

Lindenwood University

Digital Commons@Lindenwood University

---

Dissertations

Theses & Dissertations

---

Fall 9-2009

## A First Year Program Evaluation of Language Essentials for Teachers of Reading and Spelling: The Effect on Student Achievement and Teacher Perception

Danielle C. Vogelsang  
*Lindenwood University*

Follow this and additional works at: <https://digitalcommons.lindenwood.edu/dissertations>



Part of the [Educational Assessment, Evaluation, and Research Commons](#)

---

### Recommended Citation

Vogelsang, Danielle C., "A First Year Program Evaluation of Language Essentials for Teachers of Reading and Spelling: The Effect on Student Achievement and Teacher Perception" (2009). *Dissertations*. 626.  
<https://digitalcommons.lindenwood.edu/dissertations/626>

This Dissertation is brought to you for free and open access by the Theses & Dissertations at Digital Commons@Lindenwood University. It has been accepted for inclusion in Dissertations by an authorized administrator of Digital Commons@Lindenwood University. For more information, please contact [phuffman@lindenwood.edu](mailto:phuffman@lindenwood.edu).

A First Year Program Evaluation of Language Essentials for Teachers of Reading and Spelling: The Effect on Student Achievement and Teacher Perception

by

Danielle C. Vogelsang  
September 2009

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

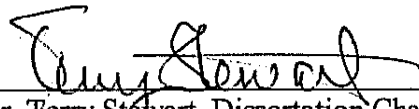
A Dissertation

A First Year Program Evaluation of Language Essentials for Teachers of Reading and Spelling: The Effect on Student Achievement and Teacher Perception

by

Danielle C. Vogelsang

This Dissertation has been approved as partial fulfillment of the requirements for the degree of  
Doctor of Education  
at Lindenwood University by the School of Education



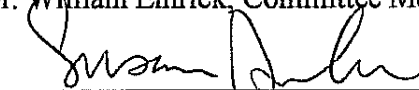
Dr. Terry Stewart, Dissertation Chair

August 19, 2009  
Date



Dr. William Emrick, Committee Member

August 24, 2009  
Date



Dr. Susan Isenberg, Committee Member

August 24, 2009  
Date

### 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.

Full Legal Name: Danielle C. Vogelsang

Signature: Danielle C. Vogelsang Date: 9/2/2009

**PLEASE POST**

**Notice of Final Oral Dissertation**

**Date:**

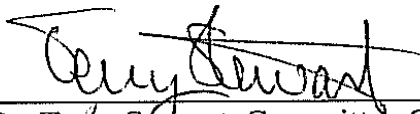
**To:** School of Education

This verifies that Danielle Vogelsang has presented her Doctoral Dissertation to the Doctoral Dissertation Committee

**Dissertation Title:** A First Year Program Evaluation of Language Essentials for Teachers of Reading and Spelling: The Effects on Student Achievement and Teacher Perception

**Date of Dissertation Completion:** April 22, 2009

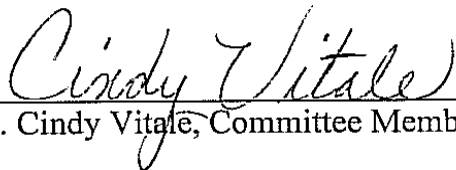
**Grade:** (Pass/Fail)



Dr. Terry Stewart, Committee Chair



Dr. William Emrick, Committee Member



Dr. Cindy Vitale, Committee Member



## Acknowledgements

This project would not have been possible without the support and encouragement of many people. First of all, I would like to thank my committee chairperson, Dr. Terry Stewart. As a professional and caring mentor, he provided countless hours of support, guidance, and encouragement along the way. I am grateful for his help and confidence during this process. His support and inspiration have had a dramatic impact on my career.

I would also like to thank Dr. William Emrick, Dr. Connie Crane, Dr. Anthony Haan, and Dr. Cindy Vitale who also served on my dissertation committee. Their suggestions were extremely insightful and useful. I appreciate their extra effort and support with this project.

Sincere appreciation also goes to the administration, teachers, and literacy coach from the Lincoln County R-III School District for providing me the opportunity to study the effect the Language Essentials for Teachers of Reading and Spelling professional development program had on their students, staff, and school. I am exceptionally grateful to the participants of this study for sharing their thoughts and perceptions.

Finally, I would like to thank my colleagues, friends, family members, especially my husband, Scott, and my parents, for the strength, motivation, inspiration, understanding, and love they have given me over the past few years while I have completed my doctoral program. It meant a great deal that everyone had confidence in me to successfully complete this prestigious degree.

## Abstract

An indicator of student achievement is the ability to read. The National Institute of Child Health and Human Development (2000) stated that reading comprehension is critically important to the development of children's reading skills and their ability to obtain an education. The ability to read was found to be both necessary and crucial for academic success. With the adoption of No Child Left Behind, national concern about the quality of our schools and the achievement of all students was as high as it has ever been.

The primary purposes of this study were to (a) investigate the impact of the Language Essentials for Teachers of Reading and Spelling (LETRS) program on student achievement as measured by the Missouri Assessment Program (MAP) test in the area of communication arts, and (b) explore the teacher perceived effectiveness of the LETRS program along with teacher perceived roles and responsibilities to daily implementation. This study concentrated on student achievement, as determined by the MAP test, and the teachers' knowledge and skill level as they integrated research-based reading strategies supported by LETRS into the curriculum. The study also focused on the perceived effectiveness of the LETRS professional development opportunities provided to teachers as determined by surveys and roundtable discussions.

Data from the Lincoln County R-III and Warren County R-III School District MAP tests, survey questionnaire, and roundtable discussions were analyzed using descriptive statistics. The data were analyzed together in order to combine the results and interpret them. Triangulation was achieved by utilizing survey results and the roundtable discussions in order to determine future outcomes for integrating LETRS into reading instruction.



No statistically significant difference was found between the student achievement of the LETRS school district, Lincoln County R-III, and the non-LETRS school district, Warren County R-III. Qualitative data revealed that teachers in the LETRS school district believed that barriers to the implementation of the professional development existed. These barriers included time out of the teacher's classroom, the presentation of the material by the LETRS facilitators, and the lack of real-world application with the LETRS strategies. This study suggests seven similar studies for future research.

## Table of Contents

List of Tables .....	x
List of Figures .....	xi
Chapter I - Introduction .....	1
Background of the Problem .....	1
Problem Statement .....	7
Rationale for Study .....	7
Independent Variable .....	9
Dependent Variable .....	9
Hypotheses .....	10
Research Question One .....	10
Research Question Two .....	10
Limitations of Study .....	11
Standardized testing .....	11
Subject characteristics .....	11
Mortality .....	12
Location .....	12
Classrooms .....	13
Data locations .....	13
Socioeconomic status .....	13
Threats to Internal Validity .....	14
Location .....	14

Instruments.....	14
Data collector characteristics .....	15
Testing.....	15
History.....	16
Maturation.....	16
Regression.....	17
Implementation .....	17
Attitude .....	18
Teacher perception.....	18
Definition of Terms.....	19
Summary .....	24
Chapter II - Review of Literature.....	27
Achievement and Assessment.....	28
History of Reading Instruction.....	31
The Struggling Reader .....	35
Learning .....	40
Research-Based Practices and Five Components of Literacy.....	42
A Balance in Literacy Instruction .....	43
Best Practices in Reading Instruction .....	45
Phonological Awareness and Phonics .....	45
Vocabulary Instruction.....	47
Comprehension Instruction.....	50
Fluency Instruction .....	52

Professional Development .....	54
Language Essentials for Teachers of Reading and Spelling.....	60
Summary .....	64
Chapter III - Method .....	66
Overview of Study .....	68
Purpose.....	68
Research Design.....	69
Setting .....	70
Quantitative Research .....	72
Qualitative Research .....	72
Participants.....	73
Demographics .....	74
Participants.....	75
Sampling Procedure .....	76
External Validity .....	77
Instrumentation .....	78
Reliability and Validity .....	79
Dependability of Scale Scores .....	81
Dependability of Scores from Open-Ended Items.....	82
Research Design Procedure .....	82
Development of Categories.....	85
Participants.....	85
Data sources .....	85

Data collection .....	86
Data analysis .....	87
Summary .....	89
Chapter IV - Results.....	91
Research Design.....	92
Data Analysis .....	94
Results.....	95
Interpreting the Data .....	96
Research Question One.....	92
Lincoln County R-III School District Results .....	93
Lincoln County R-III third grade .....	94
Lincoln County R-III fourth grade.....	95
Lincoln County R-III fifth grade.....	96
Warren County R-III School District Results .....	97
Warren County R-III third grade .....	98
Warren County R-III fourth grade .....	99
Warren County R-III fifth grade .....	100
Answering Research Question One .....	102
Research Question Two .....	104
Lincoln County R-III School District Survey Results .....	105
Lincoln County R-III School District Roundtable Discussions Results .....	108
Answering Research Question Two.....	110
Summary .....	112

Chapter V - Conclusions and Recommendations .....	113
Delimitations.....	115
Interpretation of Results.....	115
Discussion of Findings.....	117
Barriers to Integration .....	118
Recommendations.....	120
Recommendations for future research .....	120
Recommendations for improving educational practice .....	121
Recommendations for professional development.....	122
Summary .....	122
References.....	124
Appendices.....	140
Appendix A - Consent for Data .....	140
Appendix B - Lincoln County R-III Demographics .....	142
Warren County R-III Demographics .....	143
Appendix C - Survey Letter to Teachers .....	144
Appendix D - Survey Questionnaire.....	145
Appendix E - Consent for Roundtable Discussions.....	146
Appendix F - Roundtable Discussion Questions .....	147
Vitae.....	149

List of Tables

	Page
Table 1 Lincoln County R-III MAP Test Categorical Distribution .....	98
Table 2 Lincoln County R-III Third Grade MAP Test Categorical Distribution .....	99
Table 3 Lincoln County R-III Fourth Grade MAP Test Categorical Distribution .....	100
Table 4 Lincoln County R-III Fifth Grade MAP Test Categorical Distribution .....	101
Table 5 Warren County R-III MAP Test Categorical Distribution .....	102
Table 6 Warren County R-III Third Grade MAP Test Categorical Distribution.....	103
Table 7 Warren County R-III Fourth Grade MAP Test Categorical Distribution.....	104
Table 8 Warren County R-III Fifth Grade MAP Test Categorical Distribution.....	105

## List of Figures

	Page
Figure 1 Hierarchy of Reading Threads.....	39



## Chapter I - Introduction

### *Background*

Schools are driven by an overriding concern about student achievement and what fosters its development. Changes in society and the economy are placing unprecedented demands on public schools to raise student achievement in all areas, especially reading. According to the National Institute of Child Health and Human Development (NICHD) (2000), the *Report of the National Reading Panel* (NRP) regards illiteracy as a major public health concern because reading failure leads to ills, such as dropping out of school, delinquency, unwanted pregnancy, and chronic unemployment. The importance of success in reading for lifelong achievement must not be underestimated. The pressure for student achievement begins at the highest level of government. With the adoption of the No Child Left Behind Act (NCLB) of 2001, there has been a push to substantially improve the reading achievement of all students.

Accountability is the word many educators use to describe the NCLB Act. Others might propose student achievement, proficiency, or raised expectations. But perhaps the most accurate word to encapsulate the United States' most ambitious federal education law, which not only proposes to close achievement gaps, but also aims for 100% student reading proficiency by 2014, is testing. It is this focus that sets the NCLB law apart from all of the previous versions of the law. As stated by Nichols, Glass, and Berliner (2006),

The goal of NCLB is ambitious—to bring all students up to a level of academic ‘proficiency’ within a 15-year period through a system of accountability defined by sanctions and rewards that would be applied to schools, teachers, and students in the event they did not meet predefined achievement goals. (p. 5)

With the enactment of NCLB legislation, many U.S. school systems were faced with a seemingly insurmountable task of ensuring that all students had the skills necessary to read, write, and calculate in an increasingly competitive world. Moats (as cited in McCardle & Chhabra, 2004) stated that in order to meet the challenges set forth by NCLB, many school districts launched professional development initiatives or adopted new strategies intended to help teachers learn how to meet the needs of learners who are diverse in terms of both abilities and backgrounds. “NCLB puts emphasis on determining which educational programs and practices have been proven effective through rigorous scientific research. Federal funding was targeted to support programs and the teaching methods that work to improve student learning and achievement” (Missouri Department of Elementary and Secondary Education [MODESE], 2007, ¶ 2). While initiatives and programs are often labeled research-based, frequently there is not appropriate research conducted to validate findings that truly support student achievement (Braunger & Lewis, 2006). For example, since the 1970s researchers have moved away from performing laboratory-controlled experiments to conducting research in a natural classroom setting. While researchers have become increasingly aware of the complexity of reading development and instruction, many have adopted broader perspectives regarding the nature of literacy and how literacy learning occurs (Braunger & Lewis). Becoming fully literate has come to mean using independent strategies in order to construct meaning from text, using text information to build conceptual understanding, effectively communicating ideas orally and in writing, and developing the intrinsic desire to read and write (Biancarosa & Snow, 2004; Braunger & Lewis).

With the consequences linked to high-stakes testing, school districts are often quick to adopt new theories and teaching strategies needed to raise student achievement. As a result, teachers and administrators are subjected to new approaches to teaching that are supported heavily in the beginning stages with workshops, trainings, and lectures, but lack significant follow-up and support after the strategy is phased out and new strategies appear (Smith & Robinson, 2003). This process is continued for a few years and then inevitably phased out once a new strategy is proven to have a more profound impact on student achievement.

Traditional professional development is based on the belief that students will benefit when teachers acquire competencies and effective teacher behaviors over their careers (Smith & Robinson, 2003). Furthermore, by simply being exposed to new information and approaches emerging from research and development in the field of education, teachers change their thinking and adopt behaviors that lead to student achievement. Overall, kindergarten through twelfth grade research in the area of professional development seemed to indicate that short-term workshops and trainings leave much to be desired (Fiszer, 2003). In this model of professional development, teachers are the bystanders of their learning and are simply acquiring information. According to Fiszer, this style of professional development is not only hypocritical but also outdated and a disservice to professional educators. This process seems cyclical because teachers begin to predict that each new professional development effort will simply take the place of the one just abandoned. Fiszer said teachers began to withdraw from the new initiative and revert back to previous practices. Without job-embedded professional development, where development is woven into the fabric of the school

community, there can be a lapse in teacher buy-in (Fischer). Without teacher buy-in, the professional development produces few results and generates negative attitudes in educators (Fischer).

An indicator of student achievement is the ability to read. The NICHD (2000) stated that reading comprehension is critically important to the development of children's reading skills and therefore to their ability to obtain an education. Slavin, Madden, Karweit, Dolan, and Wasik (1994) noted students who complete the third grade and lack reading skills are not likely to graduate from high school. The ability to read is found to be both necessary and crucial for a child's academic success. With the adoption of NCLB, national concern about the quality of schools and the achievement of all students is as high as it has ever been.

According to the National Assessment of Educational Progress (NAEP) (1999), a decade ago, 38% of all fourth grade students nationally were unable to read at or above their current grade level. A significant number of students exhibited little or no mastery of the knowledge or skills necessary to perform work at each grade level. Although the statistics seem grim, devastating educational and social consequences that stem from reading failure can be prevented. According to research conducted by Moats (2005), all but two percent to five percent of children can learn to read, even in populations where the incidence of poor reading is often far higher.

The federal government recognized the importance of literacy instruction and established agencies to research and provide direction on literacy initiatives. Established in 1991, the National Institute for Literacy was Congress' agency that "provides leadership on literacy issues, including the improvement of reading instruction for

children, youth, and adults” (National Institute for Literacy, 2008, ¶ 1). A National Research Council consensus report (Snow, Burns, & Griffin, 1998) agreed that reading should be defined as a process of getting meaning from print in order to achieve understanding. It also began to lay the foundation for how reading should be taught in the early grades. Building on the conclusions of the National Institute of Child Health and Human Development (NICHD) NRP report, the Education Policy Report was published by the NICHD (2000) and stated:

In 1997, Congress asked the Director of the National Institute of Child Health and Human Development . . . in consultation with the Secretary of Education, to convene a national panel to assess the status of research-based knowledge, including the effectiveness of various approaches to teaching children to read. (p. 1)

The NICHD reports made it clear that a comprehensive approach to reading instruction was necessary if all children were to learn to read efficiently and effectively. The essential components stated by the NRP include explicit, systematic instruction in phonemic awareness, phonics, fluency, vocabulary development, and comprehension strategies. The NRP focused on the quality of research findings, distilled the essence of the findings, and publicized them nationally. The NRP was the beginning of the Reading First Initiative. This program focused on putting proven methods of early reading instruction in classrooms. In accordance with federal government regulations and funding, school districts mandated the use of research-based programs to support curriculum. Phonics, Whole Language, Balanced Literacy, and Read 180, among other initiatives, were research-based programs that districts adopted over time. The NAEP

(1999) indicated that not one stand-alone program was proven to have been successful. In order for a program to be effective in terms of reading achievement, the instructional strategies must be research-based and must allow for teachers to receive job-imbedded professional development (NAEP, 1999). Through the Reading First Initiative, states and districts receive support to apply scientifically based reading research—and the proven instructional and assessment tools consistent with this research—to ensure that all children learn to read well by the end of third grade (NAEP, 1999).

Moats (2005) described a new reading program. Language Essentials for Teachers of Reading and Spelling (LETRS) was a comprehensive professional development program that was developed to align with the Reading First Initiative. LETRS was designed to enrich and extend, but not replace, program-specific professional development for teachers of reading and language arts. The LETRS professional development was set up in modules, and each module addressed a component of reading instruction in depth, which included the following: (a) phonological and phonemic awareness--phonics, decoding, spelling, and word study; (b) oral language development--vocabulary, reading fluency; (c) comprehension; and (d) writing (Moats, 2005). LETRS was designed to provide teachers with the insight and skills for teaching reading, spelling, and writing to students who require informed, systematic instruction (Moats, 2005).

For teachers to be able to embrace teaching and assessing using research based strategies and to integrate these strategies into the elementary curriculum, meaningful professional development seems to be the critical ingredient. Moats (2005) stated that teachers, depending on their background and experience, need extended time to learn and apply the knowledge and skills included in LETRS. The teachers' effective use of

research-based reading strategies was predicted to make the difference. According to Moats (2005), the teacher was the most important ingredient for success in schools and for student achievement. According to Moats (2005), professional development sessions in integrating the components of LETRS into the reading and language arts curriculum enables teachers to know how to identify and serve all readers more effectively.

### *Problem Statement*

Over the last several years, there was a decline in the number of Missouri School Districts that met the Annual Proficiency Targets established by the Missouri Department of Elementary and Secondary Education (MODESE) (2008). As a result, those same districts, according to (MODESE, 2008), have also failed to meet Adequate Yearly Progress (AYP) as detailed in the provisions of NCLB (MODESE, 2008). The purpose of this study was to (a) investigate the impact of the LETRS program on student achievement as measured by the Missouri Assessment Program (MAP) test in the area of communication arts, (b) explore teacher perceptions of the LETRS program in regards to student achievement, and (c) and explore teacher perceptions on their roles and responsibilities in regards to daily classroom LETRS implementation. Teacher perceptions were measured by surveys and roundtable discussions.

### *Rationale for Study*

A review of statewide MAP data showed evidence that no single approach to the improvement of literacy instruction has been effective. During the 2007-2008 school year, more than 250 public Missouri Schools, 167 districts, and 102 additional buildings were unlikely to meet AYP and were classified as schools needing improvement (MODESE, 2008). The Lincoln County R-III School District experienced similar results.

During the past school year, Lincoln County R-III was one district among the 167 that was classified as “needs improvement”. Under the provisions of the NCLB Act, these schools and districts were in the category of needing improvement for the first time. They were required to notify parents about the designation as soon as possible. The school districts were mandated to prepare a new school improvement plan (MODESE, 2008). Schools not meeting AYP became subject to sanctions outlined in NCLB, and pressure increased to produce gains on state assessments.

As a result of the increased pressure, Lincoln County R-III School District studied and interpreted the data represented by the MAP and determined that an increase in student achievement in the area of communication arts was necessary because the students were not meeting the AYP targets set forth each year. Lincoln County R-III studied the habits of highly effective schools, those schools who met AYP, in the surrounding areas.

A common factor in many highly effective and successful schools was the emphasis on job-embedded professional development, which is training that is on-site and occurred during the normal work day. Successful schools also contained reading programs geared toward research-based teaching strategies. (Taylor, Pearson, Peterson, & Rodriguez, 2003, p. 3)

“Successful schools have ongoing professional development and a strong sense of community” (Taylor, et al., 2003, p. 3). These schools considered the following questions: “How will we provide opportunities for teachers to learn, and how will we support their learning in order to improve their success as teachers of reading?” (Taylor, et al., 2003, p. 3). Lincoln County R-III identified and adopted a program to address the



needs associated with improving reading literacy and ultimately, student achievement at the elementary level. The LETRS program provided a comprehensive professional development program designed to enrich and extend, but not replace, program-specific professional development for teachers of reading and language arts. The LETRS program was implemented in the Lincoln County R-III School District in the fall of 2006. The Lincoln County R-III School District adopted this program for all elementary buildings, grades kindergarten through sixth grade. The results of the Lincoln County R-III LETRS implementation served as data to support or reject future funding of the program at Lincoln County R-III School District and others.

*Independent Variable*

The LETRS representatives provided ongoing professional development for member schools. LETRS professional development taught concepts about language structure, reading development, reading difficulty, and assessment practices that guide research-based instruction. The goal of the professional development program aimed to provide teachers with the insight and skills for teaching reading, spelling, and writing based on systematic instruction. Therefore, the independent variable in this study was the implementation of the LETRS program. This study measured the impact of the LETRS program on student achievement.

*Dependent Variable*

In accordance with the NCLB Act, annual testing of all students grades three through twelve was required in the state of Missouri. MAP data were used to evaluate Missouri's progress toward the requirements outlined under NCLB. Students in Missouri were assessed in multiple subject areas according to their grade levels. Under MAP,

elementary students in third, fourth, fifth, and sixth grades were tested in communication arts and math. Since schools were held accountable for meeting AYP as determined by scores on the MAP test, the scores were the dependent variable of this study. The study examined specifically at the academic achievement of third through sixth grade students who were taught using the research-based strategies of LETRS during the 2007-2008 school year. Communication Arts MAP test scores from Lincoln County R-III in 2006 and 2007 served as the experimental group, the group of students influenced by the implementation of LETRS professional development. These MAP scores were compared to 2006 and 2007 scores from the Warren County R-III School District, the group of students not influenced by the implementation of LETRS.

### *Hypotheses*

$H_1$ : The implementation of LETRS will increase student achievement Communication Arts scores on the MAP test.

$H_0$ : The implementation of LETRS will not increase student achievement Communication Arts scores on the MAP test.

### *Research Question One*

The overarching quantitative research question guiding this multi-site, mixed method comparative design was: Did the implementation of LETRS increase student achievement in the area of communication arts in the third, fourth, fifth, and sixth grades?

### *Research Question Two*

Research question two guided the qualitative portion of the study and focused on teacher perception. Did teachers perceive LETRS to be effective in promoting student achievement? The following research questions were designed to address this

overarching question: (a) What were the teachers' perceptions of their role and responsibility in the integration of the LETRS research-based reading strategies in their daily instruction? (b) What were the teachers' perceptions of LETRS on student achievement?

*Limitations of Study*

Threats to validity could influence student achievement and test scores. While it was proposed that the implementation of LETRS had a statistically significant impact on student achievement, as measured by the MAP, several limitations have been identified.

*Standardized testing.* The first limitation of this study was the performance-based test used in order to determine student achievement. "Substantial problems exist within the NCLB testing and accountability structure. Researchers identified loopholes that states, districts, and schools use to raise test scores without actually improving student learning" (Association for School and Curriculum Development, 2008, p. 10). These changes are meant to trick the accountability system. Standardized tests are not a comprehensive look at the whole student relative to knowledge and ability, and the student's preparation and educational environment could play a significant role in test performance.

*Subject characteristics.* The second limitation of this study was the subject characteristics threat. The selection of people for this study resulted in individuals, or groups, differing from one another in unintended ways that were related to the variables to be studied (Fraenkel & Wallen, 2009). The subjects in this study differed on such variables as gender, reading ability, socioeconomic background, ethnicity, vocabulary, and age. Since the researcher had no control over the selection or formation of the

comparison groups, the groups may not fully be equivalent on one or more of the preceding variables. In an attempt to control extraneous variables, the researcher chose to utilize data from schools that were similar in overall socioeconomic status and ethnicity, as well as to match subjects according to their perspective grade levels.

*Mortality.* It is common in any study to lose some of the subjects as the study progresses (Fraenkel & Wallen, 2009). Student subjects may have been absent during the MAP testing window or moved in or out of the district within the study's timeframe. Teacher subjects may have failed to complete the LETRS professional development training, failed to complete the survey questionnaire, switched grade levels, or left the district in order to pursue other professional avenues. The loss of such subjects may have limited generalizability but also could have introduced a bias (Fraenkel & Wallen). In this study, the number of students remained similar in each grade level.

