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A Summer Literacy Intervention for Struggling Readers at the Middle School Level using Strategies in Comprehension, Fluency, Vocabulary, and Positive School Climate to Improve Reading Comprehension: An Evaluation Study

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by

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May 2010

A Dissertation submitted to the Education Faculty of Lindenwood University
In partial fulfillment of the requirements for the
Degree of

Doctor of Education
School of Education

Declaration of Originality

I do hereby declare and attest to the fact that this is an original study based solely upon my own scholarly work here at Lindenwood University and that I have not submitted it for any other college or university course or degree here or elsewhere.

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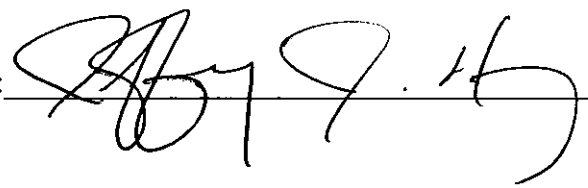
Signature:  Date: 8.19.2010

A Dissertation

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To Robyn, Meghan, and Ben.

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Abstract

A middle school created an intervention called the Summer Literacy Program to increase reading comprehension levels. The middle school believed that by exposing students to fluency, vocabulary, and comprehension strategies in a positive school culture, reading comprehension levels would improve. The program was created due to a high number of students reading below grade level. The purpose of this study is to evaluate the impact of the four-week Summer Literacy Program designed to provide extra interventions for struggling readers. The study is significant because it demonstrated that a four-week summer program can improve reading comprehension levels.

The statistical analysis for the study was the difference between two means: small dependent samples t-test to determine if the increase in mean scores from pre to post test data was statistically significant. The hypothesis was, The implementation of a four-week Summer Literacy Program will significantly increase comprehension levels of the participants when measured by the Scholastic Reading Inventory Test. The main research question was, Was the Summer Literacy Program successful for the participants? Three research sub-questions follow:

1. Was there an overall increase in the reading levels of participants?
2. How did the implementation of the intervention affect subgroups?
3. Did the survey and questionnaire reveal a positive reaction to the culture of the program?

The effect on the culture was measured by a survey given to the participants upon completion of the reading program. Participants rated the components of the program, as well as the effect the intended culture had on reading confidence levels by completing a

Likert Scale survey. The quantitative data were the Lexile scores of the population before the program compared to the Lexile score of the population upon completion of the program.

The results indicated a significant increase in Lexile scores for the population from to pre-test to post-test. Every subgroup, with the exception of one, increased comprehension levels. The survey results showed a majority of participants felt the positive effects of the intended culture on comfort and confidence levels. The success of the program has great implications for future use.

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Chapter I - Introduction

Background of the Problem

Simon and Schuster published a book entitled *Teach Your Child to Read in 100 Easy Lessons* (Bruner, Englemann, & Haddox, 1983). The promised results were amazing. Any young child completing the procedures in this book would be reading at a second grade level. If Simon and Schuster believed it was just this simple to be a better reader, why does society have trouble retaining the information that they read. Numerous accounts, research, and reports, reveal many children and adults struggle with fluency and comprehension. The New York Conference Board concluded that more than 40% of the U.S. workforce, more than 50% of high school graduates, and 16% of college graduates have inadequate fluency and comprehension skills for today's workplace (Bloom & Lafleur, 1999).

Being able to decode, process, and comprehend written material is a vital part of a successful education. Martin, Martin, and Carvalho (2008) cite evidence from Jintera, Edwards, and Starosta, which stated 40% of fourth grade students in the United States are reading below grade level. More than eight million American adolescents cannot read at a basic level (Boiling & Evans, 2008). Pediatrics magazine reported numerous complaints from consumers about child safety-seat instructions being too hard to read. The written instructions were at a tenth grade level (Hager, 2003).

The International Reading Literacy Study determined nine-year-old children in America have not shown an increase in reading ability over a five-year period (Bracey, 2008). Only a small percentage of young adults can use literacy skills, to accomplish

moderately complex tasks (Martinez & McGee, 2000). Scholars and researchers have used this data to address recent concern about children's inability to read at high levels.

The societal concern in America regarding an epidemic in reading competency is nothing new. Criticism of low reading ability was noted in a 1912 article in Ladies Home Journal. The topic came to national prominence during the 1950's in Rudolph Flesch's book *Why Johnny Can't Read* (Bracey, 2008). Flesch believed American schools were teaching reading incorrectly, creating a remedial reading problem and causing students to fall behind (Time Magazine, 1955). The publication of his book struck a national chord and brought reading concerns to national prominence.

As schools began to face scrutiny about reading levels, scholars started to research better methods for the instruction of reading. Cheung, Groff, Lake, and Slavin (2008) found it more effective to change the way instructors teach, as opposed to drastically amending the curriculum. Changing instructional strategies was a major aspect of the Summer Literacy Program. The instructional strategies used during the regular school year did not work, or engage, a certain segment of the school population. However, changing instruction is sometimes not enough. Another way to influence learning is to change the culture of the school. School culture plays an essential role in the ability of students to learn. Therefore, it is necessary for schools to provide an atmosphere for the students to discover for themselves the pleasure of acquiring new knowledge (Renchler, 1992).

When achievement is stagnant, it is necessary for schools to change the overall culture. There is a need for the leaders of today's schools to direct the effort to define that culture. Elbot and Fulton (2008), quote Roland Barth:

> It is difficult to foresee what the schools of the new millenium will look like. Many of our schools seem en route to becoming a hybrid of a nineteenth-century factory, a twentieth-century penal minimum security penal colony, and a twenty-first-century Educational Testing Service. I prefer a different future. If you want to predict the future, create it! This is precisely what school people now have the opportunity-the imperative-to do...There is no more important work. (2008, p. 2)

Statement of the Problem

This "important work" became the premise of the Summer Literacy Program. The program's goal was to provide concrete interventions for struggling readers. The program was developed in an effort to raise the reading levels of students with low comprehension scores. Solid instruction and a positive school culture is necessary for growth. The program, set in a school with low standardized test scores and a 40% free and reduced lunch population, was aimed at providing an atmosphere of success for low readers. Test data collected throughout the 2007-2008 school year revealed over 60% of the total school population scored below grade level when taking the Scholastic Reading Inventory (Scholastic Reading Inventory, 2007). Schmoker (2001) felt complacency is what keeps good schools from becoming great. The school was complacent in gathering data to target the population of struggling readers and lacked the interventions for the low readers. "The real difficulty in changing the course of any enterprise lies not in the developing new ideas but in escaping from the old ones" (Elbot & Fulton, 2008, p. 40).

The creation of the Summer Literacy Program provided additional instruction to students reading below grade level. The creation of the program was a culmination of low reading levels and a directive from the superintendent. In the summer of 2007, over 80

middle school students were required to attend a traditional summer school to rectify failing grades (School Information Systems, 2007). This high number of students required to attend summer school, approximately 23% of the total population, was cause for concern. Through numerous conversations, data analysis, and professional development, the number of students required to attend summer school the following year for failing grades dropped to 16.

The mission of the staff was successful and grades improved in the middle school. Unfortunately, reading levels continued to remain low. According to the results of the Scholastic Reading Inventory (SRI) approximately two-thirds of the school population was reading below grade level (Scholastic Reading Inventory, 2007). This discovery, as well as a directive from the superintendent to keep the number of participants in summer school consistent with the number of participants from the previous summer, led to a decision to create the Summer Literacy Program.

The SRI data was analyzed and it was determined that any student reading two grade levels or more below their current grade would be required to attend the Summer Literacy Program. For example, a sixth grade student scoring at a fourth grade reading level or below would be required to attend. The administration notified the entire student population in March of the new requirements. The middle school allowed the students to take and retake the SRI test between March and the completion of the school year. If individual scores were not within two grade levels of the current grade by the last day of school, the student was required to attend the Summer Literacy Program.

The requirements introduced in March had an increasing effect on the overall reading levels of the student population. The accountability of reading levels brought to

the forefront a major problem in the approach of some students toward testing. Some students who initially scored low had not attempted the assessment seriously. Those "non-serious" low scores previously appeared as low reading ability. This new set of requirements provided the staff with a separation tool. No longer did the data show two-thirds of the school reading below grade level. The data now separated students who were capable, but not providing a full effort from those students who truly needed help. The staff defined capable students as those who, when retested, were able to score within the acceptable grade level range. With the identification of appropriate students, implementation of an intervention could begin.

Raising the reading levels of struggling students was the nexus of the Summer Literacy Program. The Summer Literacy Program staff was given a directive for creation of the program with two requirements. The first requirement was the culture must be positive and nurturing, and the second was to research and implement best practice strategies in the area of vocabulary, fluency, and comprehension.

Purpose of the Study

The purpose of this study is to evaluate the impact of the four-week Summer Literacy Program in the areas of reading comprehension and participant confidence levels. The Scholastic Reading Inventory was the measurement tool used to provide pre-test and post-test Lexile level data of participants. The Lexile levels are the quantitative data used in the study. A Likert style survey measured participant perception of school culture as well as the confidence levels of participants. The survey data is quantitative as well. The questionnaire with open-ended questions provided qualitative data in regards to confidence levels and perceived success of the program.

Research Question and Sub-Questions

The main research question was, Was the Summer Literacy Program successful for the participants? The statistical analysis portion of the study will use the Difference between two means: small dependent samples t-test to determine if the increase in mean scores from pre-test to post-test data was statistically significant. This analysis will address the hypothesis. The research sub-questions will explore what factors led to the positive reaction and how successful was the program. The three research sub-questions follow:

1. Was there an overall increase in the reading levels of participants?
2. How did the implementation of the intervention affect subgroups?
3. Did the survey and questionnaire reveal a positive reaction to the culture of the program?

Hypothesis

The implementation of a four-week Summer Literacy Program will significantly increase comprehension levels of the participants indicated by Lexile scores when measured by the Scholastic Reading Inventory Test.

Null Hypothesis

The implementation of a four-week Summer Literacy Program will not significantly increase comprehension levels of the participants indicated by Lexile scores when measured by the Scholastic Reading Inventory Test.

Definitions of Terms and Symbols

- Best Practices - Recent term used to describe a research based, or scientifically based methods of teaching.
- Comprehension - The capacity to understand a written text. The ability of a person to understand text or content when reading.
- Decoding - Using skills and strategies to decipher a word into comprehendible information. Used mostly with words not in the readers vocabulary.
- Department of Elementary and Secondary Education (DESE) - This department is the governing body for public schools in the state of Missouri. This department sets educational policy, standards, and expectations.
- Fluency - The ability to write and speak easily without having to focus energy on decoding.
- Free or Reduced Lunch Recipient - A student qualifies to receive their breakfast and lunch to be paid for by a federal program to ensure all students are receiving adequate nutrition. The federal program pays for all (free) or a discounted price (reduced) in ensure the student has the opportunity for a meal.
- Individual Education Plan - An educational support provided to students diagnosed with a learning disability, emotional disability, or other health impairment. The plan provides separate interventions for the students to better assist with their education. It is a legal document enforced by federal law.
- Intervention - In the field of education an intervention is any extra assistance given to a student to learn the material. An intervention can be extended time on an assignment, individual or small group tutoring, or a modified assignment.

- Lexile Level - A scoring system that designates a child's reading level range based on comprehension and fluency test. The score corresponds to a grade level.
- Literacy - The ability to read and write at levels to adequately participate in communication
- No Child Left Behind (NCLB) - A federal law enacted by Congress in 2001stating that all students will be proficient in Math and Communication Arts, reading included, by 2014. Increasing standards are set each year and schools must show Adequate Yearly Progress (AYP) to meet these standards.
- Phonetic Awareness - Teaching children to break apart and manipulate the sounds in words.
- Phonics - Teaching sounds are represented by letters that blend to form words. This method is one of the two major beliefs in teaching children to read. The blending of letters to form sounds leads to the blending of sounds to form words. The belief is if a child has the strategies to sound out words, no word will be unreadable.
- Student Reading Inventory (SRI) - computerized reading test produced by Scholastic Incorporated which measures reading levels based on Lexile scores by asking a series of comprehension and vocabulary questions.
- Vocabulary - The words that comprise a language. In reference to reading and the Summer Literacy Program, vocabulary refers to common words students would need to know to comprehend a text. One such strategy was a focus on high frequency words and their meaning.

Limitations of the Study

While Lexile scores were easy to gather and analyze, there were some limitations to the study. The research and information gathered provides data to measure reading comprehension levels. SRI scores and Lexile Levels were easily calculated and analyzed. A very important aspect of the research was to assess the change in culture perceived by the students. One limitation of the study is not all students completed the survey. A larger sample size would have been more beneficial. The culture of the Summer Literacy Program was measured using surveys of participants and analyzed for positive and negative responses.

Another limitation of the study was the amount of time for the intervention. The duration of the Summer Literacy Program was 20 days. This limit on time was due to state and district requirements. The state requires high school students must attend 120 hours of class time in order to receive credit for a high school course. The district based summer school for the entire district based on the required hours for high school credit. Given the limit of four weeks, the staff still felt the intervention was necessary and productive.

The staff understood the need for more time on task for the students who were reading below grade level. Education Secretary Arne Duncan argued that students in America are at a competitive disadvantage with the shorter school year. Duncan believed that where students have longer school years, it makes a difference in their ability to achieve (Silverman, 2009). The Summer Literacy provided 20 days of extra intervention for the students who need it the most.

With the exception of salaries, funding for the program was non-existent. The money was not in the budget to purchase a pre-packaged reading program, so the principal and the staff created a program that is outlined in Chapter III. Instructional supplies were limited to what the school already owned. While the lack of new resources was a limitation, the creation of the program provided ownership and familiarity of the program for the staff.

The staff deserves major recognition for the development of the Summer Literacy Program. Not once did the staff complain about a lack of money or supplies. The spirit of the teachers was one that was truly in the best of interest of the students. Once the initial conversation was had that no money was allocated for supplies, the topic was never broached again. The staff dove in with what they had and what they could get. They believed every student could learn and it was their job to ensure it happened, money or no money.

The Summer Literacy Program was a new program with no data or tradition to reference. Some students and parents were skeptical of the new program. The school received several phone calls from parents of students with passing grades. The requirement for their child to attend summer school was unacceptable. Some parents had a difficult time accepting their child had a low reading comprehension level. The parents blamed the school and the teachers. They also questioned how their child could be passing all classes yet have a low reading level. The biggest misconception was that the school would retain their child if reading comprehension levels did not improve. It was difficult to convince students and parents that even though their child had passing grades, this program would be beneficial and attendance was required. Many parents, after

speaking with the principal and understanding the deficiencies of the child, the benefits of the program, and allowed retention fears to subside, were supportive and excited for their child to attend.

The summer floods of 2008 wreaked havoc on the area in which the school is located. The flood directly or indirectly affected every student in the program. The flood had a dominant presence the last five days of the Summer Literacy Program due to evacuation and sandbagging efforts. It is not possible to measure the mental and physical effect the natural disaster had on the adolescent student population.

The outside limitations for the Summer Literacy Program were a factor. The lack of tradition for the program and supporting data for achievement was difficult to address and retention fears loomed in the minds of some parents. These limitations were controllable, and through good communication, addressed in the realm of school. The flood however, was a natural disaster that affected many. The limitations were overcome and the Summer Literacy Program was implemented without a glitch.

Summary

The ability to read and comprehend effectively has been a challenge in education for some time. The purpose of this study was to determine if a Summer Literacy Program was successful in increasing participant comprehension levels as well as implementing a positive change in culture.

The main purpose of the Summer Literacy Program was to increase reading comprehension ability and Lexile levels of the participants as well as create an environment of success and confidence. The Literature Review in Chapter II outlines the research used to create the Summer Literacy Program.

The staff researched both federal and state policy pertaining to accepted and expected reading levels of school age children. The recommendations of the policies determine the components of the Summer Literacy Program. Researching literature on the No Child Left Behind Act provided a the basis for the areas of fluency, vocabulary and comprehension while reviewing the Missouri Department of Elementary and Secondary Education helped in determining which students would attend.

Chapter II – Literature Review

Karl Alexander, a sociology professor from John Hopkins University, stated poorer students need more time for enrichment programs. Schools should provide extra interventions for those students over the summer months (Durando, 2009). Over 50% of the participants qualified to receive Free or Reduced lunch and 100% of the participants read below grade level. The participants in this study needed extended exposure to good instruction. This study is the analysis of a middle school intervention for the segment of the student population reading below grade level. This was a program to raise reading levels and incorporate the use of best practice reading strategies. Just as important as reading strategies was the culture of the Summer Literacy Program. "A school's culture has far more influence on life and learning in the schoolhouse than the state department of education, the superintendent, the school board or even the principal can ever have" (Elbot & Fulton, 2008, p. 3).

The student population participating in the program was at-risk. This group was at-risk because they were not engaged in their education and lacked the ability to read at an acceptable level.

> Students who are at risk due to poverty, race, ethnicity, language, or other factors are rarely well served by their schools. They often attend schools where they are tracked into substandard courses and programs holding low expectations for learning. If schools are to achieve the desired goal of success for all students, they must hold high expectations for all, especially this growing segment of learners. They must view these students as having strengths, not "deficits," and adopt

> programs and practices that help all students to achieve their true potential. (Costello, Hollifield, & Stinnette, 1996, p. np)

The above quote is a good summary for the program.

Too often schools group, retain, or label students based on ability. These labels removed students from their regular classrooms and removed them from the learning process, causing disengagement. This disengagement is what caused this population of students to regress in their ability to read at grade level. The focus on student abilities, backgrounds and interests, should be the driving factor in their education and a major component of the school (Costello, Hollifield, & Stinnette, 1996).

A desire to find the ability, background, and interest of a student must become part of the culture. School culture needs improvement as well as the quality of inter-personal relationships and the nature and quality of learning experiences (Elbot & Fulton, 2008). When this happens, school culture is an effective tool. The implementation of an effective culture becomes almost a curriculum in and of itself. The conversations and direction of the staff to implement positive, nurturing, individualized, yet challenging reactions had to become second nature.

The staff's goal was to improve the reading skills of each student by implementing the best and latest strategies in fluency, vocabulary, and comprehension. These strategies are what follow the learning of phonics and phonemic awareness. Phonics is the actual combinations of those sounds. Phonemic awareness is the understanding that sounds make up words. Phonemic awareness and phonics are pre-reading skills (Carbo, 2007).

This chapter provides a comprehensive rationale for the foundation of the Summer Literacy Program. The topics explored in this chapter are state and federal policy, the Scholastic Reading Inventory, the effects of a positive school culture on student achievement, and instructional strategies in the area of reading comprehension, fluency, and vocabulary. The literature will begin with a review of federal and state policies, as well as the reading programs created by those policies. While the state requires districts to measure reading levels, policy allows local school districts to decide the assessment to measure those reading levels. The Scholastic Reading Inventory is a computer-based program accepted by the district and used by the Summer Literacy Program. Research on the topics of school culture, fluency, vocabulary, and comprehension will comprise the remainder of Chapter II.

No Child Left Behind

Not long after President George Bush took office in 2001, he made his position on education reform clear: "These reforms express my deep belief in our public schools and their mission to build the mind and character of every child, from every background, in every part of America" (United States Department of Education, 2002, p. 1)." The quote by the President references the No Child Left Behind Act (NCLB). President Bush had brought education and school accountability for every student to the forefront of America (United States Department of Education).

No Child Left Behind was the reauthorization of the Elementary and Secondary Education Act and brought significant change to schools (Learning Point Associates, 2007). The passage of No Child Left Behind called for a shift in the focus from a right to education to the accountability for the actual quality of that education (Foorman &

Nixon, 2006). That accountability included standards and goals to measure how total school populations, and subgroups of that population, were scoring on standardized tests (Azzam, 2007).

While No Child Left Behind states all students will be proficient in reading by the year 2014, the focus of the reading programs created by No Child Left Behind emphasize pre-K through third grades. The creation of the No Child Left Behind programs is significant but does not represent equality for all students at all levels to receive interventions. No Child Left Behind policy requires only one reading assessment to take place in the grade span of third through fifth, sixth through ninth, and 10^{th} through 12^{th}. Of the six reading programs emphasized by No Child Left Behind, only one of those programs is specifically for middle and high school (Learning Point Associates, 2007).

Early Reading First and Reading First are programs of No Child Left Behind that support early adolescent language and literacy development. Reading First is the best-known and most popular reading program created by No Child Left Behind. Striving Readers is the middle school program created to improve the reading levels of struggling students. However, schools must qualify for Title I funds and show a predominant trend in low reading scores. Schools that meet the first two requirements must then apply for the Striving Readers Grant (Learning Point Associates, 2007).

