic origin ratio was congruent with enrollment patterns in the participating schools. The enrollment displayed 90% White, Not Hispanic; 6% Hispanic; 3% Black, Not Hispanic; and 1% American Indian/Alaskan Native. All study participants were White.

Inclusion criteria of participants. All 8th-grade students who attended the participating research high school, completed all study assessments, and remained currently enrolled were eligible to participate in the study.

Method of participant identification. The 20 students selected as participants for this study were identified from the study assessments and diagnostic measures in which they scored near the end of their 8th-grade year. Participants were assigned based upon reading comprehension, reading vocabulary, and reading composite scores into two groups FSLP (n = 10) and CSLP (n = 10). The students assigned to the FSLP arm were those students determined to be reading two or more years below grade level at the end of their 8th-grade school year. The students assigned to the CSLP arm were those students determined to be reading up to two years below grade level at the end of their 8th-grade school year. All data was de-identified by the appropriate research school district personnel. No individual identifiers were attached to the achievement, behavior, or engagement data.

Description of Procedures

Research design. The pretest-posttest, two-group comparative survey study design is displayed in the following notation:

Group 1 X_1 O_1 X_2 O_2

Group 2 X_1 O_1 X_3 O_2

Group 1 = A naturally formed group of students (n = 10) who were reading below grade level at the end of their

8th-grade school year before transition to the research high school.

Group 2 = A naturally formed group of students (*n* = 10) who were reading below grade level at the end of their 8th-grade school year before transition to the research high school.

X_1 = Students completed 8th-grade through 10th-grade in the research school district.

X_2 = Classroom Supplemental Literacy Program (CSLP) used in combination with the Boys and Girls Town Foundations of Reading, Adventures in Reading, Mastery of Meaning, and Explorations supplemental literacy program (FSLP).

X_3 = Classroom Supplemental Literacy Program (CSLP) only control group.

O_1 = 1. Pretest Student Achievement as measured by: (a) Terra Nova Norm Referenced Test (NRT) Normal Curve Equivalent (NCE) scores for entering 9th-grade students (*i*) reading comprehension, (*ii*) reading vocabulary, and (*iii*) reading composite scores, (b) end of 9th-grade school year cumulative Grade Point Average based on report card grades, and (c) entering 9th-grade students Terra Nova Norm Referenced Test (NRT) Grade Equivalent scores for (*i*) reading comprehension, (*ii*) reading vocabulary, and (*iii*)

reading composite. 2. Pretest Student Behavior as measured by end of 9th-grade school year cumulative absences frequencies. 3. Pretest School Engagement as measured by end of 9th-grade school year cumulative participation in (a) sports, (b) clubs, and (c) activities.

O_2 = 1. Posttest Student Achievement as measured by: (a) end of 10th-grade Terra Nova Norm Referenced Test (NRT) Normal Curve Equivalent (NCE) scores for (*i*) reading comprehension, (*ii*) reading vocabulary, and (*iii*) reading composite scores, (b) end of 10th-grade school year cumulative Grade Point Average based on report card grades, and (c) end of 10th-grade Terra Nova Norm Referenced Test (NRT) Grade Equivalent scores for (*i*) reading comprehension, (*ii*) reading vocabulary, and (*iii*) reading composite scores. 2. Posttest Student Behavior as measured by end of 10th-grade school year cumulative absences frequencies. 3. Posttest School Engagement as measured by: End of 10th-grade school year cumulative participation in (a) sports, (b) clubs, and (c) activities.

Implementation of the Independent Variable

CSLP Only. The CSLP delivered to all students is intended to support the development of reading vocabulary and reading comprehension in the content areas through a combination of scientifically-based reading instruction

including (a) direct instruction, (b) strategy instruction, (c) strategic learning, (d) vocabulary development, (e) reading comprehension development, (f) professional staff development, and (g) developing a reading culture within the school.

The CSLP required students entering high school within the research school to take required basic language arts classes that provided direct instruction in the teaching of sound units or letter sounds, linguistic units, and a comprehensive development of phonological awareness. Development of phonological awareness, the ability to manipulate the sounds, syllables, and words of the language are an essential part of developing basic reading skills. Students took the basic required courses in sequential order (stepwise) to gain the identified necessary skills for further literacy development. The required language arts courses were all a school year in length meeting daily for 48 minutes. Prescribed curriculum outlines instructional plans for trained certified staff to deliver the basic skills needed for enhanced literacy development. Within the prescribed curriculum in the language arts courses instruction was given in the teaching of prefixes, suffixes, word bases, graphic organizers, visual summaries, oral summaries, written summaries, cognitive strategies,

activating prior knowledge, monitoring and clarifying, visualizing, questioning, searching or selecting, organizing, and inferring. Instruction in these basic skills within the language arts classes allowed for all content instructors to build literacy in their classrooms specific to their instructional content.

The CSLP also required content area instructional staff to deliver literacy instruction to students using their specific content area as a backdrop for literacy development. All teachers were required to teach reading within all content areas. All teachers were also required to teach students vocabulary within their classrooms using pretest and posttest measures for assessment. Reading comprehension instruction was required of all staff using graphic organizers, semantic maps, Venn diagrams, small group instruction, identifying similarities and differences, activating prior knowledge, monitoring and clarifying, visualizing, questioning, searching or selecting, organizing, modeling, and reading aloud to students. Each instructor identified and taught to their students research based reading strategies to help them be more efficient readers. Students were expected to read several times weekly both within their content classes and for pleasure. Teachers were required to report on a

quarterly basis different research based reading comprehension strategies they used with their students in their classrooms. Students gained valuable strategies they can use in their different classes to become more efficient readers. Students' were encouraged through advisor/advisee time to read for pleasure several times weekly. Time was set aside at least twice weekly for students to read items of their choosing. This time combined with several reading initiatives being conducted through the media center provided an enhanced reading culture and opportunities outside of their required content area reading.

CSLP used in combination with FSLP. The FSLP intervention is a four-course, four-semester program delivered to students identified with emerging reading abilities. All FSLP students were active participants in the CSLP delivered to all students within the research school. The daily 48 minute FSLP intervention required week-long units and completion of work outside of the classroom on a daily basis for skill development. The four courses of the FSLP are: Foundations, Adventures, Mastery, and Explorations. Each of the four courses focused on different skills to be developed to help students gain increased reading proficiency. Group size was limited in Foundations and Adventures to no more than five students

for each teacher and teacher assistant used in combination. In Mastery and Explorations, group size can grow to 15 students for one staff member and retain intervention effectiveness. In all courses of the FSLP strict attention was paid to understanding reading development, using research-based interventions, focusing on the knowledge and skills appropriate for the student's level of reading development, using age appropriate materials and techniques, controlling for group size, using professionally trained staff, allocating appropriate resources, operating a positive and productive classroom, and using valid and reliable assessments (Curtis & Longo, 1999).

Foundations of reading. Foundations was the first course of the FSLP and focused on mastering skill instruction with application of those skills. Students developed relationships between the most common letter combinations and sounds using spelling as a means of teaching essential decoding strategies thus enhancing fluency. Students learned phonics rules, had regular vocabulary and spelling lists, and completed numerous guided practice opportunities that reinforced application of the rules identified. Oral reading, daily independent

practice assignments, and reading independently were all frequently required of students.

Adventures in reading. Adventures was the second course of the FSLP and focused on improving oral reading fluency and advanced word recognition along with building basic vocabulary. To develop these skills students read a lot in text at their independent reading levels practicing orally, independently, and in guided reading sessions with teachers, parents, and peers. During practice, reading time was gradually increased as skills are developed and feedback is given to the readers. Students achieved increased fluency through collaboratively reading high interest adolescent novels at least one-half of each class period. Additionally, students participated in guided practice reading and independent practice reading within the classroom with the teacher and teacher helper playing an active role in the learning. Fluency development required students to choose a reading genre and read at least 20 minutes per day outside of the classroom. These processes added to weekly vocabulary building through direct instruction supporting the development of fluency.

Mastery of meaning. Mastery was the third course of the FSLP and focused on building student's background knowledge and expanding knowledge of word meanings. Using

all language modalities students enhanced their word knowledge through direct instruction completing general vocabulary activities and games. Vocabulary instruction was imbedded into every aspect of the teaching and learning process to encourage repetition and active engagement. Direct instruction was used to introduce ten new vocabulary words each week. During direct instruction the teacher worked to *hook* into the students prior knowledge. Further vocabulary development came from reading short non-fiction selections, responding orally and in writing to teacher prompts, and completing word-building activities. Indirect vocabulary instruction happened through continual reinforcement by the teacher helping to make students aware of words encountered individually or by the class that may be unfamiliar. In a language-rich environment indirect vocabulary instruction is always prevalent.

Explorations. Explorations is the fourth course of the FSLP and focused on comprehension by integrating information through both reading and writing. Learning activities included building background knowledge, developing critical thinking abilities, and enhancing problem solving skills among students. Instructional plans for teachers included direct instruction, guided and independent practice, research activities using Bloom's

Taxonomy, and computer based problem solving skills. Students completed research assignments requiring them to access a wide variety of reference materials. Specific skills required of students to accomplish these tasks included distinguishing fact and opinion, identifying bias, and choosing an appropriate source. Written work was assigned to students as both in-class and at-home work. Using higher order thinking processes students completed the mini research projects from the school content areas. These projects enhanced strategy instruction for students with the help of the teacher guiding them to internalize and employ the strategies identified.

Data Collection Procedures

Central office staff utilizing the school district's database collected retrospective data and school reports of routinely collected already archived standardized assessments. All participant data was coded and names were not included. Individual identifying information was available only to the primary investigator and select central office school personnel all of whom had ethical access to student data. No identifying information was included in any written descriptions of the study.

Dependent Measures

The study dependant variables were achievement, behavior, and engagement. Achievement data was analyzed using norm referenced and criterion referenced test scores. Grade point scores were also analyzed. Behavior data included frequency counts for absences. School engagement data included frequency counts for participation in clubs, sports, and activities.

Research Questions and Data Analysis

The study was guided by the following 13 research questions and sub-questions:

Overarching Pretest-Only Achievement Research Question #1. Do high school students who qualified for participation in the CSLP used in combination with the FSLP have congruent or different beginning high school reading comprehension, reading vocabulary, and reading composite NRT NCE scores?

Research Sub-Question #1 was analyzed using a single classification Analysis of Variance (ANOVA) to determine the main effect between the beginning high school NRT NCE subtest scores for high school students who qualified for participation in the CSLP used in combination with the FSLP. An *F* ratio was calculated. If a statistically significant main effect was observed post hoc contrast

analysis were conducted utilizing dependent *t* tests. Because multiple statistical tests were conducted, a one-tailed .01 alpha level was employed to help control for Type I errors. Means and standard deviations are displayed on tables.

Overarching Pretest-Only Achievement Research Question #2. Do high school students who qualified for participation in the CSLP have congruent or different beginning high school reading comprehension, reading vocabulary, and reading composite NRT NCE scores?

Research Sub-Question #2 was analyzed using a single classification Analysis of Variance (ANOVA) to determine the main effect between the beginning high school NRT NCE subtest scores for high school students who qualified for participation in the CSLP. An *F* ratio was calculated. If a statistically significant main effect was observed post hoc contrast analysis were conducted utilizing dependent *t* tests. Because multiple statistical tests were conducted, a one-tailed .01 alpha level was employed to help control for Type I errors. Means and standard deviations are displayed on tables.

Overarching Posttest-Only Achievement Research Question #3. Do high school students who qualified for participation in the CSLP used in combination with the FSLP

have congruent or different end of 10th-grade high school reading comprehension, reading vocabulary, and reading composite NRT NCE scores?

Research Sub-Question #3 was analyzed using a single classification Analysis of Variance (ANOVA) to determine the main effect between the end of 10th-grade high school NRT NCE subtest scores for high school students who qualified for participation in the CSLP used in combination with the FSLP. An *F* ratio was calculated. If a statistically significant main effect was observed post hoc contrast analysis were conducted utilizing dependent *t* tests. Because multiple statistical tests were conducted, a one-tailed .01 alpha level was employed to help control for Type I errors. Means and standard deviations are displayed on tables.

Overarching Posttest-Only Achievement Research Question #4. Do high school students who qualified for participation in the CSLP have congruent or different end of 10th-grade high school reading comprehension, reading vocabulary, and reading composite NRT NCE scores?

Research Sub-Question #4 was analyzed using a single classification Analysis of Variance (ANOVA) to determine the main effect between the end of 10th-grade high school NRT NCE subtest scores for high school students who

qualified for participation in the CSLP. An *F* ratio was calculated. If a statistically significant main effect was observed post hoc contrast analysis were conducted utilizing dependent *t* tests. Because multiple statistical tests were conducted, a one-tailed .01 alpha level was employed to help control for Type I errors. Means and standard deviations are displayed on tables.

Overarching Pretest-Posttest Achievement Research Question #5. Do high school students who participated in the CSLP used in combination with the FSLP lose, maintain, or improve their end of 8th-grade pretest compared to their end of 10th-grade posttest reading comprehension, reading vocabulary, and reading composite NRT NCE scores, reading comprehension, reading vocabulary, and reading composite Grade Equivalent scores, and Grade Point Average?

Sub-Question 5a. Is there a significant pretest compared to posttest NCE reading comprehension score difference for high school students following their participation in the CSLP used in combination with the FSLP?

Sub-Question 5b. Is there a significant pretest compared to posttest NCE reading vocabulary score difference for high school students following their

participation in the CSLP used in combination with the FSLP?

Sub-Question 5c. Is there a significant pretest compared to posttest NCE reading composite score difference for high school students following their participation in the CSLP used in combination with the FSLP?

Sub-Question 5d. Is there a significant pretest compared to posttest Grade Equivalent reading comprehension score difference for high school students following their participation in the CSLP used in combination with the FSLP?

Sub-Question 5e. Is there a significant pretest compared to posttest Grade Equivalent reading vocabulary score difference for high school students following their participation in the CSLP used in combination with the FSLP?

Sub-Question 5f. Is there a significant pretest compared to posttest Grade Equivalent reading composite score difference for high school students following their participation in the CSLP used in combination with the FSLP?

Sub-Question 5g. Is there a significant pretest compared to posttest Grade Point Average score difference

for high school students following their participation in the CSLP used in combination with the FSLP?

Research Sub-Questions #5a, 5b, 5c, 5d, 5e, 5f, and 5g were analyzed using dependent *t* tests to examine students end of 8th-grade pretest NRT NCE scores, Grade Equivalent scores, and Grade Point Average scores compared to their end of 10th-grade posttest NRT NCE scores, Grade Equivalent scores, and Grade Point Average scores following their participation in the CSLP used in combination with the FSLP. Because multiple statistical tests were conducted, a one-tailed .01 alpha level was employed to help control for Type 1 errors. Means and standard deviations are displayed on tables.

Overarching Pretest-Posttest Achievement Research Question #6. Do high school students who participated in the CSLP lose, maintain, or improve their end of 8th-grade pretest compared to their end of 10th-grade posttest reading comprehension, reading vocabulary, and reading composite NRT NCE scores, reading comprehension, reading vocabulary, and reading composite Grade Equivalent scores, and Grade Point Average?

Sub-Question 6a. Is there a significant pretest compared to posttest NCE reading comprehension score

difference for high school students following their participation in the CSLP?