*Location.* A fourth limitation of this study was the locations in which the data were collected. All teachers in the Lincoln County R-III School District received LETRS professional development training in the same location, but the facilitators may have been different. This could explain a difference in implementation of the strategies within the classroom. While the LETRS professional development was job-embedded and mandated by Lincoln County R-III School District, it was difficult to know if teachers used the research-based strategies with fidelity in their teaching. Also, while it was reasonable to conclude that teachers at Lincoln County R-III agreed that improving reading achievement of students was a necessary goal, it was reasonable to expect differences among the professionals. Although all educators who participated in the study were provided the same LETRS professional development, these educators had different

teaching styles and levels of implementation. Each individual teacher had a unique teaching style and may have presented material in a different manner.

*Classrooms.* A fifth limitation of this study was the classrooms themselves. Since each classroom was not the same, they did not contain the exact same teaching resources. Such variables may account for higher performance by students. Classes with fewer resources might have more disruptive student behaviors and higher rates of teacher failure (Fraenkel & Wallen, 2009).

*Data Locations.* A sixth limitation of the study was the locations in which tests, surveys, and roundtable discussions were administered. The location of these events may have affected responses. Student performance on tests may have been lower if tests were given in noisy or poorly lit rooms (Fraenkel & Wallen, 2009). Surveys and the roundtable discussions may not have been answered with accuracy because of the expectations for the district-mandated implementation of LETRS. Teachers may have answered the surveys in favor of what they thought the researcher wanted to know.

*Socioeconomic status.* Socioeconomic status was a seventh limitation of the study. Low achievement was closely correlated with lack of resources, and numerous studies have documented the correlation between low socioeconomic status and low achievement (Payne, 2005). Payne (2005) found that the majority of minority and poor students could not use formal register, which is standard and business language, as a way of communicating. Since the majority of state mandated assessment tests were developed using formal register, students of poverty often had difficulty performing effectively on these tasks (Payne). In addition, LETRS required professional development, which required elementary teachers to participate monthly. However, beyond LETRS training,

the teachers were not involved in any other professional development activities designed for whole staff implementation. Each building had teachers who participated in various professional development opportunities aimed at increasing student achievement.

Therefore, it cannot be concluded that LETRS was the only contributing factor to an increase in MAP scores.

#### *Threats to Internal Validity*

*Location.* In order to limit the threat of location, the researcher tried to hold the location constant. All professional development training was held in the same location, and all teachers were given the same resources to teach the research-based strategies. The classrooms were similar, although set in different locations, and the MAP testing window was consistent. The surveys were sent at the same time, and the subject identities were held anonymous.

*Instruments.* A second threat to internal validity was the way in which instruments were used. Scores from MAP test data used in the study, the survey results, and roundtable discussions results, can lack evidence of validity. Lack of this kind of validity does not necessarily present a threat to internal validity, but it may (Fraenkel & Wallen, 2009). Since the surveys were administered anonymously via an on-line tool, they were not subjected to instrument decay or interviewer fatigue. However, since a literacy coach facilitated the roundtable discussions, there could have been some changes in the interpretations of the results based on fatigue. The principle way that this was controlled throughout the study was through the use of an on-line survey tool, Zoomerang, which collected and displayed the survey results. Also, in the case of the roundtable discussions,

the participants were kept the same, as was the facilitator. The roundtable discussions lasted for one hour and were held in three sessions.

*Data collector characteristics.* The characteristics of data gatherers, an inevitable part of most instrumentation, may have been a third threat to internal validity. Gender, age, ethnicity, language patterns, or other characteristics of individuals who collected the data in a study may have also affected the nature of the data they obtained (Fraenkel & Wallen, 2009). In order to control this threat throughout the study, the same data collector was used, as well as the facilitator of the roundtable discussions. The researcher analyzed MAP data for grades three, four, and five and included all students who took the test.

In order to handle data collector bias, all procedures were standardized. This study collected MAP standardized test data, survey results, and the roundtable discussions. Individuals, who were unaware of this study and its hypothesis, collected the MAP data. The collectors were unable to identify the particular characteristics of the individuals or groups from whom the data was being collected (Fraenkel & Wallen, 2009). In order to control data collector bias, surveys were sent to teachers via an on-line survey tool and were reported anonymously. The researcher did not facilitate the roundtable discussions. Teachers were not made aware of the hypothesis of the study. All data collected was held in a secure site and anonymous.

*Testing.* MAP test data was used as a way to gauge the student achievement in relation to the LETRS professional development program implemented in the Lincoln County R-III School District. Students from the Lincoln County R-III and Warren County R-III School Districts took the MAP test in third, fourth, fifth, and sixth grade in the area of Communication Arts. While the content area was kept consistent, the test in

each grade level was different, thus decreasing the testing threat. In order to reduce a testing threat, students took a different test each year, and there was no pretest used in order to help prepare them. Students were not made aware of the study, and single-groups were not utilized (Fraenkel & Wallen, 2009). Also, when comparing MAP data at a certain grade level, two sets of subject groups were being tested. MAP data does not follow individual students, but instead tracks grade levels from one year to the next. The state measured a school's achievement and held them accountable for that indicator by comparing the scores of different sets of subjects.

*History.* This study was conducted during the years of 2006 and 2007. During this time period, there were no major local or worldwide events that took place that may have contributed to changed attitudes or perceptions of teacher or student in relation to the MAP test, survey, or roundtable discussions. The MAP test had a consistent testing window and specific parameters that had to be followed while testing occurred, including uninterrupted testing time and consistent testing directions (Fraenkel & Wallen, 2009).

*Maturation.* In order to control the threat of maturation, this study did not follow individual students over the course of one school year. Instead the study focused on comparing the change in student achievement between grade levels over the course of one school year. Students were placed into groups. Groupings represented third graders moving into fourth grade, fourth graders moving into fifth grade, and fifth graders moving into sixth grade. Data from the Lincoln County R-III and Warren County R-III School Districts from the 2006 MAP testing year was analyzed in order to determine the natural rate of maturation in accordance with the MAP test. This were utilized to determine if age, test content, or the LETRS professional development was the factor in



increasing student achievement as warranted by data from the MAP test. According to Fraenkel and Wallen (2009), “Change during an intervention may be due to the factors associated with the passing of time rather than to the intervention itself” (p. 173).

Maturation could have been a serious threat if this study used pre-post data for the intervention group, or if it spanned a number of years (Fraenkel & Wallen). Since the study did not use pre-post data for individual students and lasted only one year, it does not have a threat due to maturation.

*Regression.* A regression threat may be present whenever change is studied in a group that is extremely low or high in its pre-intervention performance (Fraenkel & Wallen, 2009). This study compared groups, which handled this threat. Performance was not a factor when student groups were chosen. Groups were chosen based on grade level in school and teacher implementation of the LETRS professional development program. MAP test data was used in determining the effectiveness of the LETRS program on student achievement. In this study, MAP data was not used to track individual students over the course of time but instead focused on grade levels from year to year.

*Implementation.* The method in any experimental study must be administered by someone and this fact raised the possibility that the experimental group may have been treated in ways that were unintended and not necessarily part of the method, which may have given them an advantage (Fraenkel & Wallen, 2009). In order to control the threat of implementation, all teachers were mandated by the Lincoln County R-III School District to receive LETRS professional development and to implement the research based reading strategies with fidelity in each classroom. While all teachers within the Lincoln County R-III School District were mandated to implement LETRS into their daily

lessons, it was reasonable to assume that all teachers had different abilities and utilized different methods when delivering instruction. Therefore, in order to further minimize the threat of implementation, the study focused on all third, fourth, fifth, and sixth grade teachers instead of utilizing the data received from one teacher. Teachers were not allowed to choose their own method for teaching reading through the study. All teachers taught all strategies that were learned during the LETRS professional development. Lastly, in order to minimize threat of implementation, the researcher was not one of the individuals who facilitated a method with the intervention group. The data were collected prior to implementation of LETRS in the area of Communication Arts. Those in the control group, Warren County R-III students, received normal instruction each day.

*Attitude.* The attitude of the subjects was not a limitation to the study because all students were treated the same and were unaware that the study was taking place. In the study, students in both the control and experimental group were treated to regular instruction, taking place over the course of a one-year period (Fraenkel & Wallen, 2009).

*Teacher Perception.* In the case of the implementation of the LETRS program, teacher perception to the professional development played a significant role in the effectiveness of the program. Other factors existed beyond the implementation of LETRS, which may have impacted scores on the MAP test. One example of an indicator for success on state assessments was attendance. Students, who were absent regularly, may be missing out on learning opportunities geared toward student achievement. Schools that had large transient student populations also had MAP test data that was skewed. It was unreasonable to conclude that a student who had poor attendance could score as well on standardized assessments compared to a student with good attendance.

*Definition of Terms*

*Adequate Yearly Progress (AYP).* “Based on criteria included in NCLB, the Department of Elementary and Secondary Education has established specific annual targets for AYP in Communication Arts and Math” (MODESE, 2008, ¶ 26).

*Advanced.* A term used to describe the MAP category Advanced. “In reading, students make complex connections; analyze complex characters; evaluate the accuracy and importance of information; draw conclusions and make inferences from complex information to determine cause and effect; and paraphrase” (MODESE, 2008, ¶ 7).

*Basic.* A term used to describe the MAP category Basic. “In reading, students identify supporting information, simple cause/effect relationships, conflicts, point of view, and problem-solving processes” (MODESE, 2008, ¶ 7).

*Below Basic.* A term used to describe the MAP category Below Basic. “In reading, students locate/identify information in text; make simple inferences; identify main idea, sensory information, figurative language, simple problems or solutions” (MODESE, 2008, ¶ 7).

*Casual Register.* Characterized by a 400 to 500 word vocabulary, broken sentences, and non-verbal assists (Payne, 2005).

*Fluency.* Reading that is accurate, done at a reasonable rate and with expression (Kuhn & Stahl, 2003; NICHD, 2000).

*Formal Register.* This refers to standard business and educational language. Formal register features complete sentences and specific word choice (Payne, 2005).

*Grade Level Expectations (GLE).* Expectations which represent MODESEs effort to define the Show-Me Standards in order to help educators articulate precise learning outcomes for their students. These expectations are the basis for MAP assessments and serve as achievement targets (MODESE, 2008, ¶ 4).

*Inservice.* Providing opportunities for teachers to learn new educational topics as well as perform activities to enhance their teaching and learning strategies (Ertmer, Addison, Lane, Ross, & Woods, 1999).

*Language Essentials for Teachers of Reading and Spelling (LETRS).* This is a comprehensive professional development program, which focuses on research-based reading strategies for teaching educators to teach children how to read. The program focuses on components of reading, phonological and phonemic awareness, phonics, decoding, spelling, and word study, oral language development, vocabulary, reading fluency, comprehension, and writing. The program also focuses on ways to detect early interventions (Moats, 2005).

*Level Not Determined.* This term describes students who did not take the appropriate MAP tests or who did not make a valid attempt to complete the test (MODESE, 2008).

*Missouri Assessment Program (MAP).* “A testing program administered annually to elementary, middle, and high school students in the state of Missouri to measure program effectiveness and to comply with federal regulations outlined in NCLB” (MODESE, 2008, ¶ 1).

*Missouri School Improvement Program (MSIP).* “The Missouri School Improvement Program has the responsibility of reviewing and accrediting 524 School Districts in Missouri within a five-year review cycle” (MODESE, 2008, ¶ 1).

*National Assessment of Educational Progress (NAEP).*

The only national representative and continuing assessment of what America’s students know and can do in various subject areas. Assessments are conducted periodically in mathematics, reading, science, writing, the arts, civics, economics, geography, and U.S. history. Since NAEP assessments are administered uniformly using the same sets of test booklets across the nation, NAEP results serve as a common metric for all states and selected urban districts. (MODESE, 2008, ¶ 2)

*National Institute for Literacy.* “A national panel convened to assess the effectiveness of different approaches used to teach children to read” (National Institute for Literacy, 2008, ¶ 1).

*National Institute of Child Health and Human Development (NICHD).* “The NICHD, established by congress in 1962, conducts and supports research on topics related to the health of children, adults, families, and populations” (MODESE, 2008, ¶ 1).

*Nation’s Report Card.*

The Nation’s Report Card informs the public about the academic achievement of elementary and secondary students in the United States. Report cards communicate the findings of the NAEP. The Nation’s Report Card compares

performance among states, urban districts, public and private schools, and student demographic groups. (MODESE, 2004, ¶ 2)

*National Reading Panel (NRP)*. The NRP has completed the research assessment of reading instruction approaches (NRP, n.d., ¶ 1).

*No Child Left Behind Act of 2001 (NCLB)*.

The No Child Left Behind Act of 2001 reauthorized the Elementary and Secondary Education Act (ESEA)—the main federal law affecting education from kindergarten through high school. NCLB law mandates that all students will be proficient in the area of Math and Communication Arts by 2014. It is a law that focuses on accountability for results, more choices for parents, greater local control and flexibility, and an emphasis on doing what works based on scientific research. (MODESE, 2004, ¶ 1)

*Outstanding Schools Act of 1993*. This established challenging academic standards for all students by supporting professional development of educators to improve the quality of curriculum and instruction and by providing more equitable funding for public education. In addition, the act calls for increased accountability in improving student academic performance for all of Missouri's public school districts and buildings. The act established the Show-Me Standards, curriculum frameworks, a new statewide assessment, professional development for educators, and professional standards for educators (MODESE, 2008).

*Phonemes*. These are the smallest units composing spoken language (Ehri, 1998).

*Phonemic Awareness.* This is the ability to focus on and manipulate phonemes in spoken words (Liberman, Shankweiler, Fischer, & Carter, 1974).

*Professional development.* Professional development is the degree to which teachers value continuous personal development and school-wide improvement. Teachers seek ideas from seminars, colleagues, organizations, and other professional sources to maintain current knowledge, particularly current knowledge about instructional practices (Gruenert, 1998).

*Proficient.*

A term used to describe the MAP category Proficient. In reading, students identify author's purpose, supporting details, point of view, describe character traits, plot; identify problems/solutions; support a position with text-based details; draw conclusions; interpret figurative language; make inferences and predictions; locate resources. (MODESE, 2008, ¶ 7)

*Research-based Strategies.* According to Reyna (as cited in McCardle & Chhabra, 2004), these are reading strategies that have been proven effective in raising student achievement. These strategies have undergone rigorous, systematic, and objective procedures to obtain valid knowledge relevant to reading development, reading instruction, and reading difficulties. It involves data analysis and relies on measurements or observational methods that provide data.

*Show-Me Standards.* "A set of 73 rigorous standards intended to define what students should know and be able to do by the time they graduate from Missouri's public high schools" (MODESE, 2008, ¶ 1).

*Student achievement.* Student achievement refers to the measure of student learning by means of national and state standardized tests and teacher reports (Colbaugh, 2001).

*Student success.* Student success refers to an accomplishment or attainment of a desired end (Keeler, 1996).

*Subgroups.* “Grouping of students for purposes of disaggregated data on the MAP test. A cell of 30 or more students establishes a subgroup with the exception of Individualized Education Plan (IEP) and Limited English Proficient (LEP) students, which need 50 students to establish a subgroup” (MODESE, 2008, ¶ 6).

### *Summary*

The importance of success in reading for lifelong achievement must not be underestimated. According to Moats (2005), the ability to read and comprehend is determined to be critical for a child’s academic success. How well a child learns to read may determine future opportunities. One of the most critical components of implementing effective reading instruction is based on scientific evidence that uses programs and approaches that are proven to be successful. Using scientific research in teaching children to read is essential for ensuring the best academic and life opportunities for children (Moats, 2005).

The federal government has played a significant role in furthering the research base on reading. Rigorous research on reading development and disorders has been actively sought and supported by the NICHD and DESE. The NICHD has continuously funded research on human development, learning, and behavior, including research on reading development, reading disabilities, and reading instruction since 1965 (Chharba &



McCardle, 2004). From this research, the NRP, Reading First Act, and NCLB Act of 2001 have evolved. All of these initiatives and mandates have pushed for the early identification of reading difficulties, intervention strategies, research-based teaching and learning strategies, and accountability. The National Center for Education Statistics (NCES) (2001) verified that in 1999, 38% of all fourth graders in the United States were unable to read at or above their grade level. Reading is the cornerstone of all school-based learning, yet reading failure is pervasive. In accordance with the NCLB Act, all public school students need to be proficient in reading by the year 2014. With the adoption of NCLB, it is imperative to substantially improve the reading abilities of all students.

According to Taylor et al. (2003), educators are the decisive element in the classroom, and it is vital that these professionals have the knowledge, skills, and materials needed to effectively deliver reading instruction to children. Although many traditional reading programs have been used for years and have well-developed teacher training and professional development components in addition to well-organized teaching materials, these professionals may still need to have more job-embedded and specific on-site training to truly understand how to teach reading. It had become evident that a combination of approaches is critical to improving reading literacy. Simply identifying the approaches is not enough. Having job-embedded professional development allows for teachers to continue to learn and grow and to better serve their students. “Teachers learn best through an ongoing professional development model. By immersing teachers in a culture of ongoing learning, the likelihood of implementing new ideas increases” (Fiszer, 2003, p. 6).

The review of the literature in chapter II develops the foundation for reading and reading theories, best practices, and research-based strategies geared to improving student achievement in reading. The literature review investigates the effectiveness of professional development on teacher perceptions and student achievement. This study investigated the effectiveness of the LETRS professional development program on reading instruction as measured by the MAP in the area of communication arts for students in grades three through five. The study also explored teacher perceptions of effectiveness of the program on student achievement, along with the teacher roles and responsibilities of daily classroom implementation.

## Chapter II - Review of Literature

Nearly three million students were placed in the specific learning disabilities category of special education simply because they had not learned to read (President's Commission on Excellence in Special Education, 2002). Illiteracy was regarded as a major public health concern because reading failure led to ills such as dropping out of school, delinquency, unwanted pregnancy, and chronic unemployment (National Center for Education Statistics, 2001). The importance of success in reading for lifelong achievement must not be underestimated; how well a child learns to read may determine future opportunities, including not only career opportunities, but also the ability to accomplish basic activities of daily life (NICHD, 2000).

Reading literacy is a skill critical to learning and the key to unlocking many forms of knowledge and information (Nichols, Glass & Berliner, 2006). Schools are driven by an overriding concern about student achievement and what promotes student learning. Changes in society and the economy are placing unprecedented demands on public schools to raise student achievement in all areas, especially reading. The pressure for student achievement begins at the highest level of government (Nichols, Glass & Berliner).

According to The White House (as cited in McCardle & Chhabra, 2004), in his September 8, 2001, radio address to the nation, President George W. Bush made clear his determination to provide all the tools necessary for every child to learn to read. Bush set a goal that no child should be left behind because of an inability to read. The White House stated that the ability to read is what turns a child into a student. When this skill is not taught, a child has not failed the system; the system has failed the child. That child is

often put on a path to frustration and broken confidence (McCardle & Chhabra, 2004).

On January 8, 2002, the President signed the NCLB Act of 2001 into law, a reauthorized version of the Elementary and Secondary Education Act (ESEA).

### *Achievement and Assessment*

The role of student achievement and assessment has shifted greatly in the United States (Darling-Hammond & Wise, 1985). In the years past, before state-mandated criterion-referenced tests existed; most school districts administered only nationally-normed achievement tests that had been designed to compare the student population in a district with students throughout the nation. In the eyes of various authors, public education had begun to assume a close relationship with the continuation of the American way of life. In 1947, *New York Times* editor, Benjamin Fine, alluding to a crisis facing education, declared that the United States would surely suffer the consequences of the present neglect of education in generations yet to come. A 1955 best seller, *Why Johnny Can't Read*, warned that the refusal of educators to use research-based phonics methods would destroy democracy in the country (Rothstein, 1998).

The Soviet launch of Sputnik in 1957 accelerated complaints about declining student achievement in the United States. For the first time, schools were seen as an integral part of national security. The United States needed a great number of engineers, mathematicians, scientists, and foreign language speakers, and these specialists were not being produced by America's public schools and post-secondary institutions in sufficient numbers to compete with the numbers being produced and utilized by the United States of Soviet Russia (Bracey, 1997).

In the 1960s and 1970s, strong public concern was accompanied by extensive and continuing efforts at all levels of government to improve the public education system (Koretz, 1987). Scores on standardized achievement tests play a central role in this debate. American students' test scores declined during the 1960s and 1970s and compared poorly with test scores of students in other countries. Fluctuations in student achievement during these decades were compounded by radical changes in the federal government's role in education. These changes were brought about by the implementation of the Economic Opportunity Act of 1964 that created Head Start and by the Civil Rights Act of 1964 that focused on social inequalities and prohibited discrimination by organizations that use federal funds (Berends, 2004; Koretz).

The notions of equity and excellence dominated the educational landscape in the 1980s (Keith & Girling, 1991). Since the early 1980s, national efforts focused on reestablishing the United States as a major world competitor. The National Commission on Excellence in Education's (1983) report, *A Nation at Risk*, captured national attention when the report findings indicated, "The educational foundations of our society are presently being eroded by a rising tide of mediocrity that threatens our very future as a Nation and a people" (p. 5). A number of the report's findings and recommendations sought more rigorous curricula and higher standards of performance for students and teachers. *A Nation at Risk* expressed the fear that high school students in the United States might now be scoring lower on achievement tests than when Sputnik was launched in 1957 and called for school reform. As a result, education reform became a number one national issue (Nystrand, 1992).

During the 1980s and 1990s, individual states, including Missouri, joined the standards movement to improve instruction. Missouri moved from a criterion referenced assessment to a performance assessment. As a result of the Outstanding Schools Act of 1993, the MAP was developed. In developing the MAP, Missouri officials followed the standards for assessment established by the National Assessment Governing Board. These standards, known as the Show-Me Standards, provided a definition of what Missouri students should know and be able to demonstrate by high school graduation. The MAP test was intended to raise the bar for students' learning (MODESE, 2000).

The Goals 2000: Educate America Act (1994) was signed into law on March 31, 1994, and provided resources to states and communities to ensure that all students reach their full potential. Goals 2000 was based on the premise that students will reach higher levels of achievement when more is expected of them. It established a framework for identifying world-class academic standards, measuring student progress, and providing the support those students may need to meet the standards. This act codified into law the six original education goals concerning school readiness, school completion, student academic achievement, leadership in math and science, adult literacy, and safe and drug-free schools. The Educated America Act added two new goals encouraging teacher professional development and parental participation (Goals 2000).

By 2006, Missouri had to develop new, annual tests in reading and math for grades three through eight to measure students' academic progress, due to NCLB regulations. The law required that all children were to be taught by *highly qualified* teachers and emphasized improving communication with parents and making all schools safer for students (MODESE, 2008, ¶ 1). Congress redefined the federal role in

kindergarten through eighth grade education and helped close the achievement gap between disadvantaged and minority students and their peers. It was based on four basic principles: stronger accountability for results, increased flexibility and local control, expanded options for parents, and an emphasis on teaching methods that have been proven to work. According to the President, this landmark piece of legislation "would ensure that no child in America was left behind through historic education reforms based on real accountability, unprecedented flexibility for states and school districts, greater local control, more options for parents, and more funding for what works" (MODESE, 2008, ¶ 1).

### *History of Reading Instruction*

The United States is a nation of immigrants. In the early 1800s, America was a nation of five million people, hailing from a host of nations and many speaking the language from their homelands (Sweet, 1997). When Noah Webster completed the *American Dictionary of the English Language* in 1812, he standardized a spelling system for the new nation and then developed teaching materials to assist parents, children, and teachers to quickly and effectively teach all children and adults to read, write, spell, and speak English (Unger, 1998). Until the early 1900s, the *Blue-Backed Speller* and *McGuffey Readers* were the staples of the one-room schoolhouse and were used to teach all children and adults who attended the school to read (Unger).

According to Sweet (1997), since the early 19<sup>th</sup> century, a debate had been raging among educators about reading instruction. Some believed that the traditional alphabetic approach was sufficient, while others believed in a new method or word approach that relied on sight word memory (Sweet). As American schools became publicly funded,

teacher education schools became the vehicle to reform public education (Ravitch, 2000). The new methods of reading instruction, referred to as the look and say method, became the staple of these schools, following the new progressive approach to learning advocated by John Dewey (Blumenfeld, 1973). Dewey led the movement for themed units of study that connected learning to meaning and purpose. By 1930, this new method of reading instruction had taken root, and publishers quickly produced instructional materials, such as the Dick and Jane readers, to reflect its new approach (Blumenfeld).

From the 1930s until the mid 1950s, schools all across America were using this unproven model of instruction to teach children to read. In terms of literacy instruction in early learning at this time, there was none. There was no attempt at formal lessons in preschool and kindergarten; in fact, formal lessons were frowned on as inappropriate for the developmental stage of the child. However, teachable moments were used to advantage. There was no place in this program for formal reading instruction (Sweet, 1997). Morphett and Washburne (1931) believed in postponing formal reading instruction until the child was developmentally ready. Their research concluded that children with a mental age of six years and six months made better progress on a test of reading achievement than younger children. By the time the federal government began to more fully fund education in the 1960s, millions of children had missed out on learning to read fluently in the early grades, and the remedial education industry began. Annual reports emerged on how many children were functionally illiterate (Sweet, 1997).