The creation of a middle school intervention based on these educational driving policies was hard because the reading programs of No Child Left Behind focus on strategies for struggling readers in beginning grades. At the secondary level, the research in No Child Left Behind states highly trained teachers and comprehension skills are the areas of focus to improve all struggling readers. No Child Left Behind provides clear

guidance and programs for the elementary levels yet continues to remain vague on the topic of secondary reading intervention. Given the lack of concrete strategies for all students, No Child Left Behind policy holds all students accountable. The accountability enacted by No Child Left Behind is forcing schools to change instruction, schedules, and approaches to meet federal policy demands.

School districts have scrambled to meet the 2014 requirements that all students will be proficient in reading set forth by No Child Left Behind. Sixty-Two percent of 349 schools surveyed indicated an addition of minutes to reading instruction while cutting instructional time from social studies and science (Lewis, 2008). According to Azzam (2007), research showed student achievement increased in reading since the enactment of No Child Left Behind. While showing gains is good in the eyes of the politicians and stakeholders of the school district, high-stakes testing has caused a "learn or we will punish you" mentality in schools. Schools ask students to jump through higher hoops each year with the looming threat of state and federal sanctions not far away. This mentality of punishment for not learning is driving students away from the enjoyment in the pursuit of knowledge (DuFour, DuFour, & Eaker, 2005, pp. 116-117). Provitera-McGlynn (2008) believed the tests, while showing a positive gain in achievement, are providing false results, especially in the area of reading. The problem lies with the federal program allowing individual states to determine the definition of proficient.

No Child Left Behind assesses the educational worth of a state based on the number of students scoring above the proficiency level on each state's standardized test. No Child Left Behind threatens states with penalties and lack of funding if students do not score high enough on state tests. Since the federal policy allows individual states to

determine what constitutes proficient scores for that state, the repercussions from No Child Left Behind tempt states to lower the standards for proficiency. Colorado has adopted two sets of standards. One set addresses the requirements of No Child Left Behind while a more rigorous internal set of standards is used to judge the schools statewide (Provitera McGlynn, 2008).

Given the amount of negative publicity No Child Left Behind has received, the policy has had some positive results as well. The policy has increased the focus of accountability for all students. The importance of the policy has had dramatic effects on the operation and focus of schools. The success of each student from every subgroup matters. The ability of a child to read now becomes a course of action and not just a concern. Research shows No Child Left Behind is both beneficial and detrimental in the effects on student achievement. No Child Left Behind and federal policy give a wide framework for what good reading programs should entail but allows the state departments of education to define educational policy in specific detail.

Missouri Department of Elementary and Secondary Education Policy

Missouri's Department of Elementary and Secondary Education (DESE) requires all students should be reading at grade level by the fourth grade. In the Missouri Revised Statutes, Chapter 170, Section 170.014, all school districts will provide a reading program for students in grades kindergarten through third. The programs must focus on five major concepts. Those concepts are phonemic awareness, phonics, fluency, vocabulary, and comprehension (Missouri Department of Elementary and Secondary Education, 2008).

Starting in the primary grades, schools test students to find an accurate representation of individual reading levels. If Student A is not reading at grade level by the completion of third grade, Student A is placed on an individualized reading improvement plan and receives interventions the following year. Nearing completion of the fourth grade, Student A is tested again. If Student A is still reading below grade level, he must attend summer school. If at the completion of the summer school session of his fourth grade year, Student A is still reading below a third grade level, his promotion to fifth grade is in jeopardy (Missouri Department of Elementary and Secondary Education, 2008). The state however provides an option for promotion if the student has made progress with the individualized reading program. Students on Individualized Reading Improvement Plans in fourth grade are tested at the culmination of grades five and six. At the end of sixth grade, any student reading below a fifth grade level is required to have that fact noted in their permanent file (Missouri Department of Elementary and Secondary Education, 2008).

Missouri's Department of Elementary and Secondary Education provides guidelines for student achievement and retention in the area of reading. DESE however does not supply the method by which to measure reading levels. That determination is left to be decided by individual school districts.

Scholastic Reading Inventory

The Missouri Department of Elementary and Secondary Education requires that reading levels be measured, but does not require one specific program. The middle school in this study chose the Scholastic Reading Inventory (SRI) as an acceptable measurement tool for student reading levels. The Scholastic Reading Inventory is a computer adaptive

assessment designed to measure how well students read literature and texts of varying difficulties (Scholastic Office of Educational Assistance 2, 2003). The SRI assessment provides a well-rounded result and measures the total understanding of written literature, not just vocabulary. The questions are derived from authentic literature of both fiction and non-fiction genres. The test does not require background knowledge about the subject in the text because all answers to the testing questions are contained in the passage.

To reach a true measure of a child's ability to read, the test self-adjusts by providing a group of questions based on the ability of an individual student to answer correctly. Depending on the ability of the student to answer correctly, the difficulty of the question increases or decreases based on the answers provided. This adjustment of question difficulty allows the program to find an accurate reading level. The program calibrates the answers provided and stops administration of the test when the program determines enough data was collected (Scholastic Office of Educational Asistance 1, 2003). The SRI program provides data in several reports. The school used individual student Lexile scores provided by the SRI program at the completion of testing to determine reading levels.

The individual student Lexile score provided at the completion of testing falls in a Lexile Range corresponding to a specific grade level. For, example, Student A completes the SRI and has a Lexile score of 825. In referencing Table 1, Student A is reading at a sixth grade level. According to the SRI test and the Lexile framework, Student A has the ability to read text with a Lexile rating in the 800-1050 range. The Lexile level evaluates both reading ability and text difficulty. In different terms, the Lexile Score measures the

difficulty of the passage and the child's ability to read that passage (Scholastic Office of Educational Asistance 1, 2003).

Table 1

Lexile Ranges in Correspondence to Grade Levels

	Lexile Range
First Grade	100-400
Second Grade	300-600
Third Grade	500-800
Fourth Grade	600-900
Fifth Grade	700-1000
Sixth grade	800-1050
Seventh Grade	850-1100
Eighth Grade	900-1150
High School	1000+

Note. From Scholastic Office of Educational Assistance, (2003).

The school accepted the results from the SRI test because it was a computerized assessment and all students would be scored using the same guidelines delineated in the software. The computerized results eliminated the possibility of teacher bias or human error. The SRI test had been used to determine reading levels and results for the entire school year so the students, as well as the staff, were familiar with the program.

The SRI provided a consistent measurement of reading levels that both teachers and administration could easily track. The company is reputable and the district already owned the software. The students were familiar with the test and had open access to testing whenever they wished. The tabulated Lexile range provided an easy

understanding of the ability level of the child. The SRI assessment results were used by the school to provide the basis for student attendance to the Summer Literacy Program.

Achievement and a Positive School Culture

> A school can create a coherent environment, a climate, more potent than any single influence- teachers, class, family, neighborhood - so potent that for at least six hours a day it can override almost everything else in the lives of children. (Elbot & Fulton, 2008, p. 95)

School climate is a general term referring to the feel, atmosphere, or ideology, of a school. School culture is the personality of a school and improves educational outcomes. According to Deal and Peterson, school culture provides motivation for staff and students. Teachers at high performing schools embrace the culture as an entity they can influence (Jerald, 2006).

The potential impact of a positive school culture on achievement cannot be overlooked. According to Lindahl (2006), school culture can greatly affect the school improvement process. Researchers agree that school culture is an important but overlooked component of school improvement (Masden-Copas & Wagner, 2002). A healthy school climate contributes to effective teaching and learning (Frieberg, 1998). However, there exists a statistically significant relationship between school climate and student achievement (Marzano, 2003).

The Center for Improving School Culture believed the three main indicators of a healthy school culture are collaboration, collegiality, and efficacy (Center for Improving School Culture, 2002). Collaboration is the idea that all employees will work together towards common goal. Collegiality helps to create a contrast with the idea of a

bureaucracy and that all individuals have power within the organization. Efficacy stresses the value of job importance. Collaboration, collegiality, and efficacy were paramount in the establishment of the Summer Literacy Program. It was a necessity for staff to collaborate in the creation of the program. The staff shared knowledge and research of best practices. The creation of the program was in the hands of the staff and therefore collegiality, the ability to have power within an organization was in the creation of the program. Collaboration, collegiality, and efficacy are basic needs of a staff to be successful.

Roland Barth stated the quality of inter-personal relationships, and the nature and quality of learning experiences are items needing to be improved upon (Elbot & Fulton, 2008, p. 104). Through the use of change strategies, school leaders can shape and develop cultures and climates that are in harmony with, and supportive of, desired organizational changes (Lindahl R. , 2009). The desired organizational change was the engagement of students and to increase reading comprehension levels.

"The literature on school culture makes it clear that effective schools . . . have a culture characterized by a well-defined set of goals that all members of the school . . . value and promote" (Renchler, 1992). School culture is essential to the achievement of students. Without a feeling of security and belonging, students will not feel comfortable in taking chances to expand and grow their education (Major, 2009). It is on this premise that the culture of the Summer Literacy Program was built. When teachers believe all students can be successful, that belief transfers to the students. School culture supports students learning at different rates and fosters the belief of student success if the student maintains a positive work ethic (DuFour, DuFour, & Eaker, 2005, p. 73). The Summer

Literacy Program culture was based on a belief in effort, success, and celebration. Students in attendance needed to experience success immediately to buy into the program and improve reading levels. The culture and the attitudes needed to be positive. The most important thing you can give a child is a positive attitude (Major, 2009).

> Confidence triggers optimism, or the expectation of positive results in the future. That expectation, in turn, triggers the desire and energy to strive for success with gusto. The result will be a culture of confidence and profound gains in student learning. (DuFour, DuFour, & Eaker, 2005, pp. 81-82)

The Summer Literacy Program would operate as a small educational community. Every community has a culture that defines it. Culture is the societal glue that defines, connects, and sustains, successful communities. Positive culture in a classroom shapes the attitudes, and ultimately the success of students. The classroom culture can shape good habits and limit bad ones (Major, 2009).

Good habits that would lead to success were necessary. Major (2009) created the cycle of success. He created a flow chart to achieve success. The first step is that effort from the student creates the ability to be successful. Success creates confidence, which in turn creates self-reliance. When a student becomes self-reliant, happiness is achieved. Many times a person must return to the start of the cycle and continue through the process before self-reliance and happiness are achieved. Happiness, self-reliance, and good habits are what the staff wanted for the students (Major, 2009).

The overarching goal of the Summer Literacy Program was to improve reading scores. To achieve that goal the staff needed to instill some basic components that would lead to success. Successful teachers tend to follow and share with students three basic

beliefs. Those beliefs are "This is important", "You can do it", and "I will not give up on you" (DuFour, DuFour, & Eaker, 2005, p. 87). The first belief was that every student would be successful in every class attended. It was a belief that every student can succeed. There was a necessity to link success to hard work and effort and allow the student to start in a place where they will taste immediate success (Major, 2009).

Marzano, Pickering, and Pollock, (2001) believe reinforcing effort and providing recognition are key components to raising achievement. Marzano felt it is important for students to track and reflect on the correlation of effort to achievement. The Search Institute has found that the lowest-performing students are so disconnected to school that improved instructional practices may have little or no impact on their learning (Wilhelm, 2009). That is why it is so pertinent that even the smallest amount of effort is celebrated and reinforced by the students, teachers, and principal.

Klien (2009) argued effective school principals and teachers are vital to creating a school culture that encourages high levels of academic success. A productive culture brings students and teachers together. It provides a sense of belonging and commitment (Elbot & Fulton, 2008, p. 3).

> Empirical evidence has linked school climate with achievement. Openness of school climate has been linked primarily to expressive characteristics in schools. For example, the more open the school climate, the more committed, loyal, and satisfied the teachers are. Similarly, the more open the climate of the school, the less alienated students tend to be. School climate, from the health perspective, has been positively related to school effectiveness. (Hoy, n.d.)

Over the last two decades, there has been a growing appreciation that school climate plays a significant role in a child's development and achievement. When students feel supported, have positive relationships, and are engaged in their work, the culture of the school really matters. Positive culture can lead to reducing achievement inequities, enhancing healthy development, and promoting the skills, knowledge and dispositions that are necessary for students to be successful (National School Climate Council, 2007).

> A sustainable, positive school climate fosters development and learning this climate includes values and expectations that support people feeling socially, emotionally, and physically safe. People are engaged and respected. Educators model and nurture attitudes that emphasize the benefits and satisfaction gained from learning. (National School Climate Council, 2007)

School culture is an important but overlooked component of school improvement (Masden-Copas & Wagner, 2002). Studies have found a statistically significant relationship between school climate and student achievement (Marzano R. , 2003). Over the last two decades, educators and researchers have recognized a complex set of elements that make up school climate (Center for Social and Emotional Education, 2007).

> A review of the literature reveals that a growing body of empirical research indicates that positive school climate is associated with and predictive of academic achievement, school success, effective violence prevention, students' healthy development, and teacher retention. (Cohen, McCabe, Michelli, & Pickeral, 2009, p. 180)

School culture plays a significant role in the achievement of students. Setting that culture only strengthens the instruction taking place. Support and celebrations of success are just as important as strategies.

Introduction for Reading

No Child Left Behind lists five necessities of a successful reading program. Those necessities are a strong background in phonemics, phonics, fluency, vocabulary, and comprehension (Carbo, 2007). The first four components combine to improve comprehension. Phonemics, the study of sounds in spoken words, and phonics, the study of sounds in written words are generally limited to the first and second grade (Carbo). Using the age appropriate strategies, the Summer Literacy Program focused on fluency, vocabulary, and comprehension. While phonics strategies such as the decoding of words are beneficial, all but a few middle school students have an ability to understand the basics of phonics. Too often teachers return struggling middle school readers to the level of phonics, thus causing greater disengagement (Cziko, Greenleaf, Hurwitz, & Schoenbach, 1999).

Comprehension Research and Instructional Strategies

According to Fountas and Pinnell (2001), the most important outcome when a person reads is comprehension. Comprehension is the construction of meaning derived from reading a passage, article, or book and connects the reader to the story. Comprehension is the one goal of reading (Carbo, 2007).

Through research, it became evident certain strategies were needed to teach reading comprehension. Before the 1980s, specific comprehension strategies were not taught. The common focus of reading was vocabulary knowledge and fluency. As

research emerged, it became a common movement in the teaching profession that comprehension and comprehension strategies were beneficial in reading instruction. The strategies of predict, summarize, clarify, and question were the first strategies introduced. The introduction of reading strategies provided the base, which led to the teaching of reading comprehension (Wikipedia, 2008).

Even after the teaching of comprehension became accepted, many teachers continued to use teacher led instruction as the predominant strategy to teach comprehension. Reading comprehension is about exploring a text and making individual connections. Teachers should provide comprehension strategies and allow the student to practice the strategies with individual readings. Since comprehension is an individual's connection to the text, it is wrong to believe students master a particular strategy after one mini-lesson. The practice of using good reading comprehension strategies is something that takes place over time. Reading comprehension strategies have to be practiced if improvement is to take place (Fountas & Pinnell, 2001).

While strategies are important, it is necessary for the reader to connect with the text. It is also necessary for the reader to draw on background knowledge and personal experience. Fountas and Pinnell (2001) believe true comprehension is the emotion and feeling a reader experiences while engaged in text. True comprehension is about responding with feeling to the reading. People discuss feelings, themes, and connections to the book. Too often teachers confuse recall for comprehension.

When a person is truly engaged in reading, the focus is not on thinking. Having a discussion after reading allows interpretation and formulation of opinions (Fountas & Pinnell, 2001). Connection to reading falls on feeling and relation to prior knowledge.

The focus placed by the teacher on remembering facts about the reading, interferes with the reader's comprehension of the story. The story then becomes work, and work is not always enjoyable. Teachers must develop and employ strategies to create engagement for the student. Readers need to believe reading is an active, problem-solving process. Questioning the author's purpose, visualizing, and discussing the text, are strategies to increase engagement (Cziko, Greenleaf, Hurwitz, & Schoenbach, 1999)

Engaged readers have higher comprehension levels. If a teacher wishes for students to read and comprehend at high levels, it is important for the teacher to allow the students to enjoy reading. Students who enjoy reading are engaged in the passage, article, or book. Engaged readers improve comprehension levels at a much higher rate than those students who are not engaged. Students cannot be coerced to be engaged readers. Extrinsic rewards or assigned readings do not create engaged readers. Engaged reading happens because students want to read. If a reading program bores or confuses students, engaged reading will decline (Carbo, 2007).

Reading strategies play a key role in helping a child with comprehension. The more adept the reader becomes at using these strategies, the more the reader can relate to the story. With comprehension being an individual occurrence, there is not one set of strategies that all students must follow. There is however, an understanding of common strategies that must take place before, during, and after reading (Fountas & Pinnell, 2001). Students benefit as readers as they become more aware of how they read and comprehend text (Carbo, 2007).

Students should be given strategies to improve comprehension. Improved comprehension will lead to increased engagement and increased engagement will lead to

higher reading levels. Too often comprehension is tested with specific questions following a text or passage. The questions often covered specific details from the story causing detraction from engagement. It is important for comprehension that the reader connects the passage with prior knowledge. Students become more effective readers by engaging in conscious acts of questioning, visualizing, and gathering and synthesizing information (Fountas & Pinnell, 2001, p. 331).

Creating a connection to the reading was important for comprehension. The following strategies were used to improve comprehension levels, raise engagement, and help students create connections. The comprehension strategies used during the Summer Literacy Program were Guided Reading, Before-During-After Questioning, Highlighting, Annotating, Journal Entries, and Reflection.

Guided Reading is ideal for teaching comprehension of a text. This strategy is a teacher led process in which the teacher and the class read a story or part of the text, and then discuss what was read. The teacher is able to check for understanding while highlighting the important parts of the text allowing the student to become aware of the important areas of the passage (Mooney, 1995). This is a strategy that can be implemented in large group, small group, or individual instruction. During guided reading, the teacher should introduce various other reading strategies for comprehension. Strategies such as context clues, questioning, visualizing, inferring, and making connections are all excellent strategies to use during guided reading (Saskatoon Public Schools, 2004).

During guided reading, students with similar reading levels can be paired with one another. The students read the same text and the teacher can point out the important

topics. Guided reading allows small groups of students to come to common connections with the text (Fountas & Pinnell, 2001).

Before-During-After Questioning is another strategy used to increase comprehension. Before reading a text, the reader develops a plan of action to comprehend the reading by activating prior knowledge and predicting what events will occur (Seattle Public Schools, 2005). Anticipation Guides are used to engage the student in discussion about concepts they will encounter in the text. Another excellent before reading strategy is Checking Out the Framework. This particular strategy discusses the type of genre the text is written in and the approach students should take to reading the particular passage. Prediction is also an effective before reading strategy. The teacher can introduce characters, events, and other themes to the students and allow the students to predict what might happen in the text (Greece Central School District, 2009).

During-Reading strategies allow the reader to make a connection to the text. Questioning, visualizing, and inferring are all excellent strategies to employ during reading. Those strategies allow the reader to synthesize what is taking place in the text while connecting to prior knowledge. The idea is for the questioning techniques to become automatic as the child reads and simply just becomes a way of their thinking (Fountas & Pinnell, 2001). Teachers must teach children to generate and ask their own reading questions while making them aware of the reading structure. Active questioning webs, plans, and boards are all very useful during this phase of the reading. Highlighting what is taking place during reading allows the student to return to the thought when summarizing.

Highlighting and annotating, ways of marking and referencing important sections of a passage or text, allows a smooth transition to summarization or reflection. Teachers ask the students to make a few marks during independent reading in the text. The strategy helps raise awareness of certain areas and allows the reader to focus on the content (Fountas & Pinnell, 2001).

Class Discussion is a terrific tool to assess if the student has comprehended the meaning of a passage. However, this should be accomplished in small group setting while other students are reading independently. Large group discussion allows only three or four students to dominate the class while other students do not have to participate or even read the passage to comprehend the context (Fountas & Pinnell, 2001). After-Reading strategies consist of ways for students to reflect on what was just read. Interactive Notebooks, or a running written commentary on the passage, allows students to develop and process their thoughts during the reading. The after reading strategy is important for synthesizing and summarizing the key concepts of the passage (Greece Central School District, 2009).

A place for students to write about what was just read is in a Reflection Journal. The reflection journal allows students to make connections to the passage. The journal was used in a variety of ways but the most common was to read a passage, write the student's initial reaction and summary of the passage, and share in group discussion. The student was encouraged to check and edit the initial reflection during discussion as their opinion changed or to more accurately portray the passage.

When comprehension takes place, readers are constantly inferring about character judgment, mood, and setting (Fountas & Pinnell, 2001). The reader is summarizing and

remembering information as they go along. For comprehension to take place, the reader must connect with the passage (Carbo, 2007).