Sub-Question 6b. Is there a significant pretest compared to posttest NCE reading vocabulary score difference for high school students following their participation in the CSLP?

Sub-Question 6c. Is there a significant pretest compared to posttest NCE reading composite score difference for high school students following their participation in the CSLP?

Sub-Question 6d. Is there a significant pretest compared to posttest Grade Equivalent reading comprehension score difference for high school students following their participation in the CSLP?

Sub-Question 6e. Is there a significant pretest compared to posttest Grade Equivalent reading vocabulary score difference for high school students following their participation in the CSLP?

Sub-Question 6f. Is there a significant pretest compared to posttest Grade Equivalent reading composite score difference for high school students following their participation in the CSLP?

Sub-Question 6g. Is there a significant pretest compared to posttest Grade Point Average score difference

for high school students following their participation in the CSLP?

Research Sub-Questions #6a, 6b, 6c, 6d, 6e, 6f, and 6g were analyzed using dependent *t* tests to examine students end of 8th-grade pretest NRT NCE scores, Grade Equivalent scores, and Grade Point Average scores compared to their end of 10th-grade posttest NRT NCE scores, Grade Equivalent scores, and Grade Point Average scores following their participation in the CSLP. Because multiple statistical tests were conducted, a one-tailed .01 alpha level was employed to help control for Type 1 errors. Means and standard deviations are displayed on tables.

Overarching Posttest-Posttest Achievement Research Question #7. Do high school students who participated in the CSLP used in combination with the FSLP have congruent or different posttest reading comprehension, reading vocabulary, and reading composite NRT NCE scores, reading comprehension, reading vocabulary, and reading composite NRT Grade Equivalent scores and Grade Point Average scores compared to high school students who participated in the CSLP?

Sub-Question 7a. Is there a significant posttest compared to posttest NRT NCE reading comprehension score difference for high school students who participated in the

CSLP used in combination with the FSLP compared to high school students who participated in the CSLP?

Sub-Question 7b. Is there a significant posttest compared to posttest NRT NCE reading vocabulary score difference for high school students who participated in the CSLP used in combination with the FSLP compared to high school students who participated in the CSLP?

Sub-Question 7c. Is there a significant posttest compared to posttest NRT NCE reading composite score difference for high school students who participated in the CSLP used in combination with the FSLP compared to high school students who participated in the CSLP?

Sub-Question 7d. Is there a significant posttest compared to posttest NRT Grade Equivalent reading comprehension score difference for high school students who participated in the CSLP used in combination with the FSLP compared to high school students who participated in the CSLP?

Sub-Question 7e. Is there a significant posttest compared to posttest NRT Grade Equivalent reading vocabulary score difference for high school students who participated in the CSLP used in combination with the FSLP compared to high school students who participated in the CSLP?

Sub-Question 7f. Is there a significant posttest compared to posttest NRT Grade Equivalent reading composite score difference for high school students who participated in the CSLP used in combination with the FSLP compared to high school students who participated in the CSLP?

Sub-Question 7g. Is there a significant posttest compared to posttest Grade Point Average score difference for high school students who participated in the CSLP used in combination with the FSLP compared to high school students who participated in the CSLP?

Research Sub-Questions #7a, 7b, 7c, 7d, 7e, 7f, and 7g were analyzed using independent *t* tests to examine the significance of difference between high school students who participated in the CSLP used in combination with the FSLP end of 10th-grade posttest NRT NCE scores, Grade Equivalent scores, and Grade Point Average scores compared to high school students who participated in CSLP end of 10th-grade posttest NRT NCE scores, Grade Equivalent scores, and Grade Point Average scores. Because multiple statistical tests were conducted, a one-tailed .01 alpha level was employed to help control for Type 1 errors. Means and standard deviations were displayed on tables.

Overarching Pretest-Posttest Behavior Research Question #8. Do high school students who participated in

the CSLP used in combination with the FSLP lose, maintain, or improve 9th-grade behavior compared to 10th-grade behavior as measured by their absence frequencies?

Research Sub-Question #8 was analyzed using a dependent *t* test to examine pretest 9th-grade behavior compared to posttest 10th-grade behavior as measured by absence frequencies for students who participated in the CSLP used in combination with the FSLP. Because multiple statistical tests were conducted, a one-tailed .01 alpha level was employed to help control for Type 1 errors. Means and standard deviations were displayed on tables.

Overarching Pretest-Posttest Behavior Research Question #9. Do students who participated in the CSLP lose, maintain, or improve 9th-grade behavior compared to 10th-grade behavior as measured by their absence frequencies?

Research Sub-Question #9 was analyzed using a dependent *t* test to examine pretest 9th-grade behavior compared to posttest 10th-grade behavior as measured by absence frequencies for students who participated in the CSLP only. Because multiple statistical tests were conducted, a one-tailed .01 alpha level was employed to help control for Type 1 errors. Means and standard deviations were displayed on tables.

Overarching Posttest-Posttest Behavior Research Question #10. Do students who participated in the CSLP used in combination with the FSLP compared to students who participated in the CSLP have congruent or different end of 10th-grade behavior as measured by their absence frequencies?

Research Sub-Question #10 was analyzed using an independent *t* test to examine the significance of difference between high school students who participated in the CSLP used in combination with the FSLP 10th-grade behavior compared to high school students who participated in CSLP 10th-grade behavior as measured by absence frequencies. Because multiple statistical tests were conducted, a one-tailed .01 alpha level was employed to help control for Type 1 errors. Means and standard deviations were displayed on tables.

Overarching Pretest-Posttest Student Engagement Research Question #11. Do the students who participated in the CSLP used in combination with the FSLP lose, maintain, or improve 9th-grade student engagement compared to 10th-grade student engagement as measured by their participation in (a) sports, (b) clubs, and (c) activities frequencies?

Research Sub-Questions #11a, 11b, and 11c utilized a chi-square test of significance to compare observed verses

expected sports, clubs, and activities lose, maintain, or improve score frequencies for high school students who participated in the CSLP used in combination with the FSLP. Because multiple statistical tests will be conducted, a .01 alpha level was employed to help control for Type 1 errors. Frequencies and percents were displayed on tables.

Overarching Pretest-Posttest Student Engagement Research Question #12. Do the students who participated in CSLP lose, maintain, or improve 9th-grade student engagement compared to 10th-grade student engagement as measured by their participation in (a) sports, (b) clubs, and (c) activities frequencies?

Research Sub-Questions #12a, 12b, and 12c utilized a chi-square test of significance to compare observed verses expected sports, clubs, and activities lose, maintain, or improve score frequencies for high school students who participated in CSLP. Because multiple statistical tests will be conducted, a .01 alpha level was employed to help control for Type 1 errors. Frequencies and percents were displayed on tables.

Overarching Posttest-Posttest Student Engagement Research Question #13. Do the high school students who participated in the CSLP used in combination with the FSLP have congruent or different 10th-grade student engagement

compared to high school students who participated in the CSLP 10th-grade student engagement as measured by their participation in (a) sports, (b) clubs, and (c) activities frequencies?

Research Sub-Questions #13a, 13b, and 13c utilized a chi-square test of significance to compare observed verses expected different or congruent sports, clubs, and activities frequencies for high school students who participated in the CSLP used in combination with the FSLP compared to high school students who participated in the CSLP. Because multiple statistical tests will be conducted, a .01 alpha level was employed to help control for Type 1 errors. Frequencies and percents were displayed on tables.

Performance site. The research was conducted in the public school setting through normal educational practices. The study procedures did not interfere in any way with the normal educational practices of the public school and did not involve coercion or discomfort of any kind. All data was analyzed in the office of the researcher. Data was stored on password protected spreadsheets. No individual identifiers were attached to the data. (See Appendix A for school district letter of approval.)

Institutional Review Board (IRB) for the Protection of Human Subjects Approval Category. The exemption categories

for this study are provided under 45CFR46.101(b) categories 1 and 4. The research was conducted using routinely collected archival data. A letter of support from the school district is located in Appendix A. In Appendix B the approval letter from the IRB is included.

CHAPTER FOUR

Results

The purpose of this exploratory two-group pretest-posttest comparative survey study was to determine the impact of the Classroom Supplemental Literacy Program (CSLP) used in combination with the Foundations, Adventures, Mastery, and Explorations (FAME) Supplemental Literacy Program on the achievement, behavior outcomes, and school engagement of rural high school students who began high school as emerging readers compared to rural high school students who began high school as emerging readers who participated in the Classroom Supplemental Literacy Program (CSLP) alone. The study analyzed students' Normal Curve Equivalent and Grade Equivalent national standardized achievement test subtests scores for reading comprehension, reading vocabulary, and reading composite performance, grade point averages, absence frequencies, and participation in sports, clubs, and activities.

All study achievement data related to each of these dependent variables were retrospective, archival, and routinely collected school information. Permission from the appropriate school research personnel was obtained before data were collected and analyzed.

Student Demographic and Achievement Data

Table 1 displays demographic information of individual 10th-grade students who started high school in the 9th-grade who participated in the classroom supplemental literacy program used in combination with the FAME supplemental literacy program. Gender, Special Education verification, and participation in the free or reduced price lunch program were displayed. Table 2 displays demographic information of individual 10th-grade students who started high school in the 9th-grade who participated in the classroom supplemental literacy program alone. Gender, Special Education verification, and participation in the free or reduced price lunch program were displayed. Pretest-posttest Terra Nova Achievement Test Normal Curve Equivalent scores for individual 10th-grade students who started high school in the 9th-grade who participated in the classroom supplemental literacy program used in combination with the FAME supplemental literacy program are displayed in Table 3. Pretest-Posttest Terra Nova Achievement Test Normal Curve Equivalent scores for individual 10th-grade students who started high school in the 9th-grade who participated in the classroom supplemental literacy program alone are displayed in Table 4.

Pretest-posttest Terra Nova Achievement Test Grade Equivalent scores for individual 10th-grade students who started high school in the 9th-grade who participated in the classroom supplemental literacy program used in combination with the FAME supplemental literacy program are displayed in Table 12. Table 13 displays pretest-posttest Terra Nova Achievement Test Grade Equivalent scores for individual 10th-grade students who started high school in the 9th-grade who participated in the classroom supplemental literacy program alone. Table 17 displays pretest-posttest total days absent for all students.

Research Question #1

The first hypothesis was tested using a single factor Analysis of Variance. Results of Analysis of Variance for 10th-grade students who participated in the classroom supplemental literacy program used in combination with the FAME supplemental literacy program beginning high school 9th-grade pretest Terra Nova reading comprehension, reading vocabulary, and reading composite Normal Curve Equivalent scores are displayed in Table 5. As seen in Table 5 the null hypothesis was rejected. Pretest FSLP students' Terra Nova Achievement Test Normal Curve Equivalent score for reading comprehension (M = 23.90, SD = 10.85), reading vocabulary (M = 34.80, SD = 7.31), and reading composite (M

= 27.60, *SD* = 8.22) were not congruent and the main effect was statistically significantly different, (*F*(2, 27) = 3.86, *p* = .03). Because *F* did reach a significance level, *post hoc* contrast analyses were conducted. Significant differences were found in three of the three *post hoc* reading analyses including reading comprehension verses reading vocabulary (*p* = .003), reading comprehension verses reading composite (*p* = .01), and reading vocabulary verses reading composite (*p* = .001).

Overall, these findings indicate that 10th-grade students who started high school in the 9th-grade who participated in the FSLP began high school with a reading comprehension NCE mean score of 23.90, a reading vocabulary NCE mean score of 34.80, and a NCE mean reading composite score of 27.60. Comparing students' reading norm referenced NCE scores with other normative derived scores puts their pretest performance in perspective. A pretest reading comprehension NCE mean score of 23.90 is congruent with a standard score of 81, a percentile rank of 10, a stanine of 2, and a stanine description of below average. A pretest reading vocabulary NCE mean score of 34.80 is congruent with a standard score of 89, a percentile rank of 23, a stanine of 4, and a stanine description of average. A pretest reading composite NCE mean score of 27.60 is

congruent with a standard score of 84, a percentile rank of 14, a stanine of 3, and a stanine description of below average. Based on the stanine descriptions these entering high school 9th-grade students participating in FSLP identified with emerging literacy needs were performing at the lowest stanine of the average range in reading vocabulary, and the highest stanine of the below average range in reading comprehension and reading composite subtests.

Research Question #2

The second hypothesis was tested using a single factor Analysis of Variance. Results of Analysis of Variance for 10th-grade students who participated in the classroom supplemental literacy program alone beginning high school 9th-grade pretest Terra Nova reading comprehension, reading vocabulary, and reading composite Normal Curve Equivalent scores are displayed in Table 6. As seen in Table 6 the null hypothesis was not rejected. Pretest CSLP students' Terra Nova Achievement Test Normal Curve Equivalent score for reading comprehension (M = 34.80, SD = 12.86), reading vocabulary (M = 44.80, SD = 13.73), and reading composite (M = 39.20, SD = 11.93) were congruent and the main effect was not statistically significantly different, (F(2, 27) =

1.52, p = .24). Because F did not reach a significance level, *post hoc* contrast analyses were not conducted.

Overall, these findings indicate that 10th-grade students who started high school in the 9th-grade who participated in the CSLP began high school with a reading comprehension NCE mean score of 34.80, a reading vocabulary NCE mean score of 44.80, and a NCE mean reading composite score of 39.20. Comparing students' reading norm referenced NCE scores with other normative derived scores puts their pretest performance in perspective. A pretest reading comprehension NCE mean score of 34.80 is congruent with a standard score of 89, a percentile rank of 23, a stanine of 4, and a stanine description of average. A pretest reading vocabulary NCE mean score of 44.80 is congruent with a standard score of 96, a percentile rank of 39, a stanine of 4, and a stanine description of average. A pretest reading composite NCE mean score of 39.20 is congruent with a standard score of 92, a percentile rank of 30, a stanine of 4, and a stanine description of average. Based on the stanine descriptions these entering high school 9th-grade students participating in CSLP identified with emerging literacy needs were performing at the lowest stanine of the average range in reading comprehension, reading vocabulary, and reading composite subtests.

Research Question #3

The third hypothesis was tested using a single factor Analysis of Variance. Results of Analysis of Variance for 10th-grade students who participated in the classroom supplemental literacy program used in combination with the FAME supplemental literacy program ending 10th-grade posttest Terra Nova reading comprehension, reading vocabulary, and reading composite Normal Curve Equivalent scores are displayed in Table 7. As seen in Table 7 the null hypothesis was not rejected. Posttest FSLP students' Terra Nova Achievement Test Normal Curve Equivalent score for reading comprehension (M = 38.80, SD = 12.59), reading vocabulary (M = 39.70, SD = 19.73), and reading composite (M = 38.20, SD = 16.29) were congruent and the main effect was not statistically significantly different, (F(2, 27) = 0.02, p = .98). Because F did not reach a significance level, *post hoc* contrast analyses were not conducted.

