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Impact of Missouri Reading Initiative on Student Achievement, Teacher Attitudes, and Perceptions

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by

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Declaration of Originality

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

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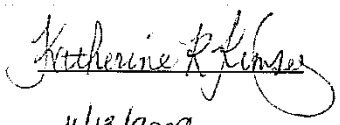

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Abstract

Reading and critical thinking skills are sources of concern when analyzing student achievement relative to No Child Left Behind (NCLB). In Fort Zumwalt, middle school Missouri Assessment Program (MAP) test scores in communication arts have not consistently met NCLB requirements. To address this concern, Fort Zumwalt implemented Missouri Reading Initiative (MRI) as a pilot at North Middle School during the 2007-08 school year. Collaborative researchers collected data derived from student test scores on the 2006-07 and 2007-08 communication arts MAP to assess MRI effectiveness.

Quantitatively, this study examined the relationship between implementation of MRI and student achievement on the communication arts MAP test. Adequate Yearly Progress (AYP) data were examined, and student performance on process skills was reviewed. Qualitatively, this study examined the impact of teacher perceptions of MRI on student achievement. To gather teacher perceptions, the MRI End-of-the-Year Questionnaire was given to 18 reading and communication arts teachers who were involved in MRI implementation. Frequency of teacher ratings were tallied and analyzed in the areas of (a) delivery and format, (b) process, (c) student achievement, (d) overall program rating.

Using a z test for proportions, AYP analysis concluded that statistically significant results were rarely achieved. Analysis of process skill performance showed gains in the majority of skills tested, and nearly 50% of skills tested showed statistically significant gains. When reviewing teacher perspectives, the results indicated that 83% of the teachers believed MRI definitely changed or reinforced their teaching. When

reflecting on the effectiveness of MRI as a whole, 39% of the teachers felt it was "excellent." No teacher felt that the program was "poor."

The researchers recommend these changes for future practice: (a) teacher involvement early in the MRI implementation; (b) instead of the MAP, the Developmental Reading Assessment (DRA) should be utilized to more accurately measure student achievement in the area of reading; (c) teacher accountability for effectively implementing MRI strategies during classroom instruction; and (d) identification of the teachers by grade level on the End-of-the-Year Questionnaire in order to make a connection between teacher attitudes and perceptions and impact on student achievement.

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Chapter One—Introduction

Background

Accountability for student achievement regularly makes headlines. School effectiveness is a source of endless debate in political and educational settings. State and local boards of education are faced with increasing pressure for results. The pressure begins at the highest levels of government, and its impact is felt all the way down to the school level. "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" (Nichols, Glass, & Berliner, 2006, p. 5). In addition, "supporters of high-stakes testing believe that the quality of American education can be vastly improved by introducing a system of rewards and sanctions that are triggered by students' standardized test performance" (Nichols, Glass & Berliner, 2006, p. 2).

Consequently, educational research on improving student achievement is never-ending. A simple Google search for "school improvement initiatives" generates the following initiatives on the first page of results: Professional Learning Communities, School Improvement Initiative (formerly called the High-Poverty Schools Initiative), Secondary School Redesign Initiative, High Schools That Work, and the KEYS Initiative. These are within the first 10 of approximately 362,000 search results reported by Google. Change the search terms and the results continue to grow. Thus, it appears there are as many formulaic approaches to improving student achievement as there are theories on the topic. With this overabundance of information available, it can be difficult to identify one

specific direction or approach to utilize for improvement efforts. "*No Child Left Behind* (NCLB) puts 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" (U.S. Department of Education [US DOE], 2004, ¶ 4).

While literature about improving student achievement is often labeled research-based, frequently there is not appropriate research conducted to validate findings. Therefore, consistent with assertions made by Wren (2002), it appears that it takes very little time to convince the public of the merits of a new theory, even though the research community does not readily accept the same. With this seemingly blind acceptance of new theories, school districts and boards of education are quick to adopt new strategies to improve student achievement. The result seems to be a new approach every few years that begins with a great deal of time and attention to the new topic during initial workshops and meetings, continues with a respectable attempt by a minority of teachers to implement strategies in the classroom, and finally ending with a fizzling out of the effort due to lack of time and attention. Traditional professional development seems to frequently incorporate methods not aligned with active learning. Teachers typically sit and listen to an expert who advocates hands-on learning for students, but puts little of this talk into practice during the training. According to Fiszer (2003), this style of professional development is not only hypocritical but outdated and a disservice to professional educators. The process becomes cyclical because teachers begin to predict that each new professional development effort will simply take the course of the one just abandoned. Teacher attitudes and perceptions begin to wane since history has shown that

whether they give it their full attention, or no attention at all, there may be little accountability for implementation, or, in a short time, another initiative will be adopted since the desired results have not been achieved. Therefore, professional development becomes a series of disjointed efforts, which ultimately produces few results and generates negative attitudes in educators. In *Effective Reading Instruction: Steps for Schoolwide Reading*, Taylor, Frye, Peterson, and Pearson (2003) asserted that schools must "keep in mind that developing a culture of learning and ongoing professional development involving teachers as educational leaders takes time and patience"(p. 3). In addition, they must "remain focused" and "avoid being tempted by other new initiatives that may be presented" (p. 4).

Among conflicting theories regarding student achievement, reading literacy is one commonly accepted predictor of student achievement. Burns, Roe, and Smith (2002) referenced reading literacy as a skill critical to learning and providing access to information and knowledge. The federal government has recognized the importance of literacy instruction and has established agencies to research and provide direction on literacy initiatives. Established in 1991, the National Institute for Literacy (NIFL) is a Congressional agency that "provides leadership on literacy issues, including the improvement of reading instruction for children, youth, and adults" (National Institute for Literacy, 2008, ¶ 1). "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 effectiveness of different approaches used to teach children to read" (National Reading Panel, 2008, ¶ 1). The outcome was the establishment of the National Reading Panel (NRP). States have followed the lead of the

federal government. Texas, Vermont, Arkansas, Alabama, and Minnesota are among many states that have begun their own research and implemented programs and initiatives to improve literacy. In fact, the University of Minnesota established the Center for Reading Research specifically for the purpose of and conducting "applied research on reading and research on teaching approaches that facilitate reading instruction" (Minnesota Center for Reading Research, Our Mission, ¶ 1). Phonics, Whole Language, Balanced Literacy, Ramp-Up Literacy, Literacy Navigator, and Read 180, among other initiatives and programs, have all been adopted and implemented by schools and districts over time. Unfortunately, results from the National Assessment of Educational Progress (NAEP), the only nationally representative and continuing assessment of what America's students know and can do in various subject areas, indicate that no single initiative has been successful. Through NAEP students are assessed in reading in grades four and eight. Over the years NAEP data relative to reading performance at the state and national level has been inconsistent, marking both losses and gains. At the national level, 2007 NAEP reading results for eighth grade students reflect a one point overall gain from 2005 scores, yet these scores are still lower than scores from 2002 and 2003. Results disaggregated by state vary widely. After digesting the information above, along with other research on student achievement, it is disappointing that greater gains have not been realized, and the need for a better approach still remains. Therefore, the problem is to identify an effective strategy for improving student achievement.