Fluency Research and Instructional Strategies

Fluency helps bridge the gap between decoding and comprehension. Fluency is rapid reading with good expression. The higher the fluency rate, the better the comprehension. The more fluent a reader is, the less the brain needs to focus on decoding and can be more attentive to what is being read. Good fluency allows the reader to listen and connect to the reading. Fluency is not the focus of reading at high rates of speed but the focus on reading at a smooth rate to aid understanding. Reading too fast can actually be more detrimental to comprehension (Carbo, 2007).

With the rise in popularity of teaching reading comprehension, fluency instruction became an afterthought. The study of fluency needs to be included in the main conversation about reading (Ness, 2009). Too often comprehension strategies overshadow fluency training. A reader needs to be proficiently fluent or the reading of a passage becomes decoding and not comprehension. Oral reading is a key component of deriving meaning from text. It is necessary be fluent before advancing to more difficult text and literature (Barkley, Hawkins, & Musti-Rao, 2009).

Fluency is defined as the ability to read with accuracy, speed, and proper expression, or the ability read without effort. The more effort spent decoding words hinders the comprehension of a piece of literature (Barkley, Hawkins, & Musti-Rao, 2009). Fluency is important to struggling readers because it bridges the gap between word recognition and comprehension (McCollin, McQuiston, & O'Shea, 2009).

> Meyer and Felton defined fluency as "the ability to read connected text rapidly, smoothly, effortlessly, and automatically with little conscious attention to the mechanics of reading, such as decoding". Other aspects of fluency include meaningful phrasing or parsing of the sentence as one reads or reading with appropriate stress, intonation, and prosodic features. Wolf and Katzir-Cohen offered a definition of fluency that is based on the developmental perspectives of Kame'enui, Simmons, Good, and Harn and the multidimensional systems approach of Berninger. Wolf and Katzir-Cohen Bashir & Hook: Key Link Between Word Identification and Comprehension indicated that from the earliest emergence of reading skills, fluency develops from the accurate and automatic emergence of "perceptual, phonological, orthographic, and morphological processes at the letter, letter-pattern, and word levels, as well as the semantic and syntactic processes at the word level and connected text level". Fluency sets the ground for the reallocation of attention from sublexical to higher language and cognitive processes underlying comprehension. (Bashir & Hook, 2009, p. 196)

Emergent Fluency, Developing Fluency, and Fluent Level Behaviors are the three levels that normal readers will follow as they improve (McCollin, McQuiston, & O'Shea, 2009). Emergent level readers rely on pictures or familiar names of people to help understand and decode the text. Developing Fluent readers rely on language patterns and high frequency words to increase the pace of their fluency. A fluent reader begins to monitor his or her own reading speed and accuracy. Fluent readers can decode by using chunking of letters and recognition of similar sounds (McCollin, McQuiston, & O'Shea, 2009). When a reader has reached a fluent level, the reader has achieved automaticity, the

ability to effortlessly decode written text. Effortless decoding written text allows for greater comprehension and proper pronunciation (Barkley, Hawkins, & Musti-Rao, 2009).

The United States Department of Education has created a four level fluency guide called the National Assessment of Educational Progress (NAEP) Oral Reading Fluency Scale. The NAEP scale reflects the fluency levels for fourth grade students.

- Level Four (Fluent)-Reads primarily in larger, meaningful phrase groups. Although some regressions, repetitions, and deviations from text may be present, these do not appear to detract from the overall structure of the story. Preservation of the author's syntax is consistent. Some or most of the story is read with expressive interpretation.
- Level Three- Reads primarily in three- or four-word phrase groups. Some small groupings may be present. However, the majority of phrasing seems appropriate and preserves the syntax of the author. Little or no expressive interpretation is present.
- Level Two- (Non-fluent) Reads primarily in two-word phrases with some three- or four-word groupings. Some word-by-word reading may be present. Word groupings may seem awkward and unrelated to larger context of sentence or passage.
- Level One- Reads primarily word-by-word. Occasional two-word or three-word phrases may occur—but these are infrequent and/or they do not preserve meaningful syntax. (Ness, 2009, p. 692)

Fluency is more than word recognition. "Fluency depends on the interaction of multiple factors. Some of which are phonological awareness, visual perception, orthographic representation, word recognition, speed of lexical access and retrieval, and higher-level language and conceptual knowledge" (Bashir & Hook, 2009, p. 198).

> Everyone would agree that reading is a complex process. From time to time, reading is difficult for all of us, especially when we pick up a book about a topic of which we have limited background knowledge or are unfamiliar with its specific text structure and language. At first, things might go well, and then we find a word that we cannot recognize quickly and need to stop and figure out. We lose our place and have to go back over the text to "catch up" with the meaning. Sometimes, we encounter words we have never seen before or words that we think we know the meaning of— but we soon realize it is not the meaning the author intends. We hope context will help us figure out the meaning, but it does not. Some sentences are too long or complex in structure, and we have to hold too much in mind before we can understand what we read. We get lost and may feel discomfort and dislike for the book. Our motivation to continue wanes. Any one of these factors can disrupt our reading fluency, significantly interfering with our comprehension. (p. 196)

Fluency is not simply word recognition. Simple word recognition alone does not allow for comprehension. A person must read and decode at an effective rate for comprehension to take place. Slow word recognition, or slower decoding, will place demands on remembering the word read and therefore limit comprehension of the

passage (Bashir & Hook, 2009). As the reader becomes more advanced in ability to decode words, comprehension increases.

For fluency instruction to be effective, a teacher must provide for reading to be done aloud. With the notion of confidence and support of the student in mind, low or struggling readers should never be subjected to large group reading without having the material to practice before hand. Fluent readers however, should be asked to read aloud repeatedly (Carbo, 2007).

Readers who struggle with fluency often sound choppy, suffering from poor decoding skills, word recognition, and low confidence levels. Students who struggle with fluency feel they can only read and comprehend "baby books" (Cziko, Greenleaf, Hurwitz, & Schoenbach, 1999). The fluency rate of a reader plays a major role in regards of motivation to read. If a student is fluent and reading is not laborious, reading is enjoyable and not a chore. A fluent child is an engaged reader and in reference to previous comprehension research, engagement while reading leads to higher comprehension.

Students with poor fluency skills do not like reading. It is a chore. Students with poor fluency will rarely admit to not knowing a word or a passage. This makes it very difficult to help students who struggle. "This reading is stupid" or "reading is boring" are some clues a student struggling with fluency might give off. Parents of children who struggle with fluency might justify the problem by saying their child knows how to read but just reads slowly or that their child does not read with expression. A teacher might see a low rate of fluency when the child scores below grade level on a words-correct-per-

minute assessment or if the child is a behavior problem during reading (Reading Rockets, 2008).

There are some quick and easy strategies to improve fluency. Students can follow along with their finger on the words while a parent or teacher reads aloud. The student can also read and reread their favorite stories, passages, and poems to improve fluency. Parents can help build fluency by reading aloud to their child as well as providing literature that has predictable vocabulary at the heart of the story. Teacher should provide appropriately leveled literature for students to read (Reading Rockets, 2008). The fluency strategies used during the Summer Literacy Program were Repeated Readings, Modeled Fluency, and Reading aloud to tutors.

Repeated reading not only allows a child to become familiar with difficult words but also allows the student to gain confidence in their reading ability. By repeating the words, the child gains a sense of comfort with the word. During repeated reading, a teacher can change the phrasing, the rate, and the tone to help the reader become familiar with the passage. Choral Reading, students reading aloud together, or Echo reading, students repeating a teacher, are two great strategies to introduce repeated reading (Blau, 2009).

Students need to hear what a fluent reader sounds like. It is important for a teacher, or high-level reader, to read aloud while the students listen. The students hear good fluent reading, while becoming familiar with the passage and the words. It is important to provide students with the passage being read and have them follow along. Once the students are familiar with the passage, have them participate by using the strategies previously mentioned (Blau, 2009).

The strategy with the greatest impact for a student to improve fluency is reading aloud to a tutor. This oral reading can take place in either an individual or small group setting. The positive feedback and one-on-one attention allows the child to feel comfortable and confident. A tutor can make instant corrections and suggestions. Sessions do not need to be longer than 10 to 15 minutes. A brief, but constructive, session with a tutor is an excellent strategy for increasing fluency (Blau, 2009).

Vocabulary Research and Instructional Strategies

Learning vocabulary words is no longer copying a prescribed definition out of the glossary and memorizing the meaning, or in educational jargon assign, define, and test. Vocabulary recognition is a major factor in fluency and therefore comprehension. If a student does not understand the author's vocabulary, comprehension is almost impossible. Beck, McKeown, and Lucan (2002) popularized the instructional merits of teaching vocabulary in the book *Bringing words to life: Robust Vocabulary Instruction.* Vocabulary can be classified in one of three tiers: (1) common words, (2) general academic vocabulary, and (3) content specific words. A solid and increasing vocabulary is necessary for students to grow. Opposed to the assign-define-test method, introduction of vocabulary should be introduced contextually so the student can attribute the word to a situation (Center for Resource Management; The Education Alliance at Brown University).

The Staff depended heavily on the research of Robert Marzano for the teaching of vocabulary. Marzano, Pickering, and Pollock (2001) believes vocabulary has a strong relationship with intelligence, ability to comprehend new information, and income. He

also believes current teaching of vocabulary is insufficient. Students are not subjected to a sufficient amount of vocabulary (p. 126).

For students to obtain a sufficient vocabulary, they must be introduced to words and not rely on reading. Reading alone does not expose students to new words at a rate commonly believed. Marzano said

- Student must encounter words in context more than once to learn them.
- Instruction in new words enhances learning those words in context: even a brief introduction to words allows for greater understanding when the word is encountered in text.
- One of the best ways to learn a new word is to associate an image with it.
- Direct vocabulary instruction works.
- Direct instruction on words that are critical to new content produces the most powerful learning. (Marzano, Pickering, & Pollock, 2001, pp. 125-128)

The strategies used during the Summer Literacy Program were two of Marzano's classroom strategies, non-linguistic representation and similarities and differences. Some other strategies included the Dictionary Game, the Fry Instant Word List, the Think Aloud model, and the PAVE method.

The brain stores information in two ways: linguistic and non-linguistic. Non-linguistic representation of a word or statement stimulates the brain and engages the student (Marzano, Pickering, & Pollock, 2001). Students will better remember a word if associated with an image. It is important to illustrate what the word looks like. Non-linguistic representation helps elaborate on prior knowledge. Graphic organizers also

allow elaboration to take place. Non-linguistic representation is not solely drawing picture. Graphic organizers allow for a different approach to learning with descriptive patterns. The Summer Literacy Program participants used non-linguistic representation and graphic organizers to brainstorm meanings, usage, and create connections of the vocabulary words.

Another aspect of vocabulary was using similarities and differences to help understand the meaning and association of words. The students followed the four suggestions from Marzano, Pickering, and Pollock (2001): comparing, classifying, creating metaphors with the vocabulary words, and creating analogies using the vocabulary words. The participants compared vocabulary words with one another and classified single vocabulary words into groups based on similar parts or meaning.

The Dictionary Game was introduced for two reasons. The first reason was to reinforce dictionary use skills. The second reason was to not only learn how to use a dictionary, but to dispel the myth a dictionary was not sociably acceptable to use among middle school students. Too often students lack the confidence to admit they might not know a word. In their mind, using a dictionary would seem like a prime chance for someone to make fun of them. This game breaks down the stereotypical barrier, making it acceptable to use the dictionary (Beacon Learning Center, 2005).

The students used the Fry Instant Word list on a daily basis. The use of this list exposed the children to the 300 most used words in reading and writing. Several lists range from 100 to 600 words. The repetition allowed the students to become familiar with words they would see in everyday writing.

A great strategy for building a connection to vocabulary is the Think Aloud strategy. This strategy allows the reader, and teacher, a chance to pause when a word is confusing and think through the meaning by expressing thoughts through discussion (Greece Central School District, 2009). Discussion allows for better understanding and greater participation.

The PAVE procedure is another good way to build engagement to vocabulary. PAVE stands for prediction, association, verification, and evaluation. The legitimacy to the PAVE procedure is to check the usage of the word from context to the definition in the dictionary. Prediction is always a good strategy because it then allows the student an immediate response as to whether they were correct in their prediction of word meaning (Florida Center for Instructional Technology, 2009).

Extensive reading enables vocabulary to grow rapidly good vocabulary building engages children in discussion about the words they just read and provides strategies for deciphering unknown words. It also provides direction of how to and when to look up works in the dictionary (Carbo, 2007). The emphasis on vocabulary and vocabulary resources was instrumental during the Summer Literacy Program.

Summary

The Summer Literacy Program provided the best practices and interventions for low readers. It was necessary to research Federal Policy and the Missouri Department of Elementary and Secondary Education to make sure the program was in compliance. Between the recommendations and best practices, the program provided interventions that met the criteria for state compliance.

Research shows a positive school culture provides an increasing effect on student achievement. At-risk students disengage from education because of a lack of support. The Summer Literacy Program created an intentional school culture of support and celebration to help engage the participants in the effort to raise reading comprehension levels.

A positive school culture is not enough to raise comprehension levels. The best instructional practices and strategies in the content areas of reading comprehension, fluency, and vocabulary, were provided for the students. Creating a positive culture and providing best practice strategies allowed the best opportunity for the participants to be successful and raise comprehension scores.

Chapter III- Methodology

Overview

The purpose of this study was to determine if a deliberate positive culture and the intervention of reading strategies introduced during the Summer Literacy Program were effective, as indicated by the Lexile reading score measured by the Scholastic Reading Inventory. The culture was intended to provide an atmosphere of success and create a connection to reading. School culture is essential to the achievement of students. Without a feeling of security and belonging, students will not feel comfortable in taking chances to expand and grow their education (Major, 2009). It is on this premise that the culture of the Summer Literacy Program was built. The Summer Literacy Program culture was based on a belief in effort, success, and celebration based on the personal assessment of the individual teachers. Collaboration, collegiality, and efficacy were paramount in the establishment of the Summer Literacy Program. Using the age appropriate strategies, the Summer Literacy Program focused on fluency, vocabulary, and comprehension. The perception of the effectiveness of the culture will be measured by a survey given to the participants upon completion of the reading program while the effectiveness of the reading strategies will be measured using pre-test and post-test SRI levels.

Participants were asked to rate the usefulness of the reading strategies as well as the effect the intended culture of the Summer Literacy Program had on reading confidence levels by completing a Likert Scale survey. A Likert Scale survey allows the participant to choose from a range of answer options. The options generally range from strongly agree through the spectrum to strongly disagree (BusinessDictionary.com, 2010). The participants not only completed this survey but were asked three open-ended

questions as well. The responses from the surveys will be analyzed for similar answers to the same questions.

To accurately measure the perceived climate perspective of the participants, the researcher provided a survey to participants of the Summer Literacy Program. Participation in the survey was voluntary. Thirty-nine surveys were returned. The survey was a Likert Scale survey set up with four answers possible to each question. The students circled the number that corresponded to the answer they thought best fit the question. The possible answers the participants could choose from were four (4), which meant the student strongly agreed with the statement, three (3), the participant agreed with the statement, two (2), the participant disagreed with the statement, and one (1), the participant strongly disagreed with the statement. The survey consisted of 15 questions and three open ended questions for the participants to write in responses. The researcher will assume an answer of strongly agree and agree would be a favorable answer to the question while disagree and strongly disagree would be a non-favorable answer towards the question.

The study will also statistically analyze the change in Scholastic Reading Inventory scores using a t-test for the difference in means. The data analyzed are the Lexile scores for the entire population before the program compared to the Lexile score of the entire population upon completion of the program. Lexile scores for subgroups are analyzed as well.

Program Description

Students who scored two or more grade levels below their current grade on the Scholastic Reading Inventory were required to attend the Summer Literacy Program for

20 days in the month of June. The Summer Literacy Program consisted of 57 students who completed the program.

In order to keep the students engaged, the participants attended four classes a day and remained with the same group of students throughout the day. The breakdown of the classes consisted of a sixth grade class, a seventh grade class, a combination seventh/eighth grade class, and an eighth grade class. The students rotated from one team of three teachers in the morning to a different team of three teachers in the afternoon. One set of teachers taught vocabulary, dictionary skills, reading comprehension strategies such as Guided Reading, Before-During-After Questioning, Highlighting, Annotating, Journal Entries, and Reflection, using primary documents, and strategies for comprehension of math problem directions. The second team focused on fluency strategies such as repeated readings, modeled fluency, and reading aloud to tutors and vocabulary strategies including two of Marzano's nine classroom strategies of non-linguistic representation and similarities and differences. Some other vocabulary strategies included the Dictionary Game, the Fry Instant Word List, the Think Aloud model, and the PAVE method. The Summer Literacy Program participants used non-linguistic representation and graphic organizers to brainstorm meanings, usage, and create connections of the vocabulary words. A research and writing component was also included and based on research of family ancestry.

Reliability, Validity, and Instrumentation

Reliability is the consistency of measurement. The instrument will measure the same way each time it is used. The SRI test is a computerized assessment designed to produce data based on correct and incorrect answers from the participants. The test is

designed so the students will not receive the exact same question each time they take the test, but will receive a different question to determine the understanding of a same topic. For example, the student might take the SRI for the first time. The first selection of text might be about a duck on a lake. The first question would ask about the setting of the story. The SRI is calculating if the participant understands setting. The next time the student takes the exam, the first segment of text might be about a child in a sandbox. The question will still be asked to determine setting, but obviously, the answer is a sandbox and not a lake. The SRI test is produced, tested, and verified by Scholastic Incorporated (Scholastic Office of Educational Assistance 2, 2003).

Validity is the strength of the conclusions. Conclusion validity, internal validity, and external validity will all have an impact on this study. Conclusion validity determines if a relationship exists between the program and the observed outcome. In this case, conclusion validity refers to a connection between the Summer Literacy Program and the increased Lexile scores. Internal validity determines if there is a relationship between the program and the observed outcome. External validity asks if the results can be generalized to other settings (Colosi, 1997). External validity references the possibility that the results of the Summer Literacy Program could be reproduced with the same effect in other schools.

Conclusion validity and internal validity could be supported given the increase in Lexile scores after participation. External validity, or generalization of the study to another school, could be supported if the sample size would remain similar and the culture was replicated. Generalizing the results to a much larger sample size would not be appropriate (Colosi, 1997). The survey and questionnaire were developed by the

researcher and approved by the doctoral committee. The questions were designed to answer the subquestions: How did the implementation of the intervention affect subgroups? Did the survey and questionnaire reveal a positive reaction to the culture of the program?

Design of the Research

The research is a mixed method study using both qualitative and quantitative data. The qualitative portion of the study measured the perceived effectiveness of the implementation of a positive culture change and strategies on reading confidence of the participants and will be measured using a survey (see Appendix A). The quantitative component of the study is a pre-test to post-test comparison measuring the change in student reading levels.

The researcher used a difference between two means: small dependent samples t-test to measure for statistical significance. This t-test was chosen because the statistical analysis was to determine if the intervention caused a significant increase in Lexile scores from pre to post-test scores. The study will use the t-test to measure the main change in reading scores for the entire population. The study will then address the research question: Was the Summer Literacy Program successful for the participants? The statistical analysis portion of the study will use the difference between two means: small dependent samples t-test to determine if the increase in mean scores from pre-test to post-test data was statistically significant. This analysis will address the hypothesis. The research question will explore deeper into what factors led to the positive reaction and how successful was the program. Three research sub-questions follow:

1. Was there an overall increase in the reading levels of participants?

2. How did the implementation of the intervention affect subgroups?
3. Did the survey and questionnaire reveal a positive reaction to the culture of the program?

Participants

The participants of this study were sixth, seventh, and eighth grade students who scored at least two grade levels below their current grade when taking the Scholastic Reading Inventory. For example, a sixth grade student's Lexile score would have been in the fourth grade range or lower. The reading abilities of participants ranged from a Lexile score correlating to a sixth grade level to scores so low they were not measurable by the SRI test. As illustrated in Table 2, 57 students completed the Summer Literacy Program during the month of June 2008. Due to low reading scores and guidelines set by the school, participation was required therefore participants were not recruited.