Overall, these findings indicate that 10th-grade students who started high school in the 9th-grade who participated in the FSLP, completed 10th-grade with a reading comprehension NCE mean score of 38.80, a reading vocabulary NCE mean score of 39.70, and a NCE mean reading composite score of 38.20. Comparing students' reading norm referenced NCE scores with other normative derived scores

puts their posttest performance in perspective. A posttest reading comprehension NCE mean score of 38.80 is congruent with a standard score of 91, a percentile rank of 27, a stanine of 4, and a stanine description of average. A posttest reading vocabulary NCE mean score of 39.70 is congruent with a standard score of 92, a percentile rank of 30, a stanine of 4, and a stanine description of average. A posttest reading composite NCE mean score of 38.20 is congruent with a standard score of 91, a percentile rank of 27, a stanine of 4, and a stanine description of average. Based on the stanine descriptions these high school students who completed 10th-grade participating in FSLP identified with emerging literacy needs were at the completion of 10th-grade performing at the lowest stanine of the average range in reading comprehension, reading vocabulary, and reading composite subtests.

Research Question #4

The fourth hypothesis was tested using a single factor Analysis of Variance. Results of Analysis of Variance for 10th-grade students who participated in the classroom supplemental literacy program alone ending 10th-grade posttest Terra Nova reading comprehension, reading vocabulary, and reading composite Normal Curve Equivalent scores are displayed in Table 8. As seen in Table 8 the

null hypothesis was not rejected. Posttest FSLP students' Terra Nova Achievement Test Normal Curve Equivalent score for reading comprehension (M = 46.90, SD = 6.74), reading vocabulary (M = 47.60, SD = 15.36), and reading composite (M = 46.60, SD = 8.86) were congruent and the main effect was not statistically significantly different, (F(2, 27) = 0.02, p = .98). Because F did not reach a significance level, *post hoc* contrast analyses were not conducted.

Overall, these findings indicate that 10th-grade students who started high school in the 9th-grade who participated in the CSLP completed 10th-grade with a reading comprehension NCE mean score of 46.90, a reading vocabulary NCE mean score of 47.60, and a NCE mean reading composite score of 46.60. Comparing students' reading norm referenced NCE scores with other normative derived scores puts their posttest performance in perspective. A posttest reading comprehension NCE mean score of 46.90 is congruent with a standard score of 97, a percentile rank of 42, a stanine of 5, and a stanine description of average. A posttest reading vocabulary NCE mean score of 47.60 is congruent with a standard score of 98, a percentile rank of 45, a stanine of 5, and a stanine description of average. A posttest reading composite NCE mean score of 46.60 is congruent with a standard score of 97, a percentile rank of

42, a stanine of 5, and a stanine description of average. Based on the stanine descriptions these high school students who completed 10th-grade participating in CSLP identified with emerging literacy needs were at the completion of 10th-grade performing at the middle stanine of the average range in reading comprehension, reading vocabulary, and reading composite subtests.

Research Question #5

The fifth hypothesis was tested using the dependent *t* test. Pretest 9th-grade compared to posttest 10th-grade Terra Nova Normal Curve Equivalent reading scores and grade point averages for 10th-grade students who participated in the classroom supplemental literacy program used in combination with the FAME supplemental literacy program are displayed in Table 9. As seen in Table 9 the null hypothesis was rejected in the direction of improved reading comprehension and reading composite NCE scores and the null hypothesis was not rejected for reading vocabulary NCE scores and grade point average scores. The pretest reading comprehension score (M = 23.90, SD = 10.85) compared to the posttest reading comprehension score (M = 38.80, SD = 12.59) was statistically significantly different, $t(9) = 3.58$, $p = .003$ (one-tailed), $d = 1.27$. The pretest reading vocabulary score (M = 34.80, SD = 7.32)

compared to the posttest reading vocabulary score (M = 39.70, SD = 19.73) was not statistically significantly different, $t(9) = 0.82$, $p = .22$ (one-tailed), $d = 0.36$. The pretest reading composite score (M = 27.60, SD = 8.22) compared to the posttest reading composite score (M = 38.20, SD = 16.29) was statistically significantly different, $t(9) = 2.05$, $p = .04$ (one-tailed), $d = 0.86$. The pretest grade point average score (M = 2.13, SD = 0.83) compared to the posttest grade point average score (M = 2.18, SD = 0.63) was not statistically significantly different, $t(9) = 0.49$, $p = .32$ (one-tailed), $d = 0.06$. Because the reading comprehension and reading composite results were both found to be statistically significantly different thereby establishing a meaningful pattern of pretest-posttest score improvement the reading composite result $p = .04$ was used to reject the null hypothesis rather than the $p < .01$ significance level set forth in research question #5.

Overall, pretest-posttest results indicated that 10th-grade students who started high school in the 9th-grade and participated in FSLP significantly improved their reading comprehension and reading composite Terra Nova NCE scores but did not significantly improve their reading vocabulary Terra Nova NCE scores and grade point average scores.

However, all pretest-posttest comparisons for reading comprehension, reading vocabulary, reading composite, and grade point average scores were in the direction of pretest-posttest improvement. Based on the stanine descriptions for the NCE scores these high school students who completed 10th-grade participating in FSLP identified with emerging literacy needs were at the completion of 10th-grade performing at the lowest stanine of the average range in reading comprehension, reading vocabulary, and reading composite subtests. Students who completed 10th-grade participating in FSLP posttest mean grade point average following completion of the 10th-grade would translate into a letter grade of C.

Table 14 displays the pretest 9th-grade compared to posttest 10th-grade Terra Nova Grade Equivalent reading scores for 10th-grade students who participated in the classroom supplemental literacy program used in combination with the FAME supplemental literacy program. As seen in Table 14 the null hypothesis was rejected in the direction of improved reading comprehension, reading vocabulary, and reading composite Grade Equivalent scores. The pretest reading comprehension score (M = 3.52, SD = 1.24) compared to the posttest reading comprehension score (M = 8.72, SD = 2.98) was statistically significantly different, $t(9)$ =

5.99, p = .0001 (one-tailed), d = 2.46. The pretest reading vocabulary score (M = 5.66, SD = 1.16) compared to the posttest reading vocabulary score (M = 8.63, SD = 2.83) was statistically significantly different, $t(9)$ = 3.83, p = .002 (one-tailed), d = 1.49. The pretest reading composite score (M = 4.57, SD = 1.13) compared to the posttest reading composite score (M = 8.78, SD = 2.89) was statistically significantly different, $t(9)$ = 4.79, p = .0005 (one-tailed), d = 2.09.

Overall, pretest-posttest results indicated that 10th-grade students who started high school in the 9th-grade and participated in FSLP significantly improved their reading comprehension, reading vocabulary, and reading composite Terra Nova Grade Equivalent scores. Furthermore, all pretest-posttest comparisons for reading comprehension, reading vocabulary, and reading composite scores were in the direction of pretest-posttest improvement. Reading comprehension pretest-posttest Grade Equivalent mean improvement was 5 years and 2 months, reading vocabulary pretest-posttest Grade Equivalent mean improvement was 2 years and 9 months, and reading composite pretest-posttest Grade Equivalent mean improvement was 4 years and 2 months. High school students who completed 10th-grade participating in FSLP identified with emerging literacy needs at the

completion of 10th-grade had improved reading Grade Equivalent scores consistently measured within the middle to upper 8th-grade range.

Research Question #6

The sixth hypothesis was tested using the dependent *t* test. Pretest 9th-grade compared to posttest 10th-grade Terra Nova Normal Curve Equivalent reading scores and grade point averages for 10th-grade students who participated in the classroom supplemental literacy program alone are displayed in Table 10. As seen in Table 10 the null hypothesis was rejected in the direction of improved reading comprehension NCE scores and the null hypothesis was not rejected for reading vocabulary NCE scores, reading composite NCE scores, and grade point average scores. The pretest reading comprehension score (M = 34.80, SD = 12.86) compared to the posttest reading comprehension score (M = 46.90, SD = 6.64) was statistically significantly different, $t(9) = 2.80$, $p = .01$ (one-tailed), $d = 1.24$. The pretest reading vocabulary score (M = 44.80, SD = 13.73) compared to the posttest reading vocabulary score (M = 47.60, SD = 15.36) was not statistically significantly different, $t(9) = 0.37$, $p = .36$ (one-tailed), $d = 0.19$. The pretest reading composite score (M = 39.20, SD = 11.93) compared to the posttest reading composite score (M =

46.60, *SD* = 8.86) was not statistically significantly different, *t*(9) = 1.54, *p* = .08 (one-tailed), *d* = 0.71. The pretest grade point average score (*M* = 2.52, *SD* = 0.84) compared to the posttest grade point average score (*M* = 2.61, *SD* = 0.62) was not statistically significantly different, *t*(9) = 0.63, *p* = .27 (one-tailed), *d* = 0.12.

Overall, pretest-posttest results indicated that 10th-grade students who started high school in the 9th-grade and participated in CSLP significantly improved their reading comprehension but did not significantly improve their reading vocabulary Terra Nova NCE scores, reading composite Terra Nova NCE scores, and grade point average scores. However, all pretest-posttest comparisons for reading comprehension, reading vocabulary, reading composite, and grade point average scores were in the direction of pretest-posttest improvement. Based on the stanine descriptions for the NCE scores these high school students who completed 10th-grade participating in CSLP identified with emerging literacy needs were at the completion of 10th-grade performing at the middle stanine of the average range in reading comprehension, reading vocabulary, and reading composite subtests. Students who completed 10th-grade participating in CSLP posttest mean grade point

average following completion of the 10th-grade would translate into a letter grade of C.

Table 15 displays the pretest 9th-grade compared to posttest 10th-grade Terra Nova Grade Equivalent reading scores for 10th-grade students who participated in the classroom supplemental literacy program alone. As seen in Table 15 the null hypothesis was rejected in the direction of improved reading comprehension, reading vocabulary, and reading composite Grade Equivalent scores. The pretest reading comprehension score (M = 5.46, SD = 2.11) compared to the posttest reading comprehension score (M = 9.53, SD = 3.15) was statistically significantly different, $t(9)$ = 3.44, p = .004 (one-tailed), d = 1.54. The pretest reading vocabulary score (M = 7.91, SD = 2.71) compared to the posttest reading vocabulary score (M = 10.32, SD = 2.26) was statistically significantly different, $t(9)$ = 1.80, p = .05 (one-tailed), d = 0.97. The pretest reading composite score (M = 6.62, SD = 1.88) compared to the posttest reading composite score (M = 10.46, SD = 1.26) was statistically significantly different, $t(9)$ = 5.18, p = .0003 (one-tailed), d = 2.44.

Overall, pretest-posttest results indicated that 10th-grade students who started high school in the 9th-grade and participated in CSLP significantly improved their reading

comprehension, reading vocabulary, and reading composite Terra Nova Grade Equivalent scores. Furthermore, all pretest-posttest comparisons for reading comprehension, reading vocabulary, and reading composite scores were in the direction of pretest-posttest improvement. Reading comprehension pretest-posttest Grade Equivalent mean improvement was 4 years and 0 months, reading vocabulary pretest-posttest Grade Equivalent mean improvement was 2 years and 4 months, and reading composite pretest-posttest Grade Equivalent mean improvement was 3 years and 8 months. High school students who completed 10th-grade participating in CSLP identified with emerging literacy needs at the completion of 10th-grade had improved reading Grade Equivalent scores measured within the middle 9th-grade to middle 10th-grade range.

Research Question #7

The seventh hypothesis was tested using the independent *t* test. Posttest 10th-grade compared to posttest 10th-grade Terra Nova Normal Curve Equivalent reading scores and grade point averages for 10th-grade students who participated in the classroom supplemental literacy program used in combination with the FAME supplemental literacy program and students who participated in the classroom supplemental literacy program alone were

displayed in Table 11. As seen in Table 11 the predetermined .01 alpha level set for rejecting the null hypothesis was not obtained for any of the posttest-posttest comparisons for reading comprehension, reading vocabulary, reading composite, and grade point average.

Overall, students who completed FSLP had posttest NCE reading and grade point average scores lower than students who completed CSLP who had higher posttest reading and grade point average scores although these were not statistically significantly greater. Given the consistently lower mean NCE score results for the students who completed 10th-grade and FSLP indicates that serious emerging literacy needs remain for these FSLP students and continued placement, curricular, and teacher intervention remains clearly warranted. Although the gains made by students who completed 10th-grade and CSLP indicate greater readiness for 11th-grade course work continued support with these students would also seem prudent. A mean grade point average indicates overall that these students are completing assignments and participating in class.

Posttest 10th-grade compared to posttest 10th-grade Terra Nova Grade Equivalent reading scores for 10th-grade students who participated in the classroom supplemental literacy program used in combination with the FAME

supplemental literacy program and students who participated in the classroom supplemental literacy program alone were displayed in Table 16. As seen in Table 16 the predetermined .01 alpha level set for rejecting the null hypothesis was not obtained for any of the posttest-posttest comparisons for reading comprehension, reading vocabulary, and reading composite.

Overall, students who completed FSLP had posttest reading Grade Equivalent scores lower than students who completed CSLP who had higher posttest reading Grade Equivalent scores although these were not statistically significantly greater. Given the consistently lower mean Grade Equivalent score results for the students who completed 10th-grade and FSLP indicates that serious emerging literacy needs remain for these FSLP students and continued placement, curricular, and teacher intervention remains clearly warranted. Although the gains made by students who completed 10th-grade and CSLP indicate greater readiness for 11th-grade course work continued support with these students would also seem prudent.

Research Question #8 and Research Question #9

The eighth and ninth hypotheses were tested using the dependent *t* test. Pretest 9th-grade compared to posttest 10th-grade absences for 10th-grade students who

participated in the classroom supplemental literacy program used in combination with the FAME supplemental literacy program and students who participated in the classroom supplemental literacy program alone are displayed in Table 18. As seen in Table 18 the null hypothesis was not rejected in the direction of increased absence frequencies. The pretest CSLP absence frequency (M = 7.73, SD = 5.95) compared to the posttest CSLP absence frequency (M = 11.65, SD = 10.19) was not statistically significantly different, $t(9) = 1.35$, $p = .10$ (one-tailed), $d = 0.48$. The pretest FSLP absence frequency (M = 11.20, SD = 7.78) compared to the posttest FSLP absence frequency (M = 12.50, SD = 8.13) was not statistically significantly different, $t(9) = 0.58$, $p = .29$ (one-tailed), $d = 0.16$.

Overall, pretest-posttest results indicated that 10th-grade students who started high school in the 9th-grade and participated in FSLP and CSLP had increasing posttest absence frequencies although these were not found to be statistically significantly greater over time. In order to put the mean absence frequencies in perspective the research school district notifies parents after a student has four absences and at nine absences an attendance contract is issued by the research school district stating how and when a student must make up incomplete assignments

in order to pass a course and receive credit towards graduation.

Research Question #10

The tenth hypothesis was tested using the independent *t* test. Posttest 10th-grade compared to posttest 10th-grade absences for 10th-grade students who participated in the classroom supplemental literacy program used in combination with the FAME supplemental literacy program and students who participated in the classroom supplemental literacy program alone were displayed in Table 19. As seen in Table 19 the predetermined .01 alpha level set for rejecting the null hypothesis was not obtained for any of the posttest-posttest comparisons for absence frequencies.

Overall, students who completed FSLP had posttest absence frequencies higher than students who completed CSLP although this difference was not statistically significantly greater. Absence frequencies for these students may be contributing to lower levels of reading achievement and grade point averages. Students in this study had absence frequencies that would trigger parent notification and issuance of an attendance contract stating how, where, and when a student must make up incomplete assignments in order to pass a course and receive credit towards graduation.