Reading instruction in the mid-1900s was considered a natural process that did not need the discipline of careful instruction or attention to learning the alphabet. Instead, students were given a limited list of commonly used words to memorize in each grade,



thus gradually increasing their reading vocabulary each year (Gray, 1951). Some students were able to do this with ease, while many others struggled. Because teachers used a mixture of instructional practices to supplement these sight-based reading methods, the problem of limited literacy for many students did not manifest immediately. By the mid-19<sup>th</sup> century, increasing numbers of students were falling behind. In *Why Johnny Can't Read*, written in 1955, Dr. Rudolph Flesch offered a solution to the cause of illiteracy,

Teach children the 44 sounds of English and how they are spelled. Then they can sound out each word. . . . and read it off the page. . . . The ancient Egyptians learned that way, and the Greeks and the Romans, and the French, and the Germans—every single nation throughout history that used an alphabetic system of writing. We have thrown 3,500 years of civilization out the window and have gone back to the Age of Hammurabi. (Flesch, 1955, p. 32)

Research from the 1960s through the 1990s brought to life new information about the importance of children's oral language development, early writing development, emergent reading behaviors, and family literacy experiences. With this new information and the whole-language movement, educators moved away from the abstract reading readiness activities thought to be precursors to reading, toward more natural ways of developing reading. Although the explicit teaching of skills was seen as inappropriate for young children, emergent literacy behaviors were recognized and encouraged. Clay (1985) promoted the term *emergent literacy behaviors* and the reading of good literature to children. Emergent literacy recognized scribble writing and invented spelling as the beginnings of conventional writing. Children engaged in pretend reading, often using

pictures and props to help them read. These behaviors began to be accepted and encouraged as early literacy instruction (Clay).

By 1965 the federal government began subsidizing remedial reading. Federal funding for Title 1 of the ESEA of 1965 (MODESE, 2008, ¶ 2) was just under \$1 billion, most of which was targeted towards improving reading and mathematics skills of poor children. Four decades later, Title 1 expenditure has exceeded \$140 billion. Yet, the number of students unable to read at grade level in the targeted areas was more than 50% and, in some groups, as high as 66% (Grigg, Danne, Jin, & Campbell, 2003).

Reading was the cornerstone of all school-based learning, yet reading failure was pervasive. Millions of students unnecessarily remained illiterate because the new method advocated 150 years ago remained embedded in our schools. According to the NAEP (1999), a decade ago, 38% of all fourth grade students nationally were unable to read at or above their current grade level. In middle class communities, about 38% to 40% of students were failing to score at even a basic level in reading, while up to 70% of poor students, especially African American, Hispanic, and Native American children who lived in urban or isolated areas, were unable to read at or above grade level. These data showed that a significant number of students exhibited little or no mastery of the knowledge or skills necessary to perform work at each grade level. Although the statistics seemed grim, devastating educational and social consequences that stem from reading failure could be prevented. Moats (2005), determined that all but two percent to five percent of children could learn to read, even in populations where the incidence of poor reading was often far higher.

A major cause of illiteracy lay in the publishing companies and schools themselves. Publishing companies sold textbooks that were based on the false pretense that students learned to read naturally. The NCES (2001) stated that about five percent of children already knew how to read when they started school. For another 20% to 35%, learning to read in school was relatively easy, regardless of the instructional method used. However, about 60% of children found learning to read a challenge, and for 20% to 30% of those students, reading would be one of the most difficult tasks they had to master. Many teachers were trained in a method of instruction that was failing millions of students. It manifested itself as what was commonly called the whole language and, most recently, the balanced literacy approach. Schools of education were turning out more than 125,000 teachers each year (NCES), many of whom were unprepared to effectively teach students to read.

In spring 2002, the ESEA, that included the NCLB Act, was passed. Although early literacy development had been a focus throughout the years, it was in the spotlight more than ever. The NICHD (2000) suggested that instruction in early literacy needed to be organized and systematic. It also identified areas in which to concentrate during instruction. The elements identified were (a) phonemic awareness, (b) phonics, (c) comprehension, (d) vocabulary, and (e) fluency (NICHD).

### *The Struggling Reader*

Wolfe and Nevills (2004) described the brain as a hierarchy of low-level decoding skills and high-level comprehension-making skills. They wrote that,

At the higher levels are the neural systems that process semantics (the meaning of language), syntax (organizing words into comprehensible sentences), and

discourse (writing and speaking). Underlying these abilities are the lower-level phonological skills (decoding) dedicated to deciphering the reading code. All of these systems must function well in order for individuals to read quickly and make meaning from the text. (p 26)

A solid foundation in phonemic awareness, vocabulary, and general background knowledge was essential for young students if they were to become successful readers. The National Early Literacy Panel (2004) identified abilities of children from birth through five that predicted later achievement in literacy. The abilities identified were (a) oral language development: expressive and receptive vocabulary; (b) alphabetic code: alphabet knowledge, phonological/phonemic awareness, invented spelling; (c) print knowledge: environmental print, concepts about print; (d) rapid naming of letters and numbers; and (e) visual memory and visual perceptual abilities.

Unfortunately, reading difficulties often start before students even entered school. Hart and Risley (1995) identified two broad classes of emergent literacy skills that have a substantial impact on how easily children learn to read once they begin school. According to Hart and Risley, one set of skills, such as phonemic awareness and letter knowledge, is particularly important in learning to read words accurately and fluently. Further, other knowledge and skills, encompassing a broad range of oral language ability and including such things as vocabulary and grammatical knowledge, are important for understanding language. Researchers identified vocabulary gaps in children as young as three that could prevent them from doing well later in life (Hart & Risley). According to Snow, Burns, and Griffin (1998), children who do not develop strong decoding skills by the end of first grade may become struggling readers throughout their lives.

Most children who enter school at risk for difficulties learning to read fall into one of two broad groups. Many children enter with adequate oral language ability but have weaknesses in the phonological domain (Hart & Risley, 1995). Their primary difficulty in learning to read involves learning to read words accurately and fluently (Torgesen, 1999). Many other children, who come largely from low socioeconomic families or of minority status, enter school with significant delays in a much broader range of pre-reading skills (Hart & Risley, 1995; Hecht, Burgess, Torgesen, Wagner & Rashotte, 2000). These children have weaknesses both in the broad oral language knowledge that support reading comprehension and in the phonological and print-related knowledge required in learning to read words.

According to the Northwest Regional Educational Laboratory (2002), a lot can go wrong as children develop as readers because reading is a complex brain activity. Specifically, because reading begins with visual input, any vision problems can inhibit the ability to process print effectively. Some poor readers have subtle sensory deficits in visual processing, such as poor visual activity or slower than normal eye movements (Northwest Regional Educational Laboratory). In addition, any type of hearing impairment, such as chronic ear infections during the preschool years, can harm the language development of young children. Those who cannot process sound quickly enough can have trouble distinguishing similar consonant sounds. Deficits in the language systems of the brain seem to be the problem that most frequently affects struggling readers (Northwest Regional Educational Laboratory).

Tankersley (2005) argued that to become a good reader, children should be talked and read to extensively and taught the concepts of letters, words, rhyme, and patterns.

After seeing the same “cat, sat, rat” patterns over and over again in nursery rhymes, songs, and stories, children should be able to recognize other types of patterns. These readers have developed the foundational skill of phonemic awareness—the first thread of the reading tapestry. Once they understand that spoken and written words are related, the next step is to learn that some words are not easily identifiable by a predictable pattern and must be identified by their sequence of letters. This is how children develop phonics and decoding skills (Tankersley).

Researchers agreed that students who fall behind their classmates as early as first grade will fall further behind as time passes (Torgesen et al., 1999). According to Juel (1988), 87% of children who are poor readers at the end of first grade are still poor readers by the end of fourth grade—and 75% of those who underperformed in third grade are still behind in high school, often by as much as four years (NCES, 2001). Stanovich (1980) referred to this phenomenon as the Matthew Effect (after the New Testament verse Matthew 25:29, source of the adage, “the rich get richer and the poor get poorer”): over time, those who do well from the start tend to improve, while those who begin poorly tend to do worse. Tankersley (2005) said, reading is not a holistic process that just happens, but rather a linear one that builds hierarchically, as does development in math. A huge factor in literacy is learning to make connections between what was already known and the new information being learned (Tankersley). Reading was about understanding and being able to process what one saw at the metacognitive level; without comprehension, true reading does not occur (Tankersley). Figure 1 describes the process that a reader goes through in order to fully comprehend.

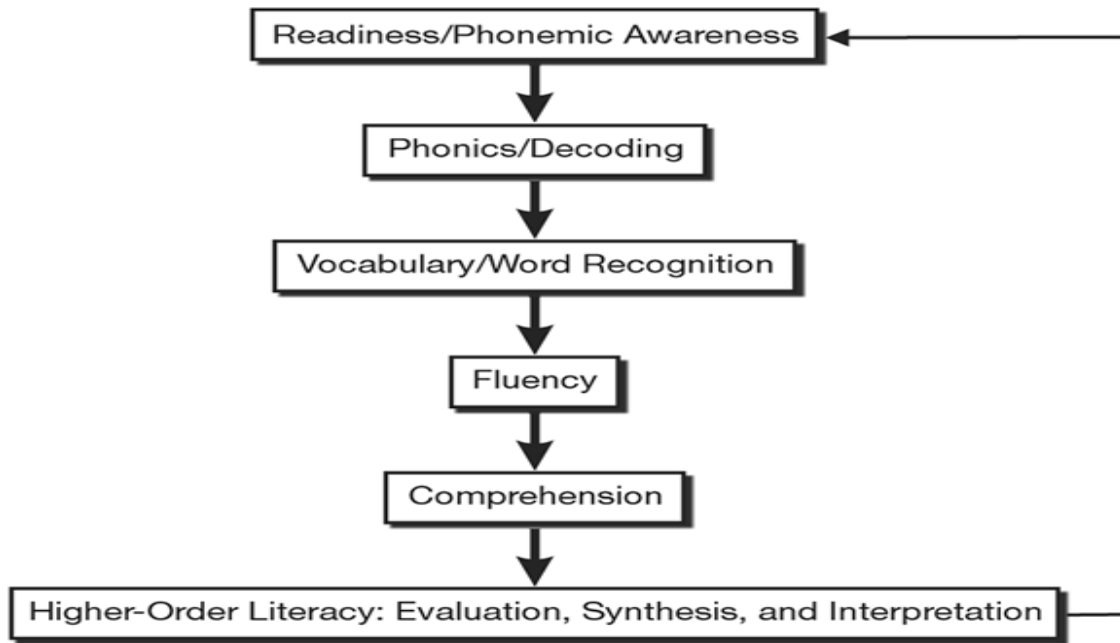


Figure 1. Hierarchy of Reading Threads.

*Note.* Reading growth does not end at a specific age, but continues to build upon skills and background knowledge. All readers continually cycle back through different levels of understanding as they read. From *Literacy Strategies for Grades 4-12: Reinforcing the Threads of Reading*, by K. Tankersley, 2005, p. 76. Alexandria, VA: Association for Supervision and Curriculum Development.

---

Swanson and Hoskyn (1998) noted that teaching struggling readers to read is seen as primarily the responsibility of a specialized teacher in a remedial reading program. Struggling readers spend 15-20% of their school day in special programs, while the rest of the day was spent in the regular education classroom. In order to adequately address the problems faced by struggling readers, high-quality instruction is essential. According to Swanson and Hoskyn, struggling readers also need a steady supply of essential strategy lessons accompanied by extensive opportunities to independently practice and apply those strategies in high-success reading materials. In addition, these readers need more

experts and more intensive reading instruction than classroom teachers provided, thus the critical role of reading specialists. Teachers must take care to link the supplementary lessons to classroom instruction while still attending to the specific needs of individual students.

### *Learning*

Ensuring students' success in learning has long been the goal of teachers, but over the years, student learning has become even more critical (Brown, 2003). The groundwork for making a shift in basic beliefs and assumptions about learning and the learner was laid in 1990 when the American Psychological Association (APA) and the Mid-Continent Regional Education Laboratory joined to form the APA Presidential Task Force on Psychology in Education. The purposes of this task force was (a) to determine the ways in which the psychological knowledge base relating to learning, motivation, and individual differences could contribute directly to improvements in the quality of student achievement; and (b) to provide guidance for the design of educational systems that would best support individual student learning and achievement (McCombs & Whisler, 1997). The task force studied research focused on learning that inspired educators to place increased emphasis on high standards, effective instructional practices, and improved assessment methods (McCombs & Whisler).

As a result of this emphasis, technical and organizational changes occurred to enable students to achieve higher levels of learning (McCombs & Whisler, 1997). However, these educators and researchers overlooked the impact of the changes on students in areas other than in the area of academic achievement. Consequently,



educational systems were not structured to provide support for the complex needs of the students (McCombs & Whisler).

By synthesizing the research in the areas of learning and instruction, members of the task force created a framework, the APA Learner-Centered Psychological Principles, to improve the educational experience of all learners (Alexander & Murphy, 1998). The central understanding of the learner-centered principles called for educational systems to effectively meet the needs of all learners by providing “a focus on the individual learner as well as an understanding of the learning process and the essential knowledge and skills to be learned” (McCombs, 2003, p. 31). The learner-centered principles were defined by a theoretical perspective rather than a prescribed method of instruction and set of practices (McCombs & Whisler, 1997).

The fourteen learner-centered principles (APA, 1997) were categorized into four domains of basic factors that have been identified in research as critical to achieving increased motivation, learning, and academic achievement. These four domains include (a) cognitive and metacognitive factors, (b) motivational and affective factors, (c) developmental and social factors, and (d) individual differences. An understanding of these domains and the principles within them established a framework for designing learner-centered practices at all levels of schooling (APA).

Alexander and Murphy (1998) and McCombs and Whisler (1997) stated that learner-centered classroom practices, which allowed students choice and opportunities to interact with students of varying abilities, cultures, and ages, should foster greater learning. A description of learner-centered classroom practice is as follows: mastering content can be demonstrated in more than one way, and students are allowed to work

individually. Teachers function as facilitators holding high expectations for all students and respecting the opinions and viewpoints of all. Finally, instructional strategies and methods make learning relevant to the students. Higher level thinking skills are emphasized, and students are encouraged to become more responsible for their own learning. Students are able to assist each other in constructing meaning (Alexander & Murphy, 1998; McCombs & Whisler, 1997).

In a collaborative learning process, students constructed knowledge socially. McCombs and Whisler (1997) described practices that enhance learning that include (a) tying learning both to prior learning and to authentic tasks, (b) knowing the individual needs of students and their unique backgrounds, (c) respecting diversity, and (d) developing relationships. Collaboration is important in the learning process (APA, 1997; Bruffee, 1999; Paul & Marfo, 2001).

#### *Research-Based Practices and Five Components of Literacy*

Literacy instruction continues to be a hot topic in education, in the media, and with politicians at every level of government. Tankersley (2005) discussed one of the core issues that drives concerns about reading instruction—the pressure for students to perform well on state assessments. The stakes are high, and the penalties for not meeting the standard are great. Principals are faced with meeting the state and national standards while providing adequately for teachers and students with varying needs and abilities. In each classroom, it is the teacher who struggles to meet the challenges of providing appropriate literacy instruction for his or her students (Tankersley).

Pressley (2005) described how the federal quest for research-based reading instructional practices led educators to focus on five factors of instruction, perhaps to the

exclusion of other literacy strategies. These strategies include (a) phonemic awareness, (b) phonics, (c) fluency, (d) vocabulary, and (e) comprehension (NICHD, 2000).

A great deal of research has been conducted about literacy instruction over the past few decades, but questions still remain about what constitutes best practices in literacy instruction. There is no single instructional program, approach, or method that has been found to be effective in teaching all children to read, but evidence-based best practices that promoted high rates of achievement have been documented. Evidenced-based practices refer to an instructional practice that has a record of success that is both trustworthy and valid (Gambrell, Morrow, & Pressley, 2007). There is evidence that when this practice is used with a particular group of children, the children are expected to have made gains in reading achievement (International Reading Association, 2002a, 2002b).

Morris (as cited in McCardle & Chhabra, 2004) found that the crucial factor in effective classrooms is the teacher. More specifically, teacher expertise is a critical variable in effective reading instruction. The teacher who had the knowledge and ability to combine and adjust various methods, practices, and strategies to meet the needs of a particular set of students was most likely to lead students to higher levels of literacy achievement and engagement (McCardle & Chhabra).

#### *A Balance in Literacy Instruction*

In one form or another, the reading debate has always been about the emphasis during the earliest stages of formal reading instruction, whether to focus on breaking the code or understanding what is read. The code-emphasis is a simple view of reading (Pearson, 1976): reading comprehension = decoding x listening comprehension. Those

who advocated the simple view argued that since the code (the cipher maps letters onto sounds) is what students do not know, the sooner they learn it, the better they will be able to read. Pearson (1976) advised educators to get phonics and decoding out of the way early so that students could begin to engage in regular reading, translating letters onto the sounds of oral language, and then use the same cognitive processes that facilitate listening comprehension to understand what they read.

The meaning-emphasis side (Pearson, 1976) argued that since making meaning is the ultimate goal of reading, it is best to start students with that expectation. If teachers provide relevant scaffolding to help students determine textual meaning(s), learners will, as a natural by-product, acquire the cipher for mapping sounds onto letters. Moreover, in their emphasis on meaning, advocates argued for beginning on many fronts simultaneously. The code-emphasis side argued that students should be taught what they do not know, while the meaning-emphasis side argued that they should be taught what they do not know by relying on what they do know (Pearson, 1976). Teachers utilizing the code-emphasis philosophy would teach students words and sounds that were new to those students, while meaning-emphasis teachers would teach students words by associating them to concepts in which the students have some prior knowledge.

Balance, a key term of the late 1990s, was born out of what the popular press (Lemann, 1997; Levine, 1994) and the research community (Pearson, 2004) termed the reading wars. The idea of balance has drawn advocates from both sides of the aisle, some who took a whole language perspective as the balanced approach (McIntyre & Pressley, 1996) and others who viewed an early code emphasis as the cornerstone of a balanced framework (Lyon, 1997). A fully balanced literacy experience was to focus on a range of

texts, to build strategies for working with today's texts and other media, and to prepare students to manage the variety of informational sources they encounter daily in a range of settings and for many purposes (Lemann, 1997; Levine, 1994).

McIntyre and Pressley (1996) discussed three sources of evidence that point to the importance of a balanced literacy curriculum. First is the U.S. students' achievement levels, as reflected in standardized norm-referenced tests. Second is research syntheses, as well as large-scale studies of effective literacy instruction that suggest there is a broad range of skills, strategies, genres, and contexts that must be considered in a complete literacy curriculum and a finite amount of time in which teachers have for instruction. Third, a critical analysis of balanced literacy as a historical construct divulges some limitations of long-standing models and the need to reconsider the construct (McIntyre & Pressley).

In considering balance within reading instruction, research by the NICHD (2000), along with a long tradition of research curriculum and pedagogy stemming back into the 1980s, (Anderson, Hiebert, Scott, & Wilkinson, 1984), the 1960s (Chall, 1967), and even earlier (Gray, 1951), confirmed the importance of mastering lower-level processes such as phonics and phonemic awareness, as well as thoroughgoing instruction in comprehension and vocabulary. The same research also supported balance within each of these important areas of reading instruction: (a) phonemic awareness, (b) phonics, (c) vocabulary, (d) fluency, and (e) comprehension.

### *Best Practices in Reading Instruction*

*Phonological Awareness and Phonics.* Phonics has been the most controversial issue in reading. In the beginning stages of learning to read, phonemic awareness is

crucial to success. As children move through the primary grades, their phonics strategies must be developed. Successful reading in the intermediate grades requires children to have strategies for decoding multisyllabic words (Moats, 2005).

Ehri and Nunes (2002) stated that one understanding that children gain from early reading and writing encounters is that spoken words are made up of sounds. These sounds (phonemes) are not separate and distinct. Phonemic awareness has many levels and includes the concept of rhyme and the ability to blend and segment words and to manipulate phonemes to form different words. While Ehri and Nunes argued that phonemic awareness is one of the best predictors of success in learning to read, Yopp and Yopp (2000) believed it is only one part of a beginning literacy program:

Our concern is that in some classrooms phonemic awareness instruction will replace other crucial areas of instruction. Phonemic awareness supports reading development only if it is part of a broader program that includes—among other things—development of students’ vocabulary, syntax, comprehension, strategic reading abilities, decoding strategies, and writing across all content areas. (p. 142)

The NICHD (2000) reviewed the experimental research base on teaching phonics and determined that explicit and systematic phonics is superior to nonsystematic or no phonics, but there is no significant difference in effectiveness among the kinds of systematic phonics instruction. While research does not tell what kind of phonemic awareness and phonics instruction is most effective, research-based findings can be used to evaluate classroom activities. Activities designed to develop phonemic awareness should be facilitated in the context of reading and writing so that children develop the other concepts necessary for successful beginning reading. Because children vary in their

level of phonemic awareness, phonics activities for young children should include opportunities to develop phonemic awareness (NICHD). Since it is not clear how phonics is best taught and how children's learning varies, phonics instruction should include a variety of activities, including letter-sound, spelling, and analogy instruction (Gambrell, Morrow, & Pressley, 2007). According to Nagy and Anderson (1984), as children encounter larger words in their reading vocabulary, they should learn to use morphemes to unlock pronunciation, spelling, and meaning of polysyllabic words. As children get older, the need for phonics instruction shifts to include multisyllabic word decoding skills. They further hypothesized that if children know or learn how to interpret morphological relationships, they can comprehend six or seven words for every basic word known. To move children along in their decoding and spelling abilities in upper grades, instruction focuses on morphemes—prefixes, suffixes, and roots—and how these morphemes help students decode, spell, and gain meaning for polysyllabic words (Nagy & Anderson, 1984).

According to Moats (2005), children do need systematic phonics instruction, but there is no one best way to teach phonics. Therefore, there is no one single influencing factor in phonics instruction that will allow for the academic success of all students. Moats explained that in many schools, one approach to phonics instruction has been mandated despite the lack of proof that the approach has been any better than one an individual teacher may favor.

*Vocabulary Instruction.* Vocabulary consists of the words that one can understand and can actively listen to, speak, read, or write (Snow, et al, 1998). According to Snow, et al, individuals all have four different vocabularies: the listening vocabulary, the speaking

vocabulary, the reading vocabulary, and the writing vocabulary. The listening vocabulary developed first, followed by the speaking vocabulary, the reading vocabulary, and finally the writing vocabulary. Each vocabulary expands throughout an individual's life, with time and consistent use.

Nagy and Anderson (1984) argued that vocabulary is a vital foundational thread in the tapestry of reading. Most students add approximately 2,000-3,000 words per year to their reading vocabularies, or about six to eight new words per day. Reading only ten minutes per day can result in students learning about 1,000 new words each year (Cunningham & Stanovich, 1998). Student vocabulary is one of the big differences between proficient and struggling readers (Baker, Simmons, & Kameenui, 1995). Further, many struggling readers have moderately large listening vocabularies, because listening is their main way of taking in information, but relatively underdeveloped reading and writing vocabularies (Baker et al.).

Blachowicz and Fisher (2000a) and NICHD (2000) concurred that educators must be able to meet the needs of all learners and provide each student with word learning that is enjoyable, meaningful, and effective. Five guidelines were developed, by the Reading First Initiative, for teachers in order to help provide effective vocabulary instruction. The effective vocabulary teacher (a) builds a word-rich environment in which students are immersed in words for both incidental and intentional learning and the development of word awareness; (b) helps students develop as independent word learners; (c) uses instructional strategies that not only teach vocabulary, but also model good word learning behaviors; (d) provides explicit instruction for important content and concept vocabulary,



drawing on multiple sources of meaning; and (e) uses assessment that matches the goal of instruction (Blachowicz & Fisher, 2000a; NICHD).

Blachowicz and Fisher (2000b) stated that learning the meaning of various words is a continuous, evolving process. As Blachowicz and Fisher (2000b) noted, understanding the meaning of any word is like flicking on “a light dimmer switch that gradually produces an increasing supply of light” (p. 3) as experience with the word grows.

Furthermore, Nagy (1988) found many levels of word understanding. At the lowest level, the student has no knowledge of the word, no recognition, and no idea of what it meant. The highest level of word understanding is when an individual can define the word precisely, provide synonyms and examples of its use in context, and use it with ease in day-to-day reading. Understanding is built as the word is encountered multiple times and used in different situations. Nagy reminded teachers that they must consider whether students are familiar with a word when they are teaching it. For this reason, said Nagy, content area teachers must help students learn and understand the vocabulary of the discipline they teach and apply the correct label to the new concepts they meet.

Also, McKeown, Beck, Omanson, and Pope (1985) said that along with weaving vocabulary words with prior knowledge, teachers must expose vocabulary words to students on an on-going basis. Nagy (1988) stated that effective vocabulary instruction must include integration and repetition and have life meaning. Furthermore, in order to understand a word, it must be connected on to life experiences. McKeown et al. (1985) and Nagy continued to concur that a child must have twelve exposures to a word in order to reliably improve reading comprehension skills. Further, one of the best ways to

increase overall vocabulary comprehension is to expose students to new and meaningful words through extensive reading with a wide variety of texts.