Table 2

Demographics (total population)

	Students
Total Number of Participants	57
Total Sixth Grade Participants	18
Total Seventh Grade Participants	27
Total Eighth Grade Participants	12
Total Male Participants	28
Total Female Participants	29
Total Special Education Participants	18
Total Free or Reduced Lunch Participants	32

Table 2 illustrates 57 participants in the Summer Literacy Program which was equivalent to 16% of the entire school population of 357 students for the 2007-2008 school year. The percentage of sixth grade students participating in the program (32%) was consistent with the number of sixth grade students in the total school population (30%). The percentage of seventh grade students participating in the program (47%) was higher in comparison than the number of seventh grade students in the total school population (36%). The percentage of eighth grade students participating in the program (21%) was lower than the number of eighth grade students in the total school population (34%). The total school population gender percentage, 48% male and 52% female, was consistent with the gender percentage of participants in the Summer Literacy Program. The percent of males participating was 49 and the percent of females participating was 51. The total school population percentage of students receiving special education services was 16%. As indicated, the percentage of students participating in the Summer Literacy Program was double the total school percentage at 32%. The total school population percentage of students qualified to receive free or reduced lunch for the 2007-2008 school year was 41%. This percentage was much higher for participants in the program. That number was 56%.

Table 3

Sixth Grade Demographics

	Totals
Total Sixth Grade Participants	18
Male Participants	7
Female Participants	11
Special Education Participants	4
Free or Reduced Lunch Participants	11

Table 3 illustrates the sixth grade population percentage for participants in the Summer Literacy Program for overall participants correlated to the overall sixth grade population for the school at roughly 30%. The other demographic numbers were roughly equivalent as well. The number of male participants (39%) compared to the number of male sixth grade students (46%) was lower but adding one male student makes the numbers comparative. The female participants (61%) were comparative to the percentage of sixth grade girls in the school (54%). The number of sixth grade students receiving special education services participating (22%) was comparable to 16% of sixth grade students receiving the same services. The percentage of participants who qualified for free or reduced lunch was 61%. This percentage was higher than the 45% percent of the sixth grade class. The percentages were close enough for the participants compared to the overall sixth grade student population that one subgroup did not stand out.

Table 4

Seventh Grade Demographics

	Totals
Total Seventh Grade Participants	27
Male Participants	14
Female Participants	13
Special Education Participants	8
Free or Reduced Lunch Participants	15

Table 4 illustrates the seventh grade participant demographics were not as in-line as the other two grades. Forty-seven percent of the program consisted of seventh grade students. Seventh grade students made up 36% of the school population. The seventh grade class was approximately a 50/50 male to female ratio. The participants in the Summer Literacy Program at the seventh grade level were consistent with the gender percentages. The number of students receiving special education services (30%) almost doubled from the number of seventh grade students receiving the same services (18%) during the school year. Fifty-six percent of seventh grade participants qualified to receive free or reduced lunch compared to the 40% of seventh grade students in the school population for the school year. The percentages caused more concern for alarm in the seventh grade participants. Certain subgroups, special education and free and reduced lunch, were noticeably higher in the program than during the year.

Table 5

Eighth Grade Demographics

	Number
Total Eighth Grade Participants	12
Male Participants	7
Female Participants	5
Special Education Participants	6
Free or Reduced Lunch Participants	6

Table 5 illustrates the overall percentage of eighth grade students participating in the Summer Literacy Program (21%) was lower than the percentage of eighth grade students in the school (34%). One student skewed the percentage of male and female students participating in the program or the percentage would match. The percentage of special education students participating in the program (50%) was higher than the percentage of eighth grade students receiving special education services and higher than the 16% receiving special education services in the school. However, the overall number of special education students in the program at the eighth grade level was six. The percentage of students who qualified for free or reduced lunch in the entire eighth grade class was 38%. Fifty percent of eighth grade participants qualified for free or reduced lunch. Again, the discrepancy was due to the low number of participants and not a disproportionately high number of qualified students.

With the exception of a disproportionately high number of seventh grade participants, all demographics seem to correlate with the overall demographics of the school population as a whole.

Procedure

1. The building administrator collected the Scholastic Reading Inventory Lexile levels of the middle school population. The entire student population was required to take the Scholastic Reading Inventory Assessment. Students who scored two grade levels or more below their current grade were notified of the deficiencies in reading comprehension. Notification was sent to the parents of those students noting their children were required to participate in the Summer Literacy Program.
2. Between March and the end of the school year, students were allowed to take and retake the SRI test if their scores were too low. Those students were provided interventions, strategies, and tips, by the staff to help raise scores. Data was continuously being collected, analyzed, and updated throughout this period.
3. The final list of participants was completed in May and the first set of pre-test data was complied. The first set of data was the current deficient SRI scores of the Summer Literacy Program participants.
4. The Summer Literacy Program (the intervention) was conducted for 20 days in the month of June during the summer of 2008. The participants received 120 hours of intervention instruction.
5. At the completion of the Summer Literacy Program, the participants were tested again with the Scholastic Reading Inventory and their Lexile levels were recorded. This provided the second set of data to be analyzed for comparison.

6. Upon completion of the Summer Literacy Program, the participants were surveyed and completed a questionnaire. The survey and questionnaire were to measure their perceptions of school culture, their perceived growth in reading ability, and their reading confidence level. Participation in the survey was voluntary.
7. The SRI data collected in procedural step number five was compared to the pre-test data collected in step number three. The researcher used a difference between two means: small dependent samples t-test to measure for statistically significant difference. The statistical difference will allow the researcher to accept or reject the hypothesis: The implementation of a four-week Summer Literacy Program will significantly increase comprehension levels of the participants indicated by Lexile scores when measured by the Scholastic Reading Inventory Test.
8. The survey results and the questionnaire results were analyzed for trends in beliefs and opinions.
9. This mixed method study of SRI scores and survey results were used to measure the effectiveness of the Summer Literacy Program.

Summary

The participant demographics of the Summer Literacy Program were representative of the population of the school. No subgroup was drastically over, or under-represented. The design of the program allowed for students to remain engaged throughout the day. The instruction and activity, while centered on raising reading comprehension levels, was varied to ensure a wide range of activity.

The research and implementation of the program provided a measurable set of data to analyze. The measurement tools provided a simple, but meaningful, method for data collection and analysis. The analysis of the results in Chapter IV will address the hypothesis of the study and answer the research questions.

Chapter IV: Results

The data represented in this chapter is the culmination of the research. The findings will be presented in graph or chart form whenever possible. In addition, a brief explanation will accompany a chart or graph whenever necessary. The objective of this chapter is to analyze the data to see if the hypothesis is supported and the Summer Literacy Program significantly raised achievement.

The statistical analysis portion of the study used the difference between two means: small dependent samples t-test to determine if the increase in mean Lexile scores from pre to post test data was statistically significant. A paired t-test was performed on Microsoft Excel.

The study will use the t-test to measure the change in reading scores for the entire population. The study will then go on to determine if the program was successful for the subgroups within the population as well. To determine if the increase in mean from pre-test to post-test data is significant, the results must be run through a two statement test to determine if one should reject or fail to reject the null hypothesis.

The null hypothesis (H_0) must be rejected if the t-statistic is between the critical values and the p-value is less than or equal to alpha. The alpha value represents the confidence level of the significance test. For a 95% confidence in results, alpha is equal to .05. "If the t-statistic is not between the critical values and the p-value is greater than alpha, the researcher fails to reject the null hypotheses H_0" (Bluman, 2008, p. 491).

SRI Results

Table 6

Total Demographic Data

	Pre-Intervention SRI Score	Post-Intervention SRI Score
Total Population	483	559
Total Male Population	455	554
Total Female Population	509	565
Total Special Education Population	421	488
Total Free/Reduced Lunch Population	455	533

Table 6 illustrates that the pre-intervention mean SRI score for the entire population of participants was 483. This score falls in the middle of the second grade range (300-600). The post intervention mean score for the entire population was 559. The post intervention score not only increased 76 Lexile points, but also changed the reading grade level of the entire population into the third grade range.

The total male population and the total free/reduced lunch population increased from a second to third grade reading grade level in only four weeks. All subgroups showed improvements of at least 56 Lexile points from pre to post-test. Fifty-six Lexile points equate to approximately 19 percent of a Lexile category.

For a different perspective of the increase in scores, consider the following. According to Lexile Ranges, a middle school student should increase 250 Lexile points a year. If a student were expected to increase 250 points a year over 184 school days in a

year, that particular student would need to improve 1.4 Lexile points per day. The overall average improvement for participants in the Summer Literacy Program was 2.8 points per day. The 2.8 points a day multiplied by 184 school days provides for an increase of 515 points. A 515 point increase is two full grade levels.

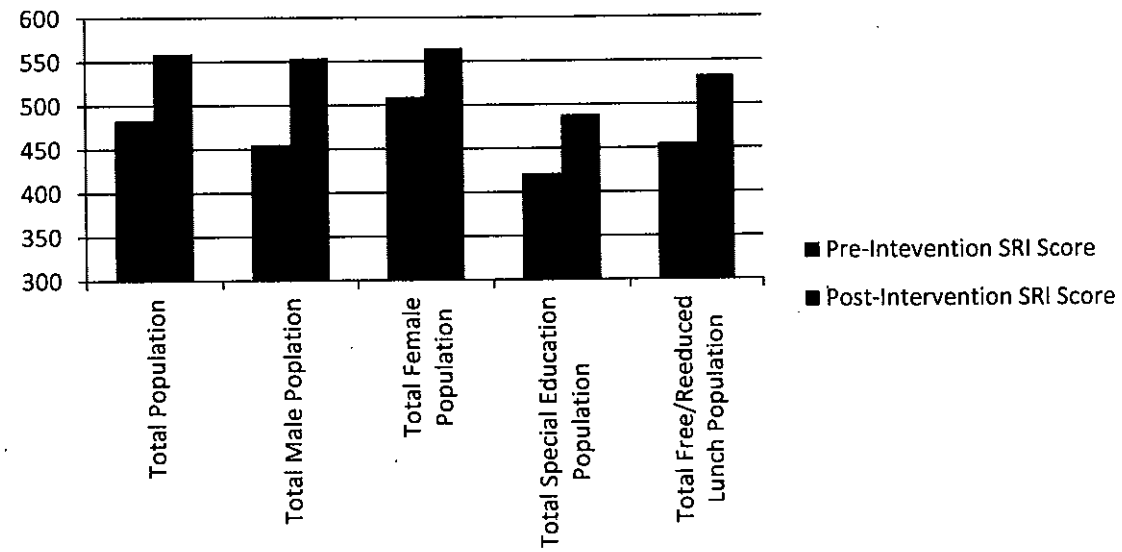

Figure 1. SRI pre-test and post-test intervention scores.

Figure 1 illustrates pre-test and post-test scores for the major demographic subgroups of the program. The left column is the pre-intervention score. The pre intervention score is the Lexile reading level of the participant before the program. The right column is the post-intervention score. The post intervention score represents the Lexile reading level of the participant after participation in the four-week program. The total male population showed the greatest improvement in average increase. The data shows improvement in every subgroup. The scale for Figure 1 begins at 300, the minimum second grade score and stops at 600, a minimum fourth grade score. Even

though the fourth grade is still two grade levels below any participant in the program, the increase in scores is still very impressive.

The total population of the summer Literacy Program increased 76 Lexile points. That improvement correlates to a 16% increase in Lexile scores from pre-test to post-test. Thirteen of the 20 groups that data was collected for improved at or higher than 16%. The total male population for the program improved 22%. The total female population improved 11%. The total female population's pre-test score (509) was 54 Lexile points higher than the total male population's pre-test (455) to begin with and ended 11 points higher. So while the percentage increase was not the same, the total female population was reading at a higher level than the total male population. The total special education population increased at 16% while the free and reduced population for the entire program increased at 17%. The population finishing with the highest Lexile score, total female population, showed the smallest increase in percent gain and was the only major subgroup to not increase at 16%.

It is important to verify that gains were statistically significant. Using the t-test to analyze data for the entire population, results showed a statistically significant increase in the mean of the post-test data when compared to the mean of the pre test. The critical values for the t-test were 1.98 and -1.98. The t-stat was -5.67. The t-stat is not between the critical values. The p-value is 0.00000038. The p-value is less than alpha (0.05). Because both of the tests meet the requirements, it is necessary to reject the null hypothesis (H_0). The null hypotheses which was rejected stated: The implementation of a four-week Summer Literacy Program will not significantly increase comprehension

levels of the participants indicated by Lexile scores when measured by the Scholastic Reading Inventory Test.

The researcher can support the hypothesis: The implementation of a four-week Summer Literacy Program will significantly increase comprehension levels of the participants indicated by Lexile scores when measured by the Scholastic Reading Inventory Test. The hypothesis was supported for the total population. The Summer Literacy Program was instrumental in helping to significantly raise comprehension levels.

The researcher continued to use the t-test to evaluate the mean increase of pre-test and post-test reading scores for each subgroup.

The researcher used the hypothesis and the null hypothesis for the remaining research involving subgroups of the population.

H_0: The implementation of a four-week Summer Literacy Program will not significantly increase comprehension levels of the participants indicated by Lexile scores when measured by the Scholastic Reading Inventory Test.

H_a: The implementation of a four-week Summer Literacy Program will significantly increase comprehension levels of the participants indicated by Lexile scores when measured by the Scholastic Reading Inventory Test.

The following data is in reference to the total male population. The critical values for the t-test were 2.04 and -2.04. The t-stat was -4.83. The t-stat was not between the critical values. The p-value was 0.0000326. The p-value was less than alpha (0.05). Because both of the tests met the requirements, it was necessary to reject the null hypothesis (H_0) and support the hypothesis (H_a). Data supported that the total male population showed statistically significant increases.

The following data is in reference to the total female population. The critical values for the t-test were 2.04 and -2.04. The t-stat was -3.43. The t-stat was not between the critical values. The p-value is 0.001739. The p-value was less than alpha (0.05). Because both of the tests meet the requirements, it was necessary to reject the null hypothesis (H_0) and support the hypothesis (H_a). Data supported that the total female population showed statistically significant increases.

The following data is in reference to the total special education population. The critical values for the t-test were 2.11 and -2.11. The t-stat was -3.77. The t-stat was not between the critical values. The p-value was 0.001516. The p-value was less than alpha (0.05). Because both of the tests meet the requirements, it was necessary to reject the null hypothesis (H_0) and support the hypothesis (H_a). Data supports that the total special education population showed statistically significant increases.

The following data is in reference to the total free and reduced lunch population. The critical values for the t-test were 2.04 and -2.04. The t-stat was -6.38. The t-stat was not between the critical values. The p-value was 0.000000422. The p-value was less than alpha (0.05). Because both of the tests meet the requirements, it was necessary to reject the null hypothesis (H_0) and support the hypothesis (H_a). The total free and reduced lunch population showed statistically significant increases.

Table 7

Sixth Grade Demographic Results

	Pre-Intervention SRI Score	Post-Intervention SRI Score
Total Population	496	574
Total Male Population	522	590
Total Female Population	477	561
Total Special Education Population	485	523
Total Free/Reduced Lunch Population	526	592

Table 7 illustrates the sixth grade group of participants' average increased 78 Lexile points, or the equivalent of 3.9 Lexile points per day. With the exception of the sixth grade demographic, all other subgroups increased at a greater rate than the population as a whole. The sixth grade participants qualifying for free or reduced lunch had the highest collective Lexile score of all subgroup demographics with 592 points.

The total sixth grade population increased at 16%. This increase corresponds to the same percentile increase of the program as a whole. The sixth grade male population increased at 13%. This increase did not improve Lexile scores at the rate of the entire population (16%) or at the rate of the entire male population (22%). The entire male population increased an average of 99 Lexile points. The sixth grade male population increased an average of 68 points but finished with a higher Lexile average (590) than the total male population (554) and the total population (559). The total sixth grade male population finished with the third highest average Lexile score of any subgroup. The

sixth grade female population increased the average post-test Lexile scores 18%. The sixth grade female population finished with a higher Lexile average (561) than the total population (559) but not as high as the total female population (565). The 18% increase however was greater than the increase for the total female population (11%). With the exception of the one subgroup that declined by 2%, the sixth grade special education population increased the least with a 32 point Lexile gain. The sixth grade special education population increased 8% from pre-test to post-test. The gain was not close to the percent gain of the total population (16%) or the special education total population (16%). The final Lexile score for the sixth grade special education population (523) was however, 35 points higher than the Lexile score for the special education total population (488). The sixth grade free and reduced lunch population increase was 66 Lexile points or 13%. The sixth grade free and reduced population finished the program with the second highest average Lexile score of any group (592).

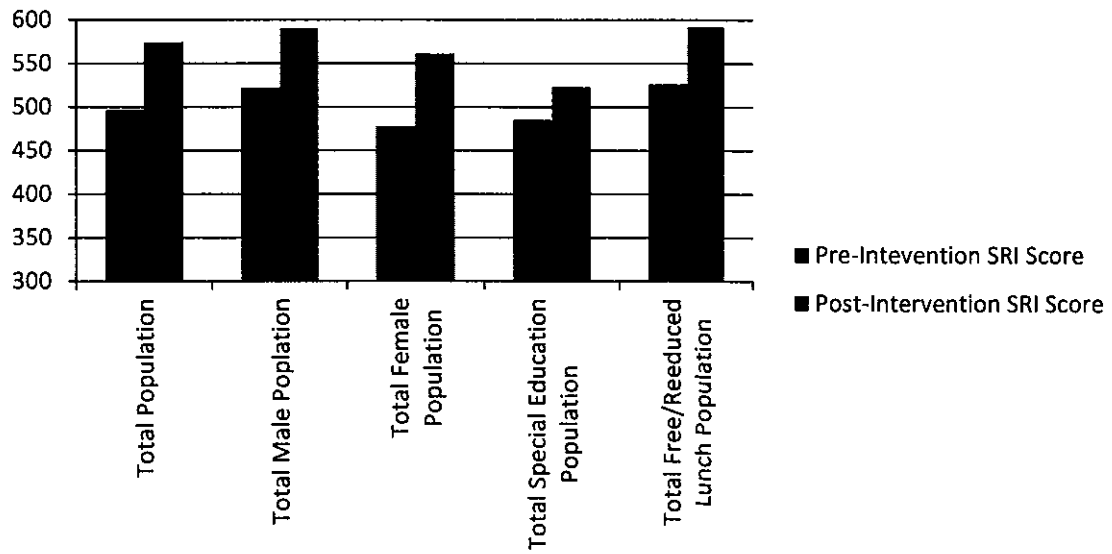

Figure 2. Sixth grade SRI average scores pre and post intervention.

Figure 2 illustrates pre-test and post-test scores for the sixth grade and sixth grade subgroups of the program. The left column is the pre-intervention score. The right column is the post-intervention score. The scale for Figure 2 begins at 300, the minimum second grade score and stops at 600, a minimum fourth grade score.

To test the total sixth grade population with a t-test for the difference in means, the following null hypothesis was considered: The implementation of a four-week Summer Literacy Program will not significantly increase comprehension levels of the participants indicated by Lexile scores when measured by the Scholastic Reading Inventory Test.

The following data is in reference to the total sixth grade population. The critical values for the t-test were 2.06 and -2.06. The t-stat was -4.29. The t-stat was not between the critical values. The p-value was 0.000252. The p-value was less than alpha (0.05). Because both of the tests met the requirements, it was necessary to reject the null hypothesis (H_0) and support the hypothesis (H_a). Data supports that the sixth grade total population showed statistically significant increases.

In analyzing each of the subgroups for the sixth grade population, the following null hypothesis was considered: The implementation of a four-week Summer Literacy Program will not significantly increase comprehension levels of the participants indicated by Lexile scores when measured by the Scholastic Reading Inventory Test.

The following data is in reference to the total sixth grade male population. The critical values for the t-test were 2.22 and -2.22. The t-stat was -2.17. The t-stat was between the critical values. The p-value was 0.054861. The p-value was greater than alpha (0.05). Because both of the tests meet the requirements, it was necessary to fail to

reject the null hypothesis (H_0) and fail to support the hypothesis (H_a). While the total sixth grade male population showed an increase in the mean from pre-test to post-test data, the increase was not statistically significant.

The following data is in reference to the total sixth grade female population represented in Table 14. The critical values for the t-test were 2.16 and -2.16. The t-stat was -3.93. The t-stat was not between the critical values. The p-value was 0.001734. The p-value was less than alpha (0.05). Because both of the tests met the requirements, it was necessary to reject the null hypothesis (H_0) and support the hypothesis (H_a). Data supported that the total sixth grade female population showed statistically significant increases.

The following data is in reference to the total sixth grade special education population. The critical values for the t-test were 3.18 and -3.18. The t-stat was -1.18. The t-stat was between the critical values. The p-value was 0.322851. The p-value was greater than alpha (0.05). Because both of the tests meet the requirements, it was necessary to fail to reject the null hypothesis (H_0) and fail to support the hypothesis (H_a). While the sixth grade special education population showed an increase in the mean from pre-test to post-test data, the increase was not statistically significant.

The following data is in reference to the total sixth grade free /reduced lunch population. The critical values for the t-test were 2.22 and -2.22. The t-stat was –3.39. The t-stat was not between the critical values. The p-value was 0.006825. The p-value was less than alpha (0.05). Because both of the tests meet the requirements, it was necessary to reject the null hypothesis (H_0) and support the hypothesis (H_a). Data

supports that the total sixth grade free /reduced lunch population showed statistically significant increases.