Research Question #11

Table 20 displays the pretest-posttest participation in sports, clubs, and activities of 10th-grade students who participated in the classroom supplemental literacy program used in combination with the FAME supplemental literacy program. The eleventh hypothesis was tested using chi-square (X^2). The results of X^2 displayed in Table 20 were not statistically significantly different (X^2 (2, N = 34) = 1.22, p < .71) so the null hypothesis of no difference or congruence for pretest-posttest participation in sports, clubs, and activities of 10th-grade students who participated in the classroom supplemental literacy program used in combination with the FAME supplemental literacy program was not rejected. Inspecting the frequency and percent findings in Table 20, observed pretest sports frequencies and percents (8, 67%) were greater than the posttest sports frequencies and percents totals observed (4, 33%). Pretest clubs frequencies and percents (12, 75%) were greater than the posttest clubs frequencies and percents totals observed (4, 25%). Pretest activities frequencies and percents (3, 50%) were equivalent to the posttest activities frequencies and percents totals observed (3, 50%).

Overall, given the academic and absence challenges of this student cohort, their sports, clubs, and activities participation frequencies are commendable and suggest that these students are engaged. What is less clear is whether or not this participation will be strong enough to balance their classroom challenges and help them remain in high school through graduation.

Research Question #12

Table 21 displays the pretest-posttest participation in sports, clubs, and activities of 10th-grade students who participated in the classroom supplemental literacy program alone. The twelfth hypothesis was tested using chi-square (X^2). The results of X^2 displayed in Table 21 were not statistically significantly different (X^2 (2, N = 34) = 0.08, p < .98) so the null hypothesis of no difference or congruence for pretest-posttest participation in sports, clubs, and activities of 10th-grade students who participated in the classroom supplemental literacy program alone was not rejected. Inspecting the frequency and percent findings in Table 21, observed pretest sports frequencies and percents (10, 53%) were greater than the posttest sports frequencies and percents totals observed (9, 47%). Pretest clubs frequencies and percents (17, 50%) were equivalent to the posttest clubs frequencies and

percents totals observed (17, 50%). Pretest activities frequencies and percents (12, 55%) were greater than the posttest activities frequencies and percents totals observed (10, 45%).

Overall, given the academic and absence challenges of this student cohort, their sports, clubs, and activities participation frequencies are commendable and suggest that these students are engaged. What is less clear is whether or not this participation will be strong enough to balance their classroom challenges and help them remain in high school through graduation.

Research Question #13

Table 22 displays the posttest-posttest participation in sports, clubs, and activities of 10th-grade students who participated in the classroom supplemental literacy program used in combination with the FAME supplemental literacy program and 10th-grade students who participated in the classroom supplemental literacy program alone. The thirteenth hypothesis was tested using chi-square (X^2). The results of X^2 displayed in Table 22 were not statistically significantly different (X^2 (2, N = 49) = 0.68, p < .80) so the null hypothesis of no difference or congruence for posttest-posttest participation in sports, clubs, and activities of 10th-grade students who participated in the

classroom supplemental literacy program used in combination with the FAME supplemental literacy program compared to 10th-grade students who participated in the classroom supplemental literacy program alone was not rejected. Inspecting the frequency and percent findings in Table 22, observed CSLP posttest sports frequencies and percents (9, 70%) were greater than the FSLP posttest sports frequencies and percents totals observed (4, 30%). Observed CSLP posttest clubs frequencies and percents (17, 81%) were greater than the FSLP posttest clubs frequencies and percents totals observed (4, 19%). Observed CSLP posttest activities frequencies and percents (12, 80%) were greater than the FSLP posttest sports frequencies and percents totals observed (3, 20%).

Overall, at posttest CSLP students' greatest participation frequency was clubs. At posttest FSLP students' participation level was consistently lower with low participation equipoise across the sports, clubs, and activity conditions.

Table 1

Demographic Information of Individual 10th-Grade Students who Started High School in the 9th-Grade who Participated in the Classroom Supplemental Literacy Program Used in Combination with the FAME Supplemental Literacy Program

Student Number	(a) Gender	Special Education Verification	Participating in the Free or Reduced Price Lunch Program
1.	Female	Yes	No
2.	Male	Yes	No
3.	Female	No	Yes
4.	Male	Yes	Yes
5.	Female	No	No
6.	Male	No	Yes
7.	Female	Yes	Yes
8.	Male	No	Yes
9.	Male	Yes	No
10.	Female	Yes	Yes

(a) Note: All students were White, not Hispanic.

Table 2

Demographic Information of Individual 10th-Grade Students who Started High School in the 9th-Grade who Participated in the Classroom Supplemental Literacy Program Alone

Student Number	(a) Gender	Special Education Verification	Participating in the Free or Reduced Price Lunch Program
1.	Female	No	No
2.	Female	No	Yes
3.	Female	No	No
4.	Female	Yes	Yes
5.	Male	No	No
6.	Male	No	Yes
7.	Female	No	No
8.	Male	No	No
9.	Male	Yes	No
10.	Female	No	Yes

(a) Note: All students were White, not Hispanic.

Table 3

Pretest-Posttest Terra Nova Achievement Test Normal Curve Equivalent Scores for Individual 10th-Grade Students who Started High School in the 9th-Grade who Participated in the Classroom Supplemental Literacy Program Used in Combination with the FAME Supplemental Literacy Program (a)

Student Number	Reading Comprehension		Reading Vocabulary		Reading Composite	
	Pre	Post	Pre	Post	Pre	Post
1.	11	30	24	18	16	22
2.	31	44	35	34	31	38
3.	36	45	35	47	35	45
4.	25	26	42	25	31	23
5.	37	50	42	46	39	47
6.	27	50	42	37	32	43
7.	15	16	22	12	17	12
8.	23	55	30	73	24	66
9.	4	42	37	68	18	54
10.	30	30	39	37	33	32

(a) Note: Student numbers correspond with Table 1.

Table 4

Pretest-Posttest Terra Nova Achievement Test Normal Curve Equivalent Scores for Individual 10th-Grade Students who Started High School in the 9th-Grade who Participated in the Classroom Supplemental Literacy Program Alone (a)

Student Number	Reading Comprehension		Reading Vocabulary		Reading Composite	
	Pre	Post	Pre	Post	Pre	Post
1.	47	43	47	38	47	40
2.	38	40	30	44	32	42
3.	41	44	38	42	39	42
4.	6	35	18	61	10	47
5.	23	58	50	55	35	56
6.	27	52	59	19	42	34
7.	49	45	48	45	49	44
8.	41	51	39	71	40	62
9.	38	51	61	64	50	57
10.	38	50	58	37	48	42

(a) Note: Student numbers correspond with Table 2.

Table 5

Results of Analysis of Variance for 10th-Grade Students who Participated in the Classroom Supplemental Literacy Program Used in Combination with the FAME Supplemental Literacy Program Beginning High School 9th-Grade Pretest Terra Nova Reading Comprehension (RC), Reading Vocabulary (RV), and Reading Composite (RCPST) Normal Curve Equivalent Scores

Source of Variation	Mean	*SD*	Sum of Squares	Mean Square	*df*	*F* (a)	*p*
Between Groups			614.47	307.23	2	3.86	.03
Within Groups			2148.90	79.59	27		
$\overline{A}$ RC	23.90	(10.85) (b)					
$\overline{B}$ RV	34.80	(7.31) (c)					
$\overline{C}$ RCPST	27.60	(8.22)					

(a) Note: Significant *F* result, *post hoc t* test analyses were conducted.

(b) Note: $\overline{A}$ vs. $\overline{B}$ p = .003. $\overline{A}$ vs. $\overline{C}$ p = .01.

(c) Note: $\overline{B}$ vs. $\overline{C}$ p = .001.

Table 6

Results of Analysis of Variance for 10th-Grade Students who Participated in the Classroom Supplemental Literacy Program Alone Beginning High School 9th-Grade Pretest Terra Nova Reading Comprehension (RC), Reading Vocabulary (RV), and Reading Composite (RCPST) Normal Curve Equivalent Scores

Source of Variation	Mean	*SD*	Sum of Squares	Mean Square	*df*	*F* (a)	*p*
Between Groups			502.40	251.20	2	1.52	0.24
Within Groups			4466.80	165.44	27		
$\overline{A}$ RC	34.80	(12.86)					
$\overline{B}$ RV	44.80	(13.73)					
$\overline{C}$ RCPST	39.20	(11.93)					

(a) Note: *F* result not significant, no *post hoc t* test analyses were conducted.

Table 7

Results of Analysis of Variance for 10th-Grade Students who Participated in the Classroom Supplemental Literacy Program Used in Combination with the FAME Supplemental Literacy Program Ending 10th-Grade Posttest Terra Nova Reading Comprehension (RC), Reading Vocabulary (RV), and Reading Composite (RCPST) Normal Curve Equivalent Scores

Source of Variation	Mean	*SD*	Sum of Squares	Mean Square	*df*	*F* (a)	*p*
Between Groups			11.40	5.70	2	0.02	0.98
Within Groups			7319.30	271.09	27		
$\overline{A}$ RC	38.80	(12.59)					
$\overline{B}$ RV	39.70	(19.73)					
$\overline{C}$ RCPST	38.20	(16.29)					

(a) Note: *F* result not significant, no *post hoc t* test analyses were conducted.

Table 8

Results of Analysis of Variance for 10th-Grade Students who Participated in the Classroom Supplemental Literacy Program Alone Ending 10th-Grade Posttest Terra Nova Reading Comprehension (RC), Reading Vocabulary (RV), and Reading Composite (RCPST) Normal Curve Equivalent Scores

Source of Variation	Mean	*SD*	Sum of Squares	Mean Square	*df*	*F* (a)	*p*
Between Groups			5.27	2.63	2	0.02	0.98
Within Groups			7319.30	271.09	27		
$\overline{A}$ RC	46.90	(6.74)					
$\overline{B}$ RV	47.60	(15.36)					
$\overline{C}$ RCPST	46.60	(8.86)					

(a) Note: *F* result not significant, no *post hoc t* test analyses were conducted.

Table 9

Pretest 9th-Grade Compared to Posttest 10th-Grade Terra Nova Normal Curve Equivalent Reading Scores and Grade Point Averages for 10th-Grade Students who Participated in the Classroom Supplemental Literacy Program Used in Combination with the FAME Supplemental Literacy Program

	Pretest Scores		Posttest Scores				
Source of Data (a)	Mean	*SD*	Mean	*SD*	Effect Size	*t*	*p*
A	23.90	(10.85)	38.80	(12.59)	1.27	3.58	.003***
B	34.80	(7.32)	39.70	(19.73)	0.36	0.82	.22*
C	27.60	(8.22)	38.20	(16.29)	0.86	2.05	.04**
D	2.13	(0.83)	2.18	(0.63)	0.06	0.49	.32*

(a) Note: A = Reading Comprehension. B = Reading Vocabulary. C = Reading Composite. D = Grade Point Average.

**ns*. ***p* = .04. ****p* = .003.

Table 10

Pretest 9th-Grade Compared to Posttest 10th-Grade Terra Nova Normal Curve Equivalent Reading Scores and Grade Point Averages for 10th-Grade Students who Participated in the Classroom Supplemental Literacy Program Alone

	Pretest Scores		Posttest Scores				
Source of Data (a)	Mean	*SD*	Mean	*SD*	Effect Size	*t*	*p*
A	34.80	(12.86)	46.90	(6.64)	1.24	2.80	.01**
B	44.80	(13.73)	47.60	(15.36)	0.19	0.37	.36*
C	39.20	(11.93)	46.60	(8.86)	0.71	1.54	.08*
D	2.52	(0.84)	2.61	(0.62)	0.12	0.63	.27*

(a) Note: A = Reading Comprehension. B = Reading Vocabulary. C = Reading Composite. D = Grade Point Average.

**ns*. ***p* = .01.

Table 11

Posttest 10th-Grade Compared to Posttest 10th-Grade Terra Nova Normal Curve Equivalent Reading Scores and Grade Point Averages for 10th-Grade Students who Participated in the Classroom Supplemental Literacy Program Used in Combination with the FAME Supplemental Literacy Program and Students who Participated in the Classroom Supplemental Literacy Program Alone

	FSLP Posttest Scores		CSLP Posttest Scores				
Source of Data (a)	Mean	*SD*	Mean	*SD*	Effect Size	*t*	*p*
A	38.80	(12.59)	46.90	(6.74)	0.83	1.79	.04**
B	39.70	(19.73)	47.60	(15.36)	0.45	1.00	.17*
C	38.20	(16.29)	46.60	(8.86)	0.66	1.43	.08*
D	2.18	(0.63)	2.61	(0.62)	0.69	1.54	.07*

(a) Note: A = Reading Comprehension. B = Reading Vocabulary. C = Reading Composite. D = Grade Point Average.

**ns*. ***p* = .04.

Table 12

Pretest-Posttest Terra Nova Achievement Test Grade Equivalent Scores for Individual 10th-Grade Students who Started High School in the 9th-Grade who Participated in the Classroom Supplemental Literacy Program Used in Combination with the FAME Supplemental Literacy Program (a)

Student Number	Reading Comprehension		Reading Vocabulary		Reading Composite	
	Pre	Post	Pre	Post	Pre	Post
1.	2.1	6.5	3.9	4.8	3.1	5.5
2.	4.1	10.2	5.7	7.8	5.0	9.0
3.	5.3	10.3	5.7	10.8	5.5	10.4
4.	3.4	5.1	6.8	6.4	5.0	5.9
5.	5.3	11.2	6.8	10.6	6.3	10.7
6.	3.6	11.2	6.8	8.9	5.2	10.1
7.	2.5	3.9	3.6	4.1	3.1	4.0
8.	3.2	12.8	5.0	12.0	3.9	12.0
9.	1.6	9.4	6.0	12.0	3.3	12.5
10.	4.1	6.6	6.3	8.9	5.3	7.7

(a) Note: Student numbers correspond with Table 1.

Table 13

Pretest-Posttest Terra Nova Achievement Test Grade Equivalent Scores for Individual 10th-Grade Students who Started High School in the 9th-Grade who Participated in the Classroom Supplemental Literacy Program Alone (a)

Student Number	Reading Comprehension		Reading Vocabulary		Reading Composite	
	Pre	Post	Pre	Post	Pre	Post
1.	8.0	10.0	8.0	9.4	8.1	9.6
2.	5.5	9.2	5.0	10.4	5.2	9.9
3.	6.5	10.2	6.2	10.2	6.3	10.0
4.	1.7	7.9	3.4	12.0	2.6	10.7
5.	3.2	12.0	8.6	12.8	5.5	12.0
6.	3.6	11.9	11.1	5.0	6.8	8.1
7.	8.4	10.4	8.2	10.5	8.5	10.3
8.	6.5	11.3	6.3	12.0	6.4	12.0
9.	5.6	1.3	11.3	12.0	8.6	12.0
10.	5.6	11.1	11.0	8.9	8.2	10.0

(a) Note: Student numbers correspond with Table 2.

Table 14

Pretest 9th-Grade Compared to Posttest 10th-Grade Terra Nova Grade Equivalent Reading Scores for 10th-Grade Students who Participated in the Classroom Supplemental Literacy Program Used in Combination with the FAME Supplemental Literacy Program

	Pretest Scores		Posttest Scores				
Source of Data (a)	Mean	*SD*	Mean	*SD*	Effect Size	*t*	*p*
A	3.52	(1.24)	8.72	(2.98)	2.46	5.99	.0001***
B	5.66	(1.16)	8.63	(2.83)	1.49	3.83	.002*
C	4.57	(1.13)	8.78	(2.89)	2.09	4.79	.0005**

(a) Note: A = Reading Comprehension. B = Reading Vocabulary. C = Reading Composite.