Significance

A review of Missouri Assessment Program (MAP) data supports the claim that no single approach to the improvement of literacy instruction has been effective. It appears

to the researchers that over the last several consecutive years, fewer Missouri schools and districts have met Annual Proficiency Targets established by the Missouri Department of Elementary and Secondary Education (MO DESE), and consequently those schools and districts failed to meet Adequate Yearly Progress (AYP) requirements outlined by NCLB. In addition, Missouri's 2007 NAEP reading scores for eighth graders were at their lowest point in more than a decade. Work experience leads the researchers to conclude that the Fort Zumwalt School District is experiencing similar results. Schools not meeting AYP are becoming subject to sanctions outlined in NCLB, and pressure increases to produce gains on state and national assessments.

According to Taylor, et al. (2003), "Successful schools have ongoing professional development and a strong sense of community," (p. 3) 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). Professional development requires time and resources that often can only be allocated by the board of education of a school district. The Iowa Association of School Boards (IASB) commissioned a study to identify the correlation between school board attitudes and student achievement. The IASB study (2001) concluded that high-achieving districts had school boards that were knowledgeable about staff development and were educated about initiatives in their districts.

A combination of approaches is critical to improving reading literacy. Perhaps simply identifying the approaches is not enough. Teacher education and quality professional development appear to be necessary components of change, and those efforts should transition into implementation. Fiszer (2003) suggested that a professional

development culture of ongoing learning must be established, and teachers must be immersed in this culture in order to increase the likelihood of new idea implementation.

Fort Zumwalt School District has identified and adopted a program to address this challenge of improving reading literacy and, ultimately, student achievement. The Missouri Reading Initiative (MRI) provides a comprehensive approach to staff development in all areas of literacy. While MRI has been used in elementary schools across the state of Missouri for several years, its expansion to middle schools has been relatively recent. The initial mission of the Missouri Reading Initiative was dedicated to working with Missouri public schools' teachers and administrators to ensure every child would be able to read proficiently by the end of third grade. However, because of the successful results of the program, it has been expanded to include literacy assistance at all grade levels. MRI works with Missouri public schools to achieve the following goals:

- Provide ongoing, systemic professional development to enhance the quality of literacy instruction leading to improved student achievement throughout all grade levels.
- Examine and disseminate research in reading and writing to educators throughout the state, assisting schools with the implementation of instructional best practices in literacy through modeling lessons, coaching, and collaboration.
- Assist schools with assessment, planning, implementation, and evaluation of school improvement efforts in literacy toward a comprehensive model. (MRI, 2008B, ¶ 1)

Fort Zumwalt North Middle School was selected to pilot MRI implementation for the Fort Zumwalt School District. The results of the North Middle implementation will serve

as data to support or reject future funding of the program at North Middle and/or other middle schools in the district.

Independent Variable

MRI provides ongoing professional development for member schools. The development involves workshops, site visits, observation, and demonstration involving many approaches to improving literacy instruction. All teachers of reading and communication arts at Fort Zumwalt North Middle School will participate in MRI training and implementation. Therefore, the independent variable in this study is the implementation of MRI. The study will attempt to measure the impact of MRI implementation on student achievement.

Dependent Variable

In the state of Missouri, MAP testing is required on an annual basis to measure student achievement. This data is also used to evaluate Missouri's progress toward requirements outlined under NCLB. Students in Missouri are assessed in multiple subject areas and multiple grade levels. Under MAP, students in middle school are tested in communication arts and math in all three grades: sixth, seventh, and eighth. Eighth grade students are also assessed in science. Given that schools are held accountable for scores on the MAP test, the researchers will use the MAP test as the dependent variable being measured in this study. Specifically, the communication arts MAP scores will be measured. The communication arts MAP test assesses reading and writing competencies of Missouri students. For the purpose of readability, instead of identifying the school year as spanning two calendar years (i.e. 2006-07, and 2007-08), the researchers will refer to the school year based on when the MAP was administered to students during the school

year (i.e. 2007 and 2008). Therefore, communication arts MAP test scores from 2007, the control group, will be compared to scores from 2008, the group influenced by implementation of MRI.

Hypothesis

The hypothesis was that the implementation of Missouri Reading Initiative (MRI) will improve student achievement as evidenced by a statistically significant increase in student communication arts scores on the MAP test. MRI is a comprehensive approach to professional development in all aspects of literacy. MAP test data from 2007, the control group, was compared to MAP test data from 2008, the scores from students having the benefit of instructional practice influenced by MRI. Conversely, the null hypothesis was that the implementation of MRI will not improve student achievement as evidenced by a statistically significant increase in student communication arts scores on the MAP test.

Research Question

To discover whether teacher attitudes and perceptions of MRI affected student achievement scores, this research question was posed: Is there a relationship between teacher perceptions of MRI effectiveness and actual student achievement results? In an attempt to answer this research question, the researchers utilized the MRI End-of-the-Year Questionnaire that was given to 18 middle school communication arts and reading teachers at the end of the first year of MRI implementation.

Researchers

This study was a collaborative effort between two educators at Fort Zumwalt North Middle School, the environment in which the MRI implementation was piloted. The quantitative researcher, Tim Jamieson, is the school principal and was principal for

one year prior to the introduction of MRI. With 12 years of experience in education, he began teaching at the high school level, then was an administrator for three years at an alternative high school before moving to the middle school level. Prior to becoming principal at Fort Zumwalt North Middle, he served as a middle school assistant principal for three years. As indicated before, school leaders are held accountable for student achievement through MAP scores. Therefore, Jamieson's focus was on the quantitative data derived from overall MAP scores. The qualitative researcher, Kate Kimsey, is currently an elementary administrator, but was a reading teacher at Fort Zumwalt North Middle during the first year of MRI implementation. She was directly involved in MRI training and implementation. Prior to her experience at Fort Zumwalt North Middle School, she spent four years as an elementary and middle school teacher. As a classroom teacher and a participant of the MRI training, her interest was in the effectiveness of the training and, ultimately, the impact of the training on student achievement. Consequently, Kimsey's focus was on the research question.

Limitations of the Study

Student achievement on state assessments can be influenced by many factors. While it was proposed that the implementation of MRI would have an impact on MAP scores, four limitations were identified. First, concerns existed over the use of MAP testing as an accurate measure of student achievement. The scores of students on one particular test represent a snapshot of a student's work on a single day or series of days in April. This type of test is not a comprehensive examination of the whole student relative to knowledge and ability, and the student's preparation and educational environment can play a significant role in test performance. AERA (1999) agreed that using a single

measurement, such as high stakes testing, to measure student competence is in opposition to standards established by the measurement community.