Stahl (1999) wrote that although there were many ways to present vocabulary to students, the most effective techniques helped students to make connections by examining context, prior background knowledge, and the concepts behind the words. According to Stahl, vocabulary comprehension is vital to the reading success of all students, and therefore, educators have to find ways to interest students in playing with language, expanding their vocabularies and knowledge bases, and engaging in wide reading. When students can utilize vocabulary across the curricula and strategically tackle new words in any text they are given, they will have the foundation necessary to move towards higher levels of literacy (Stahl).

*Comprehension Instruction.* Since 1978, researchers have defined comprehension as the essence of reading and the ultimate goal of successful literacy (Pressley, 2006). According to Snow (2002), a study conducted by the Rand Corporation found that reading comprehension was the “process of simultaneously extracting and constructing meaning through interaction and involvement with written language. It consisted of three elements: the reader, the text, and the activity or purpose for reading” (p. xii). Highly effective comprehension instruction comprised the learning activities that enabled students to leave a reading experience with fresh perspectives, vital information, and new ideas (Snow).

Fluent recognition of sight words (Goswami, 2004) and fluent reading developed through effective instruction and practice could significantly increase comprehension (Breznitz, 1997a, 1997b; Tan & Nicholson, 1997). Israel, Block, Bauserman, and

Kinnucan-Welsh (2005) and Pressley (2006) found that for accurate decoding and comprehension to occur simultaneously, readers learn how to coordinate sound, letter, and word level cues and contextual cues as they tackle challenging words and ideas independently. Pressley (2006) labeled this as active, self-guided comprehension.

Block (2005) agreed that because reading comprehension is not an isolated process but a network of metacognitive processes, the newest instructional methods teach multiple strategies in single lessons. Additionally, by teaching students how to use more than one comprehension process in a single lesson, students are shown how to view their comprehension and metacomprehension as a unified self-controlled ability (Block). Even kindergarten students could use multiple strategies after one week of instruction, and the result is normally significantly higher achievement than in control groups for predicting, identifying main ideas, knowing how much they have learned from their teacher's instruction, identifying author's purpose, internalizing comprehension processes, and using nonfiction textual features (Block; Block, Rodgers, & Johnson, 2004).

In addition, Stahl (1999) realized that in order for students to fully begin to comprehend, they must be taken through a process that involves previewing the text and making predictions based upon prior background knowledge and vocabulary understanding. As students are reading text, first they must make inferences and interpretations to what they are reading and utilize connections to the text and their personal lives. A second strategy that aids in comprehension is organizing the text, or mind mapping in order to sort facts into concept categories. Comprehension is not a strategy that is to be developed after a student reads a text; instead, it is a process that must be employed in real-time. Stahl said that comprehension must be taught as a student

reads and is not simply responding to teacher directed questions. There is no evidence that a steady diet of post reading sheets leads to active reading (Stahl). Furthermore, worksheets and post reading sheets fall short of building active comprehension processing. Students need comprehension processes to understand words, interpret sentences and paragraphs, understand full texts well, and shape and use the knowledge gained (Stahl).

*Fluency Instruction.* According to the NICHD (2000), fluency plays a critical role in the overall reading process. Fluent reading incorporates accurate, automatic word recognition along with the expressive rendering of text and serves as a bridge between decoding instruction and comprehension (Kuhn & Stahl, 2003; Rasinski & Hoffman, 2003). According to Kuhn and Stahl (2003), fluency could make a significant difference in a student's success as a reader.

Fluency requires a reader to recognize words instantly and with little effort (Adams, 1990; Laberge & Samuels, 1974; Samuels, 2004; and Stanovich, 1980). This, they claim, is vital to the success of a reader because, as with any cognitive task, individuals have a limited amount of attention available while reading. By not spending time on word recognition, these individuals can perhaps focus on comprehension and reading skills. Kuhn and Stahl (2003), Mostow and Beck (2005), and Rasinski and Hoffman (2003) concurred that in developing comprehension, word identification must be automatic and effortless. Fluent reading best occurs through practice that consists of the supported reading of a wide variety of connected text. According to Torgesen (2005), as learners repeatedly encounter words in print, they need to direct less attention toward

decoding them, until they eventually became part of a reader's sight word vocabulary, occurring after three to eight repetitions (Torgesen, 2005).

Fluency also involves prosodic reading. Dowhower (1991) and Erikson (2003) agreed that along with reading words automatically and without decoding, fluency also involves prosodic reading, which includes intonation, stress, tempo, and the use of appropriate phrasing. When readers incorporated prosody into their oral reading, they were provided clues to an otherwise invisible process, that of comprehension (Dowhower; Erikson). Prosody was linked to comprehension by Dowhower (1991) and Erikson (2003), but no research supported this link. Regardless of their statistical significance to each other, expressive reading contributed to learners' engagement with text and helped to bring it to life by adding meaning to their reading (Erikson).

While fluency is something to strive for in oral reading, it is a primary focus of reading development during second and third grades (Chall, 1996; Stahl & Heubach, 2005). Prior to these school years, there is greater emphasis on emergent literacy and conscious word recognition strategies. Rasinski (2003) outlined four basic principles that can be used in developing effective fluency instruction:

(a) modeling of fluent reading should be provided for students, (b) oral support should be provided for students while they are reading (this support can come in the form of choral reading with a group, paired reading with a partner, or reading while listening to a prerecorded version of the text read orally), (c) practice should be provided by engaging the student in repeated readings of a given text, and (d) focusing attention on reading syntactically appropriate and meaningful phrases.

However, Kuhn and Stahl (2003) and NICHD (2000) found many uncertainties related to fluency development and its instruction. Their most important concern was the link between comprehension and prosody. While it was clear that as prosody improves so does comprehension, it was less clear whether improvements in comprehension result from improvements in prosody, or whether there is an interaction between the two that supports improvements in both aspects of reading development. Kuhn and Stahl (2003) and Mostow and Beck (2005) indicated that improvements in fluency did not result specifically from the repetition of text but instead from a more generalized increase in the amount of challenging connected text that students are responsible for reading with appropriate support. Also, the role of the teacher was not fully investigated. According to Kuhn and Stahl (2003) and NICHD, the teacher plays a significant role in fluency instruction through choosing appropriate texts, modeling fluent reading, encouraging and providing feedback and support for students, and setting the stage for performance. Although several issues related to fluency instruction need to be further researched, fluency instruction offers a key to success in reading for many developing and struggling readers.

### *Professional Development*

With the enactment of NCLB legislation, many U. S. school systems face a seemingly insurmountable task of ensuring that all students have the skills necessary to read, write, and calculate in an increasingly competitive world. Scrambling to meet these challenges, many school districts have launched professional development initiatives or adopted new strategies that intend to help teachers learn how to meet the needs of learners who are diverse in terms of both ability and background. Moats (as cited in

McCardle & Chhabra, 2004) stated that NCLB put emphasis on determining which educational programs and practices have been proven effective through rigorous scientific research. According to NCES (2001), teachers consistently reported an increasing need for professional development to enable them to effectively improve student learning. Yet, according to Smith and Robinson (2003), best practices are not being fully implemented into pre-kindergarten through twelfth grade classrooms because of limited teacher training.

NCLB required school districts to use at least 25% of their federal monies allocation for high quality professional development activities used to prepare teachers to integrate research-based reading strategies into instruction. The Outstanding Schools Act of 1993 indicated that each school district allocate one percent of its revenue from the monies received from the foundation formula for the use of professional development. Of the funds allocated, 75% shall be spent in the same fiscal year on professional development activities approved and consistent with the district's improvement plans. The remaining 25% must also be spent on professional development but may be carried over to the succeeding year (MODESE, 2004).

Desimone, Porter, Garet, Yoon, and Birman (2002) stated that professional development focused on specific training practices and increased teachers' use of those practices in the classroom. However, Desimone et al. also noted that schools generally do not have an approach that is effective in building consistency among teachers much less a coherent, coordinated approach to professional development and instruction. Slavit, Sawyer, and Curley (2003) also agreed that professional development must be an ongoing activity in order to promote real change in education.

In addition, Taylor et al. (2003) found that professional development is more effective in changing teachers' classroom practices when collective participation of teachers from the same school, department, or grade occurs. A common factor in many effective schools is the emphasis on job-embedded professional development programs geared toward research-based teaching strategies. These professional development programs consist of on-site training that occurs throughout the work day. According to Taylor et al. (2003),

Successful schools have ongoing professional development and a strong sense of community, and must consider the following questions: How will we provide opportunities for teachers to learn, and how will we support their learning in order to improve their success as teachers of reading? (p. 3)

Teachers benefit from relying on one another in developing skills and becoming active learners (Desimone et al., 2002). Lieberman (1995) suggested that participants in professional development be part of a collegial network with opportunities for observation, practice, and instructional approaches. White, Ringstaff, and Kelley (2002) stated that opportunities for teachers to observe the impact of best practice strategies on learning and teaching in their colleagues' classrooms can often serve as a strong impetus for changing teachers' beliefs.

Professional development is a critical ingredient in the classroom and must be aligned to the teachers' needs. According to Mouza (2002/2003), teachers need professional development that is hands-on, directly related to curriculum goals, and allows for follow-up support in their classrooms. Foorman et al. (2003) found multiple sources of data regarding effective professional development of classroom teachers and



reading specialists. Teachers indicated in their interviews that the combination of professional development and comprehensive reading program adoption is key to their improvement and success with students.

Results from Smerdon et al. (2000) indicated that professional development and teachers' feelings of preparation are related. The more time teachers spend in literacy related professional development activities, the better prepared they are to use best practices for classroom instruction. Fundamental to differentiated instruction in basic reading skills are the teacher's insight into what causes variation in students' reading acquisition and the ability to explain concepts explicitly, to choose examples wisely, and to give targeted feedback when errors occur. According to Foorman, Francis, Fletcher, Schatschneider, and Mehta (1998), the knowledge of language structure, language and reading development, and the dependence of literacy on oral language proficiency are prerequisite to informed reading instruction. When teachers understand how students learn to read and then actually incorporate the strategies that are at their disposal, the potential for student learning can be increased. Teachers who implement comprehensive, research-based reading programs usually achieve better results with their students than teachers who do not (Foorman et al., 1998).

Quality also seems to be an important issue. Foorman et al. (2003) found that a lack of professional development opportunities is often reported in terms of quantity. Classroom teachers work in school, district, and state contexts. Policies and practices at these levels often contradict one another and may have little continuity from one year to the next. According to Foorman et al. (2003), one of the most common complaints from the teachers concerned the ever-changing mandates that prevent them from refining and

sustaining applications of practice that are effective. It is vital to the success of a professional development program to have alignment of academic standards, curricular frameworks, textbooks, instructional programs, and assessments with one another. The messages about components of instruction, instructional goals, and evaluation processes must be consistent across schools and from year to year. Without these systems in place, teachers feel as though district-level mandates and project-level requirements are in conflict (Foorman et al., 2003).

The American Federation of Teachers (1999) and Learning First Alliance (2000) stated that another pitfall of a comprehensive professional development program is providing enough time for the learning to take place. Adequate time must be allowed for professional development that is substantive and that challenges teachers to learn and apply new teaching behaviors. According to Foorman et al. (2003), teaching children how to read and write is a complex activity that is learned with knowledge, coaching, and experience. Teachers commented that they need two years of professional development and teaching experience for everything to fall into place. They must have time to collaborate on lessons, share insights, and demonstrate practices for and with colleagues (Foorman et al., 2003).

Furthermore, in order for professional development to be meaningful and raise student achievement, it must focus on the interpretation of student assessments to guide instruction. Foorman et al. (2003) stated that teachers must learn how to give assessments and utilize the results in order to facilitate their teaching. Without principals, coaches, or team facilitation and a requirement to generate a data based instructional plan, most

teachers will not organize instructional groups or select instructional targets based on reading strategies (Foorman et al., 2003).

Gersten, Morvant, and Brengelman (1995) stated that the predominant model of in-service professional development for teachers continues to be the single-day workshop, even though there is considerable evidence that such experiences foster little lasting change in teacher practice and generally fail to deliver effective research-based strategies to classrooms. Fullan (1991, as cited in Mouza, 2002/2003) stated a number of reasons for the failure of many professional development efforts. These reasons include (a) the development of activities away from the school site, (b) the irrelevance of activities to teacher classroom practices, (c) provision of one-shot workshops without follow-up support, and (d) the inability to address the individual needs and concerns of the teachers.

The American Federation of Teachers (1999) stated that merely providing teachers with access to innovative instructional strategies through in-service training is evidently insufficient for altering and sustaining changes in existing patterns of teaching. One of the leading teachers' organizations in the United States has petitioned for reform of teacher education, to replace superficial, incoherent, and irrelevant learning experiences with in-depth study of the structure of language, the nature of reading development, and the methods of research-validated instruction (American Federation of Teachers). Such an education will enable teachers to successfully differentiate instruction for at risk learners, a critical activity that can prevent many children from falling behind (American Federation of Teachers).

*Language Essentials for Teachers of Reading and Spelling*

Learning First Alliance (1998), NICHD (2000), and Snow et al. (1998) reported a strong consensus on how children learn to read, why many children fail to learn adequately, and what components and methods in reading instruction are likely to be effective. Other summaries by acknowledged leaders in the field confirmed and elaborated these findings (Fletcher & Lyon, 1998; Pressley, 1998; Rayner, Foorman, Perfetti, Pesetsky, and Seidenberg, 2001; Stanovich, 2000; and Wolf, 2001). Although the consensus on beginning reading intervention is much more extensive than the research consensus on treatment of older poor readers beyond the fourth grade level, research findings indicated that almost all poor readers demonstrate predictable characteristics. Shankweiler, Lundquist, Dreyer, and Dickinson (1996) found that these characteristics include (a) deficits in processing the phonological features of language and associating them with symbols, (b) difficulty establishing fluent and automatic recognition of printed words that, in turn, contributes to dysfluent reading, (c) diminished vocabulary, (d) failure to develop higher level comprehension strategies, (e) difficulty with spelling and written expression, and (f) a general diminution of skill with literate language that stems directly from lack of exposure and practice with reading itself (Shankweiler et al.). The ability to process language structure at the levels of phonology, orthography, morphology, semantic networks, syntax, and discourse explain much of the variance in reading success and failure (Shankweiler et al.).

Most reading problems are preventable (Lyon, 1998; McCardle and Chhabra, 2004; and Torgesen et al., 2001). When appropriate instruction is delivered in kindergarten and first grade, and when intensive help is provided for poor readers by

third grade, the number of students who read below average can be reduced to about five percent (Denton & Vaughn, 2003; Mathes, Torgesen, & Allor, 2001). NICHD (2000), Torgesen et al., (2001), and Torgesen, Wagner, Rashotte, Alexander, and Conway (1997) stated that systematic, direct teaching of phonological skill, phonics, vocabulary, reading fluency, and comprehension, along with ample exposure to content-rich text, produces gains in older poor readers as well as younger ones. Effective teaching requires knowledge of all levels of language, their interrelationships in reading development, and the validated practices that convey language skills to children (NICHD; Torgesen et al., (2001); and Torgesen et al., (1997).

LETRS is a professional development program designed to provide teachers with in-depth knowledge of the structure of the English language and an understanding of the complex processes of how children learn to read and write. LETRS instruction provides teachers with the content knowledge required to implement reading programs with fidelity. The program consists of twelve modules that present the latest reading research findings about learning to read and reading instruction in the key areas of (a) phoneme awareness, (b) phonics, (c) decoding, (d) spelling and word study, (e) oral language development, (f) vocabulary, (g) reading fluency, (h) comprehension, and (i) writing (Moats, 2005).

In-depth professional development in the four core domains is provided by LETRS, which is endorsed by the American Federation of Teachers in *Teaching Reading is Rocket Science* (1999). According to Moats (2005), these core domains include (a) an understanding of the psychology of reading development, including the stages of reading growth, the reasons why some children have difficulty learning to read, and the role of

instruction in learning to read; (b) the structure of the English language, including phonology, morphology, semantics and syntax, and the way that print represents speech; (c) the ability to practice or execute the components of research-based instruction to obtain good outcomes with children; and (d) on-going assessment for the purposes of grouping children and determining the outcomes of instruction. These core content domains are intended to complement and reinforce any program specific professional development that the state, district, or school already provides (Moats, 2005).

The twelve LETRS modules are sequenced to build foundation knowledge in all areas that underline effective instruction. In addition, instructional methods are taught for each of the essential components of reading instruction identified under the United States Department of Education's Reading First policies. The five main components of Reading First are (a) phonemic awareness, (b) phonics, (c) fluency, (d) vocabulary, and (e) comprehension (NICHD, 2000).

LETRS includes all of these Reading First Initiative components and also the areas of assessment, written expression, spelling, and oral language. The modules teach the developmental order of skill acquisition in each component and include many practice exercises for teachers to gain insight and learn instructional routines (Moats, 2005).

Modules one through three teach the foundation concepts for understanding how students learn to read and write, the reasons why some children fail, the components of instruction best supported by research, the structure of language, and the nature of sub-word-level processes important for reading (phonology, orthography, morphology) (Moats, 2005).

As stated by Moats (2005), modules four through six teach the nature of semantic organization and the instruction of vocabulary, the nature of syntax and the development of sentence-level writing skills, fluency, and the structure of discourse in various genres. According to Moats (2005), these modules are also grounded in the research literature on teaching reading comprehension and provide an introduction to various strategies for helping students understand what they read.

Modules seven through nine address how to teach beginning decoding, how to use assessment to guide instruction, and how to teach beginning spelling and writing. The final three modules focus on syllabication, morphology, and advanced decoding for multisyllabic words; the link between writing and comprehension; and using assessment to guide instruction for students beyond grade three (Moats, 2005).

According to Moats (2005), LETRS provides the professional development that is necessary to increase the quality of reading instruction in the classroom in order to improve student achievement outcomes. The twelve module professional development program is intended to

(a) provide teachers with a conceptual basis for interpreting the assessment information they obtain in the classroom, (b) enable teachers to deliver a sound instructional program with confidence and conviction, (c) help teachers choose examples, give corrective feedback, and clearly explain concepts about language structure, and (d) increase teachers' understanding of how to choose instructional programs and approaches in accordance with the needs of individual students.

(LETRS Research Base, 2008, p. 2)

*Summary*

Rayner et al. (2001) stated that one of the most widely accepted facts of modern reading psychology is that reading and writing difficulties are associated with inefficient, inaccurate, or underdeveloped language processing. Specific language processes, such as speed of letter naming, accuracy of letter-sound associations, and fluency in decoding unknown words, account for individual differences in passage reading accuracy and fluency at the end of first grade and beyond (Moats, 2005). In addition, Hart and Risley (1995) reported that children living in poverty and those coming to school without English language proficiency experience a gap in vocabulary and background knowledge that undermine academic achievement. On school entry, economically and educationally disadvantaged children may know half as much vocabulary as children from middle class circumstances (Hart & Risley).

Foorman and Moats (2004), and Gersten, Chard, and Baker (2000) said that fortunately, children who enter school at a disadvantage in letter, sound, word, and concept knowledge can be taught to read and write well if their teachers consistently implement a linguistically informed, structured, comprehensive, and content-rich curriculum. Teachers must be knowledgeable and skilled in the areas of vocabulary, phonics and phoneme awareness, fluency, and comprehension; must use validated tools for assessment and instruction; and must work in supportive contexts that help them sustain intensive effort year after year. In-depth, continuing professional development for teachers that helps them learn and apply scientific, research-supported methods is critical to improving reading outcomes and preventing reading difficulties in students across all grades (Foorman & Moats ; Gersten et al., 2000). Snow, Burns, and Griffin (1998) also



argued that in-service professional development should strengthen teaching skills, increase teacher knowledge of the reading process, and facilitate the integration of new research findings into the teaching practices of the classroom teacher. Gersten, Vaughn, Deschler, and Schiller (1997) concurred that integrating innovative, research-supported practices into the classroom require that teachers understand the knowledge base for their discipline, work in supportive environments, learn the practices of teaching, and receive opportunities for practice with colleagues.

The preceding chapter contained literature in relation to the purpose of the study. Potential causes for illiteracy were outlined as well as research based instructional strategies used in the LETRS program that may aid in closing the achievement gap in reading. Chapter III will contain the method for how the research was conducted.

## Chapter III - Method

The pressure for student achievement began at the highest level of government. With the enactment of the NCLB legislation, many U.S. school systems are faced with a seemingly insurmountable task of ensuring that all students have the skills necessary to read, write, and calculate in an increasingly competitive world. The results on the most recent NAEP on reading showed that “only 32% of the nation’s fourth graders performed at or above the proficient achievement level” (1999, p. 1). According to NAEP, achieving students are steadily improving over time, but the lower achieving student scores continually decline, creating a significant achievement gap. As Foorman, Goldenberg, Carlson, Saunders, and Pollard-Durodola (as cited in McCardle & Chhabra, 2004) found, the nation’s schools reflect a large diversity. Thirty-five percent of children come to school unprepared to learn due to drug abuse, poverty, child abuse, or family instability (McCardle & Chhabra). According to NCLB mandates, all students in all school districts should be proficient in math and reading by 2014. This is a lofty goal. For schools that fall short of their AYP goals, NCLB spells out an array of consequences. Scrambling to meet those challenges, many school districts launched professional development initiatives or adopted new strategies intended to help teachers learn how to meet the needs of learners who are diverse in terms of both abilities and backgrounds (McCardle & Chhabra, 2004).

According to DESE (2007), NCLB legislation embodies four key principles to achieve stronger accountability for results:

- (a ) greater flexibility for states, (b) more school districts and schools in the use of federal funds, (c) more choices for parents of children from disadvantaged

backgrounds, and (d) an emphasis on teaching methods that had been proven to work. (§ 2)

NCLB put emphasis on determining which educational programs and practices have been proven effective through rigorous scientific research. “Federal funding is targeted to support these programs and teaching methods that work to improve student learning and achievement” (MODESE, 2008, § 2). While initiatives and programs are often labeled research-based, frequently there is not appropriate research conducted to validate findings that truly support student achievement. Foorman et al. (1998) stated that in order to reach all learners and close the achievement gap while meeting state standards, educators need to have a reading program that is research-based and proven to work.

According to Taylor et al. (2003), although many traditional reading programs have been used, it has become evident that a combination of approaches is critical to improving reading literacy. Simply identifying the approaches is not enough. “Successful schools have ongoing professional development and a strong sense of community” (Taylor et al., 2003, p. 3). A common factor in many effective schools is the emphasis put on job-embedded professional development programs geared toward research-based teaching strategies (Taylor et al., 2003).

According to Moats (2005), LETRS is a comprehensive professional development program developed to align with the Reading First initiative. LETRS is designed to enrich and extend, but not replace, program-specific professional development for teachers of reading and language arts. LETRS modules teach concepts about language structure, reading development, reading difficulty, and assessment practices that guide research-based instruction (Moats, 2005).

In this chapter, the problem and purpose overview of the study, research methods, study design, procedures, and research questions are presented. The appropriateness of the methods used and the limitations of the study are discussed. The population for the study is identified, and the methods of data collection and analysis are described.

### *Overview of the Study*

The purpose of this study was to investigate the impact of the LETRS professional development program on third, fourth, fifth, and sixth grade communication arts student achievement as measured by the MAP test. The study also investigated teacher perceptions of the effectiveness of the LETRS program on student achievement and teacher roles and responsibilities of implementation. Data were gathered from core MAP data, a survey questionnaire, and roundtable discussions consisting of teachers whom had given the MAP test and had been trained using LETRS research based reading strategies.

### *Purpose*

The primary purpose of this study was to (a) investigate the impact of the LETRS program on student achievement as measured by the MAP test in the area of communication arts, (b) explore the teacher perceived effectiveness of the LETRS program, and (c) explore teacher perceptions on their role and responsibilities of daily classroom implementation of LETRS. This study concentrated on student achievement, as determined by the MAP test, and the teachers' knowledge and skill level as they integrated research-based reading strategies supported by LETRS into the curriculum. The study also focused on the perceived effectiveness of the LETRS professional

development program provided to teachers as determined by surveys and roundtable discussions.

### *Research Design*

Given the nature and focus of this investigation and the research questions, a mixed method comparative design of both quantitative and qualitative research was conducted to more fully understand the impact of LETRS on student achievement in the area of communication arts, or reading, in the third, fourth, fifth, and sixth grades. This mixed-methods study utilized secondary core MAP data obtained from the DESE website along with survey and focus group discussions with third, fourth, fifth, and sixth grade teachers of the Lincoln County R-III School District. Triangulation of data (survey questionnaire, secondary core MAP data, and roundtable discussions) provided consistent evidence and increased the validity of the findings.

The quantitative component of the study included the collection of secondary MAP data from the DESE website. No new situations were created in the completion of this ex post facto research. The data collected consisted of the MAP test data from all third, fourth, fifth, and sixth grade students of Lincoln County R-III School District and Warren County R-III School District from the 2006 and 2007 MAP testing year. The data from the 2006 testing year were utilized as a way to determine the maturation of students in relation to the normal change in testing data. Data from the Lincoln County R-III and Warren County R-III School Districts for the 2007 testing year were collected to determine the categorical change of student achievement. The 2006-2007 data were used to show the change in student achievement, as measured by MAP, after one full year of the LETRS professional development implementation. Lincoln County R-III represented

the experimental group while similar data from Warren County R-III served as the control group. Warren County R-III School District was chosen as the control group due to their similar demographics and because the school district did not participate in the LETRS professional development program. Before this study began, the testing considered had already been completed and the results had been published.