*p = .002. **p = .0005. ***p = .0001.

Table 15

Pretest 9th-Grade Compared to Posttest 10th-Grade Terra Nova Grade Equivalent Reading Scores for 10th-Grade Students who Participated in the Classroom Supplemental Literacy Program Alone

	Pretest Scores		Posttest Scores				
Source of Data (a)	Mean	*SD*	Mean	*SD*	Effect Size	*t*	*p*
A	5.46	(2.11)	9.53	(3.15)	1.54	3.44	.004**
B	7.91	(2.71)	10.32	(2.26)	0.97	1.80	.05*
C	6.62	(1.88)	10.46	(1.26)	2.44	5.18	.0003***

(a) Note: A = Reading Comprehension. B = Reading Vocabulary. C = Reading Composite.

*p = .05. **p = .004. ***p = .0003.

Table 16

Posttest 10th-Grade Compared to Posttest 10th-Grade Terra Nova Grade Equivalent Reading Scores for 10th-Grade Students who Participated in the Classroom Supplemental Literacy Program Used in Combination with the FAME Supplemental Literacy Program and Students who Participated in the Classroom Supplemental Literacy Program Alone

	FSLP Posttest Scores		CSLP Posttest Scores				
Source of Data (a)	Mean	*SD*	Mean	*SD*	Effect Size	*t*	*p*
A	8.72	(2.98)	9.53	(3.15)	0.26	0.59	.28*
B	8.63	(2.83)	10.32	(2.26)	0.66	1.48	.08*
C	8.78	(2.89)	10.46	(1.26)	0.81	1.68	.05**

(a) Note: A = Reading Comprehension. B = Reading Vocabulary. C = Reading Composite.

**ns*. ***p* = .05.

Table 17

Pretest-Posttest Total Days Absent for All Students

Student Number	FSLP (a)		CSLP (b)	
	Pretest	Posttest	Pretest	Posttest
1.	4	5	4	7
2.	3	1	2.5	21.5
3.	26	11	9.25	2
4.	8	14	21.5	29.5
5.	7	6.5	6	26
6.	16	25	12	9
7.	7.5	13.5	9.25	8
8.	7.5	6	.25	2.5
9.	10.5	20	5.5	2.5
10.	22.5	23	7	8.5

(a) Note: Student numbers correspond with Table 1.

(b) Note: Student numbers correspond with Table 2.

Table 18

Pretest 9th-Grade Compared to Posttest 10th-Grade Absences for 10th-Grade Students who Participated in the Classroom Supplemental Literacy Program Used in Combination with the FAME Supplemental Literacy Program and Students who Participated in the Classroom Supplemental Literacy Program Alone

	Pretest Scores		Posttest Scores				
Source of Data (a)	Mean	*SD*	Mean	*SD*	Effect Size	*t*	*p*
A	7.73	(5.95)	11.65	(10.19)	0.48	1.35	.10*
B	11.20	(7.78)	12.50	(8.13)	0.16	0.58	.29*

(a) Note: A = CSLP. B = FSLP.

**ns*.

Table 19

Posttest 10th-Grade Compared to Posttest 10th-Grade Absences for 10th-Grade Students who Participated in the Classroom Supplemental Literacy Program Used in Combination with the FAME Supplemental Literacy Program and Students who Participated in the Classroom Supplemental Literacy Program Alone

	FSLP Posttest Scores		CSLP Posttest Scores				
Source of Data (a)	Mean	*SD*	Mean	*SD*	Effect Size	*t*	*p*
A	12.50	(8.13)	11.65	(10.19)	0.09	0.21	.42*

(a) Note: A = Absences.

**ns*.

Table 20

Pretest-Posttest Participation in Sports, Clubs, and Activities of 10th-Grade Students who Participated in the Classroom Supplemental Literacy Program Used in Combination with the FAME Supplemental Literacy Program

	Student Activities						
	A		B		C		
Group	N	%	N	%	N	%	X^2
Pretest	8	(67)	12	(75)	3	(50)	
Posttest	4	(33)	4	(25)	3	(50)	
Totals	12	(100)	16	(100)	6	(100)	1.22*

A = Sports; B = Clubs; C = Activities.

**ns*.

Table 21

Pretest-Posttest Participation in Sports, Clubs, and Activities of 10th-Grade Students who Participated in the Classroom Supplemental Literacy Program Alone

	Student Activities						
	A		B		C		
Group	N	%	N	%	N	%	X^2
Pretest	10	(53)	17	(50)	12	(55)	
Posttest	9	(47)	17	(50)	10	(45)	
Totals	19	(100)	34	(100)	22	(100)	0.08*

A = Sports; B = Clubs; C = Activities.

**ns*.

Table 22

Posttest-Posttest Participation in Sports, Clubs, and Activities of 10th-Grade Students who Participated in the Classroom Supplemental Literacy Program Used in Combination with the FAME Supplemental Literacy Program and 10th-Grade Students who Participated in the Classroom Supplemental Literacy Program Alone

	Student Activities						
	A		B		C		
Group	N	%	N	%	N	%	X^2
CSLP	9	(70)	17	(81)	12	(80)	
FSLP	4	(30)	4	(19)	3	(20)	
Totals	13	(100)	21	(100)	15	(100)	0.68*

A = Sports; B = Clubs; C = Activities.

**ns*.

CHAPTER FIVE

Conclusions and Discussion

The purpose of this exploratory two-group pretest-posttest comparative survey study was to determine the impact of the Classroom Supplemental Literacy Program (CSLP) used in combination with the Foundations, Adventures, Mastery, and Explorations (FAME) Supplemental Literacy Program on the achievement, behavior outcomes, and school engagement of rural high school students who began high school as emerging readers compared to rural high school students who began high school as emerging readers who participated in the Classroom Supplemental Literacy Program (CSLP) alone.

The study analyzed students' Normal Curve Equivalent and Grade Equivalent national standardized achievement test subtests scores for reading comprehension, reading vocabulary, and reading composite performance, grade point averages, absence frequencies, and participation in sports, clubs, and activities. All study achievement data related to each of these dependent variables were retrospective, archival, and routinely collected school information. Permission from the appropriate school research personnel was obtained before data were collected and analyzed.

Pretest Student Achievement was measured by: (a) Terra Nova Norm Referenced Test (NRT) Normal Curve Equivalent (NCE) scores for entering 9th-grade students (*i*) reading comprehension, (*ii*) reading vocabulary, and (*iii*) reading composite scores, (b) end of 9th-grade school year cumulative Grade Point Average based on report card grades, and (c) entering 9th-grade students Terra Nova Norm Referenced Test (NRT) Grade Equivalent scores for (*i*) reading comprehension, (*ii*) reading vocabulary, and (*iii*) reading composite. 2. Pretest Student Behavior as measured by end of 9th-grade school year cumulative absence frequencies. 3. Pretest School Engagement as measured by end of 9th-grade school year cumulative participation in (a) sports, (b) clubs, and (c) activities.

Posttest Student Achievement was measured by: (a) end of 10th-grade Terra Nova Norm Referenced Test (NRT) Normal Curve Equivalent (NCE) scores for (*i*) reading comprehension, (*ii*) reading vocabulary, and (*iii*) reading composite scores, (b) end of 10th-grade school year cumulative Grade Point Average based on report card grades, and (c) end of 10th-grade Terra Nova Norm Referenced Test (NRT) Grade Equivalent scores for (*i*) reading comprehension, (*ii*) reading vocabulary, and (*iii*) reading composite scores. 2. Posttest Student Behavior as measured

by end of 10th-grade school year cumulative absence frequencies. 3. Posttest School Engagement as measured by: End of 10th-grade school year cumulative participation in (a) sports, (b) clubs, and (c) activities.

Conclusions

Research Question #1

Overall, findings indicate that 10th-grade students who started high school in the 9th-grade who participated in the FSLP began high school with a reading comprehension NCE mean score of 23.90, a reading vocabulary NCE mean score of 34.80, and a NCE mean reading composite score of 27.60. Comparing students' reading norm referenced NCE scores with other normative derived scores puts their pretest performance in perspective. A pretest reading comprehension NCE mean score of 23.90 is congruent with a standard score of 81, a percentile rank of 10, a stanine of 2, and a stanine description of below average. A pretest reading vocabulary NCE mean score of 34.80 is congruent with a standard score of 89, a percentile rank of 23, a stanine of 4, and a stanine description of average. A pretest reading composite NCE mean score of 27.60 is congruent with a standard score of 84, a percentile rank of 14, a stanine of 3, and a stanine description of below average. Based on the stanine descriptions these entering

high school 9th-grade students participating in FSLP identified with emerging literacy needs were performing at the lowest stanine of the average range in reading vocabulary, and the highest stanine of the below average range in reading comprehension and reading composite subtests.

Research Question #2

Overall, findings indicate that 10th-grade students who started high school in the 9th-grade who participated in the CSLP began high school with a reading comprehension NCE mean score of 34.80, a reading vocabulary NCE mean score of 44.80, and a NCE mean reading composite score of 39.20. Comparing students' reading norm referenced NCE scores with other normative derived scores puts their pretest performance in perspective. A pretest reading comprehension NCE mean score of 34.80 is congruent with a standard score of 89, a percentile rank of 23, a stanine of 4, and a stanine description of average. A pretest reading vocabulary NCE mean score of 44.80 is congruent with a standard score of 96, a percentile rank of 39, a stanine of 4, and a stanine description of average. A pretest reading composite NCE mean score of 39.20 is congruent with a standard score of 92, a percentile rank of 30, a stanine of 4, and a stanine description of average. Based on the

stanine descriptions these entering high school 9th-grade students participating in CSLP identified with emerging literacy needs were performing at the lowest stanine of the average range in reading comprehension, reading vocabulary, and reading composite subtests.

Research Question #3

Overall, findings indicate that 10th-grade students who started high school in the 9th-grade who participated in the FSLP completed 10th-grade with a reading comprehension NCE mean score of 38.80, a reading vocabulary NCE mean score of 39.70, and a NCE mean reading composite score of 38.20. Comparing students' reading norm referenced NCE scores with other normative derived scores puts their posttest performance in perspective. A posttest reading comprehension NCE mean score of 38.80 is congruent with a standard score of 91, a percentile rank of 27, a stanine of 4, and a stanine description of average. A posttest reading vocabulary NCE mean score of 39.70 is congruent with a standard score of 92, a percentile rank of 30, a stanine of 4, and a stanine description of average. A posttest reading composite NCE mean score of 38.20 is congruent with a standard score of 91, a percentile rank of 27, a stanine of 4, and a stanine description of average. Based on the stanine descriptions these high school students who

completed 10th-grade participating in FSLP identified with emerging literacy needs were at the completion of 10th-grade performing at the lowest stanine of the average range in reading comprehension, reading vocabulary, and reading composite subtests.

Research Question #4

Overall, findings indicate that 10th-grade students who started high school in the 9th-grade who participated in the CSLP completed 10th-grade with a reading comprehension NCE mean score of 46.90, a reading vocabulary NCE mean score of 47.60, and a NCE mean reading composite score of 46.60. Comparing students' reading norm referenced NCE scores with other normative derived scores puts their posttest performance in perspective. A posttest reading comprehension NCE mean score of 46.90 is congruent with a standard score of 97, a percentile rank of 42, a stanine of 5, and a stanine description of average. A posttest reading vocabulary NCE mean score of 47.60 is congruent with a standard score of 98, a percentile rank of 45, a stanine of 5, and a stanine description of average. A posttest reading composite NCE mean score of 46.60 is congruent with a standard score of 97, a percentile rank of 42, a stanine of 5, and a stanine description of average. Based on the stanine descriptions these high school students who

completed 10th-grade participating in CSLP identified with emerging literacy needs were at the completion of 10th-grade performing at the middle stanine of the average range in reading comprehension, reading vocabulary, and reading composite subtests.

Research Question #5

Overall, pretest-posttest results indicated that 10th-grade students who started high school in the 9th-grade and participated in FSLP significantly improved their reading comprehension and reading composite Terra Nova NCE scores but did not significantly improve their reading vocabulary Terra Nova NCE scores and grade point average scores. However, all pretest-posttest comparisons for reading comprehension, reading vocabulary, reading composite, and grade point average scores were in the direction of pretest-posttest improvement. Based on the stanine descriptions for the NCE scores these high school students who completed 10th-grade participating in FSLP identified with emerging literacy needs were at the completion of 10th-grade performing at the lowest stanine of the average range in reading comprehension, reading vocabulary, and reading composite subtests. Students who completed 10th-grade participating in FSLP posttest mean grade point

average following completion of the 10th-grade would translate into a letter grade of C.

Overall, pretest-posttest results also indicated that 10th-grade students who started high school in the 9th-grade and participated in FSLP significantly improved their reading comprehension, reading vocabulary, and reading composite Terra Nova Grade Equivalent scores. Furthermore, all pretest-posttest comparisons for reading comprehension, reading vocabulary, and reading composite scores were in the direction of pretest-posttest improvement. Reading comprehension pretest-posttest Grade Equivalent mean improvement was 5 years and 2 months, reading vocabulary pretest-posttest Grade Equivalent mean improvement was 2 years and 9 months, and reading composite pretest-posttest Grade Equivalent mean improvement was 4 years and 2 months. High school students who completed 10th-grade participating in FSLP identified with emerging literacy needs at the completion of 10th-grade had improved reading Grade Equivalent scores consistently measured within the middle to upper 8th-grade range.

Research Question #6

Overall, pretest-posttest results indicated that 10th-grade students who started high school in the 9th-grade and participated in CSLP significantly improved their reading

comprehension but did not significantly improve their reading vocabulary Terra Nova NCE scores, reading composite Terra Nova NCE scores, and grade point average scores. However, all pretest-posttest comparisons for reading comprehension, reading vocabulary, reading composite, and grade point average scores were in the direction of pretest-posttest improvement. Based on the stanine descriptions for the NCE scores these high school students who completed 10th-grade participating in CSLP identified with emerging literacy needs were at the completion of 10th-grade performing at the middle stanine of the average range in reading comprehension, reading vocabulary, and reading composite subtests. Students who completed 10th-grade participating in CSLP posttest mean grade point average following completion of the 10th-grade would translate into a letter grade of C.

Overall, pretest-posttest results also indicated that 10th-grade students who started high school in the 9th-grade and participated in CSLP significantly improved their reading comprehension, reading vocabulary, and reading composite Terra Nova Grade Equivalent scores. Furthermore, all pretest-posttest comparisons for reading comprehension, reading vocabulary, and reading composite scores were in the direction of pretest-posttest improvement. Reading

comprehension pretest-posttest Grade Equivalent mean improvement was 4 years and 0 months, reading vocabulary pretest-posttest Grade Equivalent mean improvement was 2 years and 4 months, and reading composite pretest-posttest Grade Equivalent mean improvement was 3 years and 8 months. High school students who completed 10th-grade participating in CSLP identified with emerging literacy needs at the completion of 10th-grade had improved reading Grade Equivalent scores measured within the middle 9th-grade to middle 10th-grade range.