Second, when comparing MAP scores at a single grade level from one year to the next, it necessarily follows that there are two subject groups being tested. The composition of each subject group being tested was different. However, the state measures a school's achievement, and holds it accountable for that achievement, by comparing the scores of different subject groups from year to year.

Third, teacher attitudes and perceptions toward professional development, in this case MRI, can play a significant role in its implementation and effectiveness. While it may be reasonable to conclude that all teachers participating in MRI agree that improving the reading literacy of students is important, it is also reasonable to expect differences among these professionals. These differences can be evidenced by conflicting views on effective practices, differences in pacing and implementation, or even experience levels of teachers involved.

Fourth, other factors, beyond the implementation of MRI, impact scores on the MAP test. For example, student attendance can play a role in success throughout the year. In Minneapolis, a recent study conducted by Johnson (2000) found that students who were in class 95% of the time were twice as likely to pass state language arts tests as students with attendance rates of 85%. Thus, it would be reasonable to conclude that a student who has a significant number of absences is not likely to score as well as a student with good attendance. In addition, MRI requires professional development, in which the communication arts and reading teachers must participate on a monthly basis. However, beyond MRI training, the teachers are involved in other professional

development activities designed for whole staff implementation. At North Middle School there is a school-wide approach to professional development that is aimed at improving critical thinking skills of students. This development is guided by the work of the department leaders, administrators, and a professional development chairperson. The dialogue and activities used to disseminate this information occurs during monthly department meetings and faculty meetings. This additional professional development compliments the work being done relative to MRI. Therefore, it can be asserted that other professional development activities, beyond MRI implementation, could contribute to increases in MAP scores.

Definition of Terms

Adequate Yearly Progress (AYP). This is one of the essential elements of NCLB and probably the most complicated. To achieve the goal of all children being "proficient" (as defined by each state) by 2014, all public schools and districts must make satisfactory improvement each year toward that goal. Based on criteria included in NCLB, MO DESE has established specific annual targets for AYP in communication arts and math (MO DESE, 2006b, ¶ 4).

Developmental Reading Assessment (DRA). A quick, accurate, research-based assessment that helps target instruction for student success (Pearson, 2008).

Grade Level Expectation (GLE). "These expectations represent the DESE's effort to explicate the Show-Me Standards, in order to help local educators articulate precise learning outcomes for their students" (MO DESE, 2005, ¶ 1). They may be used by districts "to strengthen alignment of their curricula to the Show-Me Standards" (MO DESE, 2005, ¶ 2). The expectations, required under the No Child Left Behind Act of

2001, also provide more specific achievement targets for the MAP assessments and will inform the test-development process.

Item Benchmark Description (IBD). A MAP test score report that includes item level detail. Scores represent student performance on each test item, identify the state standard being assessed, and include additional information useful for driving instruction (MO DESE, 2008b, p. 129).

Missouri Assessment Program (MAP). The 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.

Missouri Department of Elementary and Secondary Education (MO DESE). For purposes of this study, MO DESE will be used to represent the Department of Elementary and Secondary Education for the state of Missouri.

Missouri Reading Initiative (MRI). "A comprehensive approach to professional development in all aspects of literacy which, in its initial year of implementation, includes 22 days of on-site training that encompasses seminars, peer coaching, modeling, and other approaches to professional development" (Missouri Reading Initiative, 2008b, ¶ 1).

Missouri School Improvement Program (MSIP). This program "has the responsibility of reviewing and accrediting the 524 school districts in Missouri within a five-year review cycle" (MO DESE, 2008c, ¶ 1).

National Assessment of Educational Progress (NAEP). The only nationally 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 (National Center for Education Statistics [NCES], 2008, ¶ 1-2).

National Institute for Literacy (NIFL). NIFL, "a federal agency, provides leadership on literacy issues, including the improvement of reading instruction for children, youth, and adults" (NIFL, 2008, ¶ 1).

National Reading Panel (NRP). "A national panel convened to assess the effectiveness of different approaches used to teach children how to read" (NRP, 2000, ¶ 1).

Nation's Report Card. A report that informs the public about the academic achievement of elementary and secondary students in the United States. Report cards communicate the findings of the NAEP, a continuing and nationally representative measure of achievement in various subjects over time. The Nation's Report Card compares performance among states, urban districts, public and private schools, and student demographic groups (Nation's Report Card, 2008).

National Staff Development Council (NSDC). "The largest non-profit professional association committed to ensuring success for all students through staff development and school improvement . . . The Council views high quality staff development programs as essential to creating schools in which all students and staff members are learners who continually improve their performance" (NSDC, 2008).

No Child Left Behind Act of 2001 (NCLB). The act reauthorized the Elementary and Secondary Education Act (ESEA)—the main federal law affecting education from kindergarten through high school. NCLB is built on four principles: (a) accountability for results, (b) more choices for parents, (c) greater local control and flexibility, and (d) an emphasis on doing what works based on scientific research (US DOE, Four Pillars of NCLB section, 2004, ¶ 2-4).

Outstanding Schools Act of 1993. Also known as Missouri Senate Bill 380, the Outstanding Schools Act 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 Outstanding Schools Act calls for increased accountability in improving student academic performance for all of Missouri's public school districts and school buildings" (MO DESE, 2008a, ¶ 6). Most notably the Act established the following: (a) Show-Me Standards, (b) curriculum frameworks, (c) a new statewide assessment, (d) professional development for educators, and (e) professional standards for new educators (MO DESE, 2008a, ¶ 7-10).

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" (MO DESE, 2008a, ¶ 7). These standards establish the minimum knowledge base, skills, and competencies necessary for students to successfully advance through the public elementary and secondary education system of Missouri, prepare students for post-secondary education or the workplace or both, and are necessary in this era to preserve the rights and liberties of the people (MO DESE, 2008a, ¶ 17).

Subgroups. Subgroups are groupings of students for purposes of reporting disaggregated data on the MAP test. A cell of 30 or more students establishes a subgroup with the exception of IEP and ELL, which need 50 students to establish a subgroup. Each school and district is assessed to determine if it has achieved AYP for all students in communication arts and math. In addition, each of the subgroups listed below is required to meet AYP goals, unless there are 30 or fewer students in the subgroup. There must be at least 50 students in the IEP and LEP subgroups for them to be accountable for AYP. The subgroups are (a) Asian & Pacific Islander, (b) Free/Reduced lunch, (c) IEP (Special education), (d) Hispanic, (e) LEP (Limited English proficiency), (f) American Indian, (g) Other/Non-response, and (h) White (MO DESE, 2006b, ¶ 6).