The qualitative component of the study included survey results on teacher perceptions of LETRS professional development effectiveness on student achievement. The survey was given to all third, fourth, fifth, and sixth grade teachers who received LETRS training during the 2006-2007 school year and gave the MAP test during the 2005-2006 and 2006-2007 school years (n=47). The survey was generated using an on-line survey tool, Zoomerang. At the end of the study, roundtable discussions (n= 16) were facilitated by a Lincoln County R-III literacy coach to further develop teacher perceptions about the effectiveness of LETRS professional development. Teachers who were asked to participate in the survey were also invited to be participants in the roundtable discussions. The discussions were conducted at each building site and were voluntary.

### *Setting*

During the 2005-2006 school year, Lincoln County R-III School District contained 5,543 students located in a rural setting in a Midwestern state. During the 2006-2007 school year, enrollment increased to 5,771 students. Throughout the two year span, the district had five elementary schools (kindergarten through fourth grade), one intermediate school (fifth and sixth grade), one middle school (seventh and eighth grade), and one high school (ninth through twelfth grade). The schools chosen to participate in the study were Boone Elementary, Hawk Point Elementary, Lincoln Elementary, Main

Street Elementary, William R. Cappel Elementary, and Claude Brown Intermediate School. The schools were chosen for this study for the following reasons: (a) each building incorporated the LETRS professional development program for all kindergarten through fifth grade teachers, (b) the professional development was job-embedded, (c) the number of students and faculty was sufficiently large enough to support the study, (d) the schools were close in proximity to the researcher, and (e) the administration and faculty were open to participating in the study.

Warren County R-III School District is also a rural district set in a Midwestern state. Although smaller than the Lincoln County R-III district, the demographics are similar. During the 2005-2006 school year, Warren County R-III School District served 2,837 students and increased to 2,947 in the 2006-2007 school year. During the course of the study the district had two elementary schools broken down by grade level. Daniel Boone Elementary housed kindergarten through third grades and Rebecca Boone Elementary contained fourth and fifth grades. In 2007, a third elementary building was built, Warrior Ridge. The data from Warrior Ridge Elementary was not used in this study. These schools were chosen to participate in this study for the following reasons: (a) the demographics for the schools are similar to those of the Lincoln County R-III School District, (b) the district did not participate in LETRS professional development and therefore could serve as the control group, (c) the number of students and faculty was sufficiently large enough to support the study, (d) the schools were close in proximity to the researcher, and (e) the administration and faculty were open to participating in the study.

*Quantitative Research*

$H_1$ : The implementation of LETRS will improve student achievement as evidenced by a statistically significant increase in communication arts scores on the MAP test.

$H_o$ : The implementation of LETRS will not improve student achievement as evidenced by a statistically significant increase in communication arts scores on the MAP test.

*Qualitative Research*

Bogdan and Biklen (1998) defined qualitative data analysis as “working with data, organizing them, breaking them into manageable units, synthesizing them, searching for patterns, discovering what is important and what is to be learned, and deciding what you will tell others” (p. 157). Qualitative data consisted of a survey questionnaire and roundtable discussions. The survey questionnaire was constructed by the researcher to obtain feedback from participants regarding the use and integration of LETRS in teachers’ daily classrooms and also their perceived effectiveness of the professional development teachers received. The survey questionnaire consisted of three Likert-type items using a five point scale: zero was showing *no agreement* and a five showed *always agree*. Additionally, the survey had four open-ended questions.

After the surveys were submitted, the participating teachers (n=47) had the opportunity to participate in the roundtable discussions with a literacy coach in the Lincoln County R-III School District. Before participants could participate, they signed a consent form (see Appendix D) that explained the study and reassured them that their answers would remain confidential and would only be used for this study.



At the end of the study, roundtable discussions were facilitated by a Lincoln County R-III literacy coach to further develop teacher perceptions about the effectiveness of LETRS professional development (n=16). With the interviewees' consent, all interviews were recorded and transcribed to ensure that all the information was available for analysis. This analysis, which involved open and axial coding, permitted the emergence of categories, themes, and through selective coding, the development of interthematic relationships. The roundtable discussions were on a voluntary basis only.

### *Subjects*

This study investigated the effectiveness of LETRS on student achievement among third, fourth, fifth, and sixth grade students within the Lincoln County R-III and Warren County R-III School Districts. The study took place within five elementary school buildings and one intermediate school building within the Lincoln County R-III district and two elementary buildings in the Warren County R-III School District. These were rural schools with similar demographics (see Appendix B). The criteria for selection was based on grade-levels of the school, ethnicity of the school, free and reduced lunch statistics, rate of attendance, and LETRS implementation. The subjects for the quantitative portion of the study were the actual students. The students had to have taken the MAP test during the 2005-2006 and 2006-2007 school year and must have been in third, fourth, fifth, or sixth grade during this time period.

The subjects for the qualitative portion of the study consisted of third, fourth, fifth, and sixth grade teachers in the Lincoln County R-III School District. These teachers each had to give the MAP test during the 2005-2006 and 2006-2007 school years and had received LETRS training during the 2006- 2007 school year (n=47). These subjects were

invited to participate in an on-line survey in order to gauge teacher perceived effectiveness of the LETRS professional development. Of the 47 teachers invited to participate, 24 teachers did. Another component of the qualitative research was roundtable discussions. The same 47 teachers were invited to participate in these discussions. Sixteen teachers provided consent and participated in the roundtable discussions.

### *Demographics*

In the Lincoln County R-III School District, the total enrollment of kindergarten through sixth grade students ranged from 2,252 to 3,010 between the 2006 and 2007 MAP testing year. While this showed an increase in student population for these grade-levels as a whole, student demographics remained constant. Within each school setting, the number of students in each subgroup varied, but the percentages were very consistent across the district. Ninety-three percent of all students within the Lincoln County R-III School District were white. The free and reduced lunch population of students during 2006 and 2007 remained consistent as well, with 35% of students receiving free and reduced lunches. The small minority population of students within the Lincoln County R-III School District remained constant as well. The Asian population was near 0.40%, the Black population was 3.83%, the Hispanic population was 1.40%, and the Indian population was 0.38%. The change in populations between testing years was not statistically significant (see Appendix B).

In the Warren County R-III School District, the total enrollment of kindergarten through sixth grade students ranged from 1,420 to 1,542 during the 2006 and 2007 MAP testing years. Similar to Lincoln County R-III, while the student population increased, the

demographics remained consistent. Ninety-three percent of all students within the Warren County R-III School District were white. The free and reduced lunch population of students during 2006 and 2007 remained consistent as well, with 32% of students receiving free and reduced lunches. The small minority population of students within the Warren County R-III School District remained constant. The Asian population was near 0.60%, the Black population was 2.50%, the Hispanic population was 2.40%, and the Indian population was 0.60%. The change in populations between testing years was not statistically significant (see Appendix B).

### *Participants*

The quantitative subjects that participated in this mixed-method study were third, fourth, fifth, and sixth grade students within the Lincoln County R-III and Warren County R-III School Districts. MAP data were analyzed from the 2006 and 2007 testing cycles. In order to have been selected to participate in this study, Lincoln County R-III students received LETRS research-based reading instruction and participated in the MAP during the 2006 and 2007 testing years, while Warren County R-III students were in the similar grades. These students ranged from ages eight to twelve, and data were collected from both male and female students. The data used were secondary core MAP test data obtained from the DESE website.

Along with students of Lincoln County R-III School District, teachers within the district were also participants in this study. Teacher participants were the subjects within the qualitative portion of the study. Teachers who taught third, fourth, fifth, and sixth grade students and received LETRS professional development were selected to participate in the qualitative portion of the study (n=47). These educators must have

given the MAP test during both the 2005-2006 and 2006-2007 school years and received LETRS professional development during the 2006-2007 school. This study utilized Zoomerang, an on-line survey tool, in order to gauge teacher perceived effectiveness of LETRS professional development on student achievement along with the roles and responsibilities of daily classroom implementation. These same teachers were also asked to participate in roundtable discussions (n=16) in order to further develop perceptions of the LETRS professional development program.

### *Sampling Procedure*

In the qualitative portion of this study, the researcher used purposive sampling, wherein the researcher intentionally selected participants who were informed about or had experiences with the concept of LETRS (Fraenkel & Wallen, 2009). Teachers selected to participate in the survey must have participated in the LETRS professional development during the 2006-2007 school year and gave the MAP test in the area of communication arts in 2007 and 2008 (n=47). Twenty-four teachers participated in the survey of the 47 who were invited.

In the quantitative portion of the study, the researcher chose students who were representative of a larger population so that the results could be generalized. Convenient and purposive samples of students' data were utilized. The study utilized the 2007 MAP test data from all third (n= 415), fourth (n=412), fifth (n=451), and sixth graders (n=331) in the Lincoln County R-III School District (n= 1609). Student data were utilized only if the participant was in the third, fourth, or fifth grade, had taken the MAP test in 2006 and 2007, and had received reading instruction based on the principles within the LETRS

professional development. The student data were taken from six different school buildings across the district. These students served as the experimental group.

Data were also taken from Warren County R-III third (n=216), fourth (n=225), fifth (n=237), and sixth graders (n=232) in the Warren County R-III School District (n=910). Student data was utilized if the participant was in the third, fourth, fifth, or sixth grade, had taken the MAP test in 2006 and 2007, and did not receive reading instruction based on the LETRS professional development research. These students served as the control group.

MAP test data from the 2006 testing year were utilized in both districts in order to determine the rate of maturation between the grade levels. This data were used to show the natural rates of change from third grade to fourth grade, from fourth grade to fifth grade, and fifth grade to sixth grade. This data were analyzed to determine if certain testing years produced different results that were natural to maturation and, in fact, not an effect of the LETRS professional development program.

#### *External Validity*

This study compared the secondary core MAP data of 415 third graders, 412 fourth graders, 451 fifth graders, and 331 sixth graders from the Lincoln County R-III School District and 216 third graders, 225 fourth graders, 237 fifth graders, and 232 sixth graders from Warren County R-III School District over a period of two years. Data collected from the 2005-2006 school year served as maturation data. Students from the Warren County R-III School District during the 2007 testing year served as the control group, while students from the Lincoln County R-III School District during this year served as the experimental group. Lincoln County R-III students who participated in the

experimental group received research-based reading instruction based on LETRS professional development during the 2006-2007 school year.

Due to the number of students, the length of time involved in this study, and the number of school buildings involved, it was reasonable to conclude that results could be generalized to other school districts if they consisted of similar job-embedded professional development and demographics as discussed in preceding sections of this study.

### *Instrumentation*

The instrument used during this research study was the MAP test. MAP is a testing program administered annually to elementary, middle, and high school students in the state of Missouri to measure program effectiveness and to comply with federal regulations outlined in NCLB. It is given in the spring of each year to students, beginning in third grade. It measures competency in communication arts, math, science, and social studies. It is mandated that students take the test in the areas of communication arts and math for third through sixth grades and also science for fifth graders.

A survey questionnaire, written by the researcher, and roundtable discussion group of Lincoln County R-III teachers was facilitated in order to fully gauge the teacher perceptions of effectiveness of the LETRS professional development program on student achievement and teacher roles and responsibilities for implementation in daily classroom instruction. This survey and roundtable discussion focused specifically on the role of the teacher with regard to responsibilities of the implementation and perceptions of LETRS on student achievement.

*Reliability and Validity*

The MAP is one of several educational reforms mandated by the Outstanding Schools Act of 1993. As a result of this legislation, the State Board of Education directed DESE to identify the knowledge, skills, and competencies that Missouri students should acquire by the time they complete high school and to assess student progress toward these academic standards. DESE staff worked with educators, parents, and business professionals from throughout the state to develop the Show Me Standards and to create the MAP as a tool for evaluating the proficiencies represented by the Standards.

According to MODESE (2008), the validity of MAP scores is used as indices of proficiency relative to the Show-Me Standards by using methodical and rigorous test-development procedures. CTB/McGraw-Hill and DESE develop MAP assessments in accordance with accepted procedures and criteria and intentionally aligns MAP assessments to the specific Show-Me Standards that are measured at that grade and subject area. For each assessment, content experts determine that the Terra Nova items for that grade and subject measure the Standards, and Missouri educators write constructed-response items and performance events that match the designated Standards. Then, groups of Missouri educators review each item to insure that it did indeed measure the content or process called for in the Standard. “The item-to-Standard congruence ratings that these reviewers produced provided evidence for the meaningfulness of MAP scores” (MODESE, ¶ 2).

As stated by MODESE (2008),

Another way to verify the meaningfulness of MAP scores was to investigate the underlying psychological traits or “constructs” that a given assessment measured.

CTB and DESE routinely examines how performance on individual items relate to performance on other items and how performance on an individual item relates to performance on the entire assessment. (§ 2)

The various item- and score-pattern analyses conducted on MAP results shows that each assessment is measuring the traits it is intended to measure and does not measure unrelated constructs (MODESE).

A third type of evidence that supports the meaningfulness of MAP results comes from a study of the consequential validity of the MAP. This research, conducted in 1999 by the Center for Learning, Evaluation, and Assessment Research at the University of Missouri-Columbia, investigated the consequences resulting from the implementation of the MAP and focused specifically on changes in instructional practices in mathematics. Researchers concluded that changes occur primarily in the area of teacher beliefs and perceptions. Study results indicate that teachers are becoming more convinced of the work of authentic learning activities and assessment methods. In addition, researchers found that teachers are revising their grading practices as a result of the MAP, using more performance-based methods to determine grades than in the past (MODESE, 2008).

According to MODESE (2008), the process of collecting evidence for the meaningfulness of assessment data is ongoing, as is the process of ensuring meaningfulness through sound test-development procedures. CTB/McGraw-Hill and DESE continue to conduct validity studies on future editions of the MAP and build meaningfulness into results by adhering to industry standards during test-development stages. However, firm evidence exists that



the MAP assessments yield scores that are valid, given the stated purposes of the program. Scores provide information about students' attainment of the Show-Me Standards and can be appropriately used to fulfill the charges stipulated in the Outstanding School Act. (MODESE, 2008, ¶ 1)

Reliability was built into the test-construction process. As MODESE (2008) stated, all educational test scores reflect some degree of error; no mental measurement is perfect. Error can come from a variety of sources: the instrument itself, the examiner, the assessment environment, the scoring process, and, in the case of assessments like the MAP, in the process of establishing cut-point scores for the various achievement levels. Scores that are used to make high-stakes decisions for individuals must be more dependable than scores that are used to make decisions of lesser import or judgments that pertain to groups of students (MODESE, 2008).

Developers of educational assessments make every effort to create high-quality instruments that will yield dependable scores. "In an assessment program like the MAP, which includes constructed-response items and performance events that must be scored by knowledgeable scorers, developers ensure that the scoring process yields consistent information" (MODESE, 2008, ¶ 2). CTB/McGraw-Hill and DESE put stringent procedures in place that ensured reliable scoring of MAP items (MODESE).

#### *Dependability of Scale Scores*

According to MODESE (2008),

Score dependability or reliability can be quantified and reported as a number ranging from zero to one; the higher the coefficient, the more dependable the

score. The coefficient of the communication arts test in grade three was 0.913. All coefficients were high and indicate confidence in MAP scale scores. (§ 4)

#### *Dependability of Scores from Open-Ended Items*

While MODESE has appropriately placed primary emphasis on the overall reliability of a given MAP assessment score, it also considers the dependability of the scores derived from the subset of items that are judged by human readers—constructed-response questions and performance events. According to MODESE (2008),

Reliability is lost when open-ended items that cannot be scored by a machine are used. However, what is lost in reliability, DESE believes is gained in meaningfulness or validity—these types of items are much more representative of “real life” than multiple-choice items. Adjacent agreement is utilized to determine dependability of open-ended item scores, the percent of cases for which two readers assign scores that are adjacent to (within one point of) one another. When adjacent agreement is used as the basis for defining reliability, percents of agreement are much higher; most of these indices were well above 95% (§ 5)

#### *Research Design Procedure*

Before gathering statistical information, consent was obtained from Lincoln County R-III School District (see Appendix A) granting permission to obtain and utilize secondary core MAP data from the DESE website. Permission was not needed to obtain MAP data from Warren County R-III because it was available on the DESE website as well. Also, Warren County R-III data was utilized only as a comparison and did not change the study components. All subjects were held confidential, only the grade level status of child and teacher was known. The MAP test was given in the Spring of each

school year in grades three, four, and five. Third, fourth, and sixth grade students participated in communication arts and math subtests, while fifth graders participated in communication arts, math, and science subtests. After students were assigned a MAP score, data were sent back to the school district where it was disseminated to parents and permanent files only. Schools received MAP test data in terms of schools, grade levels, and subgroups. Data pertaining directly to the school district and individual school was public knowledge and published on the district and DESE website.

In the Lincoln County R-III School District, only, data pertaining to third, fourth, fifth, and sixth grade students who were provided research-based reading instruction based on the LETRS professional development model and who took the MAP test were utilized. In order to be a participant, students had to have taken the MAP test during the 2006 and 2007 testing years and received reading instruction based on concepts imbedded in the LETRS professional development. Teachers had to have received LETRS professional development during the 2006-2007 school year and given the MAP test during the 2006 and 2007 testing years. All third, fourth, fifth, and sixth grade students in the Warren County R-III School District served as the control group for the study.

Upon approval from the Lincoln County R-III School District (Appendix A), secondary core MAP data were collected from the DESE website for the school years 2005-2006 concerning third, fourth, fifth, and sixth graders in the area of communication arts in the Lincoln County R-III School District. Students from this 2005-2006 MAP testing year served as the maturation rate control group for both districts. Secondary core MAP data were obtained from the DESE website for both the Lincoln County R-III and

Warren County R-III School Districts for the 2006-2007 school year concerning third, fourth, fifth, and sixth graders in the area of communication arts. During the 2006-2007 school year, the LETRS professional development program was introduced and fully implemented in the Lincoln County R-III School District. The 2006-2007 Lincoln County R-III MAP data served as the experimental group, while the Warren County R-III data served as the control group. The Lincoln County R-III 2006-2007 secondary core communication arts data were compared to the Warren County R-III secondary core communication arts data obtained from the DESE website for all third, fourth, fifth, and sixth grades in order to evaluate the effectiveness of LETRS professional development on student achievement. The percent of students in each category in each district were compared from 2006 to 2007. These students were put into groups. Group one was third graders in 2006 and fourth graders in 2007. Group two was fourth graders in 2006 and fifth graders in 2007, and group three was fifth graders in 2006 and sixth graders in 2007. These groups were formed in order to follow and collect relevant student data. By creating groups, the same student population in each district was compared over the course of two testing years.

Once the district administration from Lincoln County R-III agreed to participate in the study, a letter (see Appendix C) explaining the purpose and focus of the study along with a survey questionnaire (see Appendix D) was sent to each participating teacher (n=47). The survey was sent on-line via Zoomerang. The teacher then had two weeks to complete the survey questionnaire and submit it to the researcher (n=24). After completion of the survey, all eligible teachers were asked to participate in roundtable discussions (see Appendix E). These discussions were facilitated by a Lincoln County R-

III literacy coach (see Appendix F). The purpose of the survey and roundtable discussions was to identify attitudes and perceptions about teachers' roles and responsibilities of LETRS implementation and teachers' perceived effectiveness of the program. The mixed-methods study of the comparison of core MAP data scores, teacher surveys (n=24), and the roundtable discussions (n=16) evaluated the overall success of the LETRS program.

#### *Development of Categories*

*Participants.* Third, fourth, fifth, and sixth grade students who took the MAP test during the 2006 and 2007 testing years were intentionally targeted and their test data were utilized. The Lincoln County R-III teachers who received the LETRS professional development during the 2006-2007 school year and administered the communication arts portion of the MAP test during the 2006 and 2007 testing cycles were purposefully targeted for participation (n=47). Student MAP data from Lincoln County R-III and Warren County R-III was utilized in this study along with Lincoln County R-III teacher surveys and roundtable discussions. While the MAP test was the instrument used to determine effectiveness of the professional development on student achievement, the surveys and roundtable discussions were utilized in order to gauge teacher perceptions on the impact of the LETRS professional development program.

*Data sources.* While MAP test data was the source of data in the quantitative portion of the mixed-methods quasi-experimental design study, teacher surveys and roundtable discussions were utilized in the qualitative portion of the study. A purposeful sampling of certified teachers identified by their involvement in the LETRS professional development and administering of the MAP test from each elementary and intermediate

school was utilized to select participants to be surveyed and involved in the roundtable discussions. Prior to the start of the roundtable discussions, all certificated staff members were requested to and did sign a consent form explaining the study and its purpose. To gain a thorough understanding of the integration of LETRS in third, fourth, fifth, and sixth grade reading classrooms, a set of interview questions for the roundtable discussions was asked of each participant in order to provide consistent data.

*Data collection.* The study involved the usage of secondary core MAP data collected from third, fourth, fifth, and sixth graders in the Lincoln County R-III and Warren County R-III School Districts. After each MAP testing year, the tests were scored and the data was sent to DESE, which disseminated the results to school districts. Once the results of the MAP tests were given to school districts, the results were posted on the DESE website and were public knowledge. The study utilized school and grade level specific data in order to determine the effectiveness of LETRS. No specific teacher or classroom data were used.

Surveys were sent to all Lincoln County R-III teacher participants with an invitation link, using an on-line survey tool, Zoomerang (n=47). Teachers were given two weeks to complete the survey via the internet. Once the surveys expired, the data were collected on-line and sent to the researcher. All surveys were kept completely anonymous (n=24).

A Lincoln County R-III School District literacy coach was used as the facilitator of the roundtable discussions in order to limit the bias. All teachers asked to participate in the survey were also invited to the roundtable discussions. All discussions were

transcribed in order to preserve the conversations that took place, and participants were kept anonymous (n=16).

*Data analysis.* The MAP data obtained from the DESE website were used in order to complete the quantitative portion of this study. Data were broken down by school and also by grade level. Each year schools must meet a proficiency standard in order to adhere to NCLB law. This percentage changed each year. In 2006 the proficiency standard was 34.70%. This percentage meant that in 2006 at least 34.70% of all students who participated in the communication arts portion of the MAP test needed to be considered proficient or advanced in order to meet AYP. In 2007 this percentage increased to 42.90%. The proficiency standard was used in order to determine student achievement in this study. In order to analyze quantitatively, the researcher determined the percent of students who were proficient, as determined by the MAP test, in each grade level and at each school. The researcher determined the maturation rate of change from third grade to fourth grade, fourth grade to fifth grade, and fifth grade to sixth grade for the MAP test. Data were analyzed from both Warren County R-III and Lincoln County R-III School Districts from 2006 in order to determine the natural rate of maturation for the MAP test. The rate of maturation was used in order to determine if certain groups of students naturally score higher or lower on the MAP test just because of their age. Once the maturation rate was determined, the researcher utilized a quasi-experimental design. This design used random assignment in terms of student and teacher assignment. This assignment was previously outlined by the school district.

The researcher analyzed the data using the chi-square test. Chi-square was used to analyze data that were reported in categories. The data in this study were distributed by

categories of MAP standards. These standards were below basic, basic, proficient, and advanced. The researcher ran the chi-square test based on the percent of students in each MAP category from 2006 against those scores from 2007. This rate of change was analyzed to show if in fact there was a statistical significance from 2006, the pre-test year, to 2007 the post-test year and to determine the natural rate of maturation for each group. Lincoln County R-III data were analyzed independently, as well as compared to Warren County R-III data. The researcher used the p-value of 0.05 and determined three levels of freedom for the data from the chi-square table. With three degrees of freedom and a p-value of 0.05, the critical region for distribution was greater than or equal to 7.81.

All roundtable discussions were conducted in person by a Lincoln County R-III literacy coach. The discussions data were transcribed and analyzed to identify patterns, themes, threads, and topics of beliefs, values, and practices as related to the teachers' classroom LETRS use. The survey portion of the study was analyzed by identifying themes and categories within teacher responses. Strauss and Corbin (as cited in Hoepfl, 1997) indicated that qualitative methods can be used to better understand any phenomenon about which little is yet known. The inductive reasoning process of qualitative methods permits a more in-depth comprehension of a social or human problem as well as building a complex picture with words that provide rich detail and insights into participants' experiences (Creswell, 1994).

In this mixed-methods quasi-experimental research design, the quantitative and qualitative methods were used to study the same topic, LETRS, and its impact on student achievement. The data in this study were analyzed together in order to combine the results and interpret them. Triangulation was achieved by utilizing survey results and the



roundtable discussions in order to determine future outcomes for integrating LETRS into daily reading instruction. The qualitative data will help the researcher to determine teacher cause on student achievement as measured by the MAP and their relationship with the LETRS professional development program.

*Summary*

According to Gambrell et al. (2007), the importance of success in reading for lifelong achievement must not be underestimated as it is determined critical for a child's academic success. How well a child learns to read may determine future opportunities. They further stated that one of the most critical components of implementing effective reading instruction is based on scientific evidence. Using scientific research in teaching children to read is essential for ensuring the best academic and life opportunities for our children (Gambrell et al.).