Research Question #7

Overall, students who completed FSLP had posttest NCE reading and grade point average scores lower than students who completed CSLP who had higher posttest reading and grade point average scores although these were not statistically significantly greater. Given the consistently lower mean NCE score results for the students who completed 10th-grade and FSLP indicates that serious emerging literacy needs remain for these FSLP students and continued placement, curricular, and teacher intervention remains clearly warranted. Although the gains made by students who completed 10th-grade and CSLP indicate greater readiness for 11th-grade course work, continued support with these students would also seem prudent. A mean grade point

average indicates overall that these students are completing assignments and participating in class.

Overall, students who completed FSLP also had posttest reading Grade Equivalent scores lower than students who completed CSLP who had higher posttest reading Grade Equivalent scores although these were not statistically significantly greater. Given the consistently lower mean Grade Equivalent score results for the students who completed 10th-grade and FSLP indicates that serious emerging literacy needs remain for these FSLP students and continued placement, curricular, and teacher intervention remains clearly warranted. Although the gains made by students who completed 10th-grade and CSLP indicate greater readiness for 11th-grade course work, continued support with these students would also seem prudent.

Research Question #8 and Research Question #9

Overall, pretest-posttest results indicated that 10th-grade students who started high school in the 9th-grade and participated in FSLP and CSLP had increasing posttest absence frequencies although these were not found to be statistically significantly greater over time. In order to put the mean absence frequencies in perspective the research school district notifies parents after a student has four absences and at nine absences an attendance

contract is issued by the research school district stating how and when a student must make up incomplete assignments in order to pass a course and receive credit towards graduation.

Research Question #10

Overall, students who completed FSLP had posttest absence frequencies higher than students who completed CSLP although this difference was not statistically significantly greater. Absence frequencies for these students may be contributing to lower levels of reading achievement and grade point averages. Students in this study had absence frequencies that would trigger parent notification and issuance of an attendance contract stating how, where, and when a student must make up incomplete assignments in order to pass a course and receive credit towards graduation.

Research Question #11

Overall, given the academic and absence challenges of this student cohort, their sports, clubs, and activities participation frequencies are commendable and suggest that these students are engaged. What is less clear is whether or not this participation will be strong enough to balance their classroom challenges and help them remain in high school through graduation.

Research Question #12

Overall, given the academic and absence challenges of this student cohort, their sports, clubs, and activities participation frequencies are commendable and suggest that these students are engaged. What is less clear is whether or not this participation will be strong enough to balance their classroom challenges and help them remain in high school through graduation.

Research Question #13

Overall, at posttest CSLP students' greatest participation frequency was clubs. At posttest FSLP students' participation level was consistently lower with low participation equipoise across the sports, clubs, and activity conditions.

Discussion

Considering the skills required today to succeed in an increasingly complex and technological world, it may be said that never before has there been a time when high school students needed expert literacy skills more (Jago, 2000; McEwan, 2004; National Institute of Child Health and Human Development [NICHD], 2000). Expecting students with emerging reading abilities to navigate the rigor and expectations of a demanding high school curriculum without expert literacy skills is unrealistic and even unfair

(Denti & Guerin, 2004; McGill-Franzen, 2000). The findings in this study substantiate good news for literacy development among students today. Students who participated in both the CSLP alone and the FSLP used in combination with the CSLP realized pretest-posttest gains in reading comprehension, reading vocabulary, and reading composite performance scores. In all cases the pretest-posttest performance score gains for reading comprehension were statistically significant. Research has demonstrated that even beginning high school students with emerging reading abilities are capable of high achievement if exposed to the right combination of literacy instruction and intervention strategies (Sadowski & Willson, 2006; Worthington, 2005). The National Reading Panel (NICHD, 2000) reported that teaching phonemic awareness, a vital skill in literacy development, is clearly effective. The teaching of phonemic awareness was a common thread throughout all interventions within this study.

Furthermore, the use of scripted reading interventions as well as teaching and utilizing research based reading interventions in the content classroom for high school students is both essential and effective if the goal is to realize growth in literacy (Biancarosa & Snow, 2004). In both the FSLP used in combination with the CSLP and the

CSLP alone, the use of scripted research based reading interventions in the content area classrooms was implemented effectively. Students within both groups utilized learned reading interventions to hone their skills in literacy and experience performance score gains across the board.

In analyzing student absences and the impact on student achievement specifically reading development, the findings of this study show that at posttest analysis students had increased absences in both the FSLP used in combination with the CSLP and the CSLP alone. In both arms of the study some students had absence frequencies that would trigger the research school district to implement their absence policy and contact parents for intervention. Although the students in both arms of the study at posttest realized improved reading performance scores, the scores exhibited were still below grade level requiring further sustained intervention. Research has made it clear that school attendance, academic performance, and school connectedness are highly correlated (Epstein & Sheldon, 2002). In a study in Minnesota, being present for instructional time 95% of the time made students twice as likely to pass state language arts tests including reading, compared to students who were only present 85% of the time

(National Association of Elementary School Principals, 2001). Students who experience a higher frequency of absences will lose confidence and continue to find reading effortful even when the reading material is consistent with their ability level (Epstein & Sheldon, 2002; Kohl, 1991). Research has established that the relationship between the teacher and the student is highly correlated with student performance (Kohl, 1991). As outlined by the Center for Study of Natural Systems and the Family (2007), it is essential that we cultivate positive relationships with students to increase attendance, build confidence, and improve literacy.

Students who participate in extracurricular activities in general have improved grade point averages, higher educational aspirations, increased college attendance, and reduced absenteeism (Broh, 2002). Further, students who participate in extracurricular activities, even if the activity is not academic in nature, perform better academically than students who do not participate (Marsh & Kleitman, 2002). In analyzing the results of this study, students in the FSLP used in combination with the CSLP were less engaged than the students in the CSLP alone. In both arms of the study there was frequent participation by students in extracurricular activities leading the

researcher to believe students were engaged. This engagement was a positive contributing factor to increased student performance in literacy. Although much more progress is desired, a good basis of engagement is in place to support the increased scores exhibited. In this study school engagement was defined as participation in sports, clubs, and activities. Even if not causal the correlation between school engagement and increased academic performance is well established (Broh, 2002; Marsh & Kleitman, 2002). In all cases and without reference to the background of the student, being connected and having confidence in the school is thought to enhance the opportunity for academic performance. Extracurricular activities are often thought of as a proven vehicle for improving classroom literacy performance (Shin, 2004; Stephens & Shaben, 2002).

As exhibited in this study, rural high school students realized performance score gains in reading comprehension, reading vocabulary, and reading composite subtests. Comparing the similar literacy skill development pathway struggles of rural and urban students, suggests that factors such as socioeconomic status, parent education level, and vocational aspirations beyond high school play a more significant role in student success than any city or

country variables (Fan & Chen, 1999; Roscigno & Crowley, 2001). Furthermore, concern has been raised about rural students plans beyond high school as rural students are at greater risk of limiting their occupational goals reporting fewer plans for postsecondary education or specialized training than their urban counterparts (Gandara, Gutierrez, & O'Hara, 2001).

Addressing reading improvement among students beginning high school as emerging readers, it can be said that implementation of appropriate research based reading strategies in the content classroom added to scripted reading interventions for at risk readers will generally produce performance score gains (Biancarosa & Snow, 2004; McEwan, 2007). Students mastering strategy instruction within the classroom will be more efficient learners, remembering more in a shorter time period with far less frustration (McEwan, 2007). What seems sure is that we must continue to provide students with the strategies, processes, and skills they need to become better readers throughout high school and beyond.

Recommendations For Future Research

Suggestions for future research as it relates to beginning high school students with emerging reading abilities are many. Replicating the basic concepts of this

study using a larger sample size would be desired to identify the impact on a more global scale. Using a random selection of subjects would also outline a global view and help determine treatment effectiveness. Many times with older students a survey would be a powerful evaluation tool and may include questions about topics such as instruction satisfaction, confidence in reading ability, perceived success, level of parent involvement, and frequency of reading or being read to in their earlier years. A final suggestion would be to study outcomes as it relates to commitment from school staff to reading improvement and intervention implementation in the content area classrooms in middle school and throughout high school. In all cases developing and sustaining secondary reading and literacy classrooms and programs is essential--clearly, much work remains in this important area.

REFERENCES

Adams, M. J. (1990). *Beginning to read: Thinking and learning about print.* Cambridge, MA: MIT Press.

Afflerbach, P. (2002). Teaching reading self-assessment strategies. In C.C. Block & M. Pressley (Eds.), *Comprehension instruction: Research-based best practices* (pp.96-111). New York: Guilford.

Alexander, K. L., Entwistle, D.R., & Kabbani, N.S. (2001). The dropout process in life course perspective:Early risk factors at home and school. *Teachers College Record, 103*(5), 760-822.

Alexander, P. A., & Jetton, T L. (2000). Learning from text: A multidimensional and development perspective. In M. L. Kamil, P. B. Mosenthal, P. D. Pearson, & R. Barr (Eds.), *Handbook of reading research* (Vol.3, pp. 285-310). Mahwah, NJ: Erlbaum.

Alexander, P. A., & Jetton, T. L. (2003). Learning from traditional and alternative texts: New conceptualizations for the information age. In A. C. Graesser, M. A. Gernsbacher, & S. R. Goldman (Eds.), *Handbook of discourse processes* (pp. 199-241). Mahway, NJ: Erlbaum.

Allington, R. L. (2001). *What really matters for struggling readers: Designing research-based programs.* New York: Longman.

Allington, R.L. (2002). You can't learn much from books you can't read. *Educational Leadership, 60,* 16-19.

Archer, A., Gleason, M. M., & Vachon, V. (2003). Decoding and fluency: Foundation skills for struggling older readers. *Learning Disability Quarterly, 26,* 89-101.

Archer, A. L., Gleason, M. M., & Vachon, V. (2005). *Rewards: Multisyllabic word reading strategies.* Longmont, CO: Sopris West.

Armbruster, B. B., Anderson, T. H., & Ostertag, J. (1987). Does text structure/summarization instruction facilitate learning from expository text? *Reading Research Quarterly, 22,* 331-346.

Babyak, A. E., Koorland, M., & Mathes, P. G. (2000). The effect of story mapping instruction on the reading comprehension of students with behavioral disorders. *Behavioral Disorders, 25,* 239-258.

Ballou, D., & Podgursky, M. (1995). Rural schools— Fewer highly trained teachers and special programs, but better learning environment. *Rural Development Perspectives, 10*(3), 6-16.

Ballou, D., & Podgursky, M. (1998). Rural teachers and schools. *Rural education and training in the new economy: The myth of the rural skills gap, 3-21.* Iowa State University Press.

Barry, A. L. (1997). High school reading programs revisited. *Journal of Adolescent & Adult literacy, 41*(2), 141-142.

Battin-Pearson, S., Abbott, R.D., Hill, K.G., Catalano, R.F., Hawkins, J.D., & Newcomb, M.D. (2000). Predictors of early high school dropout: A test of five theories. *Journal of Educational Psychology, 92*(3), 568-582.

Bear, M. F., Conners, B. W., & Paradiso, M. A. (1996). *Neuroscience: Exploring the brain.* New York: Lippincott/Williams & Wilkins.

Beck, I., McKeown, M. G., Hamilton, R. L., & Kucan, L. (1997). *Questioning the author: An approach for enhancing student engagement with text.* Newark, DE: International Reading Association.

Beck, I. L., McKeown, M. G., & Kucan, L. (2002). *Bringing words to life: Robust vocabulary instruction.* New York: Guilford.

Beck, I. L., McKeown, M. G., & Kucan, L. (2003). Taking delight in words: Using oral language to build young children's vocabularies. *American Educator, 27*(1), 36-41, 45-48.

Berliner, D. C. (1981). Academic learning time and reading achievement. In J. Gutherie (Ed.), *Comprehension and teaching: Research reviews* (pp. 203-225). Newark, DE: International Reading Association.

Berliner, D.C., & Scherer, M. (2001). Improving the quality of the teaching force. *Educational Leadership 58*(8), 6-10.

Berniger, V. W., & Richards, L. R. (2002). *Brain literacy for educators and psychologists.* San Diego: Academic Press.

Biancarosa, G., & Snow, C. E. (2004). *Reading next—A vision for action and research in middle and high school literacy: A report from Carnegie Corporation of New York*, Washington, DC: Alliance for Excellent Education.

Biemiller, A. (2003). Oral comprehension sets the ceiling on reading comprehension. *American Educator,* Spring. Retrieved May 2, 2006, from www.aft.org/pubs-reports/american_educator/spring2003/biemiller.html.

Bloom, F. E., Beal, M. F., & Kupfer, D. J. (2003). *The Dana guide to brain health.* New York: Free Press.

Bookheimer, S. Y., Zeffiro, T. A., Blaxton, T., Gaillard, W. D., & Theodore, W. H. (1995). Regional cerebral blood flow during object naming and word reading. *Human Brain Mapping, 3*(2), 93-106.

Bond, G., & Bond, E. (1941). *Developmental reading in high school.* New York: Macmillan.

Brand, B., & Partee, G. (2000). *High schools of the millennium.* Washington, DC: American Youth Policy.

Bransford, J. D., Brown, A. L., & Cocking, R. R. (Eds.). (2000). *How people learn: Brain, mind, experience, and school.* Washington, DC: National Academy Press.

Broh, B. A. (2002). Linking extracurricular programming to academic achievement: Who benefits and why? *Sociology of Education, 75*, 69-96.

Brown, R. (2002). Straddling two worlds: Self-directed comprehension instruction for middle schoolers. In C.C Block & M. Pressley (Eds.), *Comprehension instruction: Research-based best practices* (pp. 337-350). New York: Guilford.

Brown, A.L., & Campione, J.C. (1990). Communities of learning and thinking: Or context by any other name. *Contributions to Human Development, 21,* 108-126.

Brown, A. L., & Campione, J. C. (1994). Guided discovery in a community of learners. In K. McGilly (Ed.). *Classroom lessons: Integrating cognitive theory and classroom practice* (pp. 229-270). Cambridge, MA: MIT Press.

Burke, C., Howard, L., & Evangelou, T. (2003). *Lindamood-ELL Center in a school: Preliminary evaluation report.* San Diego, CA: SANDAG.

Caplan, D. (1995). *The Harvard Mahoney Neuroscience Institute Letter, 4*(4).

Carnine, D. W., Silbert, J., Kameenui, E. J., & Tarver, S. (2004). *Direct instruction reading* (4th ed.). Upper Saddle River, NJ: Prentice Hall.

Carter, R. (1998). *Mapping the mind.* Los Angeles: University of California Press.

Center for the Improvement of Early Reading Achievement (CIERA). (2001). *Put reading first: The research building blocks for teaching children to read.* A joint publication with the National Institute for Literacy, the National Institute of Child Health and Human Development, and the U.S. Department of Education. Jessup, MD: National Institute for Literacy.

Center for the Study of Natural Systems and the Family. Retrieved June 15, 2007, from http://csnsf.org/bowen.htm.

Chall, J. S. (1996). *Stages of reading development.* New York: Harcourt Brace.

Chiu, M., & Khoo, L. (2005). Effects of resources, inequality, and privilege bias on achievement: Country, school and student level analyses. *American Educational Research Journal, 42*(4), 575-603.

Clachman, B. Z. (1991). Phonological awareness: Implications for prereading and in literacy instruction. In S. A. Brady & D. P. Shankweiler (Eds.), *Phonological processes in literacy* (pp. 29-36). Hillsdale, NJ: Erlbaum.