Table 8

Seventh Grade Demographic Results

	Pre-Intervention SRI Score	Post-Intervention SRI Score
Total Population	450	539
Total Male Population	416	545
Total Female Population	486	536
Total Special Education Population	397	459
Total Free/Reduced Lunch Population	433	513

Table 8 illustrates the average of the total seventh grade population was the largest increase of the three grade levels. The group increased 89 Lexile points, or 4.45 points per day. The increase of 4.45 points per day multiplied over a year equates to over 800 points. Eight hundred points within a year would be atypical. That drastic of an increase would move a child from a first grade level (100 points) to an eighth grade reading level at (900 points). The seventh grade male population increased 129 points. This was the highest increase by a single subgroup in the program.

The total seventh grade population increased at 20%. This increase corresponds to a greater percentile increase than the program (16%). The seventh grade male population increased at 31%. This increase was the highest of any group. The 31% increase almost doubled the entire population (16%) and was higher than the rate of the entire male

population (22%). The entire male population increased an average of 99 Lexile points. The seventh grade male population increased an average of 129 points but finished with a lower Lexile average (545) than the total male population (554) and the total population (559). The seventh grade female population increased the average post-test Lexile scores 10%. The seventh grade female population finished with a lower Lexile average (536) than the total population (559) or the total female population (565). The 10% increase was less than the increase for the total female population (11%). The seventh grade special education population increased with a 62 point Lexile gain. The seventh grade special education population increased 16% from pre-test to post-test. The gain was the percent gain of the total population (16%) and the special education total population (16%). The final Lexile score for the seventh grade special education population (459) was 29 points lower than the Lexile score for the special education total population (488). The seventh grade free and reduced lunch population increase was 80 Lexile points or 18%. The seventh grade free and reduced lunch population improved one percentage point more than the total free and reduced population but finished with a 20 point lower Lexile average.

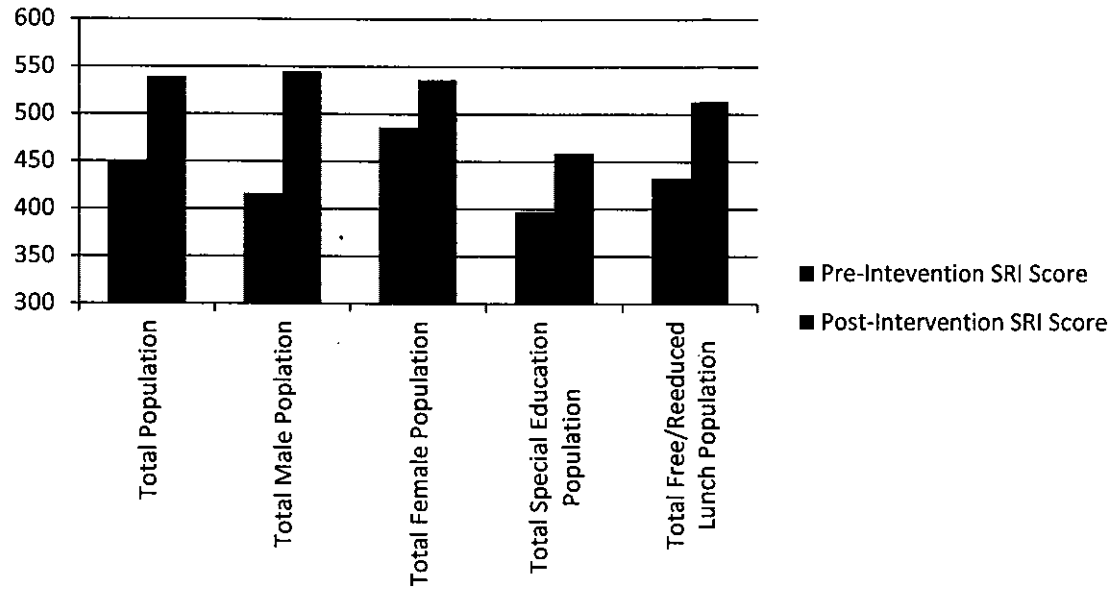

Figure 3. Seventh grade SRI average scores pre and post interventions.

Figure 3 shows pre-test and post-test scores for the seventh grade and seventh grade subgroups of the program. The left column is the pre-intervention score. The right column is the post-intervention score. The scale for Figure 3 begins at 300, the minimum second grade score and stops at 600, a minimum fourth grade score.

In using the t-test for the difference in means to analyze data from the total seventh grade population, the following null hypothesis was considered: The implementation of a four-week Summer Literacy Program will not significantly increase comprehension levels of the participants indicated by Lexile scores when measured by the Scholastic Reading Inventory Test.

The following data is in reference to the total seventh grade population. The critical values for the t-test were 2.05 and -2.05. The t-stat was –3.68. The t-stat was not between the critical values. The p-value was 0.001064. The p-value was less than alpha (0.05). Because both of the tests meet the requirements, it was necessary to reject the null

hypothesis (H_0) and support the hypothesis (H_a). Data supported that the total seventh grade population showed statistically significant increases.

When using the t-test for the difference between means to analyze subgroups for the total seventh grade population the following null hypothesis was considered: The implementation of a four-week Summer Literacy Program will not significantly increase comprehension levels of the participants indicated by Lexile scores when measured by the SRI Test.

The following data is in reference to the total seventh grade male population. The critical values for the t-test were 2.14 and -2.14. The t-stat was –3.80. The t-stat was not between the critical values. The p-value was 0.001955. The p-value was less than alpha (0.05). Because both of the tests meet the requirements, it was necessary to reject the null hypothesis (H_0) and support the hypothesis (H_a). Data supported that the total seventh grade male population showed statistically significant increases.

The following data is in reference to the total seventh grade female population. The critical values for the t-test were 2.17 and -2.17. The t-stat was -1.71. The t-stat was between the critical values. The p-value was 0.112756. The p-value was greater than alpha (0.05). Because both of the tests meet the requirements, it was necessary to fail to reject the null hypothesis (H_0) and fail to support the hypothesis (H_a). While the total seventh grade female population showed an increase in the mean from pre-test to post-test data, the increase was not statistically significant.

The following data is in reference to the total seventh grade special education population. The critical values for the t-test were 2.36 and -2.36. The t-stat was –2.88. The t-stat was not between the critical values. The p-value was 0.023438. The p-value

was less than alpha (0.05). Because both of the tests meet the requirements, it was necessary to reject the null hypothesis (H_0) and support the hypothesis (H_a). Data supports that the total seventh grade special education population showed statistically significant increases.

The following data is in reference to the total seventh grade free /reduced lunch population. The critical values for the t-test were 2.14 and -2.14. The t-stat was –5.18. The t-stat is not between the critical values. The p-value is 0.000141. The p-value is less than alpha (0.05). Because both of the tests meet the requirements, it is necessary to reject the null hypothesis (H_0) and support the hypothesis (H_a). Data supports that the total seventh grade free /reduced lunch population showed statistically significant increases.

Table 9

Eighth Grade Demographic Results

	Pre-Intervention SRI Score	Post-Intervention SRI Score
Total Population	530	573
Total Male Population	436	517
Total Female Population	661	651
Total Special Education Population	411	505
Total Free/Reduced Lunch Population	382	475

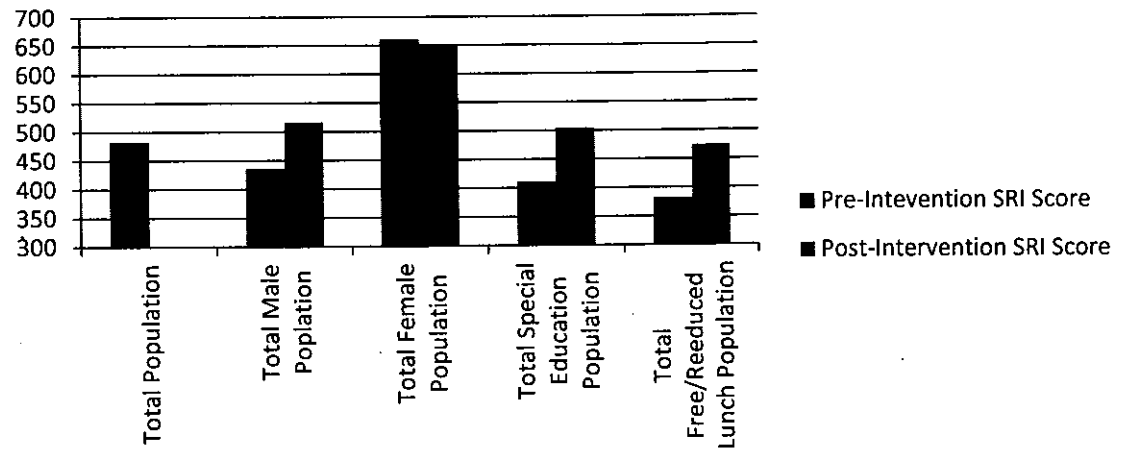

Figure 4. Eighth grade SRI average scores pre and post interventions.

Table 9 illustrates the eighth grade total population averaged an increase of 43 Lexile points. This was the lowest increase in points by any grade level population. The subgroup increased at a rate lower than the average of the total population. One factor contributing to the lower increase was the eighth grade female population actually decreased in overall score by 10 Lexile points.

Figure 4 shows pre-test and post-test scores for the eighth grade and eighth grade subgroups of the program. The left column is the pre-intervention score. The right column is the post-intervention score. The scale for Figure 4 begins at 300, the minimum second grade score and stops at 600, a minimum fourth grade score.

The total eighth grade population increased at 8%. This increase corresponds to a smaller percentile increase than the program (16%). The eighth grade male population increased at 19%. The 19% increase was greater than the entire population (16%) but was lower than the rate of the entire male population (22%). The entire male population

increased an average of 99 Lexile points. The eighth grade male population increased an average of 81 points but finished with a lower Lexile average (517) than the total male population (554) and the total population (559). The eighth grade female population was the only group to decrease in Lexile average from pre-test to post-test. The average post-test Lexile scores decreased 2%. The eighth grade female population started and finished with a higher Lexile average (661, 651) than any other group. The 2% decrease was in contrast to the total female population increase (11%). The eighth grade special education population increased with a 97 point Lexile gain. The eighth grade special education population increased 23% from pre-test to post-test. The gain was greater than the percent gain of the total population (16%) and the special education total population (16%). The final Lexile score for the eighth grade special education population (505) was 17 points higher than the Lexile score for the special education total population (488). The eighth grade free and reduced lunch population increase was 93 Lexile points or 24%. The eighth grade free and reduced lunch population improved 7% more than the total free and reduced population but finished with a 58 point lower Lexile average.

To analyze the total eighth grade population Lexile scores with a t-test comparison for the difference between means the following null hypothesis was considered: The implementation of a four-week Summer Literacy Program will not significantly increase comprehension levels of the participants indicated by Lexile scores when measured by the Scholastic Reading Inventory Test.

The following data is in reference to the total eighth grade population. The critical values for the t-test were 2.20 and -2.20. The t-stat was -1.8. The t-stat was between the critical values. The p-value was 0.141392. The p-value was greater than alpha (0.05).

Because both of the tests meet the requirements, it was necessary to fail to reject the null hypothesis (H_0) and fail to support the hypothesis (H_a). While the total eighth grade population showed an increase in the mean from pre-test to post-test data, the increase was not statistically significant.

When using the t-test for the difference between means for the subgroups of the total eighth grade male population the following null hypothesis was considered: The implementation of a four-week Summer Literacy Program will not significantly increase comprehension levels of the participants indicated by Lexile scores when measured by the Scholastic Reading Inventory Test.

The following data is in reference to the total eighth grade male population. The critical values for the t-test were 2.44 and -2.44. The t-stat was -2.09. The t-stat was between the critical values. The p-value was 0.08076. The p-value was greater than alpha (0.05). Because both of the tests meet the requirements, it was necessary to fail to reject the null hypothesis (H_0) and fail to support the hypothesis (H_a). While the total eighth grade male population showed an increase in the mean from pre-test to post-test data, the increase was not statistically significant.

The following data is in reference to the total eighth grade female population. The critical values for the t-test were 2.77 and -2.77. The t-stat was 0.41. The t-stat was between the critical values. The p-value was 0.6991. The p-value was greater than alpha (0.05). Because both of the tests meet the requirements, it was necessary to fail to reject the null hypothesis (H_0) and fail to support the hypothesis (H_a). The total eighth grade female population showed a decrease in the mean from pre-test to post-test data.

The following data is in reference to the total eighth grade special education population. The critical values for the t-test were 2.57 and -2.57. The t-stat was -2.27. The t-stat was between the critical values. The p-value was 0.0724. The p-value was greater than alpha (0.05). Because both of the tests meet the requirements, it was necessary to fail to reject the null hypothesis (H_0) and fail to support the hypothesis (H_a). While the total eighth grade special education population showed an increase in the mean from pre-test to post-test data, the increase was not statistically significant.

The following data is in reference to the total eighth grade free/reduced lunch population. The critical values for the t-test were 2.57 and -2.57. The t-stat was -2.23. The t-stat was greater than the critical values. The p-value was 0.076484. The p-value was greater than alpha (0.05). Because both of the tests meet the requirements, it was necessary to fail to reject the null hypothesis (H_0) and fail to support the hypothesis (H_a). While the total eighth grade free/reduced lunch population showed an increase in the mean from pre-test to post-test data, the increase was not statistically significant.

Survey Results

To accurately measure the perceived climate perspective of the participants, the researcher provided a survey to participants of the Summer Literacy Program. Participation in the survey was voluntary. Thirty-nine surveys were returned. The survey was a Likert Scale survey set up with four answers possible to each question. The students circled the number that corresponded to the answer they thought best fit the question. The possible answers the participant could choose from were four (4), which meant the student strongly agreed with the statement, three (3), the participant agreed

with the statement, two (2), the participant disagreed with the statement, and one (1), the participant strongly disagreed with the statement.

The survey consisted of 15 Likert Scale questions and three open ended questions for the participants to write in responses. The researcher will assume an answer of strongly agree and agree would be a favorable answer to the question while disagree and strongly disagree would be a non-favorable answer towards the question.

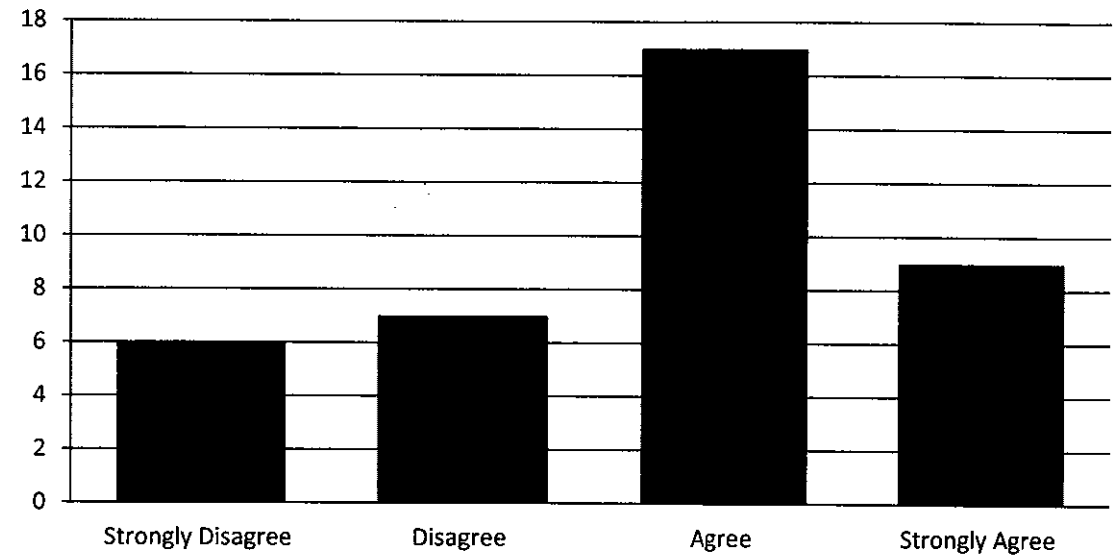

Figure 5. Survey Question 1: The teachers made me feel a part of the class.

Figure 5 illustrates that of the 39 responses to Survey Question 1, 26 participants responded in agreement. Sixty-seven percent of survey participants agreed the teachers made them feel a part of the class. This allows the researcher to feel confident that the teachers did a good job of including all students. The following is a numerical breakdown of the answers: six strongly disagreed, seven disagreed, 17 agreed, and nine strongly agreed.

Without a feeling of security and belonging, students will not feel comfortable in taking chances to expand and grow their education (Major, 2009). The intended culture of including participants in their own education was part of the intended culture. The participants who responded to the survey felt included verifying the research in Chapter II.

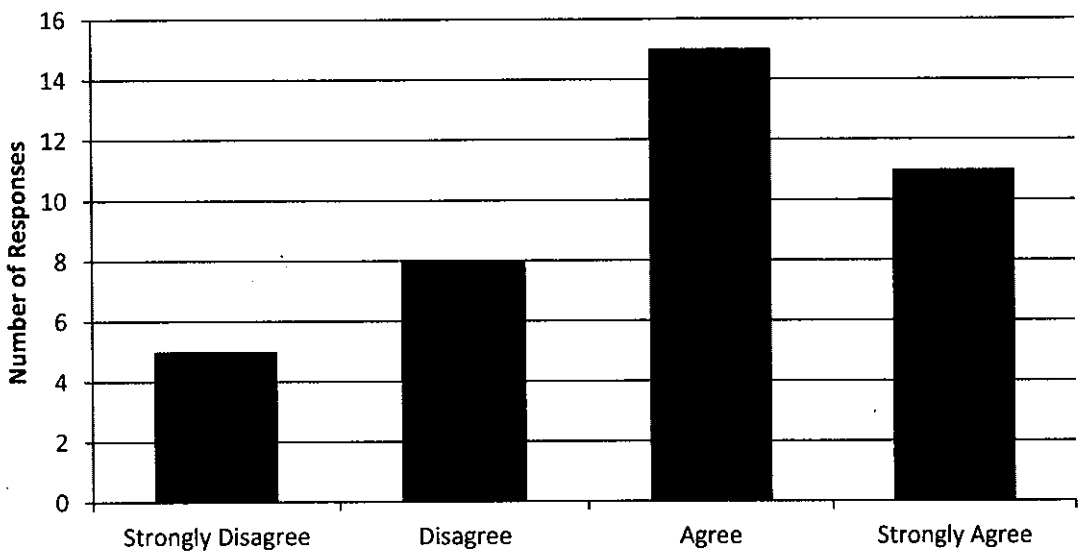

Figure 6. Survey Question 2: I felt more successful in the summer literacy program than during the regular school year.

Thirty-nine participants responded the Survey Question 2 (see Figure 6). Sixty-six percent, or 26 people, of the surveyed participants agreed they felt more successful in the summer program than during the regular school year. This was a concern of the staff knowing the participants had to experience success within the 20 days. The following is a numerical breakdown of the answers: five strongly disagreed, eight disagreed, 15 agreed, and 11 strongly agreed.

The feeling of success for the individual was paramount to the staff. Many of the participants had passing grades from the school year but lacked success in regards to reading. Parents had concerns that their child, due to passing grades, was already successful and did not have a reason to send their child. The feeling of success for the student allowed them to grow in confidence and provided validation for the program. The Summer Literacy Program culture was based on a belief in effort, success, and celebration.

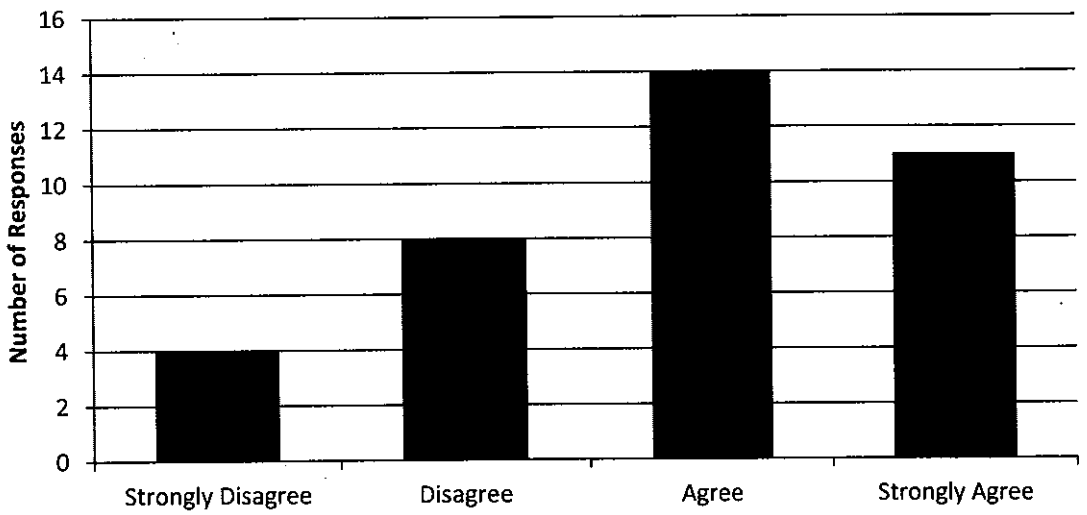

Figure 7. Survey Question 3: The teachers made me feel safe to take chances with my reading.