Summary

Chapter One addressed concerns faced by educators relative to accountability for student achievement. Information included (a) background of the study, (b) significance, (c) dependent and independent variables, (d) hypothesis and research question, (e) information pertaining to the researchers, (f) limitations, and (g) definition of terms. Chapter Two will review literature pertinent to the study.

Chapter Two – Review of Literature

A literature search was performed to define the purpose of studying the success of the Missouri Reading Initiative on student achievement and also to explore other methods that have been incorporated to determine possible reasons for significant changes in reading comprehension. To identify relevant literature, searches included the following key words: literacy, middle school, reading strategies, evaluation tools, initiatives, comprehension, adolescent readers, [and] professional development using education specific websites such as *National Assessment of Educational Progress* (NAEP), *Missouri Department of Elementary and Secondary Education* (DESE), *Missouri Reading Initiative* (MRI), *National Institute for Literacy* (NIFL), and *National Reading Panel* (NRP). Other search engines used in this study included ERIC, WilsonWeb, PUBMED, and EBSCOhost. Based on the researchers' search for relevant literature, the following topics were reviewed: (a) reading theory, (b) national and state middle school reading scores, (c) reading initiatives, (d) reading components, (e) professional development, (f) national mandates, and (g) evaluation tools.

In a world of texting on mobile phones and playing video games, the sheer pleasure obtained from reading is becoming overwhelmingly difficult to instill in children, especially adolescents. However, the plethora of benefits reaped from reading cannot be overlooked or questioned. Why is reading really so important? When students possess the ability to read, they can easily attack any text and assimilate the information and skills within it. In addition, vocabulary does not pose as an insurmountable hurdle because a successful reader can intuit meanings using reading strategies such as context clues. In order to become educated, to learn about a specific subject, to meet

requirements, and for pure enjoyment, the skill of reading is imperative. Without the ability to read and comprehend, true academic success is unachievable. Finally, in order to become a successful reader, reading strategies must be taught and encouraged through dynamic teaching instruction and professional development. Missouri Reading Initiative (MRI) could provide the foundation for this type of instruction and development.

Reading Theory

Philosophies in reading instruction have shifted from *Phonics* in the 1980s to *Whole Language* in the early 1990s to the current *Balanced Literacy* philosophy. Since the educational pendulum swings back and forth, it is not surprising that no single literacy philosophy has had a major impact on student performance in reading skills and strategies. Evidence from NAEP scores seems to support this claim, as they have been unaffected by the shifts in philosophies. However, research has revealed two real truths that have definitely impacted student achievement in literacy: quality professional development and teachers who are flexible and diagnostic in their approach to reading instruction. Other theories in these shifts will be further examined.

Every aspect of life involves reading. Society is full of items to read such as signs, labels, menus, newspapers, magazines, and brochures that are impossible to ignore. However, learning to read is not a natural phenomenon. In fact, according to one article, Wren (2002) stated the contrary: "It has often been suggested that children will learn to read if they are simply immersed in a literacy-rich environment and allowed to develop literacy skills in their own way" (p. 1). In fact, Burns, Roe, and Smith (2002) pointed out, "…children who do not understand the importance of learning to read will not be motivated to learn" (p. 3). Since the process of learning how to read takes time and effort,

students who value this process are more likely to work harder than those who do not understand the benefits. Perhaps, if reading were a natural process, society would not currently be dealing with a literacy crisis.

Another misconception involved in the theory of successful reading techniques relates closely to the paradox that claims reading is a natural process. Research once posed that if given enough time, children would eventually learn to read. Wren (2002) discussed the stipulations that coincide with this theory by introducing the idea of *The Matthew Effect. The Matthew Effect* was dubbed from the common saying that says that the rich get richer and the poor get poorer. Wren stated it best: "That certainly describes what happens as children enter school and begin learning literacy skills. Over time, the gap between children who have well developed literacy skills and those who do not gets wider and wider" (p. 3). Wren goes on to say that if students do not have a good grasp on literacy skills by fourth grade, the odds are very slim that they will ever develop successful reading skills and strategies.

Unfortunately, the researchers of this study found that relatively little research-based literature exists. Too often, literature is labeled research-based, when in fact no real research was conducted to refute findings. This problem is best illustrated by Wren (2002):

> Researchers know that one piece of research evidence is nothing to get excited about. Several bits of evidence might get some attention. But it is only when there is substantial 'convergent evidence' from multiple sources supporting a theory that the research community is willing to embrace the theory. It takes years to

> convince the research community that a theory has merit, but it takes no time at all to convince the public. (p. 8)

The public seems too willing to embrace a theory without examining the substantial evidence it offers, and the ignorance of substantial evidence seems to be the cause of quick fix fads and programs. It seems that there is no quick fix for the issue of illiteracy.

Reading Scores

National middle school reading scores. To determine Missouri reading levels compared to other states in America, data from The Nation's Report Card was reviewed:

> 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 National Assessment of Educational Progress (NAEP), a continuing and nationally representative measure of achievement in various subjects over time. (Donahue, Grigg, & Lee, 2007, p. 1)

According to the 2007 NAEP Nation's Report Card, the average reading score for eighth grade middle school students increased by one point since 2005 and three points since 1992. Reading abilities were assessed in the contexts of literary experience, gaining information, and performing a task. NAEP also stated that the trend of increasing scores was inconsistent over all the assessment years. In addition, the 2007 NAEP results showed the percentage of students performing at or above the basic (243) level increased, but there was no significant change in the percentage of students at or above the proficient (281) level. To summarize these results, a higher percentage of middle school students demonstrated an understanding of literal information (basic level), but did not

show an increase in overall understanding of the text, including inferential as well as literal information (proficient level).

In order to determine the need for research in Missouri middle school reading levels, information on other states who participate in the NAEP Assessment was examined. According to the Nation's Report Card 2007, fifteen states had a higher average scale score than Missouri, whereas eighteen states had a lower average scale score than Missouri. When compared to 2005, six states including Vermont, Texas, Maryland, Florida, Hawaii, and Washington D.C. showed a significant increase in reading scores from 2005 to 2007. Only Vermont showed gains in all three reading contexts: reading for literary experience, reading for information, and reading to perform a task. When compared to other states in the country, according to the NAEP, Missouri showed no significant change from 2005 to 2007 in middle school reading. In 2005, Missouri's average reading score was 265, but in 2007, it dropped two points to 263. When analyzing Missouri middle school reading scores from 2002 to 2007, a significant change is noted. In 2002, Missouri's average middle school reading score was 268 compared to the nation's score of 263. However, in 2007, Missouri's average middle school reading score dropped five points to 263; whereas, the Nation's average score dropped only two points to 261. To restate, the Missouri middle school reading scores have sadly not kept pace with the rest of the nation.