Colangelo, N., Assouline, S.G., & New, J.K. (1999). *Gifted education in rural schools: A national assessment.* Iowa City: University of Iowa Press.

Curtis, M. E., & Longo, A. M. (1999). *When adolescents can't read.* Newton, MA: Brookline Books.

Dale, E. (1965). Vocabulary measurement: Techniques and major findings. *Elementary English, 42,* 895-901.

Dale, E., O'Rourke, J., & Bamman, H. A. (1971). *Technique of teaching vocabulary.* Palo Alto, CA: Field Educational Publications.

D'Amico, J., Matthes, W., Sankar, A., Merchant, B., & Zurita, M. (1996). Young voices from the rural Midwest. *Journal of Research in Rural Education, 12,* 142-149.

Denti, L., & Guerin, G. (2004). Confronting the problem of poor literacy: Recognition and action. *Reading and Writing Quarterly, 20:* 113-122.

Dieker, L. A. (2001). What are the characteristics of "effective" middle and high school co-taught teams for students with disabilities? *Preventing School Failure, 46*(1), 14-23.

Dieker, L.A., & Little, M. (2005). Secondary reading: Not just for reading teachers anymore. *Intervention and School and Clinic, 40*(5), 276-283.

Dole, J. (2000). Explicit and implicit instruction in comprehension. In B. M. Taylor, M. F. Graves, & P. van den Broek (Eds.), *Reading for meaning: Fostering comprehension in middle grades* (pp. 52-69). New York: Teachers College Press.

Duffy, G. (2002). The case for direct explanation of strategies. In C. C. Block & M. Pressley (Eds.), *Comprehension Instruction: Research–based best practices.* (pp. 28-41). New York: Guilford Press.

Duffy, G. G., Roehler, L. R., Sivan, E., Rackliffe, G., Book, C., Meloth, M., Varus, L., Weselman, R., Putnam, J., & Basiri, D. (1987). The effects of explaining the reasoning associated with using reading strategies. *Reading Research Quarterly, 16*, 403-411.

Duke, N., & Pearson, P. D. (2002). Effective practices for developing reading comprehension. In A. E. Farstrup & S. J. Samuels (Eds.), *What research has to say about reading instruction* (3rd ed., pp. 205-242). Newark, DE: International Reading Association.

Ehri, L. A. (2004). Teaching phonemic awareness and phonics: An explanation of the National Reading Panel meta-analyses. In P. McCardle & V. Chhabra (Eds.), *The voice of evidence in reading research.* (pp. 152-186). Baltimore: Brookes Publishing.

Eimas, P. D., Siqueland, E. R., Jusczyk, P., & Vigorito, J. (1971). Speech perception in infants. *Science, 171*, 303-306.

Eliot, L. (1999). *What's going on in there?* New York: Bantam Books.

Ellis, E. (2001). *Makes sense strategies: Framing for success* [On-line]. Available: http://www.ldonline.org/ld_store/masterminds.html.

Epstein, J. L., & Sheldon, S. B. (2002). Present and accounted for: Improving student attendance through family and community involvement. *The Journal of Educational Research, 95*(5), 308-318.

Fan, X. & Chen, M. J. (1999). Academic achievement of rural school students: A multi-year comparison with their peers in suburban and urban schools. *Journal of Research in Rural Education, 15*, 31-46.

Feldman, K., & Kinsella, K. (2005). *Narrowing the language gap: The case for explicit vocabulary instruction.* Scholastic Professional Paper. Retrieved May 2, 2006, from www.fcoe.net/ela/pdf/Narrowing%20Vocab%20Gap%KK%20KF%201.pdf.

Fielding, L., Kerr, N., & Rosier, P. (2004). *Delivering on the promise of the 95% reading and math goals.* Kennewick, WA: The New Foundation Press.

Fisher, D. (2001). “We’re moving on up”: Creating a school-wide literacy effort in an urban high school. *Journal of Adolescent & Adult Literacy, 45*(2), 92-101.

Fowler, W.J., Jr., & Walberg, H.J. (1991). School size, characteristics, and outcomes. *Educational Evaluation and Policy Analysis, 13,* 189-202.

Francis, D. J., Shaywitz, S. E., Stuebing, K. K., Shaywitz, B. A., & Fletcher, J.M. (1994). The measurement of change: Assessing behavior over time and within a developmental context. In G. R. Lyon (Ed.), *Frames of reference for the assessment of learning disabilities: New views on measurement issues,* 29-58. Baltimore: Paul H. Brookes.

Friedman Foundation. (2006). *About school choice: The state of United States public schools.* Retrieved from www.friedmanfoundation.org/schoolchoice/state of schools.html.

Fuchs, D., & Fuchs, L. S. (1998). Researchers and teachers working together to adapt instruction for diverse learners. *Learning Disabilities Research and Practice, 13*, 126-137.

Fullan, M. G. (2001). *Leading in a culture of change.* San Francisco: Jossey-Bass.

Gandara, P., Gutierrez, D., & O'Hara, S. (2001). Planning for the future in rural and urban high schools. *Journal of Education for Students Placed at Risk, 6*(1-2), 73-93.

Gaskins, I. W., & Elliot, T. T. (1991). *Implementing cognitive strategy instruction across the school: The Benchmark manual for teachers.* Cambridge, MA: Brookline.

Gazzangia, M. (1998). *The mind's past.* Berkeley, CA: University of California Press.

Gibbs, R. (2005). Education as a rural development strategy. *Amber Waves: Economic Research Service/USDA, 3*(5), 20-25.

Goldman, S. R., & Rakestraw, J. A. (2000). Structural aspects of constructing meaning from text. In M. L. Kamil, P. B. Mosenthal, P. D. Pearson, & R. Barr (Eds.), *Handbook of reading research, Vol. 3* (pp. 311-335). Mahwah, NJ: Erlbaum.

Grandgenett, N. F., Lloyd, C. V., & Hill, J. W. (1991). The effect of computer use on the process writing of learning disabled students. *Journal of Computing in Childhood, 2,* 63-71.

Grandgenett, N. F., Hill, J. W., & Lloyd, C. V. (1995). Connecting reasoning and writing in student "how to" manuals. In the *1995 National Council of Teachers of Mathematics Yearbook: Connecting Mathematics Across the Curriculum.* NCTM; Reston: VA.

Graves, M. F., Juel, C., & Graves, B. B. (2004). *Teaching reading in the 21st century* (3rd ed.). Boston: Allyn & Bacon.

Greene, J., & Winters, M. (2005). *Public high school graduation and college readiness rates: 1991-2002.* New York: Manhattan Institute for Policy Research, Education Working Paper No. 8.

Haller, E. J., & Virkler, S. J. (1993). Another look at rural-nonrural differences in students' educational aspirations. *Journal of Research in Rural Education, 9,* 170-178.

Hasbrouck, C. R., Ihnot, C., & Rogers, G. (1999). Read Naturally: A strategy to increase oral reading fluency. *Reading Research Instruction, 39*(1), 27-37.

Healy, J. (1987). *Your child's growing mind: A guide to learning and brain development from birth to adolescence.* New York: Doubleday.

Honig, B. (2001). *Teaching our children to read.* Thousand Oaks, CA: Corwin Press.

Hyerle, D. (2004). *Student success with thinking maps.* Thousand Oaks, CA: Corwin Press.

Individuals with Disabilities Education Act of 1990, 20 U.S.C. § 1400 *et seq.* (amended 1997).

Irvin, J. L. (1998). *Reading and the middle school student: Strategies to enhance literacy.* Boston: Allyn & Bacon.

Jago, C. (2000). *With rigor for all: Teaching the classics to contemporary students.* Portland, ME: Calendar Islands.

Jetton, T. L., & Alexander, P. A. (2005). Domains, teaching, and literacy. In T. L. Jetton & J. A. Dole, (Eds.) *Adolescent literacy research and practice* (pp. 15-39). New York: Guilford.

Johnston, R. C. (2005, October 26). States urged to focus on adolescent literacy. *Education Week*, 32.

Joseph, L. M. (2002a). Facilitating word recognition and spelling using word boxes and word sort phonic procedures. *School Psychology Review, 31*, 122-129.

Joseph, L. M. (2002b). Helping children link sound to print: Phonic procedures for small-group and whole-class settings. *Intervention in School and Clinic, 37*, 217-221.

Kamil, M. L. (2003). *Adolescents and literacy: Reading for the 21st century.* Washington, D.C.: Alliance for Excellent Education.

King, A. (1994). Guiding knowledge construction in the classroom: Effects of teaching children how to question and how to explain. *American Educational Research Journal, 31*, 338-368.

King, A. (1997). ASK to THINK-TELL-WHY: A model for transactive peer tutoring for scaffolding higher level complex learning. *Educational Psychologist, 32,* 221-235.

Klinger, J. K., Vaughn, S., & Schumm, J. S. (1998). Collaborative strategic reading during social studies in hetrogeneous 4th-grade classrooms. *Elementary School Journal, (99)*,3-22.

Kohl, H. (1991). *I won't learn from you*. Minneapolis, MN: Milkweed Editions. Thistle Series.

Kuhn, M. R., & Stahl, S. A. (2003). Fluency: A review of developmental and remedial practices. *Journal of Educational Psychology, 95*(1), 3-21.

Kuhl, P., Williams, K., Lacerda, F., Stevens, K., & Lindblom, B. (1992). Linguistic experience alters phonetic perception in infants by 6 months of age. *Science, 255,* 606-608.

Langer, J. A. (2001). Beating the odds: Teaching middle and high school students to read and write well. *American Education Research Journal, 38,* 837-880.

Larsen, E. (1993). *A survey of the current status of rural education research (1986-1993).* ED 366482.

Lazarus, S. (2005). Preparing educators to teach students in rural schools. *The role of Education: Promoting the economic and social vitality of rural America, Southern Rural Development Center, Publication #235,* 56-63.

Lee, J. (1998). State policy correlates of the achievement gap among racial and social groups. *Studies in Educational Evaluation, 24,* 137-152.

Lee, V., Bryk, A., & Smith, J. (1993). The organization of effective secondary schools. *Review of Research in Education, 19,* 171-267.

Learner, J. W. (1997). *Learning Disabilities* (7th ed.). Boston: Houghton Mifflin Co.

Loeber, R., & Dishion, T. (1983). Early predictors of male delinquency: A review. *Psychological Bulletin, 94*(1), 68-99.

Lyon, G. R. (1995). Towards a definition of dyslexia. *Annals of Dyslexia, 45,* 3-27.

Marsh, H. W., & Kleitman, S. (2002). Extracurricular activities: The good, the bad, and the nonlinear. *Harvard Educational Review, 72*, 464-512.

Marzano, R. J. (1992). *Teacher's manual: Dimensions of earning.* City, VA: ASCD.

Mayer, S. (2001). *How economic segregation affects children's educational attainment.* Joint Center for Poverty Research. University of Chicago.

McEwan, E. K. (2001). *Raising reading achievement in middle and high schools: 5 simple to-follow strategies for principals.* Thousand Oaks, CA: Corwin Press.

McEwan, E. K. (2002). *Teach them all to read: Catching the kids who fall through the cracks.* Thousand Oaks, CA: Corwin Press.

McEwan, E. K. (2004). *7 Strategies of highly effective readers: Using cognitive research to boost K-8 achievement.* Thousand Oaks, CA: Corwin Press.

McEwan, E. K. (2006). *How to survive and thrive in the first three weeks of school*. Thousand Oaks, CA: Corwin Press.

McEwan, E. K. (2007). *Raising reading achievement in middle and high schools: 5 simple to-follow strategies for principals* (2nd ed.). Thousand Oaks, CA: Corwin Press.

McGill-Franzen, A. (2000). Policy and instruction: What is the relationship? In M. Kamil, P. Mosenthal, P. Pearson, & R. Barr (Eds.), *Handbook of Reading Research, Vol. III, 889-908.* Mahwah, NJ: Lawrence Erlbaum Associates.

McGranahan, D. A. (1994, April). *Rural America in the global economy: Recent socioeconomic trends.* Paper presented at the annual meeting of the American Educational Research Associates, New Orleans, LA.

Moats, L. (2001). When older students can't read. *Educational Leadership, 58*(6), 36-46.

Moats, L. (2004). Module 4: The mighty word: Building vocabulary and oral language. In *Language essentials for teachers of reading and spelling (LETRS).* Longmont, CO: Sopris West.

Moats, L. C., Furry, A. R., & Brownell, N. (1998). *Learning to read: Components of beginning reading instruction, K-8*. Sacramento County Office of Education.

Moore, D.W., Bean, T.W., Birdyshaw, D., & Rycik, J.A. (1999). Adolescent literacy: A position statement. *Journal of Adolescent and Adult Literacy, 43*(2), 97-112.

Murray, J. D., & Keller, P. A. (1991). Psychology and rural America: Current status and future directions. *American Psychologist, 46,* 220-231.

National Association for Elementary School Principals, (2001). Here, Here. *Communicator, 25*(4), 1.

National Center for Education Statistics. (2001). What's rural? Retrieved February 22, 2001, from http//:nces.ed.gov/surveys/ruraled/definitions.asp.

National Governors Association. (2005). *Reading to achieve: A governor's guide to adolescent literacy.* Washington, DC: Author. Alexandria, VA: National Association of State Boards of Education.

National Institute of Child Health and Human Development (NCHID). (2000). *Report of the National Reading Panel: Teaching children to read: An evidenced-based assessment of the scientific research literature on reading and its implications for reading instruction: Reports of the subgroups* (NIH Publication No. 00-4754). Washington, D.C.: U.S. Government Printing Office.

National Center for Education Statistics. (2005). *Average reading scale score, by age and selected student and school characteristics: Selected years, 1971 through 2004.* Retrieved June 3, 2007, from http://nces.ed.gov/programs/digest/d05/tables/dt05_108.asp

National Center for Education Statistics. (2004). *Concentration by race/ethnicity and poverty. The condition of education 2004.* Retrieved January 21, 2004, from http://nces.ed/gov/programs/coe/2004/section1/indicato05.asp

National Reading Panel. (2000). *Report of the National Reading Panel: Teaching children to read: An evidenced-based assessment of the scientific research literature on reading and its implications for reading instruction:* National Institute of Child Health and Human Development (NIH Pub. No.00-4769). Washington D.C.: NICHD.

Neufeld, P. (2005). Comprehension instruction in content area classes. *The Reading Teacher, 59,* 302-312.

No Child Left Behind Act of 2001, 20 U.S.C. 70 § 6301 *et seq.* (2002).

No Child Left Behind Act. (2002, January 8). Public Law 107-110 115 Stat.1425 H.R. 1. Retrieved April 21, 2006, from www.ed.gov/nclb/landing.html.

Palincsar, A. S., & Brown, A. L. (1986). Interactive teaching to promote independent learning from text. *The Reading Teacher, 39*(8), 771-777.

Pearson, P. D., & Dole, J. A. (1987). Explicit comprehension instruction: A review of research and a new conceptualization of instruction. *Elementary School Journal, 88*, 151-165.

Pearson, P. D., & Fielding, L. (1991). Comprehension instruction. In R. Barr, M. L. Kamil, P. Mosenthal, & P. D. Pearson (Eds.), *Handbook of reading research* Vol. 2, (pp. 815-860). White Plains, HY: Longman.