Only 37 of the 39 participants who completed the survey responded to this question (see Figure 7). Sixty-eight percent of those surveyed believed the teachers allowed the participants to feel safe to take chances with their reading. The following is a numerical breakdown of the answers: four strongly disagreed, eight disagreed, 14 agreed, and 11 strongly agreed.

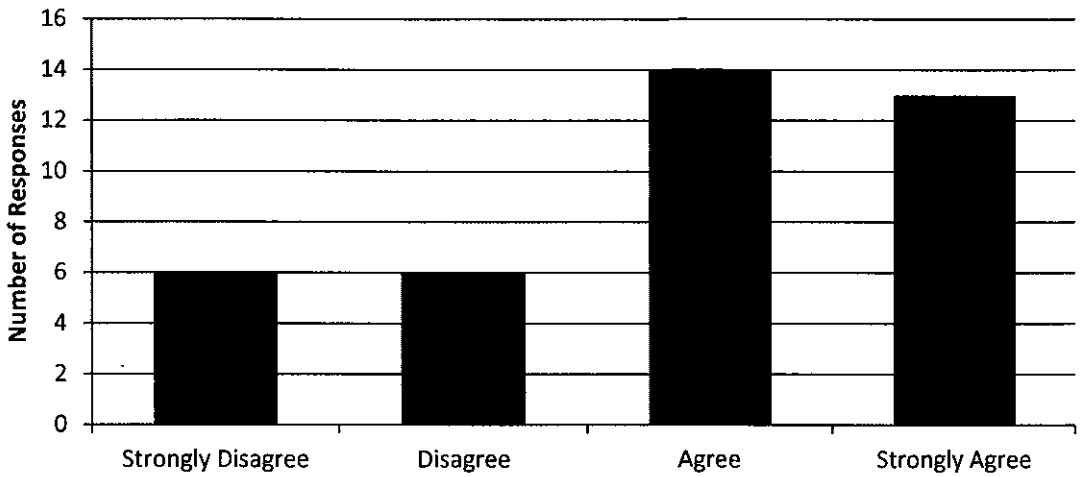

Figure 8. Survey Question 4: The Teachers made me feel better about my reading ability.

Figure 8 illustrates that 69 percent of the participants completing the survey agreed the teachers made them feel better about their reading ability. This question was asked to determine if the participants were increasing their confidence level as well as their actual reading level. The numerical breakdown of the answers: six strongly disagreed, six disagreed, 14 agreed, and 13 strongly agreed.

Confidence and success go together. Sixty-nine percent of participants felt the teachers made the students feel better about their reading ability. There exists a statistically significant relationship between school climate and student achievement (Marzano, 2003). The intentional school climate established by the teachers allowed the participants to feel better about their reading ability.

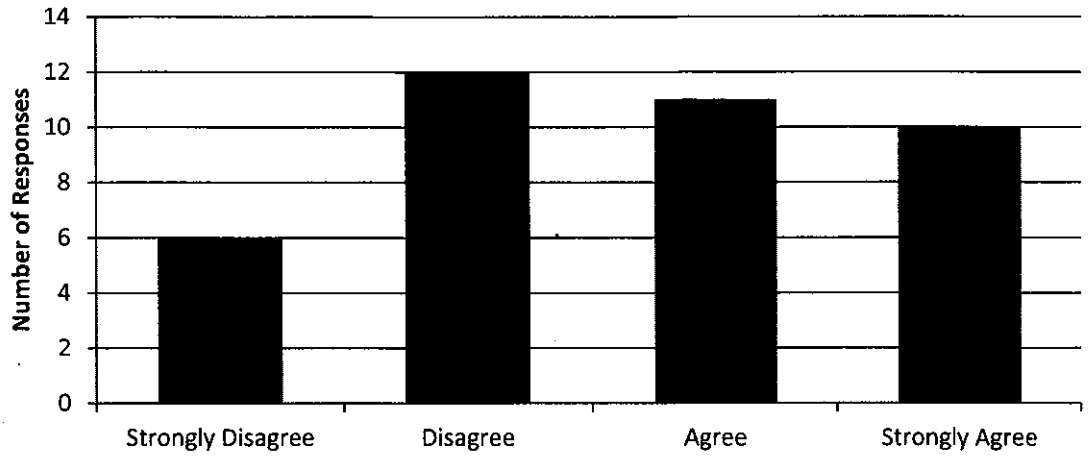

Figure 9. Survey Question 5: The program gave me helpful hints to be a better reader

The results in from this question illustrated in Figure 9 are not as strong in the favorable response category. Fifty-four percent of the survey participants felt the teachers provided them with useful hints to be a better reader while 46 percent believed they were not given helpful hints.

The curriculum was designed specifically to provide hints for the participants to be better readers and increase comprehension. The disconnect between this answer and the post-test results do not match. Still, a majority of participants felt the teachers provided helpful hints. Figure 9 illustrates a numerical breakdown of the answers: six strongly disagreed, 12 disagreed, 11 agreed, and 10 strongly agreed.

Figure 10 illustrates participant response to Survey Question Six. The response to a question directly relating to confidence question is overwhelmingly agreeable and supports a goal of the program. Seventy percent of those surveyed felt their participation in the Summer Literacy Program provided a change in confidence to read in front of a

class. According to Major (2009) confidence, success, and happiness build on one another. The success the students felt from the culture, allowed them to take chances and participate by reading in front of the class.

Figure 10 provides a numerical breakdown of the answers: eight strongly disagreed, three disagreed, 15 agreed, and 11 strongly agreed. This question had the highest amount of survey participants in the strongly disagree category.

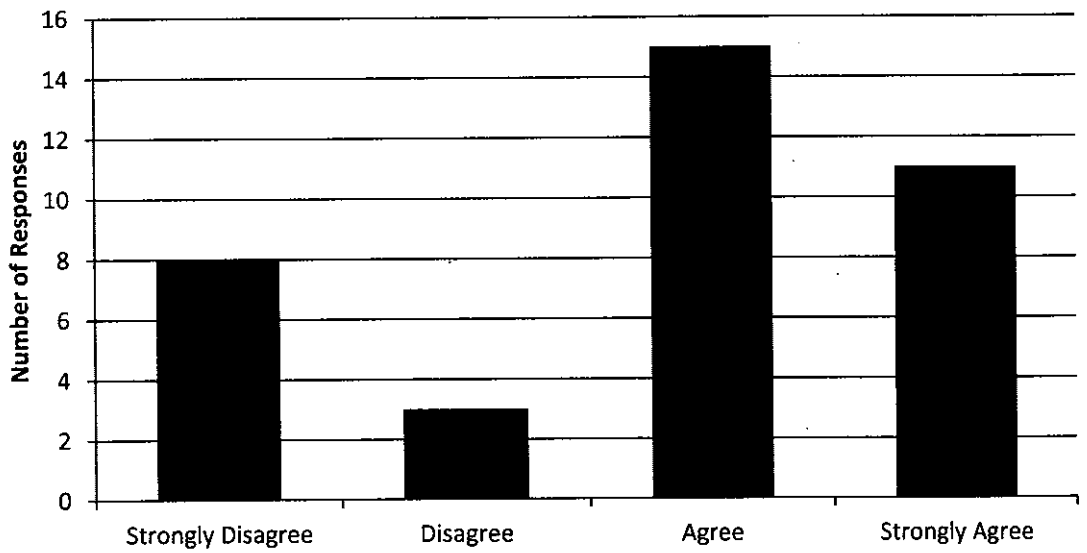

Figure 10. Survey Question 6: The program has given me the confidence to read in front of my class.

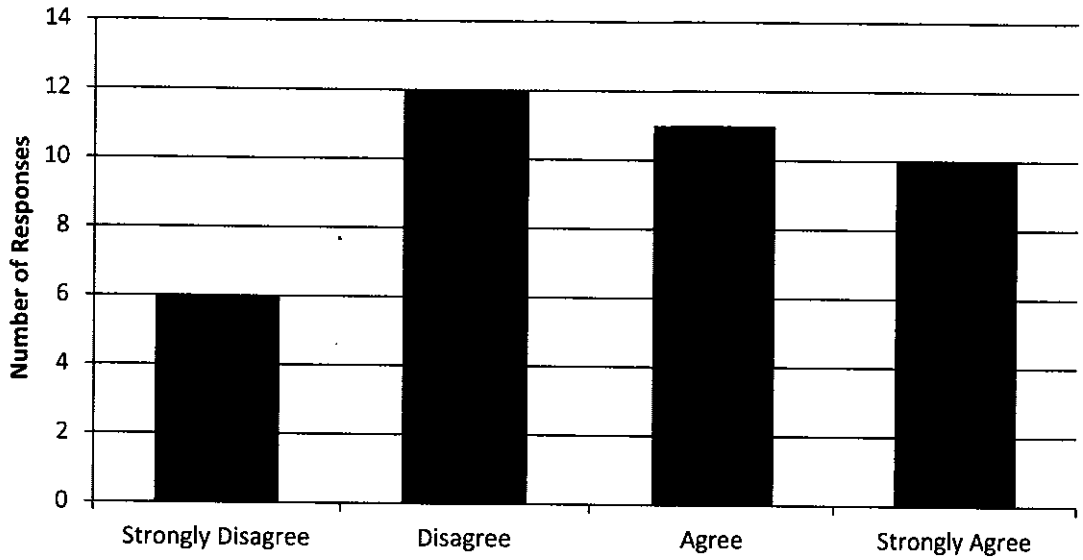

Figure 11. Survey Question 7: I comprehend more of what I read now.

Fifty-four percent of the students agreed with the statement in Survey Question 7 (see Figure 11). The results from the SRI tests shows the participants increased comprehension levels. Responses to other questions show an increase in confidence. While the majority agreed they comprehend more of what they read, the agreement levels were not as strong as in the other questions. Figure 11 includes a numerical breakdown of the answers: six strongly disagreed, 12 disagreed, 11 agreed, and 10 strongly agreed.

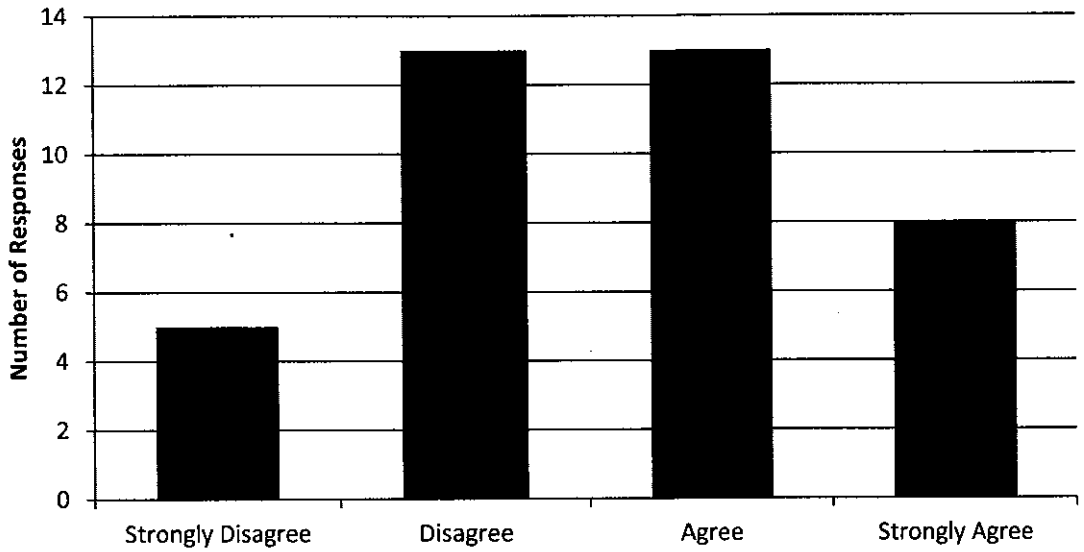

Figure 12. Survey Question 8: I feel more comfortable with vocabulary and dictionary use

Sixty-six percent of the students agree they feel more comfortable with vocabulary and dictionary use. The program was successful in providing strategies to make two-thirds of the survey participants feel more comfortable when using a dictionary. Figure 12 illustrates a numerical breakdown of the answers: five strongly disagreed, 13 disagreed, 13 agreed, and eight strongly agreed. This question had the highest number of those disagreeing with any question on the survey.

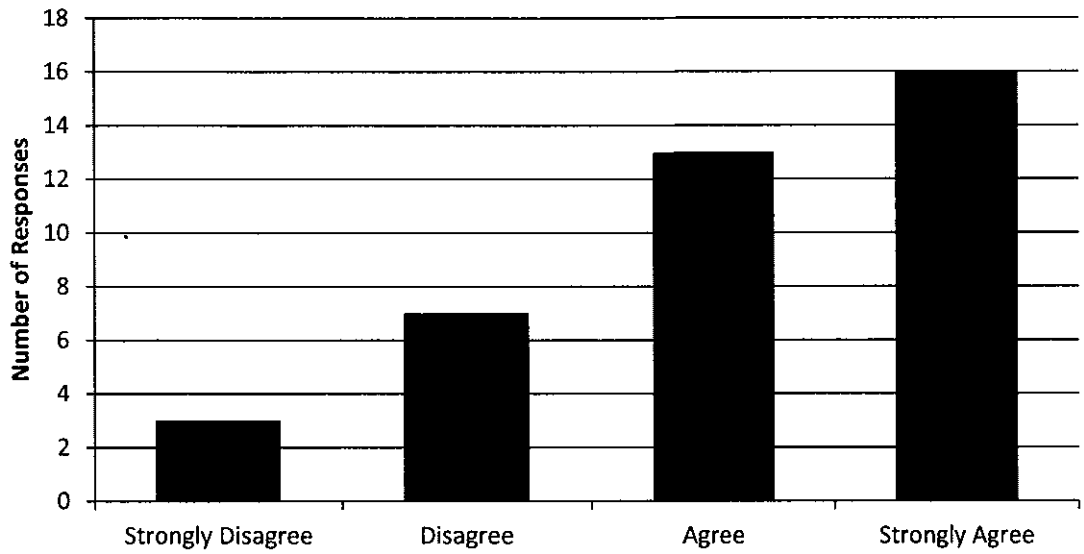

Figure 13. Survey Question 9: I feel more comfortable with high frequency words

The repeated use of high frequency words allowed 74% of the surveyed participants to feel more comfortable with high frequency words. The word list was used by each class everyday at the beginning of every class. Figure 13 illustrates a numerical breakdown of the answers: three strongly disagreed, seven disagreed, 13 agreed, and 16 strongly agreed. This question had the highest number of those strongly agreeing with any question on the survey.

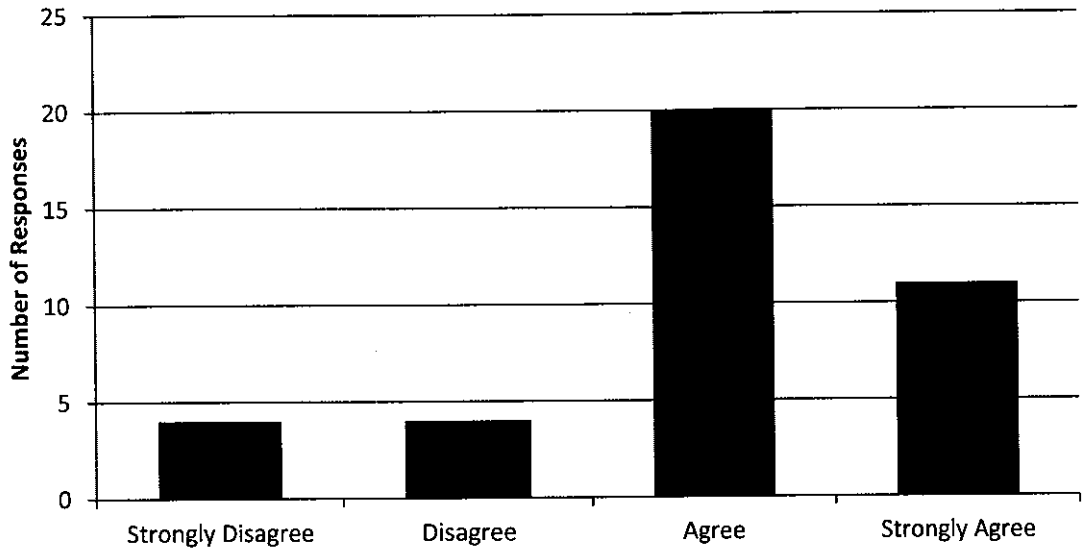

Figure 14. Survey Question 10: I have used at least one strategy that I learned this summer.

Eighty percent of participants who completed the survey used at least one strategy they were taught during the Summer Literacy Program. The results of this reveals the program was successful in providing strategies for students to use to aid comprehension when reading. The students used what they learned to become better readers. Figure 14 provides a numerical breakdown of the answers: four strongly disagreed, four disagreed, 20 agreed, and 11 strongly agreed. This question had the highest number of participants agreeing with the statement.

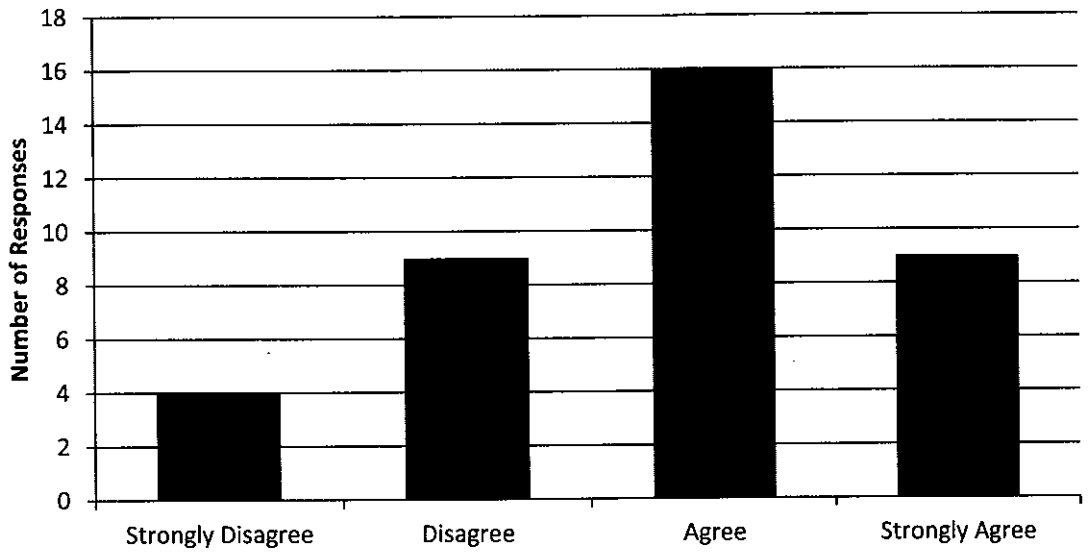

Figure 15. Survey Question 11: I felt I was a better reader at the end of the program.

Two-thirds of the participants who completed the survey believe they were a better reader at the end of the program. Figure 15 provides a numerical breakdown of the answers: four strongly disagreed, nine disagreed, 16 agreed, and nine strongly agreed.

The overwhelming feeling that the participant was a better reader at the end of the program speaks volumes to the accomplishments and dedication of the staff. Not only was the staff successful in providing strategies for the students to make them better readers, the staff was able to change the belief system of a student for the better.