State and district middle school reading scores. The final resource for reviewing Missouri reading achievement was the Missouri Assessment Program (MAP) communication arts scores from the Department of Elementary and Secondary Education (2007). Fort Zumwalt School District's average scores were compared to Missouri's

middle schools' average scores. There was no improvement evident in the Fort Zumwalt School District between 2006 and 2007 MAP scores. In 2006, 50.7% of Fort Zumwalt sixth grade students scored in the below basic or basic range on the Communication arts section. In 2007, that number increased to 51.6%. During the same period of time, the percentage of students who scored in the proficient range decreased. This data is consistent with the NAEP Nation's Report Card. Students are showing an increase in basic levels of reading achievement but not in the proficient levels of reading achievement.

Reading initiatives

According to Brynildssen (2002), "Statistics on the literacy of skills of America's children reveal a disturbing situation. Approximately 40% of students across the nation cannot read at a basic level" (¶ 1). To address this disturbing situation, many states and federal organizations have developed reading initiatives. In addition, Congress asked the National Institute of Child Health and Human Development to create The National Reading Panel (NRP) to analyze and evaluate a variety of reading strategies and skills incorporated in classroom instruction. Brynildssen also discussed the development of Reading First, a literacy component of President Bush's 2001 "No Child Left Behind":

> According to the Education Commission of States (2001), the most commonly used reading strategies by state initiatives include: "(1) preventing and intervening with reading difficulties; (2) imposing consequences for students who do not meet reading standards; (3) promoting or mandating particular reading approaches or programs; (4) providing additional or better data; (5) providing teachers with

skills and knowledge; (6) setting standards, developing reading plans; and (7) assessing readiness for school". (¶ 5)

In addition, Brynildssen describes a successful reading program—Alabama Reading Initiative (ARI). The following is a summary of Brynildssen's findings. In 1997, more than 97,000 of Alabama's third through eleventh grade students had some of the lowest scores in the nation in reading, resulting in the implementation of the ARI. Brynildssen also reported that teachers in the participating schools noted numerous positive changes, after implementation including improved student and teacher attitudes.

ARI focuses on three areas: (a) beginning reading, (b) expanding reading power, and (c) effective intervention. The first area, beginning reading, "emphasizes development of phonemic awareness and systematic teaching of language decoding skills" (Brynildssen, 2002, ¶ 7). The second area, expanding reading power, "aims to maintain high literacy levels in middle and high school students through ongoing vocabulary development, increase reading, and building explicit links between reading and writing" (¶ 7). Finally, the third area, effective intervention, "identifies and provides specialized instruction for children who are reading below grade level" (¶ 7). In the second year of ARI implementation, improvements on the Stanford Reading Test were evident for participating students. To summarize, it seems the ARI identified areas of concern and provided basic reading skill interventions, thus improving student achievement in the area of reading.

Another state effort, Missouri Reading Initiative (MRI), is a comprehensive approach to professional development in all aspects of literacy. It was first organized in 1998 under the auspices of the Missouri Learning First Alliance, consisting of fifteen

major educational organizations. The initial mission of the Missouri Reading Initiative was dedicated to working with Missouri public schools' teachers and administrators to ensure every child would be able to read proficiently by the end of third grade. However, because of the successful results of the program it has been expanded to include literacy assistance at all grade levels. MRI works with Missouri public schools to achieve the following goals:

- Provide ongoing, systemic professional development to enhance the quality of literacy instruction leading to improved student achievement throughout all grade levels.
- Examine and disseminate research in reading and writing to educators throughout the state, assisting schools with the implementation of instructional best practices in literacy through modeling lessons, coaching, and collaboration.
- Assist schools with assessment, planning, implementation, and evaluation of school improvement efforts in literacy toward a comprehensive model [See Figure 1]. (MRI, 2008b, ¶ 1)

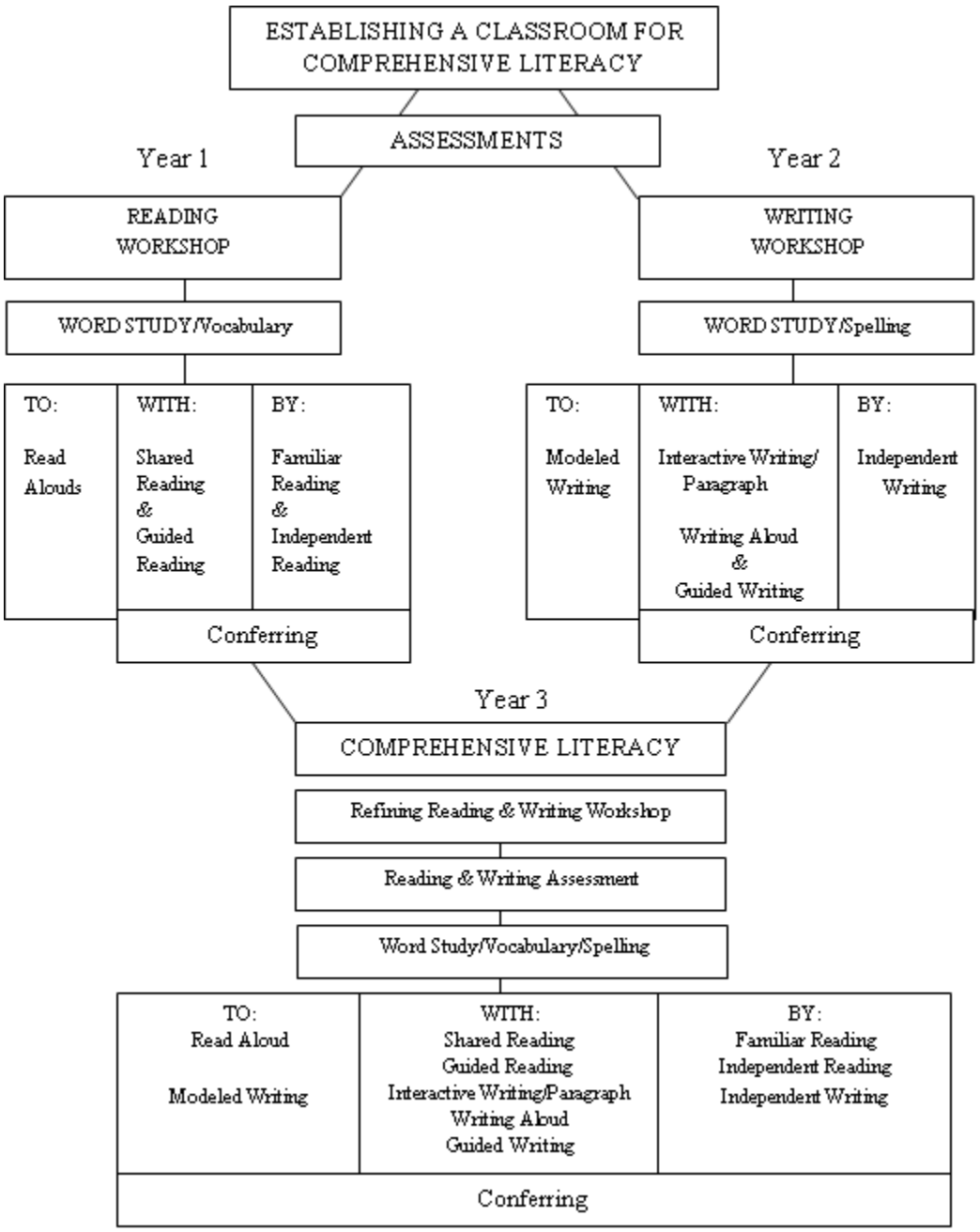

Figure 1. Missouri Reading Initiative Program Comprehensive Model for Grades 4-6

Note. From "Missouri Reading Initiative Connection: 4-6," by MRI, 2009, Program Content section. Copyright 2007 by Missouri Reading Initiative. Reprinted with permission.