Petty, W., Herold, C., & Stoll, E. (1967). *The state of knowledge about the teaching of vocabulary.* Champaign, IL: National Council of Teachers of English.

Pressley, M. (1998). *Reading instruction that works: The case for balanced teaching.* New York: Guilford Press.

Pressley, M. (2000). What should reading comprehension instruction be the instruction of? In M. Kamil, P. Mosenthal, P. D. Pearson, & R. Barr (Eds.), *Handbook of Reading Research : Volume III.* (pp. 545-561). Mahwah, NJ: Erlbaum.

Pressley, M. (2002). *Reading instruction that works: The case for balanced teaching* (2nd ed.). New York: Gulliford.

Pressley, M. (2002). What should comprehension instruction be the instruction of? In M. Kamil, P. Mosenthal, P. D. Pearson, & R. Barr (Eds.), *Handbook of reading research* Vol. 3, (pp. 546-561). Mahwah, NJ: Erlbaum.

Pressley, M. (2004). The need for research on secondary literacy education. In T. L. Jetton & J. A. Dole (Eds.), *Adolescent literacy research and practice,* (pp. 415-432). New York: Guilford.

Pressley, M., & Afflerbach, P. (1995). *Verbal protocols of reading: The nature of constructively responsive reading.* Hillsdale, NJ: Erlbaum.

Pressley, M., Burkell, J., Cariglia-Bull, T., Lysynchuk, L., McGoldrick, J. A., Schneider, B., Snyder, B., Symons, S., & Woloshyn, V. E. (1990). *Cognitive instructional strategies that really work.* Cambridge, MA: Brookline.

Pressley, M., Gaskins, I. W., Solic, K., & Collins, S. (2005). *A portrait of Benchmark School: How a school produces high achievement in students who previously failed.* East Lansing, MI: Literacy Achievement Research Center, Michigan State University.

Pressley, M., Wharton-McDonald, R., Mistretta-Hampston, J. M., & Echevarria, M. (1998). The nature of literacy instruction in ten grade 4/5 classrooms in upstate New York. *Scientific Studies of Reading, 2*, 159-194.

Pugach, M. C., & Johnson, L. J. (2002). *Collaborative practitioners: Collaborative schools.* Denver, CO: Love.

Rasinski, T. V., & Hoffman, J. (2003). *The fluent reader: Oral reading strategies for building word recognition, fluency, and comprehension.* Jefferson City, MO: Scholastic Professional Books.

Roscigno, V. L., & Crowley, M. L. (2001). Rurality, institutional disadvantaged, and achievement/ attainment. *Rural Sociology, 66*(2),268-293.

Rosenshine, B., & Meister, C. (1994). Reciprocol teaching: A review of nineteen experimental studies. *Review of Educational Research, 64*(4), 479-530.

Rosenshine, B., Meister, C., & Chapman, S. (1996). Teaching students to generate questions: A review of the intervention studies, *Review of Educational Research, 66*, 181-221.

Sadowski, M., & Willson, V. L. (2006). Effects of a theoretically-based large scale reading intervention in a multicultural urban school district. *American Educational Research Journal, 43*(1), 137-154.

Salvia, J., & Ysseldyke, J. E. (2004). *Assessment in special and inclusive education: Ninth edition.* New York, NY: Houghton Mifflin Company.

Santa, C. M. (1986). Content reading in secondary school. In L. Orasanu (Ed.), *Reading comprehension: From research to practice* (pp. 303-317). Hillsdale, NJ: Lawrence Erlbaum.

Scarborough, H. S. (1989). Prediction of reading disability from familial and individual differences. *Journal of Educational Psychology, 81*(1), 101-108.

Schellings, G. L. M., & van Hout-Wolters, B. H. A. M. (1995). Main points in an instructional text, as identified by students and their teachers. *Reading Research Quarterly, 30,* 742-756.

Schoenbach, R., Greenleaf, C. Cziko, C., & Hurwitz. (1999). *Reading for understanding*. San Francisco: Jossey-Bass.

Shaywitz, S. (2003). *Overcoming dyslexia: A new and complete science-based program for reading problems at any level.* New York: Alfred A Knopf.

Sherman, A. (1992). *Falling by the wayside: Children in rural America.* Washington D.C.: Children's Defense Fund.

Shin, N. (2004) Exploring pathways from television viewing to academic achievement in school age children. *The Journal of Genetic Psychology, 165*, 367-382.

Shinn, M., Good, R. H., Knutson, N., Tilly, W. D., & Collins, V. (1992). Curriculum based measurement of oral reading fluency: A confirmatory analysis of its relation to reading. *School Psychology Review, 21*(3), 459-479.

Slavin, R. E. (1987). Grouping for instruction in the elementary classroom. *Educational Psychologist, 22,* 109-127.

Smagorinsky, P. (2001). If meaning is constructed. What's it made from? Toward a culture theory of reading. *Review of Educational Research, 71*, 133-169.

Snow, C. E., Burns, M. S., & Griffin, P. (1998). *Preventing reading difficulties in young children.* Washington, DC: National Academy Press.

Snyder, T., Hoffman, C., & Geddes, C. (1996). *Digest of Education Statistics 1996.* Washington D.C.: National Center for Education Statistics. NCES 96-133.

Snyder, B., & Pressley, M. (1995). Introduction to cognitive strategy instruction. In M. Pressley & V. Woloshyn (eds.), *Cognitive strategy instruction that really improves children's academic performance* (pp. 1-18). Cambridge: Brookline Books.

Snyder, H. N., & Sickmund, M. (1999). *Juvenile offenders and victims: 1999 national report.* Washington, D.C.: Office of Juvenile Justice and Delinquency Prevention.

Spector, J. E. (1995). Phonemic awareness training: Application of principles of direct instruction. *Reading & Writing Quarterly: Overcoming Learning Difficulties, 11,* 37-51.

Stahl, S. A. (2004). What do we know about fluency? The findings of the National Reading Panel. In P. McCardle & V. Chhabra (Eds.), *The voice of evidence in reading research.* (pp. 187-211). New York: Brookes Publishing.

Stephens, L. J., & Schaben, L. A. (2002). The effect of interscholastic sports participation on academic achievement of middle level school activities. *National Association of Secondary School Principals Bulletin, 86*, 34-42.

Stern, J.D. (Ed.). (1994). *The condition of education in rural schools.* Washington D.C.: United States Department of Education, Office of Educational Research and Improvement.

Stuart, M., Masterson, J., & Dixon, M. (2000). Sponge-like acquisition of sight vocabulary in beginning readers? *Journal of Research in Reading*, 23, 12-27.

Swanson, H. L. (1999). Instructional components that predict treatment outcomes for students with learning disabilities: Support for a combined strategy and direct instruction model. *Learning Disabilities Research, 14*, 129-140.

Taylor, J. (2005). Poverty and student achievement. Multicultural Education, *12*(4), 53-55.

Torgesen, J. K., Alexander, A. W., Wagner, R. K., Rashotte, C. A., Voeller, K., Conway, T., & Rose, E. (2001). Intensive remedial instruction for children with severe reading disabilities: Immediate and long-term outcomes from two instructional approaches. *Journal of Learning Disabilities, 34*, 33-58.

Torgesen, J. K. (1993). Variations of theory in learning disability. In G. R. Lyon, D. B. Gray, J. E. Kavanagh, & N. A. Krasnegor (Eds.), *Better understanding of learning disabilities: New views from research and their implications for education and public policies* (pp. 153-170). Baltimore: Brookes Publishing.

Trabasso, T., & Bouchard, E. (2000). *Text comprehension instruction. Report of the National Reading Panel, Report of the Subgroups* (pp. 39-69). NICHD Clearinghouse.

Trabasso, T., & Bouchard, E. (2002). Teaching readers how to comprehend text strategically. In C. C. Block & M. Pressley (Eds.), *Comprehension instruction: Research-based best practices* (pp. 176-200). New York: Guilford.

U.S. Department of Education, (2002). Meeting the highly qualified teachers challenge. *The secretary's annual report on teacher quality.* Washington, D.C.: Office of Postsecondary Education, Office of Policy Planning and Innovation. Retrieved August 21, 2002, from http://www.title2.org/SecReptHTML/index.html.

U.S. Department of Education. Institute of Education Sciences (2003). *The nation's report card: Reading 2002.* NCES 2003-521 by W. S. Grigg, M. C. Doane, Y. Jin, & J. R. Campbell. Washington D.C.: Author.

U.S. Department of Education, National Center for Education Statistics. (2004). *The condition of education 2004* (NCES 2004-077). Washington, D.C.: U.S. Government Printing Office.

U.S. Department of Education, National Center for Education Statistics. (2005). *Average reading scale score, by age and selected student and school characteristics: Selected years, 1971 through 2004.* Retrieved June 3, 2007, from http://nces.ed.gov/programs/digest/d05/tables/dt05_108.asp.

U.S. Department of Education, National Center for Education Statistics. (2005). *Percentage of high school sophomores who say they engage in various activities, by selected student and school characteristics: 1990 and 2002.* Retrieved June 3, 2007, from http://nces.ed.gov/programs/digest/d05/tables/dt05_137.asp.

U.S. Department of Education. Office of Educational Research and Improvement. National Center for Education Statistics. (2000). *NAEP 1999 trends in academic progress: Three decades of student performance.* NCES 2000-460, by J. R. Campbell, C. Hombo, & J. Mazzeo. Washington D.C.:Author.

Vacca, R. T., & Vacca, J. L. (1999). *Content area reading: Literacy and learning across the curriculum* (6th ed.). New York: Longman.

Valencia, S. W., & K. K. Wixson, (2000). Policy-oriented research on literacy standards and assessment. In M. Kamil, P. Mosenthal, P. Pearson, & R. Barr (Eds.), *Handbook of Reading Research*, Vol. III, (909-935). Mahwah, NJ: Lawrence Erlbaum Associates.

Van den Broek, P., & Kremer, K.E. (2000). The mind in action: What it means to comprehend during reading. In B. M. Taylor, M. F. Graves, & P. van den Broek (Eds.), *Reading for meaning: Fostering comprehension in the middle grades,* (pp. 1-25). New York: Teachers College Press.

Wade, S., Woodrow, T., & Schraw, G. (1990). An analysis of spontaneous study strategies. *Reading Research Quarterly,* 25, 147-166.

Wagner, R. K., Torgesen, J. K., & Rashotte, C. A. (1994). Development of reading-related phonological processing abilities: New evidence if bidirectional causality from a latent variable longitudinal study. *Developmental Psychology, 30*(1), 73-87.

Wilkinson, L. C., & Silliman, E. R. (2000). Classroom language and literacy learning. In M. L. Kamil, P. B. Mosenthal, P. D. Pearson, & R. Barr (Eds.), *Handbook of reading research, Vol. 3* (pp. 337-360). Mahwah, NJ: Erlbaum.

Wise, B. W., Ring, J., & Olson, R. K. (1999). Training phonological awareness with and without explicit attention to articulation. *Journal of Experimental Child Psychology, 72,* 271-304.

Wittrock, M. C. (1998). Cognition and subject matter learning. In N. M. Lambert & B. L. McCombs (Eds.). *How students learn: Reforming schools through learner-centered education* (pp. 1430152). Washington, DC: American Psychological Association.

Wolfe, P., & Nevills, P. (2004). *Building the reading brain, PreK-3.* Thousand Oaks, CA: Corwin Press.

Woods, M., Doeksen, G. A., & St. Clair, C. (2005). Measuring local economic impacts of the education sector. *The role of education: Promoting the economic and social vitality of rural America.* Southern Rural Development Center, Publication *#235*, 16-21.

Worthington, P. (2005, February 19). *Lindamood-Bell Learning Processes: Comprehensive district reform through professional development in reading—Leaving no child behind.* Speech at American Association of School Administrators Conference, San Antonio, TX.

APPENDIX A

School District Letter of Support

ALL SCHOOLS ARE MEMBERS OF THE NORTH CENTRAL ASSOCIATION

NEBRASKA CITY PUBLIC SCHOOLS

Dr. Keith Rohwer, Superintendent

Mark Adler, Principal
High School
141 Steinhart Park Road
873-3360 FAX 873-3831

Jonny Powell, Principal
Middle School
909 1st Corso
873-5591 FAX 873-5641

Central Office
215 North 12th Street
Nebraska City, Nebraska 68410
402 873-6033 FAX 402 873-6030
www.nebcity.esu6.org

Donald E. Loseke
Director of Student Services
402 873-6033

Jason McNeely, Principal
Hayward Elementary
306 S 14th Street
873-6641 FAX 873-6674

Haeven Pedersen, Principal
Northside Elementary
1212 12th Avenue
873-5561 FAX 873-5562

April 9, 2008

Mark L. Adler, Principal
Nebraska City High School
141 Steinhart Park Road
Nebraska City, NE 68410

Dear Mr. Adler:

Your request to conduct your research project, *The Effect of a Rural High School Combination Supplemental Literacy Program on Emerging Readers Achievement, Engagement, and Behavior Outcomes*, within the Nebraska City Public Schools is approved.

I understand that you will be using student achievement data, but you are also using multiple safeguards to protect the identities of our students. All student achievement data will be retrospectively, archival, and routinely collected school information. Non-coded numbers will be used to display individual de-identified achievement data.

Further, I understand that the research will be conducted in the public school setting through normal educational practices. The study procedure will not interfere in any way with the normal educational practices of the public school and will not involve coercion or discomfort of any kind. All data will be analyzed in the office of the Primary Investigator at Nebraska City High School located at 141 Steinhart Park Road, Nebraska City, Nebraska, 68410. Data and computer disks will be kept in a locked storage device for safety. No individual identifiers will be attached to the data.

Again, your research project is approved. Best wishes in your endeavor.

Sincerely,

Keith Rohwer

Keith Rohwer, Ed.D
Superintendent of Schools

An equal opportunity agency

APPENDIX B

IRB Approval Letter

University of Nebraska Medical Center

NEBRASKA'S HEALTH SCIENCE CENTER

Institutional Review Board (IRB)
Office of Regulatory Affairs (ORA)

June 23, 2008

Mark Adler
Ralston Public Schools Central Office
8545 Park Drive
Ralston, NE 68127

IRB#: 299-08-EX

TITLE OF PROTOCOL: The Effect of a Rural High School Combination Supplemental Literacy Program on Emerging Readers' Achievement, Engagement, and Behavior Outcomes

Dear Mr. Adler:

The IRB has reviewed your Exemption Form for *Exempt Educational, Behavioral, and Social Science Research* on the above-titled research project. According to the information provided, this project is exempt under 45 CFR 46:101b, categories 1 & 4. You are therefore authorized to begin the research.

It is understood this project will be conducted in full accordance with all applicable sections of the IRB Guidelines. It is also understood that the IRB will be immediately notified of any proposed changes that may affect the exempt status of your research project.

Please be advised that the IRB has a maximum protocol **approval period of 5 years** from the original date of approval and release. If this study continues beyond the five year approval period, the project must be resubmitted in order to maintain an active approval status.

Sincerely,

Ernest Prentice, PhD/GDK

Ernest D. Prentice, Ph.D.
Co-Chair, IRB

EDP/gdk

Academic and Research Services Building 3000 / 987830 Nebraska Medical Center / Omaha, NE 68198-7830
402-559-6463 / FAX: 402-559-3300 / Email: irbora@unmc.edu / http://www.unmc.edu/irb