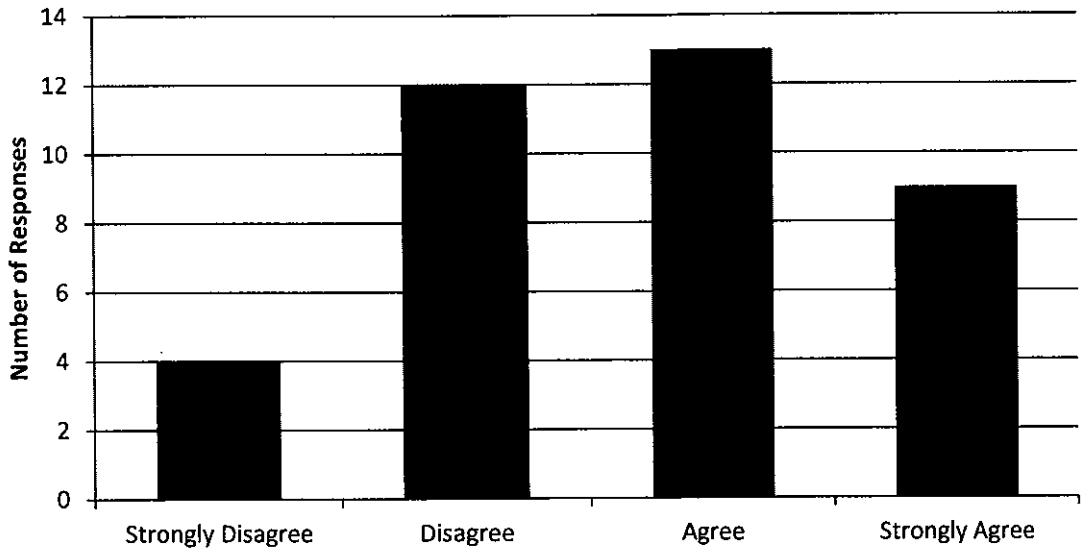

Figure 16. Survey Question 12: I will read more because of my participation in the program.

Sixty-six percent of the participants answered that they will read more. Figure 16 provides a numerical breakdown of the answers: four strongly disagreed, 12 disagreed, 13 agreed, and nine strongly agreed. Sixty-six percent of those participants who completed a survey are excited about reading. The intent of the Summer Literacy Program was to not only help increase comprehension levels but to change the habits of participants. More exposure to reading will help in the fluency and vocabulary ability of participants in future educational endeavors.

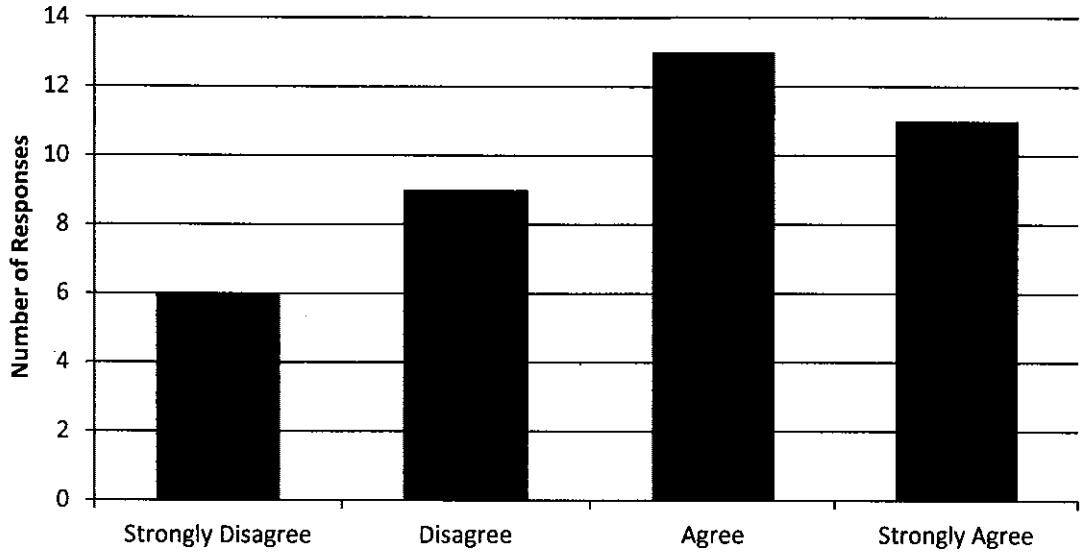

Figure 17. Survey Question 13: The program has given me more confidence when I read.

Sixty-one percent of those students who completed the program feel they have more confidence. Figure 17 provides a numerical breakdown of the answers: six strongly disagreed, nine disagreed, 13 agreed, and 11 strongly agreed.

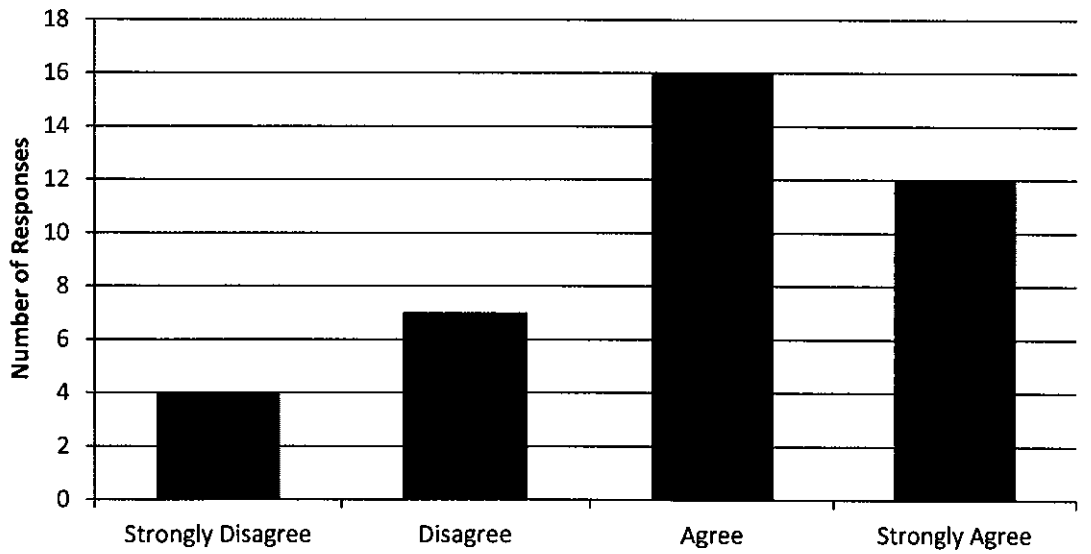

Figure 18. Survey Question 14: I feel the summer program was successful.

Seventy-two percent of those surveyed agreed the summer program was successful. Figure 18 provides a numerical breakdown of the answers: four strongly disagreed, seven disagreed, 16 agreed, and 12 strongly agreed.

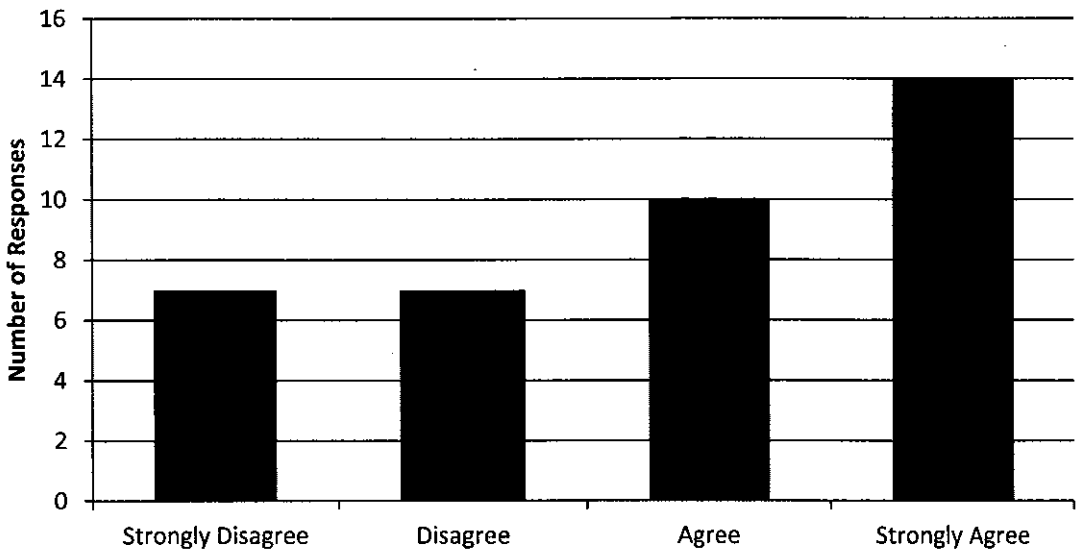

Figure 19. Survey Question 15: I would participate in the program again.

Sixty-three percent of those surveyed would participate in the program again. The participants who responded in agreement with the question feel the program was so successful that they would give up a month of their summer to participate again. Figure 19 provides a numerical breakdown of the answers: seven strongly disagreed, seven disagreed, 10 agreed, and 14 strongly agreed.

The researcher devised questions on the survey for students to have input outside of the Likert Scale answers. The participants were asked to answer the question to provide more insight into the Summer Literacy Program.

Open Ended Survey Questions

Survey Question 1: What was the best part of the summer literacy program?

The three predominant answers were friends, food, and the teachers. The response "nothing" and "the end" also seemed to be popular. The comment "it helped me be a better reader" appeared on two of the responses.

The responses that specifically named certain teachers were quite comforting about the culture. These teachers took the time to build relationships and make the class personal for the participants. The participant was able to feel comfortable and confident in those specific classrooms.

Survey Question 2: Do you feel you are a better reader now because of the program? Why?

While some students clearly understood the question and provided the appropriate answer, others provided the bare minimum. The exciting part of the responses however was that only five of the respondents felt that they were not a better reader. Some of the answers below provide some very good thought and understanding of the ability level of the students. Some student responses are listed below: I do because I remember what I read; Yes because I know how to breakdown the words and write a paragraph after every chapter; Yes, because I can read better; Yes, because my reading score improved; Yes, because I think I can read better and that makes me feel smarter; Yes, because I felt I could do better in front of a class sooner or later so summer school helped me do that; Yes, because it made me feel more comfortable; A little bit because they made you read the word list over and over again; Yes, I love to read now.

The positive responses to this question is a testament to the staff and the design of the Summer Literacy Program. So many participants felt confident about their ability to read.

Survey Question 3: What would have made the summer program better?

Even though the district provided both breakfast and lunch free of charge to all participants, "more food, soda, and fun stuff" would have made the program better. While the answer "no teachers" was given, some thought it was decided for liability reasons that teachers would be required again for the next year. Fewer hours would be an honest answer since the day consisted of four, 90 minute classes. However, several answers to the question seemed that the program was suitable for their needs.

The response to this question shows the success of the program. Either the participants had the opportunity to put in writing the components of the program they disagreed with or items they felt could have improved the program. A lack of a real answer from any of the students showed the program was successful and well thought out.

Summary

The increase in reading comprehension Lexile scores for the entire population was statistically significant. The gain showed by the participants at all levels was excellent. With the exception of one group that did not show an increase, each subgroup, according to the results from the SRI test, had a higher comprehension level at the end of the program than when the program began.

The ability of the students to read better was easily quantifiable. Either there was going to be in increase in pre-test to post-test scores, or there was not. The culture of the

program was harder to measure. The Likert survey data showed a majority response of participants agreeing with the statement. The participant response was overwhelming in support of the climate of the Summer Literacy Program.

Chapter V – Discussion and Conclusions

The purpose of this study is to evaluate the impact of the four-week Summer Literacy Program in the areas of reading comprehension and participant confidence levels. Quantitative data was gathered through measuring the Scholastic Reading Inventory Levels while student confidence was measured qualitatively through a survey. The study was conducted at a middle school during the summer of 2008. The research is analyzing the use of the Summer Literacy Program as an intervention to promote positive effects on participant reading levels and confidence. The main research question the study answered was: Was the Summer Literacy Program successful for the participants? Three research sub-questions follow:

1. Was there an overall increase in the reading levels of participants?
2. How did the implementation of the intervention affect subgroups?
3. Did the survey and questionnaire reveal a positive reaction to the culture of the program?

The research question and sub-questions explored what factors led to the positive reaction and how successful was the program.

The hypothesis for the study was, The implementation of a four-week Summer Literacy Program will significantly increase comprehension levels of the participants indicated by Lexile scores when measured by the Scholastic Reading Inventory Test. The data analyzed were student Lexile scores from the Scholastic Reading Inventory (SRI). The SRI is a computerized reading comprehension test. SRI Lexile scores and reading levels were recorded prior to the start of the four-week program and then

compared to the SRI Lexile scores and reading level results after the four-week Summer Literacy Program.

The researcher analyzed the pre-test and post-test Lexile scores of the participants with the use of a t-test for the difference between means, as well as the optional surveys completed through use of patterns within the responses. The SRI scores were analyzed for Lexile score change, which would indicate a change in reading level and the survey instrument was analyzed to measure the reading confidence levels of students.

Summary of Major Findings and Conclusions

The null hypothesis (H_0) was rejected and the hypothesis (H_a) was supported. The Summer Literacy Program significantly improved the reading levels of the participants. The average increase of the total population was statistically significant. Every group and subgroup, with the exception of eighth grade female participants produced a pre-test to post-test increase. Not all subgroups showed a statistically significant increase however. Even without a statistically significant increase, the improvements in SRI Lexile levels was notable.

The total population increased by an average of 76 Lexile points. Considering a Lexile grade level range at the middle school level is 250 points, the increase of 76 points is approximately one-third of a grade level during the 20-day duration of the program.

The male population noticeably improved reading levels during the program improving 99 Lexile points. This was the largest gain by a major subgroup. The female population improved an average of 56 Lexile points as a group. This is interesting given the fact that the eighth grade girls actually dropped an average of 10 points. The special

education population and the free and reduced population improved an average of 67 points and 78 points respectively.

The sixth grade total population increased an average of 78 Lexile points. The seventh grade total population increased an average of 89 Lexile points. The eighth grade total population increased 43 Lexile points.

The total population showed a statistically significant increase from pre-test to post-test scores. The sixth grade as a whole showed a statistically significant increase. The sixth grade female and free and reduced lunch population showed a statistically significant increase. The male population and the special education population showed an increase in average scores but the increase was not statistically significant. The seventh grade showed a statistically significant increase in all categories except the female population. The eighth grade was an anomaly within the study. While the population showed improvement in all categories except female, no group showed a statistically significant increase in scores.

Analysis of the survey showed that of the 39 students completing the voluntary survey, a majority of the students responded favorably to all questions. There was not a single question in which the majority of responses was in disagreement with the question. The lowest majority was 54% while some responses were answered favorably with 80%.

The positive results of the survey showed an overwhelming feeling of success and confidence from the participants. The goal of the Summer Literacy Program was to make the participants feel comfortable and confident with their reading. The favorable responses showed that the staff was most likely successful in setting the culture of the program.

The team that planned the Summer Literacy Program considers that its implementation was a success. The average SRI Lexile scores increased significantly and the reflections from the survey showed that the students most likely felt a part of the school culture.

Implications of Findings

As schools fight a battle with cutbacks, layoffs, and downsizing, the Summer Literacy Program provided an excellent intervention with significant results for very little cost. The school did not have to buy a pre-packaged, expensive program from a publisher but instead succeeded with a minimal budget. Simple instruction of proven practices allowed the participants to significantly raise reading comprehension levels. A lack of money in education is a national problem. This idea can be implemented in schools of any size and in any part of the country where there are students who struggle with reading.

The population of low readers who participated in the program reaped the benefit of this program. It is possible to raise reading comprehension levels in a short period of time. There is no perfect set of conditions in education to launch an intervention. The findings show that the program worked and should be implemented in an effort to aid low comprehension readers. In four weeks, the average reading levels of a large group of students increased. The program should not only be continued but the proven instruction should be implemented throughout the year.

A large part of the success in raising reading comprehension levels was due to the intentional culture set by the staff. By implementing a specific culture and making sure the students are welcomed in the school, feel safe to take chances, and have a sense of

belonging, the participants succeeded. Too often leadership is changed in an effort to improve school culture and thousands of dollars are spent on professional development. The implications from the study show a simple way to improve the culture.

It is possible to significantly raise reading comprehension levels in a short period. The Summer Literacy Program's focus on specific strategies in the area of fluency, vocabulary, and comprehension affected the participants' ability to read. The increase in reading comprehension levels verifies that the program was a success. The results showed the goal had been achieved.

The data gathered from the following survey questions support the idea that the staff was able to positively affect the culture of the Summer Literacy Program. The survey responses show a majority of participants felt that they were part of the class and felt more successful in their reading ability. A major goal of the program was met. A purposeful positive culture can affect achievement. The participants felt the effect of what the teachers set out to do.

Survey Question 1: The teachers made me feel a part of the class (67% agreement).

Survey Question 2: I felt more successful in the Summer Literacy Program than during the regular school year (66% agreement).

Survey Question 3: The teachers made me feel safe to take chances with my reading (68%).

Survey Question 4: The teachers made me feel better about my reading ability (69%).

Survey Question 6: The program has given me the confidence to read in front of my class (70%).

Survey Question 12: I will read more because of my participation in the program (66%).

Survey Question 13: The program has given me more confidence when I read (61%).

The staff was successful at implementing the intended positive culture. The responses from the survey reinforced the research that said school culture provides motivation and teachers feel culture is an entity that can be influenced (Jerald, 2006). School culture can greatly influence the school improvement process (Lindahl, 2006). The intended school culture was one that provides support and comfort for each student so the participants can take chances and become engaged in their education. A healthy school climate creates effective teaching and learning (Frieberg, 1998). The students believed that confidence triggered optimism (DuFour, DuFour, & Eaker, 2005).

The data gathered from survey questions shows the participants were aware of the strategies and techniques to become a better reader. The implications of the findings in this area reveal the Summer Literacy Program was successful in providing strategies for improved comprehension.

Survey Question 5: The program gave me helpful hints to be a better reader (54%).

Survey Question 7: I comprehend more of what I read now (54%).

Survey Question 10: I have used at least one strategy that I learned this summer (80%).

Survey Question 11: I felt I was a better reader at the end of the program (66%).

The participants felt they were better readers and had improved comprehension more. The teachers provided strategies to aid in comprehension. Teachers must develop and employ strategies to create engagement (Cziko, Greenleaf, Hurwitz, & Schoenbach, 1999). The ultimate goal of reading is comprehension (Carbo, 2007).

The data gathered from survey questions:

Survey Question 8: I feel more comfortable with vocabulary and dictionary use (66%).

Survey Question 9: I feel more comfortable with high frequency words from the list (74%).

This data shows that by developing those particular skills, participants become better able to comprehend. Fluency helps bridge the gap between decoding and comprehension (Carbo, 2007). The more effort spent decoding words hinders comprehension (McCollin, McQuiston, & O'Shea, 2009). The survey results showed participants were much more comfortable with fluency and vocabulary upon completion of the program.

Recommendations for Future Research

The most significant research that could be completed to further this study would be to follow up with the participants and see if the increase in Lexile reading scores has continued through the students' education. An application of a survey of the same questions would be interesting to see if the views of reading shared after the program are still present after time has passed or if the child has slipped back to pre-program attitude levels.

Sustainability of Culture

The results to survey questions 14 and 15 speak volumes to the sustainability of the culture and ramifications of the program. Survey Question 14 asked the participants to rate their agreement if the summer program was successful. Seventy-two percent of the students either agreed or strongly agreed with the question. Survey Question 15 asked students if they would participate in the program again. Sixty-three percent of the participants would participate again. The intended culture was to create a nurturing environment where the students were free to take risks and grow. The response to Survey Question 14 and Survey Question 15 show an overwhelming agreement the culture accomplished what it was intended to do. The culture of the classrooms in the Summer Literacy Program is easily sustainable if the culture remains the focus.

The culture must be continued from the Summer Literacy Program to the regular school year. The improvements shown in comprehension levels and Lexile scores provide the background to continue the intended culture. The charge to continue the culture rests solely on the principal.

The culture will be sustainable if the approach remains simple. The program should focus on three strategies per category and continue to explore the effect of three strategies from each area of fluency, vocabulary, and comprehension. The culture of support and learning is sustainable.

Final Reflection

The Summer Literacy Program increased reading comprehension levels. By exposing students to fluency, vocabulary, and comprehension strategies in a positive school culture, reading comprehension levels improved. The program was created due to

a high number of students reading below grade level. The purpose of this study was to evaluate the impact of the four-week Summer Literacy Program designed to provide extra interventions for struggling readers. The study is significant because it validates that a four week summer program can improve reading comprehension levels.

The statistical analysis for the study determined the increase in mean scores from pre to post test data was statistically significant. The hypothesis stated the implementation of a four-week Summer Literacy Program would significantly increase comprehension levels of the participants when measured by the Scholastic Reading Inventory Test. The main research question was, Was the Summer Literacy Program successful for the participants? The three research sub-questions follow:

1. Was there an overall increase in the reading levels of participants?
2. How did the implementation of the intervention affect subgroups?
3. Did the survey and questionnaire reveal a positive reaction to the culture of the program?