The logic behind the MRI philosophy is that the program employs the comprehensive model (Figure 1) in order to provide instruction to teachers. In turn, the teachers implement the comprehensive model and reinforce the balanced literacy approach in their classroom instruction. The result of the MRI philosophy should indicate an improved level of student achievement in communication arts. Indeed, according to MRI research, this comprehensive model of literacy has indicated that MRI schools generally outperform non-MRI schools on the Missouri standardized assessment (MRI, 2008a). The components embedded in the model are discussed in the following section.

Components of Reading Instruction

In order to determine the need for reading instruction improvement in Missouri, information on best practices of the reading components was reviewed. The information was then compared to the components of MRI and its philosophy of reading. Timothy Shanahan (2003) emphasized the importance of researching the best practices of teaching reading: "The so-called 'reading wars' of the last decade—the rancorous debates over how to best teach reading—have been a kind of nation-wide barroom quarrel: many claims, little evidence" (p. 646). The National Reading Panel (NRP, 2000) was designed in order to "…assess the status of research-based knowledge, including the effectiveness of various approaches to teaching children to read" (p. 1) and recommend a plan for "rapidly disseminating" (p. 1) the research to employ effective reading instruction in the schools. The panel was composed of 14 individuals "including (as specified by Congress) 'leading scientists in reading research, representatives of colleges of education, reading teachers, educational administrators, and parents'" (NRP, 2000, p. 1). The panel released the following three strategies as important components of reading instruction: (a) fluency,

(b) comprehension (vocabulary instruction and text comprehension instruction), and (c) teacher preparation. Shanahan explained that teaching reading skills in isolation is unsuccessful. In fact, "the greatest success is evidently accomplished when teachers offer explicit instruction and guidance in several different reading skills and strategies simultaneously" (p. 648). Unfortunately, Shanahan stated that too many students in the United States do not get this type of direct instruction. Finally, the author reported that "there was no single instructional practice that seemed to be the key to reading success, popular opinions and authoritative claims to the contrary" (p. 654). The debate concerning what encompasses the most appropriate type of reading instruction has been in the education arena for decades (Snow, Burns, & Griffin, 1998). Moving from skills-driven methods to a balanced program including all reading components has yielded a body of literature that encompasses many philosophical positions. In summary, the three components of reading instruction should not be taught in isolation. Instead, a comprehensive approach to reading instruction seems to be most successful.

Fluency. According to the NRP, fluency, the first reading component, involves the ability to read orally with speed, accuracy, and proper expression and is a critical factor in reading comprehension. In 2007, the National Institute for Literacy (NIFL) explained that readers who struggle with fluency read slowly and often stop to sound out words. Unfortunately, readers spend so much time "decoding individual words that their focus is drawn away from comprehension" (NIFL, 2007, p. 12). Despite its importance, it is often not part of classroom instruction. The NRP explains two approaches that have been utilized to teach reading fluency: guided repeated oral reading and independent silent reading. Guided repeated oral reading "encourages students to read passages orally

with systematic and explicit guidance and feedback from the teacher;" (NRP, 2000, p. 12); whereas, independent silent reading "encourages students to read silently on their own, inside and outside the classroom, with minimal guidance or feedback" (NRP, 2000, p. 12). Studies conducted by NRP, suggest that both approaches can increase fluency, vocabulary, and comprehension. Burns, Roe, and Smith (2002) agreed that "students should be given opportunities to share ideas and information from and reactions to their reading in both oral and written forms" (p. 4). Further, the authors argue that these opportunities are extremely vital to the reading process. However, NRP could not find a correlation between fluency and independent silent reading: "…it could be that the more that children read, the more their reading skills improve, but it is possible that better readers simply choose to read more" (p. 12). The NIFL supports the findings of NRP. Research conducted by the NIFL (2007) also noted that the opportunity to read aloud is preferable to silent reading opportunities, especially for struggling adolescent readers. In addition, the research found that silent reading does not provide information about a student's development of fluency. Given this evidence, tax dollars are not utilized to support programs that only encourage students to read more (Shanahan, 2003). Instead, The NIFL (2007) emphasized practice as an essential element of increasing fluency: "the more frequently and regularly students practice reading, the more fluent they become" (p. 12).

According to the MRI (2007), programs that allow for student reading of books on an independent level (with accountability) during the school day produce fluency, individual reading growth, and higher achieving students. In fact, MRI (2007) encouraged teachers to incorporate daily reading schedules (20-25 minutes in a 45 minute

class period) to allow for independent reading practice. “As important as functional reading is to everyday living, another important goal of reading is for enjoyment” (Burns, et al., 2002, p. 4). In order to encourage reading for enjoyment, the authors invite teachers to read to students everyday from a variety of genres and authors. In addition, teachers should provide a library that includes a variety of books for all types of readers. This philosophy is also encouraged by MRI and the NIFL. For instance, the NIFL (2007) pointed out that teachers should not feel that oral reading in middle school is unnecessary. In fact, those “teachers who demonstrate fluent reading during instruction give students a standard for which to strive” (p. 12).

Comprehension. Comprehension is the second reading component researched by the NRP (2000), the NIFL (2007), and MRI. The NIFL (2007) defined comprehension as the “process of extracting or constructing meaning from words once they have been identified” (p. 18). According to NRP (2000), comprehension has been coined as the *essence of reading* because it is imperative not only to academic learning in all subject areas but also to lifelong learning. As Burns, et al. (2002) pointed out, “the objective of all readers is, or should be, comprehension of what they read. Comprehension is understanding” (p. 159). Burns, et al. also stated that “this type of understanding involves several skills such as the abilities to explain, interpret, apply, have perspective, emphasize, and have self knowledge” (p. 160). According to the NIFL (2007), “many struggling adolescent readers do not have difficulty reading words accurately; they have difficulty making sense of the information and ideas conveyed by the text” (p. 18). In addition, several factors affect comprehension. According to Burns, et al., a child’s *schemata,* or background knowledge, affects the way a student learns new information. In

addition, the authors pointed out, "Studies have shown that the provision of background information on a topic before reading is likely to enhance reading comprehension, especially inferential comprehension" (p. 164). According to NRP (2000), data proves that "…comprehension is enhanced when readers actively relate the ideas represented in print to their own knowledge and experiences and construct mental representations in memory" (p. 14). Dillon and Parsons (1982) agreed that the background students bring increases their interest level as well. Finally, Burns, et al. emphasized the importance of helping students use their schemata: "the students need to understand that they can use what they already know to help comprehend reading materials" (p. 165). The MRI (2007) philosophy stated a skilled reader uses schema/prior knowledge to form inferences, to relate ideas in the text to ideas in the world and personal beliefs, and/or to place what they are reading within a relevant context of his/her life.