With the enactment of NCLB, schools focus on early identification of struggling readers and utilize proven research-based strategies to improve the achievement of reading for all students (Sweet, 1997). Because educators are the decisive element in the classroom, it is vital that these professionals have the knowledge, skills, and materials needed to effectively deliver reading instruction to children (Morris, as cited in McCardle & Chhabra, 2004). Fiszler (2003) stated that although many traditional reading programs were used for years and had well-developed teacher training and professional development components in addition to well-organized teaching materials, these professionals still need to have more job-embedded and specific on-site training to truly understand how to teach reading. "Teachers learn best through an ongoing professional

development model. ...By immersing teachers in a culture of ongoing learning, the likelihood of implementing new ideas increases” (Fischer, 2003, p. 6).

This study employed a quasi-experimental mixed method case study design of both quantitative and qualitative investigation. This study evaluated the impact of LETRS professional development on student achievement—specifically, the perception of the program and the teacher’s roles and responsibilities of implementation in daily classroom instruction.

The research problem and purposes overview, research methods, research questions, research hypothesis, participants, instrumentation, data collection, and data analysis were presented in Chapter III. Results from the data analyses are presented in Chapter IV.

## Chapter IV- Results

An indicator of student achievement is the ability to read. The NICHD (2000) stated that reading comprehension is critically important to the development of children's reading skills and therefore to their ability to obtain an education. Slavin, et al. (1994) noted students who complete the third grade and lack reading skills are not likely to graduate from high school. The ability to read is found to be both necessary and crucial for a child's academic success. With the adoption of NCLB, national concern about the quality of schools and the achievement of all students is as high as it has ever been (Slavin et al.).

Smith and Robinson (2003) stated that with the consequences linked to high-stakes testing, school districts are often quick to adopt new theories and teaching strategies needed to raise student achievement. As a result, teachers and administrators are subjected to new approaches to teaching that are supported heavily in the beginning stages with workshops, trainings, and lectures (Smith & Robinson). Moats (as cited in McCardle and Chhabra, 2004) noted that many school districts have launched professional development initiatives or adopted new strategies intended to help teachers learn how to meet the needs of learners, who are diverse in terms of both abilities and backgrounds. NCLB puts emphasis on determining which educational programs and practices have been proven effective through rigorous scientific research (McCardle & Chhabra).

According to Moats (2005), LETRS is a comprehensive professional development program that was developed to align with the goals of the Reading First initiative.

LETRS is designed to enrich and extend, but not replace, program-specific professional

development for teachers of reading and language arts. The LETRS professional development is arranged in modules, and each addresses a component of reading instruction in depth which includes (a) phonological and phonemic awareness, phonics, decoding, spelling, and word study; (b) oral language development, vocabulary, reading fluency; (c) comprehension; and (d) writing. LETRS is designed to provide teachers with the insight and skills for teaching reading, spelling, and writing to students who require informed, systematic instruction (Moats, 2005).

In this study, the LETRS professional development program was evaluated for its impact on student achievement in the area of communication arts in the Lincoln County R-III School District. MAP data from both Lincoln County R-III School District and Warren County R-III School District were analyzed. Lincoln County R-III teachers participated in the LETRS professional development program, while Warren County R-III teachers did not. Lincoln County R-III data served as the experimental data, while Warren County R-III was the control data. Data from both districts were obtained for the 2006 and 2007 MAP testing years. Lincoln County R-III teachers also participated in an on-line Zoomerang survey and roundtable discussions in order for the researcher to better understand teacher perceptions in relation to the LETRS professional development. The hypothesis of this study posed that students who were taught reading based on LETRS research-based instructional strategies would have MAP scores that were significantly higher than students in a similar school that did not use LETRS reading strategies.

#### *Research Question One*

The overarching quantitative research question guiding this multi-site mixed method comparative design asked the following: Was the LETRS professional

development program effective? The following research question was designed to address this overarching question: Did the implementation of LETRS significantly increase student achievement in the area of communication arts in the third through sixth grades? The following results are based on research question one.

*Lincoln County R-III School District Results*

The Lincoln County R-III School District served as the experimental group in this study. The students and teachers in this school district were exposed to LETRS based reading strategies. The purpose of this study was to determine if there was a statistically significant difference in achievement in the area of communication arts for those students taught reading based on the principles of LETRS professional development. The study focused on 2006 MAP data as the pre-test and 2007 MAP data as the post-test. The data represented by E were MAP scores from 2006, before LETRS began. The O data represented the treatment group, or the students who took MAP in 2007, a year after LETRS implementation.

Based on the test data, the critical value for this study is 7.815. According to Table 1, the Lincoln County R-III data, the chi-square value was 0.50, which was not statistically significant. This data indicates that although there was a slight increase in the communication arts student achievement for third, fourth, fifth, and sixth grade groups of students in the Lincoln County R-III School District between the 2006 and 2007 MAP testing years, it was not of statistical significance.

Table 1

*Lincoln County R-III MAP Test Categorical Distribution*

O	E	O-E	(O-E) <sup>2</sup>	[(O-E) <sup>2</sup> ]/E	Chi-Square Value
10	11	-1	1	0.09	
45	47	-2	4	0.09	
29	28	1	1	0.04	
16	14	2	4	0.29	
					0.50

*Note.* A chi-square value greater than 7.851 accounts for a statistical significance in student achievement from 2006 to 2007 based on MAP data. The letter O indicates the actual number of students observed in the proficient or advanced category. The letter E indicates the expected number of students in the proficient or advanced category.

*Lincoln County R-III Third Grade.* Table 2, third grade data, was comprised of Lincoln County R-III third and fourth grade students. In an attempt to track individual students, the data spanned over the course of two testing years. The E in this data represented the third grade students who took the MAP in 2006, while the O represented these same students taking the MAP test as fourth graders in 2007.

The critical value for this study was 7.815, and the chi-square value for the Lincoln County R-III third grade was 1.28. The value of 1.28 is not statistically significant. Since the chi-square value is less than the critical value, this data indicates that there was a slight increase in communication arts student achievement for the third

graders in Lincoln County R-III from 2006 to 2007, although it was not of statistical significance.

Table 2

*Lincoln County R-III Third Grade MAP Test Categorical Distribution*

O	E	O-E	(O-E) <sup>2</sup>	[(O-E) <sup>2</sup> ]/E	Chi-Square Value
6	8	-2	4	0.50	
50	45	5	25	0.56	
25	26	-1	1	0.04	
19	21	-2	4	0.19	
					1.28

*Note.* A chi-square value greater than 7.851 accounts for a statistical significance in student achievement from 2006 to 2007 based on MAP data. The letter O indicates the actual number of students observed in the proficient or advanced category. The letter E indicates the expected number of students in the proficient or advanced category.

*Lincoln County R-III Fourth Grade.* The data in Table 3 consisted of fourth graders in 2006 who became fifth graders in 2007. Both groups of students took the MAP test and were taught using LETRS based reading strategies. The E in this data represented the fourth grade students who took the MAP in 2006, while the O represented these same students taking the MAP test as fifth graders in 2007.

The critical value for this study was 7.815, and the chi-square value in Table 3 was 2.18. A value of 2.18 indicates that there was not a statistically significant increase in

the overall student achievement for the fourth graders in Lincoln County from 2006 to 2007.

Table 3

*Lincoln County R-III Fourth Grade MAP Test Categorical Distribution*

O	E	O-E	(O-E) <sup>2</sup>	[(O-E) <sup>2</sup> ]/E	Chi-Square Value
12	8	4	16	2.00	
41	43	-2	4	0.09	
31	32	-1	1	0.03	
16	17	-1	1	0.06	
					2.18

*Note.* A chi-square value greater than 7.851 accounts for a statistical significance in student achievement from 2006 to 2007 based on MAP data. The letter O indicates the actual number of students observed in the proficient or advanced category. The letter E indicates the expected number of students in the proficient or advanced category.

*Lincoln County R-III Fifth Grade.* Fifth grade data represented students who were fifth graders in 2006 and sixth graders in 2007. This group followed the same students over two testing years. These students took the MAP test in 2006 as fifth graders. This same group of students took the MAP test in 2007 as sixth graders.

The fifth grade data in Table 4 had a chi-square value of 17.82. The critical value for this study was 7.815. The data indicates that there was a statistically significant



increase in student achievement in the area of communication arts between the 2006 and 2007 testing years.

Table 4

*Lincoln County R-III Fifth Grade MAP Test Categorical Distribution*

O	E	O-E	(O-E) <sup>2</sup>	[(O-E) <sup>2</sup> ]/E	Chi-Square Value
7	13	-6	36	2.77	
42	50	-8	64	1.28	
31	28	3	9	0.32	
20	9	11	121	13.44	
					17.82

*Note.* A chi-square value greater than 7.851 accounts for a statistical significance in student achievement from 2006 to 2007 based on MAP data. The letter O indicates the actual number of students observed in the proficient or advanced category. The letter E indicates the expected number of students in the proficient or advanced category.

*Warren County R-III School District Results*

The Warren Country R-III data serves as the control group. The students and teachers of Warren County R-III did not participate in LETRS professional development. The data that is displayed represents MAP results for all third, fourth, fifth, and sixth grade groups of students from the 2006 and 2007 testing years. The O is the observed frequency of distribution, or the treatment data, and the E is the expected frequency of distribution, or control. In this case, the E is the 2006 MAP test data, or the pre-test, while the O is the 2007 data, or the post-test.

Based on the test data, the critical value for the study is 7.815. According to the Warren County R-III data in Table 5, the chi-square value was 1.64, which was not statistically significant. This data indicates that there was no significant increase in the communication arts student achievement for third, fourth, fifth, and sixth grade groups of students in the Warren County R-III School District between the 2006 and 2007 MAP testing years.

Table 5

*Warren County R-III MAP Test Categorical Distribution*

O	E	O-E	(O-E) <sup>2</sup>	[(O-E) <sup>2</sup> ]/E	Chi-Square Value
10	10	0	0	0.00	
48	54	-6	36	0.67	
28	26	2	4	0.15	
14	11	3	9	0.82	
					1.64

*Note.* Based on MAP data, a chi-square value greater than 7.851 accounts for a statistical significance in student achievement from 2006 to 2007. The letter O indicates the actual number of students observed in the proficient or advanced category. The letter E indicates the expected number of students in the proficient or advanced category.

*Warren County R-III Third Grade.* The data set is comprised of Warren County R-III third and fourth grade students. In an attempt to track individual students, the data spanned over the course of two testing years. The E in this data represented the third

grade students who took the MAP in 2006, while the O represented these same students taking the MAP test as fourth graders in 2007.

The critical value for this study was 7.815, and the chi-square value in Table 6 for third grade was 20.61. The value of 20.61 is statistically significant. This data indicates that there was a statistically significant increase in communication arts student achievement for the third graders in Warren County R-III from 2006 to 2007.

Table 6

*Warren County R-III Third Grade MAP Test Categorical Distribution*

O	E	O-E	(O-E) <sup>2</sup>	[(O-E) <sup>2</sup> ]/E	Chi-Square Value
9	12	-3	9	0.75	
46	61	-15	225	3.69	
25	18	7	49	2.72	
20	9	11	121	13.44	
					20.61

*Note.* A chi-square value greater than 7.851 accounts for a statistical significance in student achievement from 2006 to 2007 based on MAP data. The letter O indicates the actual number of students observed in the proficient or advanced category. The letter E indicates the expected number of students in the proficient or advanced category.

*Warren County R-III Fourth Grade.* Table 7 data consisted of fourth graders in 2006 who became fifth graders in 2007. Both groups of students took the MAP test and were not taught using LETRS-based reading strategies. The E in this data represented the

fourth grade students who took the MAP in 2006, while the O represented these same students taking the MAP test as fifth graders in 2007.

The critical value for this study was 7.815, and the chi-square value in Table 7 for fourth graders was 4.37. This data was not statistically significant. A value of 4.37 indicates that the student achievement did increase slightly. However, this increase was not of a statistical significance in the overall student achievement for the fourth graders in Warren County R-III from 2006 to 2007.

Table 7

*Warren County R-III Fourth Grade MAP Test Categorical Distribution*

O	E	O-E	(O-E) <sup>2</sup>	[(O-E) <sup>2</sup> ]/E	Chi-Square Value
12	11	1	1	0.09	
46	51	-5	25	0.49	
33	25	8	64	2.56	
9	13	-4	16	1.23	
					4.37

*Note.* A chi-square value greater than 7.851 accounts for a statistical significance in student achievement from 2006 to 2007 based on MAP data. The letter O indicates the actual number of students observed in the proficient or advanced category. The letter E indicates the expected number of students in the proficient or advanced category.

*Warren County R-III Fifth Grade.* Table 8 data represents students who were fifth graders in 2006 and became sixth graders in 2007. This group followed the same students

over two testing years. These students took the MAP in 2006 as fifth graders and again in 2007 as sixth graders.

Table 8 displays the fifth grade Warren County R-III data. Fifth grade students had a chi-square value of 8.49. The critical value for this study was 7.815. Since the chi-square value is greater than the critical value, Warren County R-III fifth graders showed a statistically significant increase in student achievement from their 2006 to 2007 MAP scores.

Table 8

*Warren County R-III Fifth Grade MAP Test Categorical Distribution*

O	E	O-E	(O-E) <sup>2</sup>	[(O-E) <sup>2</sup> ]/E	Chi-Square Value
8	5	3	9	1.80	
44	55	-11	121	2.20	
30	29	1	1	0.03	
18	11	7	49	4.45	
					8.49

*Note.* A chi-square value greater than 7.851 accounts for a statistical significance in student achievement from 2006 to 2007 based on MAP data. The letter O indicates the actual number of students observed in the proficient or advanced category. The letter E indicates the expected number of students in the proficient or advanced category.

*Answering Research Question One*

Research question one asked if the LETRS professional development program was associated with a statistically significant increase in the student achievement of third through sixth graders in communication arts, as measured by the MAP test. Through quantitative data analysis the hypothesis was tested. The use of a chi-square test was conducted to determine if there was a statistically significant difference in the MAP scores of LETRS students from 2006, the pre-test, to the MAP scores of the same group of LETRS students from 2007, the post-test. Based on the test data, the critical value for this study is 7.815. According to the experimental group data, the chi-square value was 0.50. This indicates that the increase in the communication arts student achievement for third through sixth grade groups of students in the experimental group, the LETRS school district, between the 2006 and 2007 MAP testing years was not statistically significant. Similar quantitative data was revealed for the control group and non-LETRS school district. While the data for the control group indicated a slight increase in student achievement, a 1.64 chi-square value, it was not statistically significant.

After analyzing school district data to determine overall student achievement rates, individual grade level groups were examined. The control group third grade student data indicated that there was a statistically significant increase in communication arts student achievement from 2006 to 2007. The experimental group revealed a slight increase in third grade student achievement, but it was not of statistical significance.

These data findings point out that in both LETRS and non-LETRS school districts, the third grade group of students from 2006 to 2007 showed an increase in student achievement, while only the control and non-LETRS school district, achievement

was of statistical significance. In the control group, the 2007 MAP results showed more students transitioned from the below basic and basic categories on the MAP test to proficient and advanced than did students in the experimental group, hence creating a more statistically significant increase in student achievement. In 2006 the control group had more students achieving in the below basic and basic MAP categories than did the experimental group. Therefore, in 2006 the control group had a smaller number of students in the proficient and advanced category of student achievement as compared to the experimental group. In 2007, the control group still had a greater number of students in the below basic and basic MAP categories compared to the experimental group, but the district had transitioned a greater percentage of students into the proficient and advanced categories, showing more improvement.

Both sets of fourth grade data reveal that there was an increase in student achievement, although in each case it was not statistically significant. The control group fourth grader data reveals a higher chi-square value, which indicates a higher student achievement gain from 2006 to 2007 compared to that of the experimental groups fourth graders, the LETRS school district. While the control group has a higher chi-square value, indicating a higher student achievement gain, the district had a greater number of students in the below basic and basic categories of the MAP test in both the 2006 and 2007 MAP testing years compared to the experimental group. The data presented indicates that in the control group from the 2006 to 2007, a greater percentage of students were transitioned from the below basic and basic categories to proficient and advanced, causing a greater chi-square value, compared to the experimental group data. Therefore, the control group, the non-LETRS school district, made greater gains in student

achievement but still had fewer students performing at the proficient and advanced MAP achievement standard as compared to the experimental group. The experimental group and LETRS school district, in both 2006 and 2007, had more students in the proficient and advanced category of MAP achievement than the control group.

The last set of data reveals the fifth grade student group findings. Both school districts' fifth grade groups of student data indicated a statistically significant increase in student achievement from 2006 to 2007 MAP scores. While both LETRS and non-LETRS school districts were significant in their student achievement gains, the experimental group, showed a greater increase than in the control group. This data indicates that a greater percentage of students in the experimental group transitioned from below basic and basic MAP categories in 2006 to the proficient and advanced categories in 2007. Since both districts showed a significant gain in student achievement, the data revealed that again the null hypothesis must be accepted, and that LETRS is not the only cause for the increase in communication arts student achievement from 2006 to 2007.

#### *Research Question Two*

The research question guiding the qualitative portion of the study asked the following: Did teachers perceive LETRS to be effective in promoting student achievement? The following research questions were designed to address this overarching question: What were the teachers' perceptions of their role and responsibility in the integration of the LETRS research-based reading strategies in their daily instruction? Survey and roundtable discussion data were used as a way to gauge teacher perception and the effect on student achievement.



*Lincoln County R-III School District Survey Results*

The LETRS professional development program was implemented during the 2006-2007 school year in Lincoln County R-III. All kindergarten through sixth grade teachers who taught communication arts received the imbedded professional development. In order for the researcher to gain more data in this study, a survey was sent to all teachers in Lincoln County R-III School District who participated in LETRS, taught third through sixth grades, and participated in MAP testing in 2006 and 2007. Forty-seven teachers were invited to participate in the survey; 24 participated. The survey results were used to gather more information about LETRS based upon teacher perceptions of the program.

The survey was sent to all teachers using an on-line tool, Zoomerang. The actual survey and results can be found in the Appendix D of this document. The survey had a total of seven questions. Questions one and two were Likert-type, resulting in a five point rating scale. Questions three, four, five, six, and seven required teacher responses. The survey contained both Likert-type and open-ended responses in order to allow the researcher to gain information as to teacher perceptions of the LETRS professional development program and its integration into classroom instruction. The open-ended responses were used to better understand the implications of the program and the recommendations for future use.

The first question in the survey asked teachers to rate themselves on how helpful each of the five components of reading instruction was in their daily teaching. The five components addressed were derived from the goals of the Reading First Initiative and the LETRS program. These components include phonics, phoneme awareness, vocabulary,

fluency, and comprehension. According to the results, teachers found that LETRS was most effective in providing strategies for student learning in the areas of comprehension and vocabulary instruction, with 59% support. Teachers reported that strategies in phoneme awareness were least effective, with only 33% support.

The second question of the survey asked teachers to rate how often they incorporate the five components of reading into their daily lesson plans. Ninety-six percent of teachers indicated that they included the five components of reading into their instruction at least three times per week. Of the teachers surveyed, only four percent integrated the LETRS strategies two times a week or fewer. Every teacher surveyed implemented the LETRS strategies sometime throughout the school week.

When asked if LETRS had helped to improve student achievement in Lincoln County R-III, 100% of teachers agreed that it was a positive program. In analyzing individual teacher responses for question three, two prominent themes emerged. Teachers felt that LETRS brought about awareness to their teaching and provided an understanding for how to correctly teach reading. Attribution of verbatim teacher responses are by initials only to ensure anonymity. "I think the LETRS program made the teachers aware that there were five components of reading" (SD). "LETRS gives a specific way to attack reading and strategies to effectively teach reading" (BP). Teachers were aware of what components needed to be involved in daily lessons and also how to incorporate those components in order to be effective. "LETRS has brought phonics and fluency instruction to our attention" (JR).

Question four focused on meeting individual needs in the classroom. According to the two prominent themes from the open-ended responses, teachers felt that LETRS

allowed for more differentiation within the normal reading block and regular classroom setting. “Even though students are on different levels, they can still be taught using LETRS at their level” (LM). “I use LETRS components to direct my instruction and groupings of students for small group instruction” (SR). Also, by gaining an understanding for assessment, educators felt better equipped to assess their students and determine the appropriate instruction for them based on their individual learning levels. “I analyze why students are having difficulty in reading and then I gear my instruction to that” (PO).

The fifth question in the survey asked teachers to highlight areas of weakness that they believed were apparent from the LETRS professional development program. Three prominent themes were derived from the responses. Teachers felt that LETRS did not provide enough real-world application and had no correlation to standardized testing. “I would like to have had more hands-on instruction. I want to be shown how to use it in my classroom, especially with the time considerations” (CR). “I would like to have seen more work with phonics for the upper grades and real-world application in general” (LH). Also, educators did not see the correlation between LETRS and success on standardized testing such as MAP. “I would like to see a correlation between successful implementation of LETRS ideas and standardized testing scores” (PG).

When asked how LETRS has changed their teaching and instructional techniques in the classroom, educators felt that the program gave them a focus and made them aware of the importance of incorporating each of the five components into their daily lessons. “I use it as a guide to ensure all components of reading are being taught” (CK). “I am now aware of the importance of each component and know that I have taught them daily”

(JK). The professional development also made fourth and fifth grade teachers aware of the importance of teaching phonics and phonemic awareness each day. “As an intermediate age teacher I can use phonics and fluency strategies with my students” (TH).

The final question of the survey asked teachers if they believed that LETRS professional development was effective. The common theme from the educator responses was yes, it was effective. According to the responses, the program caused the district to be more cohesive and allowed for teachers to really think about how to teach reading effectively. “It makes me think about how I teach certain skills. I now teach on a more individualized basis” (MC). “LETRS has given teachers a direction and research-based instruction to utilize in their classrooms” (CR). Teachers did feel, though, that even with professional development, they felt it is necessary to have a refresher course, one based on more real-world application. “Yes, LETRS was effective, but I feel a refresher is needed to continue the positive trend in instruction that all teachers have started” (JM).

*Lincoln County R-III School District Roundtable Discussions Results*

Of the 47 teachers invited, 16 participated in the roundtable discussions. The roundtable discussions were held at three specific locations: Hawk Point Elementary, Boone Elementary, and Lincoln Elementary. Each of the roundtable discussions took place during the normal school day and participation was voluntary. Third, fourth, fifth, and sixth grades were represented in the roundtable discussions. The purpose of the roundtable discussions was to gain further insight to teacher perceptions on the impact of the LETRS professional development program on student achievement. The roundtable discussions also gauged teacher perceptions of their roles and responsibility in regards to implementation in daily classroom instruction. Teachers participating in the roundtable

were asked seven questions, each being an open-ended format. The literacy coach facilitated the conversation. Each question focused on one of three topics: the impact of LETRS on student achievement, how to improve LETRS, and LETRS implementation in the classroom.

Questions one, two, and four focused on the positive impact that LETRS has had on teachers and student achievement. According to the responses from the three questions, teachers believe that they have become aware of the five components of reading instruction, but LETRS has not been a change agent in their teaching or student learning. Overall, teachers feel that as a result of LETRS, they provide more systematic and strategic phonics and phonemic awareness instruction. This is especially apparent at the fourth and fifth grade level. Upper elementary teachers, based on the discussions, did not provide phonics and phoneme instruction on a regular basis before LETRS. The LETRS professional development has also encouraged teachers to restructure their current reading structure, allowing for all five components to be taught daily within a reading block.

Questions three and five allowed the researcher to gain insight on improvements that could be made in order to ensure teacher and student success within the LETRS professional development program. Fifteen out of 16 teachers felt that the presenters were not able to connect to teachers and did not provide real-world application. Teachers were provided theory on reading research but not given strategies to apply in their classrooms to help aid instruction. Also, many teachers felt that they were out of their classrooms too often and not given ample time to work with each module.

The last two questions, six and seven, focused on implementation and sustainability. These questions were asked in order to gain insight on why LETRS may not be consistently implemented with fidelity in every classroom across the district. The main theme from these questions was a lack of follow through with the program. Teachers stated that administrators did not utilize LETRS in the evaluation process and that the expectation was different at each building. Another common theme was that the district adopts new programs and initiatives and is quick to abandon the older ones. Teachers felt that LETRS was abandoned after the first year and replaced with professional development on differentiated instruction.

*Answering Research Question Two*

The second overarching research question asked if the teachers perceived that LETRS professional development had an impact on student achievement. The data from surveys and roundtable discussions also gauged perceptions on the teacher's role and responsibilities for LETRS implementation in daily classroom instruction. Data from the participant surveys and roundtable discussions indicated that certified staff believed that the LETRS professional development program did increase student achievement through the use of a structured plan, awareness for the five components, and meeting the needs of all students. "LETRS exposed teachers to many instructional strategies that can easily be implemented in the classroom. It defined a framework whereby teachers are teaching each child, every component, every day" (TP). "I feel as though LETRS provided me with a better understanding of the reading difficulties I have encountered with students and how to reach them. These skills also allow me to catch struggling students before they fall further behind" (JR). "I am now more aware of the five components and this in

turn positively affected my students and their achievement” (JM). “LETRS helps me to meet the needs of all my students by being able to teach to their individual needs. It helps to see strengths and weaknesses of each child and to focus in on specific needs” (CR).