The new culture provided an atmosphere of success and created a connection to reading. The development of a positive school culture was just as important as the implementation of the reading strategies. The effectiveness of the culture was measured by a survey given to the participants upon completion of the reading program. The atmosphere of acceptance and confidence produced an environment that allowed the participants to succeed. The teachers built a culture that positively affected achievement. The continuation of this program is necessary to the continued success of meeting the reading goals for the children enrolled in the study site middle school. The data from the Summer Literacy Program revealed significant improvement is possible.

Participants rated the components of the program, as well as the effect the intended culture had on reading confidence levels by completing a Likert Scale survey. The quantitative data were the Lexile scores of the population before the program compared to the Lexile scores of the population upon completion of the program.

The results indicated a significant increase in Lexile scores for the population from to pre-test to post-test. Every subgroup, with the exception of one, increased comprehension levels. The survey results showed a majority of participants felt the positive effects of the intended culture on comfort and confidence levels. The success of the program has great implications for future use in the school.

Struggling readers are prevalent in every school and too often, interventions fail. The Summer Literacy Program combined the correct combination of culture and reading strategies to improve the reading ability and confidence levels of the participants. As long as schools have been in operation, struggling students have fallen behind. Schools spend millions of dollars on intervention programs for those students. The middle school proved with a minimal expenditure and a dedicated staff, a statistically significant increase in reading levels and confidence is possible.

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Appendix A

Summer Literacy Program Participant Survey and Questionnaire

The following is a survey to assess the success of the Summer Literacy Program you attended this summer.

Part I: Survey

	Strongly Disagree	Disagree	Agree	Strongly Agree
The teachers made me feel a part of the class.	1	2	3	4
I felt more successful in the summer program than during the regular school year.	1	2	3	4
The teachers made me feel safe to take chances with my reading.	1	2	3	4
The teachers made me feel better about my reading ability.	1	2	3	4
The program gave me helpful hints to be a better reader.	1	2	3	4
The program has given me the confidence to read in front of my class.	1	2	3	4
I comprehend (understand) more of what I read now.	1	2	3	4
I feel more comfortable with vocabulary and dictionary use.	1	2	3	4
I feel more comfortable with high frequency words from the list in Mrs. Horner's class.	1	2	3	4
I have used at least one strategy that I learned this summer.	1	2	3	4
I felt I was a better reader at the end of the program.	1	2	3	4
I will read more because of my participation in the program.	1	2	3	4
The program has given me more confidence when I read.	1	2	3	4
I feel the summer program was successful.	1	2	3	4
I would participate in the program again.	1	2	3	4

Part II: Questionnaire (on back of paper)

Part II: Questionnaire

Please answer the question with the best possible detail you can provid

1. What was the best part of the Summer Literacy Program?

2. Do you feel you are a better reader now because of the program? Why?

3. What would have made the Summer Literacy Program better?

Appendix B

LINCOLN COUNTY R-IV SCHOOL DISTRICT
Middle School Office
701 Elm Street, Winfield, MO 63389
Phone: (636)-668-8001 - Fax: (636)-668-6044

July, 2008

Dear Dr. Arnold Bell, Superintendent of Schools:

I would like to conduct a study to analyze the benefits of the Summer Literacy Program conducted at Winfield Middle School during the 2008 summer school session.

I am interested in seeing if the implementation of a four week summer literacy program designed to raise reading skills for struggling readers will improve achievement as evidenced by a statistically significant increase in Scholastic Reading Inventory (SRI) scores. The SRI is a computerized reading comprehension test. Reading levels prior to the start of this four week program, the control group, will be measured against the SRI results from the end of the four week session.

Since this program was involves participants from your school district, I am seeking your permission.

Sincerely,

Jeff Haug
Winfield Middle School
(636) 668-8001

I understand the above information and give my permission for the study to be conducted.

Arnold E Bell
Dr. Arnold Bell, Superintendent of Schools

7/30/08
Date

Appendix C – IRB

LINDENWOOD UNIVERSITY

Application for IRB Review of Research Proposal Involving Human Subjects

1. Title of Project: Project # _____

Reading Score Improvements by changing the focus.

2. Faculty Advisor:	Department:	Extension:	e-mail:
Cindy Vitale	**Education**	**(636)949-4481**	**CVitale@lindenwood.edu**

3. Primary Investigator(s):	Department:	Local phone:	e-mail:
Jeff Haug		**(636)477-2715**	**jeffhaug@winfield.k12.mo.us**

4. Anticipated starting date for this project:
June, 2008

5. Anticipated ending date for this project:
December, 2008

6. State the hypothesis of the proposed research project:

If reading levels are 1. talked about with students, 2, the basis for summer school attendance, 3. a focus of summer school instruction, then reading levels will increase significantly.

7. State the purpose (objectives) and rationale of the proposed project. Include any questions to be investigated.

The purpose of this study is to provide an environment solely focused on reading levels and comprehension and then to analyze the tested reading levels pre, during, and post to note the increase in the areas as well as a pre, during, and post summer school survey.

8. Has this research project been reviewed or is it currently being reviewed by an IRB at another institution? If so, please state when, where and disposition (approval/non-approval/pending).

No

9. Participants involved in the study:
a. Indicate how many persons will be recruited as potential participants in this study.

LU participants	_____	Undergraduate students
	_____	Graduate students
	_____	Faculty and/or staff
Non-LU participants	_____	Children

_____ Adolescents
_____ Adults
_____ Seniors
_____ Persons in institutional settings (e.g. nursing homes, correctional facilities, etc.)

Other (specify):

b. From what source(s) will the potential participants be recruited?

_____ LU undergraduate and/or graduate classes
_____ LU Human Subject Pool (LU HSP)
_____ Other LU sources (specify) _____
_____ School boards (districts) _____
_____ Greater St. Charles community
_____ Agencies (please list) _____
_____ Businesses (please list) _____
_____ Health care settings, nursing homes, etc. (please list) _____

Other (specify):

c. If any persons within the selected group(s) are being excluded, please explain who is being excluded and why. (Note: According to the Office of LU HSP, all students within the LU Human Subject Pool must be allowed to participate, although exclusion of certain subjects may be made when analyzing data.)

d. Describe how and by whom the potential participants will be recruited. Provide a copy of any materials to be used for recruitment (e.g. posters, flyers, advertisements, letters, telephone and other verbal scripts).

The group which is to be studied is comprised of middle school students from Winfield Middle School. These students are the current group of students attending summer school. Their attendance is based on low reading levels.

e. Where will the study take place?

_____ On campus – Explain:

__X__ Off campus – Explain: **Winfield Middle School**

10. Methodology/procedures:

a. Provide a sequential description of the procedures to be used in this study.

1. **Permission will be obtained from the Superintendent of Schools in the Winfield School District.**
2. **The students current reading level will be recorded.**
3. **The students will take the pre summer school survey pertaining to reading.**
4. **The surveys and scores will be collected.**

5. **The data will be compiled and reviewed.**
6. **The students will receive instruction in reading and research strategies as well as comprehension strategies.**
7. **The students mid way reading level will be tested and recorded.**
8. **The students will take the mid way summer school survey pertaining to reading.**
9. **The surveys and scores will be collected.**
10. **The data will be compiled and reviewed.**
11. **The students will receive continued instruction in reading and research strategies as well as comprehension strategies.**
12. **The students final reading level will be tested and recorded.**
13. **The students will take the final summer school survey pertaining to reading.**
14. **The surveys and scores will be collected.**
15. **The data will be compiled and reviewed.**
16. **The data will then be analyzed and measured to see if a conclusion can be made to support the hypothesis.**

b. Which of the following procedures will be used? Provide a copy of all materials to be used in this study.

_____ Survey(s) or questionnaire(s) (mail-back)-Are they standardized?
_X___ Survey(s) or questionnaire(s) (in person)-Are they standardized? **YES**
_X___ Computer-administered task(s) or survey(s)-Are they standardized?
_____ Interview(s) (in person)
_____ Interview(s) (by telephone)
_____ Focus group(s)
_____ Audiotaping
_____ Videotaping
_X___ Analysis of secondary data (no involvement with human participants)
_____ Invasive physiological measurement (e.g. venipuncture, catheter insertion, muscle biopsy, collection of other tissues, etc.) Explain:

_____ Other (Specify):

11. How will results of this research be made accessible to participants? Explain and attach a copy of any forms that will be used.

A copy of the final findings will be mailed to the participating school district.

12. Potential Benefits and Compensation from the Study:

a. Identify and describe anticipated benefits (health, psychological or social benefits) to the participants from their involvement in the project.

Higher reading levels for the participants and a greater understanding of the best practices in teaching reading.

b. Identify and describe any known or anticipated benefits to society from this study.

A greater understanding of the best practices in teaching reading to help other students.

c. Describe any anticipated compensation (monetary, grades, extra credit, other) to participants.

None

13. Potential Risks from the Study:

a. Identify and describe any known or anticipated risks to participants involved in this study. Include physiological, psychological, emotional, social, economic, legal, etc. risks/stressors. A study-specific medical screening form must be included when physiological assessments are used and associated risk(s) to participants are greater than what would be expected in normal daily activities.

This study will not have any contact with participants with the exception of the survey. Major data used will be from test scores.

b. Will deception be used in this study? If so, explain the rationale.

No

c. Does this project involve information about sensitive behavior, such as sexual behavior, drug/ alcohol use, or illegal behavior? If so, explain.

No

d. Are vulnerable populations (children, institutionalized persons, pregnant women, persons with impaired judgment) used as subjects for this study? If so, explain.

Children will be surveyed in this study but only for the acquisition of information. Their ideas and thoughts will be studied, not the children themselves.

e. Describe the procedures or safeguards in place to protect the physical and psychological health of the participants in light of the risks/stresses identified above. Include procedures in place for handling any adverse events, referral services, etc.

14. Informed Consent Process:

a. What process will be used to inform the potential participants about the study details and to obtain their consent for participation?

_____ Information letter with written consent form for participants or their legally authorized agents; provide a copy.
__X__ Information letter with written or verbal consent from director of institutions involved; provide a copy.
_____ Information letter with written or verbal consent from teachers in classrooms or daycare; provide a copy.

Other (specify):

b. What special provisions have been made for informed consent for non-English speaking persons, mentally disabled or other populations for whom there may be difficulty in providing informed consent?

None

15. Anonymity of Participants and Confidentiality of Data:

a. Explain the procedures to be used to ensure anonymity of participants and confidentiality of data both during the research and in the release of the findings.

The only time students will be involved is when completing the survey. The survey is anonymous and as mentioned above, the results are not going to be scrutinized to the individual response but rather the feelings of the larger group.

b. How will confidentiality be explained to participants?

Confidentiality will be explained to the participants in the directions of the survey. The teacher, when administering the survey will also remind the students that the survey is anonymous.

c. Indicate the duration and location of secure data storage and the method to be used for final disposition of the data.

Paper Records

_____ Confidential shredding after _____ years.
_____ Data will be retained indefinitely in a secure location.
__X___ Data will be retained until completion of specific course and then destroyed.

Audio/video Recordings

_____ Erasing of audio/video tapes after _____ years.
_____ Data will be retained indefinitely in a secure location.
_____ Data will be retained until completion of specific course and then destroyed.

Electronic Data

_____ Erasing of electronic data after _____ years.
_____ Data will be retained indefinitely in a secure location.
_____ Data will be retained until completion of specific course and then destroyed.

Other:

Specify Location:

16. Researchers must ensure that all supporting materials/documentation for their applications are submitted with the signed, hard copies of the IRB Research Proposal Form. Please check below all appendices that are attached as part of your application package. Submission of an incomplete application package will increase the duration of the IRB review process.

_____ Recruitment materials: A copy of any posters, fliers, advertisements, letters, telephone or other verbal scripts used to recruit/gain access to participants (see 9d).
_____ Materials: A copy of all surveys, questionnaires, interview questions, interview themes/sample questions for open-ended interviews, focus group questions, or any standardized tests used to collect data (see 10b).
_____ Feedback letter (see 11).
_____ Medical screening Form: Must be included for all physiological measurements involving greater than minimal risk, and tailored for each study (see 13a).
_____ Information letter and consent forms used in studies involving interaction with participants (see 14a).
_____ Information/Cover letters used in studies involving surveys or questionnaires (see 14a).
_____ Parent information letter and permission form for studies involving minors (see 14a).
_____ Other:

I certify the information in this proposal is complete and accurate.

Signature of Faculty Advisor	Date
Signature of Primary Investigator	Date
Signature of Primary Investigator	Date
Signature of Primary Investigator	Date
Signature of Primary Investigator	Date
Signature of Primary Investigator	Date
Signature of Primary Investigator	Date

Adapted, in part, from LU Ethics Form
8/03

Appendix D

Table D1

Total population raw data

Grade Level	Pre-SRI Score	Post-SRI Score	Grade Level	Pre-SRI Score	Post-SRI Score
8	0	157	6	508	612
7	99	222	8	508	722
7	114	191	6	513	595
6	180	294	6	514	521
6	230	227	6	520	668
8	231	265	7	531	485
7	242	194	7	531	664
6	295	351	6	534	605
6	300	353	7	537	566
6	308	437	6	548	595
7	316	531	6	562	881
7	354	419	7	579	632
7	359	567	7	588	545
7	360	914	7	588	679
7	365	445	6	597	742
7	366	452	6	601	876
8	378	338	7	603	432
6	380	423	6	624	777
8	395	420	6	635	589
6	400	510	7	640	751
7	400	580	7	643	707
7	403	447	6	657	563
6	404	430	6	675	698
7	442	457	7	679	821
7	448	553	6	688	658
8	455	627	8	715	761
7	471	611	8	722	740
6	477	555	8	728	642
6	482	532	8	731	764
7	482	612	8	733	663
7	500	606	8	762	775
7	505	479	6	783	860

Table D2

Total male population raw data

Grade Level	Pre- SRI Score	Post-SRI Score
8	0	157
7	99	222
6	230	227
8	231	265
7	242	194
6	295	351
7	316	531
7	354	419
7	360	914
7	365	445
7	366	452
8	395	420
7	400	580
7	403	447
6	404	430
7	448	553
8	455	627
6	482	532
7	482	612
7	500	606
8	508	722
6	514	521
6	520	668
6	562	881
7	579	632
6	624	777
6	635	589
7	640	751
7	679	821
6	688	658
8	731	764
8	733	663
6	783	860

Table D3

Total female population raw data

Grade Level	Pre- SRI Score	Post-SRI Score
7	114	191
6	180	294
6	300	353
6	308	437
7	359	567
8	378	338
6	380	423
6	400	510
7	400	580
7	442	457
7	471	611
6	477	555
7	505	479
6	508	612
6	513	595
7	531	485
7	531	664
6	534	605
7	537	566
6	548	595
7	588	545
7	588	679
6	597	742
6	601	876
7	603	432
7	643	707
6	657	563
6	675	698
8	715	761
8	722	740
8	728	642
8	762	775

Table D4

Total special education population raw data

Grade Level	Pre- SRI Score	Post-SRI Score
8	0	157
7	99	222
6	230	227
7	242	194
7	365	445
7	366	452
8	378	338
8	395	420
7	403	447
7	442	457
8	455	627
6	508	612
8	508	722
6	513	595
7	579	632
7	679	821
6	688	658
8	731	764

Table D5

Total free/reduced lunch population raw data

Grade Level	Pre- SRI Score	Post-SRI Score
8	0	157
7	99	222
8	231	265
7	242	194
6	308	437
7	354	419
7	365	445
7	366	452
8	378	338
6	380	423
7	400	580
7	403	447
7	448	553
8	455	627
7	471	611
6	477	555
6	482	532
7	500	606
7	505	479
8	508	722
6	513	595
7	531	664
6	534	605
6	548	595
7	579	632
7	588	679
6	597	742
6	624	777
6	635	589
7	643	707
6	688	658
8	722	740

Table D6

Total sixth grade population raw data

Grade Level	Pre- SRI Score	Post-SRI Score
6	180	294
6	230	227
6	295	351
6	300	353
6	308	437
6	380	423
6	400	510
6	404	430
6	477	555
6	482	532
6	508	612
6	513	595
6	514	521
6	520	668
6	534	605
6	548	595
6	562	881
6	597	742
6	601	876
6	624	777
6	635	589
6	657	563
6	675	698
6	688	658
6	783	860

Table D7

Total sixth grade male population raw data

Grade Level	Pre- SRI Score	Post-SRI Score
6	230	227
6	295	351
6	404	430
6	482	532
6	514	521
6	520	668
6	562	881
6	624	777
6	635	589
6	688	658
6	783	860

Table D8

Total sixth grade female population raw data

Grade Level	Pre- SRI Score	Post-SRI Score
6	180	294
6	300	353
6	308	437
6	380	423
6	400	510
6	477	555
6	508	612
6	513	595
6	534	605
6	548	595
6	597	742
6	601	876
6	657	563
6	675	698

Table D9

Total sixth grade special education population raw data

Grade Level	Pre- SRI Score	Post-SRI Score
6	230	227
6	688	658
6	513	595
6	508	612

Table D10

Total sixth grade free/reduced lunch population raw data

Grade Level	Pre- SRI Score	Post-SRI Score
6	635	589
6	380	423
6	548	595
6	534	605
6	308	437
6	482	532
6	688	658
6	624	777
6	597	742
6	477	555
6	513	595

Table D11

Total seventh grade population raw data

Grade Level	Pre- SRI Score	Post-SRI Score
7	99	222
7	114	191
7	242	194
7	316	531
7	354	419
7	359	567
7	360	914
7	365	445
7	366	452
7	400	580
7	403	447
7	442	457
7	448	553
7	471	611
7	482	612
7	500	606
7	505	479
7	531	485
7	531	664
7	537	566
7	579	632
7	588	545
7	588	679
7	603	432
7	640	751
7	643	707
7	679	821

Table D12

Total seventh grade male population raw data

Grade Level	Pre- SRI Score	Post-SRI Score
7	99	222
7	242	194
7	316	531
7	354	419
7	360	914
7	365	445
7	366	452
7	400	580
7	403	447
7	448	553
7	482	612
7	500	606
7	579	632
7	640	751
7	679	821

Table D13

Total seventh grade male population raw data

Grade Level	Pre- SRI Score	Post-SRI Score
7	99	222
7	242	194
7	316	531
7	354	419
7	360	914
7	365	445
7	366	452
7	400	580
7	403	447
7	448	553
7	482	612
7	500	606
7	579	632
7	640	751
7	679	821

Table D14

Total seventh grade female population raw data

Grade Level	Pre- SRI Score	Post-SRI Score
7	114	191
7	359	567
7	400	580
7	442	457
7	471	611
7	505	479
7	531	485
7	531	664
7	537	566
7	588	545
7	588	679
7	603	432
7	643	707

Table D15

Total seventh grade special education population raw data

Grade Level	Pre- SRI Score	Post-SRI Score
7	99	222
7	242	194
7	365	445
7	366	452
7	403	447
7	442	457
7	579	632
7	679	821

Table D16

Total seventh grade free/reduced lunch population raw data

Grade Level	Pre- SRI Score	Post-SRI Score
7	99	222
7	242	194
7	354	419
7	365	445
7	366	452
7	400	580
7	403	447
7	448	553
7	471	611
7	500	606
7	505	479
7	531	664
7	579	632
7	588	679
7	643	707

Table D17

Total eighth grade population raw data

Grade Level	Pre- SRI Score	Post-SRI Score
8	0	157
8	231	265
8	378	338
8	395	420
8	455	627
8	508	722
8	715	761
8	722	740
8	728	642
8	731	764
8	733	663
8	762	775

Table D18

Total eighth grade male population raw data

Grade Level	Pre- SRI Score	Post-SRI Score
8	0	157
8	231	265
8	395	420
8	455	627
8	508	722
8	731	764
8	733	663

Table D19

Total eighth grade male population raw data

Grade Level	Pre- SRI Score	Post-SRI Score
8	0	157
8	231	265
8	395	420
8	455	627
8	508	722
8	731	764
8	733	663

Table D20

Total eighth grade female population raw data

Grade Level	Pre- SRI Score	Post-SRI Score
8	378	338
8	715	761
8	722	740
8	728	642
8	762	775

Table D21

Total eighth grade special education population raw data

Grade Level	Pre- SRI Score	Post-SRI Score
8	0	157
8	378	338
8	395	420
8	455	627
8	508	722
8	731	764

Table D22

Total eighth grade free/reduced lunch population raw data

Grade Level	Pre- SRI Score	Post-SRI Score
8	0	157
8	231	265
8	378	338
8	455	627
8	508	722
8	722	740

Vitae

Jeff Haug is currently the Director of Support Services for the Winfield R-IV School District in Winfield, Missouri. He has served in his current position since September, 2009. Prior to his current assignment, Jeff was principal for three years at Winfield Middle school and Freshmen Class Principal for two years at McCluer North High School. Jeff taught social studies at McCluer North High School in Florissant, MO and St. Dominic High School in O'Fallon, MO before moving into administration.