According to the NIFL (2007), comprehension involves other themes that pave its foundation—vocabulary instruction and preparation of teachers to teach reading comprehension strategies. Vocabulary instruction and development, a component of comprehension, seems to be a complex process. According to the NIFL (2007), "vocabulary knowledge is important to reading because the oral and written use of words promotes comprehension and communication" (p. 14). Once again, there is no one correct way to teach it; however, according to Burns, et al.,

> [teachers] can greatly influence children's vocabulary development simply by being good models of vocabulary use. For example, when teachers read aloud or give explanations to the class, they should discuss any new words used and encourage the children to use them. (p. 124)

By simply listening to everyday conversations, vocabulary development greatly increases. The NIFL (2007) pointed out that teachers need to provide multiple exposures of the word they are trying to teach in different contexts, as well. According to the NRP findings (2000), direct and indirect instruction of vocabulary is vital. The findings also stated, "learning in rich contexts, incidental learning, and use of computer technology all enhance the acquisition of vocabulary" (p. 14). According to the MRI (2007) philosophy,

> a skilled reader knows the meaning of many words and knows how to use context clues or word parts, such as root words and affixes, to discern the meaning [and] recognizes words automatically and varies reading rate to match the purpose and level of difficulty, and "hears" the text as he/she reads the words. (MRI, 2007, Section 1)

Research conducted by the NIFL (2007) complimented this MRI philosophy: "good readers are purposeful, strategic, and critical readers who understand the content presented in various types of texts" (p. 19).

Teacher preparation. The third reading component is teacher preparation. Teacher preparation and comprehension strategies instruction were also thoroughly researched by NRP. This component is very complex, and it seems that teachers must have a plethora of knowledge and understanding of effective reading strategies for every individual student. As NRP (2000) findings pointed out, "research on comprehension strategies has evolved over the last two decades" (p. 16). In the past, it seems that teaching a strategy in isolation was thought to be the most effective method. Recently, however, teaching a combination of the reading strategies is considered to be best (NRP). Although this constant change can be problematic for teachers trying to teach reading,

NRP stated, “teachers must be skillful in their instruction and be able to respond flexibly and opportunistically to students’ needs for instructive feedback as they read” (p. 16). Burns, et al. (2002) introduced twelve principles that are most useful in guiding teachers in planning reading instruction:

1. Reading is a complex act with many factors that must be considered.
2. Reading involves the construction of the meaning represented by the printed symbols.
3. There is no one correct way to teach reading.
4. Learning to read is a continuing process.
5. Students should be taught word recognition strategies that will allow them to unlock the pronunciations and meanings of unfamiliar words independently.
6. The teacher should assess each student’s reading ability and use the assessment as a basis for planning instruction.
7. Reading and the other language arts are closely interrelated.
8. Using complete literature selections in the reading program is important.
9. Reading is an integral part of all content area instruction within the educational program.
10. The student needs to see that reading can be an enjoyable pursuit.
11. Reading should be taught in a way that allows each child to experience success.
12. Encouragement of self-direction and self-monitoring of reading is important. (pp. 22-23)

According to Burns, et al., these twelve principles are "based on research in the field of reading and observation of reading practices" (p. 22), and although considered generalizations, are proven to guide teacher preparation and reading instruction. In addition, the NIFL (2007) emphasized that successful reading instruction integrates questioning, summarizing text, using text structure, and utilizing graphic organizers when teaching comprehension to adolescents.

MRI (2007) emphasized the importance of read-alouds, shared reading, familiar reading, and independent reading in comprehensive reading instruction, especially in word study (vocabulary). In addition, one of the MRI (2007) goals of establishing a learning environment for comprehensive literacy involves creating a purpose for reading, and using reading strategies during guided reading instruction. In order for teachers to achieve a learning environment for comprehensive literacy, MRI (2007) enforced the following elements in the curriculum: (a) direct comprehension instruction, (b) motivation and self-directed learning, (c) strategic tutoring, and (d) technology (p. 7). Finally, MRI (2007) pointed out that "in order for a comprehensive reading program to be successful, it requires a responsive teacher who understands how to organize interactions and uses a variety of literacy activities that motivate children to move to higher levels of understanding" (p. 6).

Professional Development

The fifth topic researched in this review is professional development. In order to provide quality professional development, it is important to first examine adult learning principles. According to LeDoux (2002), the brain does not only involve cognitive thinking, but emotional and motivational functions must also be addressed:

> Often the things we attend to and remember are the things that are important to us. In such situations, cognitive processing will be accompanied by emotional arousal. And emotional arousal does not stop with a simple reaction, for we often use it to guide our behavior toward or away from the situation that the emotionally arousing stimulus signifies. (p. 258)

In addition, Merriam and Caffarella (1999) considered the environment in which learning takes place as another factor that influences adult learning practices: "…learning is a personal process. It is also the perspective that the context of adult life and the societal context shape what an adult needs and wants to learn and, to somewhat lesser extent, when and where learning takes place" (p. 1). The National Staff Development Council (2001) also recognized the importance of best learning principles and emphasized the importance of incorporating teacher attitudes and perceptions as a part of professional development: "Staff development is the means by which teachers acquire or enhance the knowledge, skills, attitudes, and beliefs necessary to create high levels of learning for all students" (¶ 2). To fully realize the potential of individuals, quality professional development

- focuses on teachers as central to student learning;
- focuses on individual, collegial, and organizational improvement;
- respects and nurtures the intellectual and leadership capacity of individuals within the school community;
- reflects best available research and practice in teaching, learning, and leadership;
- enables teachers to develop further expertise in subject content, teaching strategies, and technology;

- promotes continuous inquiry and improvement;
- involves collaborative planning;
- requires substantial time and other resources;
- is driven by a coherent long-term plan;
- is assessed by its impact on teacher effectiveness and student learning. (US DOE, 1994, ¶ 2)

Lowden (2005) pointed out that effective professional development is considered the center of educational reform. Unfortunately, research has not been able to reveal the most successful types of professional development needed for teachers to become proficient in reading strategy instruction.