According to the qualitative data, 22 out of 24 teachers did perceive LETRS to have a positive impact on student achievement. However, through the roundtable discussions and surveys, three out of 24 certificated staff believed that LETRS was more effective for primary teachers as compared to intermediate teachers. “In the younger grades (k-2), LETRS was great. In the older grades, I feel that money could have been used differently” (KH). “I feel it was a benefit to the primary grades” (MG).

Data from the surveys and discussions revealed that teachers did believe in the daily implementation of the LETRS strategies and the five components of reading instruction. One hundred percent of teachers surveyed revealed that they utilize the strategies within the LETRS framework at least three days a week in their classroom instruction. “I try to incorporate the five components in my lesson planning. My plans are now set up to ensure that I reach each one, every day” (RB). “I have completely changed my way of teaching reading” (HP). “As a fourth grade teacher I can use phonics strategies with many of my students” (JM). “I now stress phonics and phonemic awareness. I use fluency daily too” (LH). According to Moats (2005), the five components of reading instruction should be taught daily. When surveyed about the five components of reading instruction and their usefulness, the participants stated that they felt that the professional development focusing on fluency was most effective, followed closely with vocabulary and comprehension. Only 25% of teachers surveyed believed that phonemic awareness was the most useful literacy component.

Data indicates that teachers are using the LETRS research-based strategies daily in their instruction and believe that these strategies are important in reading instruction. Quantitative data showed that while all teachers are using the LETRS based reading strategies at least three times a week, not every component is being integrated equally. By analyzing the discussions and survey data, teachers indicated that they tend to focus more of their instruction on comprehension-based skills. This is especially apparent in the upper elementary classrooms.

*Summary*

In chapter IV, the results of the data were displayed and analyzed. The researcher found that in both districts, Warren County R-III and Lincoln County R-III School Districts, there was not a statistical difference between the 2006 and 2007 MAP testing year. This data showed that in Lincoln County R-III, the experimental group, the LETRS professional development program did not provide a statistically significant improvement in student achievement in the area of communication arts as determined by the MAP test scores. Chapter V will provide implications for effective schools along with recommendations for improving the LETRS professional development program in order to improve student achievement.



## Chapter V- Conclusions and Recommendations

Since the one-room school house days, numerous educational reform initiatives including those generated after the publication of *A Nation at Risk*, Show-Me Standards, MAP, and NCLB have focused on academic deficiencies and have greatly influenced student achievement (Berends, 2004; Goals 2000, 1994; MODESE, 2004). NCLB, signed into law in 2002, established significant public school accountability measures focusing on the integration of research based reading strategies into classrooms to improve teacher and learning (NCLB, 2001).

A National Research Council consensus report (Snow, et al., 1998) agreed that reading should be defined as a process of getting meaning from print in order to achieve understanding. Both PRD and the NRP reports made it clear that a comprehensive approach to reading instruction is necessary if all children are to learn to read efficiently and effectively. The essential components stated by the NRP report include explicit, systematic instruction in phonemic awareness, phonics, fluency, vocabulary development, and comprehension strategies. According to NAEP (1999), school districts mandated the use of research-based programs to support curriculum. In order for a program to be effective in terms of reading achievement, the instructional strategies must be research-based and must allow for teachers to receive job-imbedded professional development (NAEP, 1999). Through federally funded Reading First grants, states and districts receive support to apply scientifically based reading research—and the proven instructional and assessment tools consistent with this research—to ensure that all children learn to read well by the end of third grade (NAEP, 1999).

More teacher professional development focusing on research-based reading strategies needs to be developed (Smith & Robinson, 2003; Desimone et al., 2002; Ertmer et al., 1999). Moats (2005) stated that teachers, depending on their background and experience, need extended time to learn and apply the knowledge and skills necessary to integrate research-based strategies into their reading instruction. Furthermore, since teachers are the most important factor for success in the schools, their effective use of research-based reading strategies would be predicted to make the difference in student achievement. According to Moats (2005), professional development sessions in integrating the components of LETRS into the reading and language arts curriculum enables teachers to know how to identify and serve all readers more effectively. Smith and Robinson stated that redesigning current professional development may help reduce some of the barriers experienced during the implementation. According to Hurst (1994), if classroom teachers are to use reading strategies effectively in their classrooms, these educators must be provided adequate training.

Therefore, if teachers are going to embrace and integrate new research-based reading strategies, such as those presented in the LETRS professional development program, they need meaningful professional development. Professional development sessions in reading instruction enable the teachers to know how to enhance their lessons and to meet the academic needs of all learners (Moats, 2005). Clearly, the teacher is the most important ingredient for success in schools and student achievement (Mandell, Sorge, & Russell, 2002).

This study explored (a) the effects of the LETRS professional development program on student achievement, (b) the teacher perceived effectiveness of the LETRS

program on student achievement, and (c) the teacher perceptions of their roles and responsibilities for daily classroom implementation of the LETRS strategies. The findings of this study add some insight into how the LETRS program and teacher perceptions influence student academic success.

### *Delimitations*

One school district in this study was selected because of their participation in the LETRS professional development program, and the other was selected because of their geographical proximity and demographic similarity with the LETRS school district. The qualitative findings of this study are based on the perception data of teachers and the assumption that all teachers will respond honestly and interpret the instrument as intended. Also, the number of teachers who participated in the study was small (n=47).

### *Interpretation of Results*

Given the nature and focus of this study and research questions, both qualitative and quantitative research was conducted to more fully understand how LETRS reading strategies were used in third, fourth, fifth, and sixth grade classrooms. Data were generated from secondary core MAP data, a survey questionnaire, and roundtable discussions consisting of teachers who gave the MAP and were trained in LETRS based reading strategies. Triangulation of data provided consistent evidence and was used to verify the findings.

Significant quantitative data findings for each hypothesis ( $H_1$  and  $H_0$ ) by grade level groupings and total students with both school districts were presented. The groupings of students included (a) the change in achievement scores from 2006 to 2007 for all third, fourth, fifth, and sixth graders; (b) 2006 third graders to 2007 fourth graders;

(c) 2006 fourth graders to 2007 fifth graders; and (d) 2006 fifth graders to 2007 sixth graders. These groupings were done for both Warren County R-III and Lincoln County R-III School Districts.

Data findings indicated that both school districts did have a slight, but statistically insignificant, increase in student achievement from 2006 to 2007, as evidenced by the chi-square test based on 2006 and 2007 MAP data. School district data indicated a slightly greater, but not statistically significant, increase in student achievement for the non-LETRS school district compared to the LETRS school district. Therefore, the null hypothesis of this study was accepted, and it can be concluded that LETRS did not have a statistically significant increase in the overall student achievement in the area of communication arts for third, fourth, fifth, and sixth graders in the Lincoln County R-III School District.

While each grade level group showed a slight increase in student achievement in the LETRS school district, Lincoln County R-III, the same increase was also revealed in the non-LETRS school district, Warren County R-III. The data for both districts did indicate a slight increase in student achievement from the 2006 to the 2007 MAP testing year, but the increase was not statistically significant. When breaking down the data by grade level groupings, it is evident that select grade levels, such as third grade in Warren County R-III and fifth grade in both districts, exhibited significant gains in student achievement.

In this study, qualitative data were utilized to help the researcher better understand the reasons why the LETRS program may not have been successful in the Lincoln County R-III School District. Major themes and sub-themes emerging from the

qualitative data were noted and analyzed. The major themes that appeared to be fundamental to the use and integration of the LETRS program in classroom instruction and the influence on student success included (a) teacher perception of the impact of LETRS on student achievement and instruction, and (b) teacher perception of the barriers of LETRS.

In the next section, the discussions for findings from this study are examined through the learning lens. Morgan (1997) described the learning lens framework as a metaphor. Learning organizations focus on how organizations learn, what organizations learn, and what limits learning. The learning lens provides insight into the influence of LETRS on student achievement and provides the interaction of the quantitative and qualitative data findings.

#### *Discussion of Findings*

The preceding section reported findings of this study as they relate to the first research question; did teachers perceive LETRS to be effective in promoting student achievement? The following section provides an analysis of the findings to answer research question two: (a) Did teachers perceive LETRS professional development to be effective? (b) What were the teachers' perceptions of their role and responsibility in the integration of the LETRS research-based reading strategies in their daily instruction? Both the qualitative and quantitative research revealed teacher roles and responsibilities for implementing the philosophies of LETRS into their instruction influenced student achievement and may be associated with teachers' ideology, level of training, and the amount of barriers that existed.

*Barriers to Integration*

Through the interviews and surveys of teacher participants, certificated staff members indicated that they experienced barriers in integrating the components of LETRS into their daily instruction. Two themes that emerged from the interviews and surveys included time out of the classroom and the presentation of material as it relates to real-world application.

These barriers are consistent with those presented in the literature (Ertmer et al., 1999). For example, several participants reported that time was a barrier; although, the time barrier applied mostly to that spent out of the classroom participating in the professional development. First year teachers seemed to have the most barriers to time. “It is often difficult to be gone from my classroom one day each month, especially at the beginning of the year” (KF). “I feel overwhelmed with information and am still trying to figure out the curriculum and establish classroom routines” (LH).

The teachers also expressed that they did not receive an adequate amount of time developing and applying the information learned at the professional development trainings. “I do not have time to process the information and relate it to the curriculum. As soon as I begin to make the connection, it is time for another module” (HP). Weinbaum (2008) stated that “a lack of sufficient meeting time was the single most common constraint cited by teachers in identifying impediments to the successful function of their teams” (p. 26). Whelan, Frantz, Guerin, & Bienvenu (1997) also reported time as the biggest obstacle for teachers.

Therefore, more time during the school day and for processing must be made available to teachers. While teachers believed LETRS was effective in terms of student

achievement, they felt time to apply and analyze the strategies was necessary for implementation within the classroom. Creative scheduling and increased opportunities for teachers to use and integrate the components of LETRS in the classroom instruction will provide for greater influence on student success.

The second barrier to integration was teacher connection to the facilitators and real-world application. Teachers who participated in the roundtable discussions and those surveyed revealed that the facilitators of the first year of LETRS professional development were unable to connect to teachers and did not provide for real-world application of the strategies to instruction. Roundtable discussions and survey data suggested that the facilitators failed to provide the modeling of new strategies and did not provide time for teachers to practice and reflect. “LETRS was effective overall, but I felt that the quality of speakers could have been better” (KH). “I felt that the first year facilitator was not prepared and not knowledgeable in making connections between the research and application” (BP). “I believe that LETRS was effective, but would have liked to have more time to process and apply the information in my classroom. The sessions were very close together” (CR). According to Snow-Renner and Lauer (2005), active learning opportunities are necessary for teachers to be able to transform their teaching and not simply layer new strategies on top of old.

Just as the classroom teachers influence student learning more than any other variable, the skill of the facilitator is central to the success of the learning team. Therefore, future LETRS facilitators need to be content experts and should have several skills and dispositions. While teachers believed their role and responsibility to integrate the LETRS based reading strategies into their classroom instruction was vital to student

achievement, they felt that they did not receive good instruction and guidance on how to do so. In order to fully integrate all five components of reading into daily instruction, all teachers need to be taught LETRS strategies as they relate to specific grade levels and connect to real-world applications. Providing teachers with LETRS facilitators who focus on transferring new knowledge into classroom practice and making those activities relevant to every teacher at every grade level will provide for greater influence on student achievement.

### *Recommendations*

*Recommendations for future research.* The quantitative research findings of this study do not suggest a significant difference exists among those students taught reading based on LETRS strategies compared to those students receiving non-LETRS reading instruction. The qualitative research findings of this study do show that certificated staff members' perceptions on the LETRS program, and teacher role and responsibility for integrating the components of LETRS, may have effect on student success. Taking into consideration both research findings of this study, further quantitative and qualitative investigations should be undertaken. The researcher suggests seven similar studies for further exploration: (a) the impact of LETRS and student achievement within different school districts using the LETRS professional development program to determine if the results are similar or different from the findings in this study, (b) the impact of LETRS and student achievement within the same school district three years after implementation of the LETRS professional development program to determine if the results are similar or different from the findings in this study, (c) the student achievement in non-LETRS school districts to determine if the results are similar or different from the findings in this



study, (d) the impact of LETRS and student achievement in elementary schools with high socioeconomic status percentages to determine if the results are similar or different from the findings in this study, (e) the impact of LETRS on student achievement in elementary schools with different facilitators to determine if the results are similar or different from the findings in this study, (f) the benefits perceived by parents related to the impact of LETRS on student achievement in elementary schools, and (g) the appropriate literacy training program for elementary schools.

*Recommendations for improving educational practice.* The decision to study the LETRS professional development program in elementary classrooms and the influence of the LETRS research-based reading strategies on student achievement reflected the researcher's personal experience as a reading teacher, elementary principal, and passion to ensure that all students are able to read and understand in order to become productive citizens in a global society. Designed to examine the use and implementation of the LETRS-based strategies in classroom instruction with elementary students, this investigation was specifically geared to students in grades three through six. Of particular importance were the objectives to determine the relationship of LETRS research-based reading strategies and teacher perceptions of the program on student achievement.

Other recommendations for improving educational practice include investigating the use of LETRS in teacher preparation programs and mentorship. Discovering how teacher preparation programs integrate the five components of reading and how teachers are taught to use these components throughout these programs should impact educational practice. The use of human capital through mentorship by using LETRS trained teachers as mentors for non-LETRS trained teachers should enhance the use of the five

components and research-based strategies in classroom instruction. The findings of this study imply that the successful integration of LETRS strategies in elementary classrooms and the influence on student achievement is underscored by the importance of LETRS training, elimination of barriers, and an inquiry-based learning environment.

*Recommendations for professional development.* The findings of this study imply that more professional development activities on how to effectively implement the LETRS components into daily instruction needs to occur. Current methods of LETRS training do not facilitate and focus on integration, but more so on methodology and research. Rather than simply being taught why it is necessary to teach the five components in daily instruction, teachers need to be taught how to use the component and be given types of activities that promote learning in this area. According to Darling-Hammond and McLaughlin (1995), professional development needs to deepen teachers' knowledge of content and how to teach it to students while providing opportunities for active, hands-on learning that links to curriculum and assessment.

### *Summary*

This study indicates that while the LETRS professional development program may have had a slight impact on student achievement, the results were not statistical significance. Both the experimental and control groups showed gains in student achievement, as measured by the MAP test. Therefore, it is not reasonable to conclude that LETRS was the only indicator of student achievement in the area of communication arts. The study also indicated, through the use of a survey questionnaire and roundtable discussions, that there were some barriers with the integration of the LETRS professional development program. Teachers believed that time out of their classroom and

presentation of LETRS materials were barriers to the integration and implementation of the strategies of the program in their classrooms.

References

- Adams, M. J. (1990). *Beginning to read: Thinking and learning about print*. Cambridge, MA: MIT Press.
- American Federation of Teachers. (1999). *Teaching reading is rocket science: What expert teachers of reading should know and be able to do*. Washington, DC: Author.
- Alexander, P. A., & Murphy, P.K. (1998). The research base for APA's learner-centered psychological principles. In N. A. Lambert & B. L. McCombs. (Eds.), *How students learn: Reforming schools through learner-centered education* (p. 25 – 60). Washington, DC: American Psychological Association.
- American Psychological Association. (1997). *Learner-centered psychological principles: A framework for school redesign and reform*. Retrieved August 5, 2002, from <http://www.apa.org/ed/cpse/LCPP.pdf>
- Anderson, R. C., Hiebert, E. H., Scott, J. A., & Wilkinson, I. A. G. (1984). *Becoming a nation of readers: The report of the commission on reading*. Washington, DC: U. S. Department of Education.
- Association for Supervision and Curriculum Development. (2008). *Overview of ESEA/NCLB*. Retrieved July 22, 2008, from <http://www.ascd.org/publications/newsletters/infobrief/fall08/num55/toc.aspx>
- Baker, S. K., Simmons, D. C., & Kameenui, E. J. (1995). *Vocabulary acquisition: Center to Improve the Tools of Educators*. (ERIC Document Reproduction Service No. ED386860)

- Berends, M. (2004). In the wake of a nation at risk: New American schools' private sector school reform initiative. *Peabody Journal of Education*, 79(1), 130-63.
- Biancarosa, G., & Snow, C. E. (2004). *Reading next: A vision for action and research in middle and high school literacy*. Washington, DC: Alliance for Excellent Education.
- Blachowicz, C. L. Z., & Fisher, P. (2000a). *Teaching vocabulary in all classrooms* (2<sup>nd</sup> ed.). Upper Saddle River, NJ: Merrill Prentice Hall.
- Blachowicz, C. L. Z., & Fisher, P. J.L. (2000b). Vocabulary instruction. In R. Barr, M. L. Kamil, P. B. Mosenthal, & P. D. Perason (Eds.), *Handbook of Reading Research: Vol. 3* (pp. 503-523). New York: Longman.
- Block, C. C. (2005, December). *Effects of multiple comprehension process instruction on kindergarten through grade 5 students' achievement*. Paper presented at the annual meeting of the National Reading Conference, Miami, FL.
- Block, C. C., Rodgers, L., & Johnson, R. B. (2004). *Comprehension process instruction: Creating reading success in grades K-3*. New York: Guilford Press.
- Blumenfeld, S. (1973). *The new illiterates*. New Rochelle, NY: Arlington House.
- Bos, C., Mather, N., Dickson, S., Podhajski, B., & Chard, D. (2001). Perceptions and knowledge of pre-service and in-service educators about early reading instruction. *Annals of Dyslexia*, 51, 97-120.
- Bracey, G. W. (1997). A nation of learners: Nostalgia and amnesia. *Educational Leadership*, 54, 54-57.
- Braunger, J., & Lewis, J. P. (2006). *Building a knowledge base in reading* (2<sup>nd</sup> ed.). Newark, DE: International Reading Association.

- Breznitz, Z. (1997a). Effects of accelerated rate on memory for text among dyslexic readers. *Journal of Educational Psychology*, 89, 289-297.
- Breznitz, Z. (1997b). Enhancing the reading of dyslexic children by reading acceleration and auditory masking. *Journal of Educational Psychology*, 89, 103-113.
- Brown, D. M. (2003). Learner-centered conditions that ensure students success in learning. *Education*, 124(1), 99-104.
- Bruffee, K. A. (1999). *Collaborative learning: Higher education, interdependence, and the authority of knowledge* (2<sup>nd</sup> ed.). Baltimore: The John Hopkins University Press.
- Chall, J. S. (1967). *Learning to read: The great debate*. New York: McGraw-Hill.
- Chall, J. S. (1996). *Stages of reading development*. Orlando, FL: Harcourt, Brace & Company.
- Clay, M. M. (1985). *The early detection of reading difficulties*. Portsmouth, NH: Heinemann.
- Creswell, J. W. (1994). *Research design: Qualitative and quantitative approaches*. Thousand Oaks, CA: Sage.
- Cunningham, A. E., & Stanovich, K. E. (1998). What reading does to the mind. *American Educator*, 22(1), 8-15.
- Darling-Hammond, L., & McLaughlin, M. W. (1995). Policies that support professional development in an era of reform. *Phi Delta Kappan*, 76(8), 597-604.
- Darling-Hammond, L., & Wise, A. (1985). Beyond standardization: State standards and school improvement. *The Elementary School Journal*, 85, 315-36.

- Denton, C. A., & Vaughn, S. (2003). Bringing research-based practice in reading intervention to scale. *Learning Disabilities Research & Practice, 18*(3), 201–211.
- Desimone, L. M., Porter, A. C., Garet, M. S., Yoon, K. S., & Birman, B. F. (2002). Effects of professional development on teachers' instruction: Results from a three-year longitudinal study. *Educational Evaluation & Policy Analysis, 24*(2), 81-112.
- Dowhower, S. L. (1991). Speaking of prosody: Fluency's unattended bedfellow. *Theory into Practice, 30*(3), 158-164.
- Ehri, L. C. (1998). Grapheme-phoneme knowledge is essential for learning to read words in English. In J. L. Metsala & L. C. Ehri (Eds.), *Word recognition in beginning literacy* (pp. 3-40). Mahwah, NJ: Lawrence Erlbaum Associates.
- Ehri, L. C., & Nunes, S. R. (2002). The role of phonemic awareness in learning to read. In A. E. Farstrup & S. J. Samuels (Eds.), *What research has to say about reading instruction* (pp. 110-139). Newark, DE: International Reading Association.
- Erekson, J. (2003, May). *Prosody: The problem of expression in fluency*. Paper presented at the International Reading Association Preconvention Institute, Orlando, FL.
- Ertmer, P., Addison, P., Lane, M., Ross, E., & Woods, D. (1999, Fall). Examining teachers' beliefs about the role of technology in the elementary classroom. *Journal of Research on Computing in Education, 32*(1), 54-71.
- Fiszer, E. P. (2003). *How teachers learn best: An ongoing professional development model*. Lanham, MD: Scarecrow Education.
- Flesch, R. (1955). *Why Johnny can't read*. New York: HarperCollins.
- Fletcher, J. M., & Lyon, G. R. (1998). Reading: A research-based approach. In W. Evers

- (Ed.), *What's gone wrong in America's classrooms* (pp. 49–90). Stanford, CA: Hoover Institution Press.
- Foorman, B. R., Francis, D. J., Fletcher, J. M., Schatschneider, C., & Mehta, P. (1998). The role of instruction in learning to read: Preventing reading failure in at-risk children. *Journal of Educational Psychology, 90*, 37-55.
- Foorman, B. R., & Moats, L. C. (2004). Conditions for sustaining research-based practices in early reading instruction. *Remedial and Special Education, 25*(1), 51–60.
- Foorman, B. R., Chen, D-T., Carlson, C., Moats, L., Francis, D. J., & Fletcher, J. M. (2003). The necessity of the alphabetic principle to phonemic awareness instruction. *Reading and Writing: An Interdisciplinary Journal, 16*(4), 289–324.
- Fraenkel, J. R., & Wallen, N. E. (2009). *How to design and evaluate research in education*. New York: McGraw-Hill Higher Education.
- Gambrell, L. B., Morrow, L. M., & Pressley, M. (2007). *Best practices in literacy instruction*. New York: The Guilford Press.
- Gersten, R., Chard, D., & Baker, S. (2000). Factors enhancing sustained use of research based instructional practices. *Journal of Learning Disabilities, 33*(5), 445–461.
- Gersten, R., Morvant, M., & Brengelman, S. (1995). Close to the classroom is close to the bone: Coaching as a means to translate research into classroom practice. *Exceptional Children, 62*(1), 52–66.
- Goals 2000: Educate America Act, H.R. Res. 1804, 103d Cong., (1994). Retrieved July 13, 2008, from <http://www.ed.gov/legislation/GOALS2000/TheAct/index.html>



- Goswami, U. (2004). Neuroscience and education. *British Journal of Educational Psychology, 74*, 1-14.
- Grigg, W. S., Danne, M. C., Jin, Y., & Campbell, J. R. (2003, June). *The nation's report card: Reading 2002* (NCES Report No. 2003-521). Washington, DC: National Center for Education Statistics.
- Gray, W. (1951). *Guess who: The new basic readers*. Glenview, IL: Scott Foresman.
- Hart, B., & Risley, T. R. (1995). *Meaningful differences in the everyday experience of young American children*. Baltimore, MD: Paul H. Brookes Publishing Co.
- Hecht, S. A., Burgess, S. R., Torgesen, J. K., Wagner, R. K., & Rashotte, C. A. (2000). Explaining social class differences in growth of reading skills from beginning kindergarten through fourth-grade: The role of phonological awareness, rate of access, and print knowledge. *Reading and Writing: An Interdisciplinary Journal, 12*, 99-127.
- Hill, H. B. (2000). *Literacy instruction in teacher education: A comparison of teacher education in Australia, New Zealand, and the United States of America*. Unpublished doctoral dissertation, Columbia University, New York.
- Hoepfl, M. C. (1997). Choosing qualitative research: A primer for technology education researchers. *Journal of Technology Education, 9*(1). Retrieved July 20, 2002, from <http://scholar.lib.vt.edu/ejournals/JTE/v9n1/hoepfl.htm>
- Hurst, D. (1994). Teaching technology to teachers. *Educational Leadership, 51*(7), 74-77.
- Israel, S. E., Block, C.C., Bauserman, K. L., & Kinnucan-Welsh, K. (Eds.). (2005). *Metacognition in literacy learning: Theory, assessment, instruction, and professional development*. Mahwah, NJ: Erlbaum.

- Juel, C. (1988). Learning to read and write: A longitudinal study of fifty-four children from first through fourth grade. *Journal of Educational Psychology, 80*, 437-447.
- Keeler, C. (1996, Spring). Networked instructional computers in the elementary classroom and their effect on the learning environment: A qualitative evaluation. *Journal of Research on Computing in Education, 28*, 329-45.
- Keith, S., & Girling, R. H. (1991). *Education, management, and participation: New directions in educational administration*. Needham Heights, MA: Allyn & Bacon.
- Koretz, D. M. (1987). *Educational achievement: Explanations and implications of recent trends*. Washington, DC: Congressional Budget Office.
- Kuhn, M. R., & Stahl, S. A. (2003). Fluency: A review of developmental and remedial practices. *Journal of Educational Psychology, 95*(1), 3-21.
- LaBerge, D., & Samuels, S. A. (1974). Toward a theory of automatic information processing in reading. *Cognitive Psychology, 6*, 293-323.
- Learning First Alliance. (2000). *Every child reading: A professional development guide*. Washington, DC: Author.
- Learning First Alliance. (1998, June). *Every child reading: An action plan*. Retrieved March 22, 2004, from <http://www.learningfirst.org/publications/reading/>
- Lemann, N. (1997). The reading wars. *The Atlantic Monthly, 280*, 128-134.
- LETRS Research Base (2008). Sopris West Educational Services. Retrieved February 2, 2009, from [https://store.cambiumlearning.com/Resources/Research/pdf/sw\\_Research\\_LETRS\\_RB01.pdf](https://store.cambiumlearning.com/Resources/Research/pdf/sw_Research_LETRS_RB01.pdf)

- Levine, A. (1994). The great debate revisited. *The Atlantic Monthly*. Retrieved June 28, 2008, from <http://www.theatlantic.com/politics/educatio/levine.htm>
- Liberman, I.Y., Shankweiler, D., Fischer, F.W., & Carter, B. (1974). Reading behavior in dyslexia: Is there a distinctive pattern? *Annals of Dyslexia*, 28(1), 114-123.
- Lyon, L. G. (1998, May). *The NICHD research program in reading development, reading disorders, and reading instruction: A summary of research findings*. Paper presented at Keys to Successful Learning: A National Summit on Research in Learning disabilities. New York.
- Lyon, G. R. (1997). Report on learning disabilities research. Retrieved January 2, 2002, from LD OnLine Web site:  
[http://www.ldonline.org/ld\\_indepth/reading/nih\\_report.html](http://www.ldonline.org/ld_indepth/reading/nih_report.html)
- Mandell, S., Sorge, D., & Russell, J. (2002). TIPS for technology integration. *TechTrends*, 46(5), 39-45.
- Mathes, P. G., Torgesen, J. K., & Allor, J. H. (2001). The effects of peer-assisted literacy strategies for first-grade readers with and without additional computer-assisted instruction in phonological awareness. *American Educational Research Journal*, 38(2), 371-410.
- McCardle, P. and Chhabra, V. (Eds.). (2004). *The voice of evidence in reading research*. Baltimore, MD: Paul Brookes.
- McCombs, B. L. & Whisler, J. S. (1997). *The learner centered classroom and school: Strategies for increasing student motivation and achievement*. San Francisco: Jossey-Bass.
- McCutchen, D., & Berninger, V. (1999). Those who know, teach well: Helping teachers

master literacy-related subject matter knowledge. *Learning Disabilities Research & Practice, 14*(4), 215–226.

McCutchen, D., Abbott, R. D., Green, L. B., Beretvas, S. N., Cox, S., & Potter, N. S. (2002). Beginning literacy: Links among teacher knowledge, teacher practice, and student learning. *Journal of Learning Disabilities, 35*, 69–86.

McIntyre, E., & Pressley, M. (1996). *Balanced instruction: Strategies and skills in whole language*. Boston: Christopher-Gordan.

McKeown, M. G., Beck, I. L., Omanson, R. C., & Pope, M. T. (1985). Some effects of the nature and frequency of vocabulary instruction on the knowledge of use of words. *Reading Research Quarterly, 20*(5), 522-535.

Missouri Department of Elementary and Secondary Education. (2000). *Meeting the challenge*. Retrieved September 6, 2008, from <http://www.dese.mo.gov/stateboard/challengecover.htm>

Missouri Department of Elementary and Secondary Education. (2008). Section I: Mission, mandates, and regulations for professional development. Retrieved November 16, 2008, from [http://www.dese.mo.gov/divteachqual/leadership/pd\\_guidelines/Sec1.pdf](http://www.dese.mo.gov/divteachqual/leadership/pd_guidelines/Sec1.pdf)

Moats, L. C. (1994). The missing foundation in teacher education: Knowledge of the structure of spoken and written language. *Annals of Dyslexia, 44*, 81–104.

Moats, L. C. (2002). *Blueprint for professional development. Reading First Leadership Academy*. Washington, DC: United States Department of Education.

Moats, L. C. (2005). *Language essentials for teachers of reading and spelling*. Longmont, CO: Sopris West.

Moats, L. C., & Lyon, G. R. (1996). Wanted: Teachers with knowledge of language.

*Topics in Language Disorders, 16*(2), 73–86.

Morgan, G. (1997). *Images of organization* (2<sup>nd</sup> ed.). Thousand Oaks, CA: Sage.

Morphett, M. V., & Washburne, C. (1931). When should children begin to read?

*Elementary School Journal, 31*, 496-508.

Mostow, J., & Beck, J. (2005, June). *Micro-analysis of fluency gains in a reading tutor*

*that listens*. Paper presented at the annual meeting of Society for the Scientific Study of Reading, Toronto, Ontario.

Mouza, C. (2002/2003). Learning to teach with new technology: Implications for

professional development. *Journal of Research on Technology in Education 35*(2), 272-289.

Nagy, W. E. (1988). *Teaching vocabulary to improve reading comprehension*. Newark, DE: International Reading Association.

Nagy, W., & Anderson, R. C. (1984). How many words are there in printed school

English? *Reading Research Quarterly, 19*, 304-330.

National Assessment for Educational Progress. (1999). *The Nation's Report Card*.

Retrieved November 2, 2008, from <http://nces.ed.gov/nationsreportcard/>

National Center for Education Statistics. (2001, January). *Digest of Education Statistics*

*2000*. Washington, DC: Author.

National Commission on Excellence in Education. (1983). *A nation at risk: The*

*imperative for educational reform*. Washington, DC: U. S. Government Printing Office.

- National Early Literacy Panel. (2004). *Developing early literacy: Report of the National Early Literacy Panel*. Washington, DC: National Institute for Literacy.
- National Institute of Child Health and Human Development. (2000). *Report of the National Reading Panel. Teaching children to read: An evidence-based assessment of the scientific research literature on reading and its implications for reading instruction* (NIH Publication No. 00-4769). Washington, DC: U.S. Government Printing Office.
- National Institute for Literacy. (2008). *Programs and Services*. Retrieved June 13, 2008 from [http://www.nifl.gov/nifl/programs\\_services.html](http://www.nifl.gov/nifl/programs_services.html)
- Nichols, S. L., Glass, G. V., & Berliner, D. C. (2006). High-stakes testing and student achievement: Does accountability pressure increase student learning? *Education Policy Analysis Archives, 14*(1).
- Northwest Regional Educational Laboratory. (2002). *Revealing the secrets of the brain: Neuropsychologist Virginia Berninger studies brain images before and after instruction for clues to the mystery of learning disabilities*. Retrieved July, 9, 2008 from <http://www.nwrel.org/nwedu/08-03/brain-t.asp>
- Nystrand, R. O. (1992). The new agenda for the nation's schools. *Education and Urban Society, 25*(1), 18-29.
- Paul, J. L., & Marfo, K. (2001, Winter). Preparation of educational researchers in philosophical foundations of inquiry. *Review of Educational Research 71*(4), 525-547.
- Payne, R. (2005). *A framework for understanding poverty* (4<sup>th</sup> ed.). Highlands, TX: Aha! process.

- Pearson, P. D. (1976). A psycholinguistic model of reading. *Language Arts*, 53(3), 309-314.
- Pearson, P. D. (2004). The reading wars: The politics of reading research and policy-1988 through 2003. *Educational Policy*, 18(1), 216-252.
- President's Commission on Excellence in Special Education. (2002, July 1). *A new era: Revitalizing special education for children and their families*. Washington, DC: U. S. Department of Education Office of Special Education and Rehabilitative Services. Retrieved September 17, 2008, from [http://www.ed.gov/inits/commissionsboards/whspecialeducation/reports/images/Pres\\_Rep.pdf](http://www.ed.gov/inits/commissionsboards/whspecialeducation/reports/images/Pres_Rep.pdf)
- Pressley, M. (2006). *Reading instruction that works: The case for balanced teaching* (3<sup>rd</sup> ed.). New York: Guilford Press.
- Rasinski, T. V. (2003). *The fluent reader: Oral reading strategies for building word recognition, fluency, and comprehension*. New York: Scholastic Professional Books.
- Rasinski, T. V., & Hoffman, J. V. (2003). Oral reading in the school literacy curriculum. *Reading Research Quarterly*, 38,(4) 510-522.
- Rayner, K., Foorman, B. R., Perfetti, C. A., Pesetsky, D., and Seidenberg, M. (2001). How psychological science informs the teaching of reading. *Psychological Science in the Public Interest*, 2(2), 31-74.
- Rothstein, R. (1998). *The way we were? The myths and realities of America's student achievement*. New York: The Century Foundation Press.
- Samuels, S. J. (2004). Toward a theory of automatic information processing in reading,

- revisited. In R. B. Ruddell & N. J. Unrau, *Theoretical models and processes of reading* (5<sup>th</sup> ed., pp. 1127-1148). Newark, DE: International Reading Association.
- Shankweiler, D., Lundquist, E., Dreyer, L. G., & Dickinson, C. C. (1996). Reading and spelling difficulties in high school students: Causes and consequences. *Reading and Writing: An Interdisciplinary Journal*, 8, 267–294.
- Slavin, R. E., Madden, N. A., Karweit, N. L., Dolan, L. J., & Wasik, B. A. (1994). Success for all: A comprehensive approach to prevention and early intervention. In R. E. Slavin, N. L. Karweit & B. A. Wasik (Eds.), *Preventing early school failure: Research, policy, and practice* (pp. 175-205). Boston: Allyn and Bacon.
- Slavit, D., Sawyer, R., & Curley, J. (2003). Filling your plate: A professional development model for teaching with technology. *TechTrends*, 47(4), 35-38.
- Smerdon, B., Cronen, S., Lanahan, L., Anderson, J., Iannotti, N., & Angeles, J. (2000, December 1). Teachers' Tools for the 21st Century: A Report on Teachers' Use of Technology. *Education Statistics Quarterly*, 2(4), 48-52. (ERIC Document Reproduction Service No. EJ624162) Retrieved July 9, 2009, from ERIC database.
- Smith, S., & Robinson, S. (2003). Best practice integration through collaborative cohorts. *Remedial and Special Education*, 24(3), 154-60.
- Snow, C. E. (2002). *Reading for understanding: Toward an r&d program in reading comprehension*. Santa Monica, CA: Rand Corporation.
- Snow, C. E., Burns, M. S., & Griffin, P. (Eds.). (1998). *Preventing reading difficulties in young children*. Washington, DC: National Academies Press.
- Snow-Renner, R., & Lauer, P. (2005). *Professional development analysis*. Denver, CO:



Mid-Continent Research for Education and Learning.

- Stahl, S.A. (1999). *Vocabulary development*. Cambridge, MA: Brookline Books.
- Stahl, S. A., & Heubach, K. (2005). Fluency-Oriented Reading Instruction. *Journal of Literacy Research, 37*, 25-60.
- Stanovich, K. E. (2000). *Progress in understanding reading: Scientific foundations and new frontiers*. New York: Guilford Press.
- Stanovich, K. E. (1980). Toward an interactive-compensatory model of individual differences in the development of reading fluency. *Reading Research Quarterly, 21*, 360-407.
- Swanson, H. L., & Hoskyn, M. (1998). Experimental intervention research on students with learning disabilities: A meta-analysis of treatment outcomes. *Review of Educational Research, 68*(3), 277-321.
- Sweet, R. (1997). Don't read, don't tell: Clintons' phony war on illiteracy. *Policy Review, 38-42*. Also available on-line: <http://www.nrrf.org/dontread-donttell.htm>
- Tan, A., & Nicholson, T. (1997). Flashcards revisited: Training poor readers to read words faster improves their comprehension of text. *Journal of Educational Psychology, 89*, 276-288.
- Tankersley, K. (2005). *Literacy strategies for grades 4-12: Reinforcing the threads of reading*. Alexandria, VA: Association for Supervision and Curriculum Development.
- Taylor, B. M., Pearson, P. D., Peterson, D. S., & Rodriguez, M. C. (2003). Reading growth in high-poverty classrooms. The influence of teacher practices that

encourage cognitive engagement in literacy learning. *Elementary School Journal*, 104, 3-28.

- Torgesen, J. K. (1999). Phonologically based reading disabilities: Toward a coherent theory of one kind of learning disability. In R. J. Sternberg & L. Spear-Swerling (Eds.), *Perspectives on learning disabilities* (pp. 231-262). New Haven, CT: Westview Press.
- Torgesen, J. K., Alexander, A. W., Wagner, R. K., Rashotte, C. A., Voeller, K., Conway, T. (2001). Intensive remedial instruction for children with severe reading disabilities: Immediate and long-term outcomes from two instructional approaches. *Journal of Learning Disabilities*, 34(1), 33–58, 78.
- Torgesen, J. K., Wagner, R. K., Rashotte, C. A., Alexander, A. W., & Conway, T. (1997). Preventive and remedial interventions for children with severe reading disabilities. *Learning Disabilities: A Multidisciplinary Journal*, 8(1), 51–61.
- Torgesen, J., Wagner, R., Rashotte, C., Rose, E., Lindamood, P., Conway, T. (1999). Preventing reading failure in young children with phonological processing disabilities: Group and individual responses to instruction. *Journal of Educational Psychology*, 91, 579-593.
- Unger, H. G. (1998). *The life and times of Noah Webster: An American patriot*. New York: John Wiley & Sons.
- Weinbaum, E. (2008). *Learning about assessment: An evaluation of a ten-state effort to build assessment capacity in high schools*. Philadelphia: Consortium for Policy Research in Education, University of Pennsylvania.

- Whelan, C. S., Frantz, C., Guerin, F., & Bienvenu, S. (1997, Summer). A qualitative evaluation of a statewide networking infrastructures in education project. *Journal of Research on Computing in Education*, 29, 403-22.
- White, N., Ringstaff, C., & Kelley, L. (2002). *Getting the most from technology in schools*. San Francisco, CA: WestEd.
- Wolf, M. (2001). Reading fluency and its intervention. *Scientific Studies of Reading*, 5(3), 211–239.
- Wolfe, P., & Nevills, P. (2004). *Building the reading brain, PreK-3*. Thousand Oaks, CA: Corwin Press.
- Yopp, H. K., & Yopp, R. H. (2000). Supporting phonemic awareness development in the classroom. *The Reading Teacher*, 54, 130-143.

Appendix A- Consent for Data

Lincoln County R-III School District || Hawk Point Elementary School

327 Maple St. || Hawk Point, MO 63349 || p(636)338-4366 || f(636)338-4566 || www.troy.k12.mo.us

Terry Morrow, Superintendent of Schools | Danielle Vogelsang, Principal

June 23, 2008

Mr. Morrow & Mrs. Steele:

As you know I am currently enrolled in the Doctor of Administration program at Lindenwood University. This semester I begin working on the culminating research project.

My intention is to research a topic that will benefit not only our work at our current Elementary Schools, but also the larger Lincoln County R-III School District community. To this end, I would like to conduct research relative to the effectiveness of the Language Essentials for Teachers of Reading and Spelling (LETRS). In 2006-2007, our elementary teachers received the LETRS program professional development. These practices have been implemented for two years, and I would like to determine its benefits on student achievement in the area of Communication Arts at the third, fourth, and fifth grade level. Depending on our results, the district may consider expanding the program to other levels of education. To go along with the effect of the professional development on student achievement, I would also like to determine teacher buy-in and teacher perceptions of effectiveness through the use of surveys.

This research project will involve analyzing secondary Communication Arts MAP data and trying to establish a cause and effect relationship between implementation of LETRS and MAP scores. Therefore, I will use 2006, 2007, and 2008 MAP data, and my research will involve a survey of third, fourth, and fifth grade teachers receiving the professional development. Any data collected will be anonymously reported.

At this time I request your permission to allow this research to be conducted and reported as described above. Let me know if you have any questions as you consider this request.

Sincerely,

Danielle C. Vogelsang  
Principal

Appendix B-Demographics

Lincoln County R-III Student Demographic Data

	<u>Boone Elementary</u>		<u>Claude Brown Intermediate</u>		<u>Hawk Point Elementary</u>		<u>Lincoln Elementary</u>		<u>Main Street Elementary</u>		<u>William Cappel Elementary</u>	
	2006	2007	2006	2007	2006	2007	2006	2007	2006	2007	2006	2007
School Year Total Enrollment	459	506	758	782	126	118	520	516	649	638	423	450
Asian (Number/ Percent)	5 1.10	3 0.60	37 0.40	2 0.30	0 0.00	0 0.00	2 0.40	4 0.80	3 0.50	5 0.80	0 0.00	0 0.00
Black (Number/ Percent)	18 3.90	17 3.40	31 4.10	33 4.20	4 3.20	1 0.80	26 5.00	30 5.80	17 2.60	15 2.40	21 5.00	29 6.40
Hispanic (Number/ Percent)	10 2.20	13 2.60	7 0.90	9 1.20	1 0.80	1 0.80	9 1.70	8 1.60	13 2.00	11 1.70	3 0.70	5 1.10
Indian (Number/ Percent)	1 0.20	0 0.00	0 0.00	1 1.10	0 0.00	1 0.80	1 0.20	1 0.20	1 0.20	0 0.00	0 0.00	1 0.20
White (Number/ Percent)	425 92.60	473 93.50	717 94.60	737 94.20	121 96.00	115 97.5	482 92.70	473 91.70	616 94.9	604 94.7	415 92.2	444 89.7
Free/ Reduced Lunch (Number/ Percent)	159 34.00	171 33.70	256 33.70	247 31.50	42 32.80	43 35.80	180 34.30	145 28.40	212 32.3	201 31.8	208 46.5	223 44.7

Appendix B-Demographics

Warren County R-III Student Demographic Data

School Year	<u>Black Hawk Middle</u>		<u>Daniel Boone Elementary</u>		<u>Rebecca Boone Elementary</u>	
	2006	2007	2006	2007	2006	2007
Total Enrollment	690	682	780	854	439	456
Asian (Number/ Percent)	4 0.60	5 0.70	4 0.50	5 0.60	2 0.50	3 0.70
Black (Number/ Percent)	12 1.70	18 2.60	29 3.70	43 5.00	12 2.70	16 3.50
Hispanic (Number/ Percent)	13 1.90	14 2.10	24 3.10	34 4.00	17 3.90	17 3.70
Indian (Number/ Percent)	5 0.70	5 0.70	4 0.50	4 0.50	5 1.10	3 0.70
White (Number/ Percent)	656 95.10	640 93.80	719 92.20	768 89.90	403 91.80	417 91.40
Free/ Reduced Lunch (Number/ Percent)	229 33.40	245 36.00	334 42.70	375.10 43.60	152 35.30	179 39.90

Appendix C- Survey Letter to Teachers

Lincoln County R-III School District || Hawk Point Elementary School

327 Maple St. || Hawk Point, MO 63349 || p (636)338-4366 | f (636)338-4566 || www.troy.k12.mo.us

Terry Morrow, Superintendent of Schools | Danielle Vogelsang, Principal

Dear Troy R-III Teachers,

The following survey has been developed seeking the input of third, fourth, fifth and sixth grade teachers in the Troy R-III School District. Information gathered through this survey will be included as part of the research reported in a doctoral project through Lindenwood University. This survey will be accessible for two weeks. The investigator is working toward my doctoral degree in Educational Administration at Lindenwood University.

Based on research literature, a questionnaire has been developed to determine teacher perception towards the LETRS professional development program and its effectiveness towards student achievement in the area of Communication Arts. The purposes of this study are to determine 1) the degree to which teacher's are trained and knowledgeable of current reading practices, 2) how the implementation of LETRS has influenced your everyday teaching, and 3) your overall feelings and thoughts about LETRS and its influence on student achievement.

Response data will be stored in a Zoomerang database. The Principal Investigator will be the only one to review the raw data, which will be stored in a locked cabinet in her office. The loss of anonymity will be minimized because no personally identifiable information will be collected.

The results of this survey will be used to summarize teachers' perspective across the Troy R-III School District related to teacher training and implementation.

If you have any questions, please contact Danielle Vogelsang at 636-338-4366. Thank you for taking the time to complete this voluntary 5-10 minute survey.

Sincerely,

Danielle Vogelsang, B.A., M.A., Ed.S.

Appendix D- Survey Questionnaire

LETRS Professional Development Survey

1. Rate the following components of LETRS in terms of how helpful or useful each one was:

<u>Reading Strategies</u>	<u>(Not exposed) Least</u> <span style="float: right;"><u>Most</u></span>					
1. Phonics	0	1	2	3	4	5
2. Phoneme Awareness	0	1	2	3	4	5
3. Vocabulary	0	1	2	3	4	5
4. Fluency	0	1	2	3	4	5
5. Comprehension	0	1	2	3	4	5

2. Do you utilize the five components of reading at least once in your daily lesson plans?

<u>Not at all</u>						<u>Always</u>
0	1	2	3	4	5	

3. Has student achievement improved since LETRS was brought to Lincoln County R-III School District?

<u>Not at all</u>					<u>A Great Deal</u>
0	1	2	3	4	5

4. How does LETRS help you meet the needs of all students?
5. What, if any, components/teaching methods are missing from LETRS?
6. How has LETRS changed your teaching/instructional techniques?
7. Do you feel the implementation of LETRS professional development has been effective overall?



Appendix E- Consent for Roundtable Discussions

Lincoln County R-III School District || Hawk Point Elementary School

327 Maple St. || Hawk Point, MO 63349 || p (636)338-4366 || f (636)338-4566 || www.troy.k12.mo.us

Terry Morrow, Superintendent of Schools | Danielle Vogelsang, Principal

September 9, 2008

Dear Teacher,

I am currently enrolled in the Doctor of Administration program at Lindenwood University. This semester I will be working to complete the culminating research project.

My intention is to research a topic that will benefit not only our work at our current schools, but also the larger Lincoln County R-III School District community. To this end, I would like to conduct research relative to the effectiveness of the Language Essentials for Teachers of Reading and Spelling (LETRS). In 2006-2007, each of you received LETRS professional development. I would like to determine the effect of the LETRS professional development on student achievement in the area of Communication Arts. To aid in the effectiveness of this study, in relation to teacher perceptions, I would also like to allow each of you the opportunity to participate in a roundtable discussion with Tiffany Pikulski, our literacy coach, and myself. The purpose of this roundtable discussion will be to gauge teacher perceptions about the implementation of and the continuation of LETRS in your classrooms. I will be using this discussion to determine the benefits of LETRS on individual teachers and their students and to also gain an understanding about where to go from here as a district.

Any data collected from this discussion will be anonymously reported and held confidential

At this time I request your participation in this roundtable discussion. If you are interested and would be willing to participate, please sign and return the attached form to me by October 25, 2008. I look forward to working with each of you in continuing to make Lincoln County R-III a better place to learn and grow.

Sincerely in Education,

Mrs. Danielle Vogelsang  
Principal

Roundtable Discussion Consent Form

\_\_\_\_\_ I agree to participate in the roundtable discussion to help gauge teacher perceptions of the effectiveness of the LETRS professional development on teaching and learning. I understand that this is voluntary and that any data gathered will be reported anonymously and will be kept confidential.

Print Name: \_\_\_\_\_

Date: \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

School: \_\_\_\_\_

Grade level taught: \_\_\_\_\_

Phone Number: \_\_\_\_\_

Please list day of the week that would be best for you: \_\_\_\_\_

Appendix F- Roundtable Discussion Questions

1. What skills from LETRS are most helpful in your daily classroom instruction?
2. What impact has LETRS had on your daily classroom instruction?
3. What could be added to the LETRS professional development program to serve you better?
4. Has LETRS been effective in your classroom? If so, how? If not, why do you feel this?
5. What were some of the barriers to your LETRS training?
6. What would help you to be more accountable in teaching the LETRS research-based strategies with fidelity?
7. What do you feel is your role and responsibility in terms of LETRS implementation and daily classroom instruction?

Vitae

Danielle Vogelsang was born in St. Louis, Missouri, on February 2, 1980. She grew up in St. Louis, Missouri, and graduated from Hazelwood East High School in the spring of 1998. Vogelsang was accepted to Southwest Missouri State University and graduated Magna Cum Laude with a Bachelor's Degree in Elementary Education with an emphasis in science. In 2002, she began working in the Fort Zumwalt School District at Cindy Ostmann Elementary School. Vogelsang taught both fourth and fifth grade in Fort Zumwalt. In 2003, Vogelsang began pursuing an advanced degree and was accepted at Lindenwood University. While at Lindenwood University, Vogelsang received both her Master's Degree and Specialist's Degree in Educational Administration. In the summer of 2007, Vogelsang left the classroom to pursue a career as an elementary building principal. Vogelsang has served as the principal of Hawk Point Elementary School for the past two years. Hawk Point Elementary is located in the Lincoln County R-III School District in Troy, Missouri. Vogelsang is currently enrolled in the Doctor of Education program at Lindenwood University and anticipates her graduation date to be May 2009. During the 2009-2010 school year, she will continue with her passion for administration as the principal of Cuivre Park Elementary. Cuivre Park Elementary will be opening August 2009 and is the sixth elementary school in the Lincoln County R-III School District. Vogelsang is also a graduate of the Leadership Academy for Character Education and has received the Sue Spellman award from Lindenwood University.