According to MRI (2007), professional development is a major factor that adds to the success of the program. Furthermore, one of the missions of the MRI is to "provide ongoing, systemic professional development to enhance the quality of literacy instruction, leading to improved student achievement throughout all grade levels" (MRI, 2007, p. 1). Guskey (2000) stated that many professional development efforts fail because they lack focused planning, are unrelated to the daily lives of the teacher, and thereby do not affect instructional practice. Therefore, well-designed, thoughtfully planned, and adequately supported professional development is a necessary ingredient in all educational improvement efforts. MRI encouraged participating schools to commit to three years of professional development. MRI provides a trainer that visits with reading and communication arts teachers on a monthly basis. During these visits, the trainer models a reading strategy for teachers in the classroom or coaches teachers as they utilize a strategy. MRI expects administrators to attend all training sessions and to be

"knowledgeable about practices in the field" (MRI, p. 3). In total, the trainer will spend 15 days on site for each of the three years in the following format: (a) one day involving initial training; (b) 13 days involving training, modeling, observing during the school year; and (c) one day involving an exit conference, evaluation, and goal-setting for the following year. If, at the end of the third year, both the trainer and school personnel feel continued support is needed, MRI will develop a plan with the participating school. Through this continuous plan, MRI addresses the need for on-going quality professional development but does not consider the emotional and motivational functions or best learning environment of adult learning principles.

Mandates

In January 2002, the federal government enacted NCLB, a sweeping education reform legislation. This new law was established to set accountability measures for all public schools, and is based on the ambitious goal that all children will be proficient in reading and math by 2014. In addition, NCLB requires state legislatures to implement the new law and allocate financial resources to meet the requirements. According to the National Conference of State Legislatures (2003), among these accountability requirements of NCLB, states must

- Determine whether all schools, not only Title I schools, are making Adequate Yearly Progress (AYP) toward a goal of 100% proficiency for all students in 12 years;
- Develop both annual measurable objectives and intermediate goals;
- Monitor whether local educational agencies (LEAs) meet the required AYP thresholds;

- Collect and report on individual student, school, district and state test data (among other requirements these reports must include information by disaggregated student groups – i.e. sex, race, socioeconomic status, English learners, and special education population);
- Provide technical assistance for schools that are identified for school improvement. (p. 2)

In addition to NCLB mandates, all public schools must participate in the state assessments and be held accountable to state-developed AYP targets. If a school fails to meet AYP for two consecutive years, it is labeled as being a school "needing improvement." This label results in such consequences as mandatory public school choice. In other words, schools that do not make AYP must offer students the opportunity to transfer to another, higher-performing school within the district. After a third year, schools must offer supplemental services for students. Schools that do not show adequate progress after five years may be forced to take action, such as replacing personnel or extending the school year.

In order to meet NCLB requirements, states have designed systems for achieving academic and performance standards. States have also defined performance standards that are aligned with the state academic content standards. The performance standards are arranged in three levels of achievement—advanced, proficient (which determine how well students are mastering the standards), and basic (which shows progress toward mastering the advanced and proficient levels of achievement). In Missouri, DESE established the Consolidated State Application Accountability Workbook that defines "…expectations for growth in student achievement that is continuous and substantial,

such that all students are proficient in reading/language arts and mathematics no later than 2013-2014" (MO DESE, 2006a, ¶ 1). The information from the Accountability Workbook is presented in Table 1.

Table 1

Missouri Annual Proficiency Targets for Communication Arts--Years 2004-2014

Annual Proficiency Targets – Missouri	
Year	Communication Arts
2014	100.0
2013	91.8
2012	83.7
2011	75.5
2010	67.4
2009	59.2
2008	51.0
2007	42.9
2006	34.7
2005	26.6
2004	20.4

Note. From MO DESE (2006b)

Many Missouri public schools are struggling to make adequate yearly progress and are falling under the category of "needing improvement." These schools face accountability sanctions such as student performance reporting, probation, school improvement plans, reconstitution, and the threat of choice, among other penalties. The initial purpose of NCLB was to ensure that all children have a fair, equal, and significant opportunity to obtain a high-quality education, and reach, at a minimum, proficiency on challenging state academic achievement standards and assessments. By 2014, 100% of all students must show proficiency in communication arts. According to the researchers of this study, this mandate seems to be an unreachable and unrealistic goal for all public schools. In conclusion, Wong and Nicotera (2007) stated it best: "The NCLB system

provides one interpretation of how to evaluate schools. Unfortunately, the NCLB system does not currently have the capacity to monitor the provision of equal learning opportunities for all schools as it is based on a single indicator of student success: a test score" (p. 32).

Evaluation Tools

The next topic of this literature review was existing assessment and evaluation tools to test the hypothesis and research question. According to the NIFL (2007), "effective instruction depends on sound instructional decision-making, which, in turn, depends on reliable data regarding students' strengths, weaknesses, and progress in learning content and developing literacy" (p. 27). Three types of assessments can be used to diagnose student progress with reading skills and strategies: summative, formative, and diagnostic.

Summative assessments are among the most utilized when assessing student achievement. Examples of summative assessments include quizzes, end-of-chapter tests, district and statewide tests, and standardized measures of reading. Two types of summative assessments identified in this review include the NAEP and the MAP.

According to Donahue, Grigg, and Lee (2007), "NAEP is an integral part of the nation's evaluation of the condition and progress of education" (p. 1). The NAEP was first used to guide development of the 1992 assessment and has continued to assess every two-three years thereafter. The NAEP collects and reports information on student performance at the national, state, and local levels. In the 2007 NAEP reading assessment, a nationally representative sample of 350,000 fourth and eighth grade students participated. The results are reported on a 0-500 scale. The NAEP reading

assessment measures reading comprehension by asking students to read passages and answer questions about what they have read. In this way, "it collects valuable information on the progress of literacy and provides a broad picture of what our nation's students are able to read and understand at specific grade levels" (Donahue, Grigg, & Lee, 2007, p. 4).

In response to the *Outstanding School Act of 1993*, Senate Bill 380, the State Board of Education directed the Missouri Department of Elementary and Secondary Education (MO 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 those academic standards" (p. 4). In order to assess student progress, the Department worked with teachers, administrators, parents, and business professionals to create the components of an effective assessment tool. In the Assessment Standards for Missouri Public Schools Report (June 1998), Missouri's State Board of Education issued the purposes of an assessment program: (a) improving students' acquisition of important knowledge, skills, and competencies; (b) monitoring the performance of Missouri's educational system; (c) empowering students and their families to improve their educational prospects; and (d) supporting the teaching and learning process. In addition, MO DESE (1998) stated, "the effectiveness of an assessment program depends on the wise choice of assessment methods, appropriate administration procedures and accurate interpretation of results" (p. 2). MAP was developed in order to assess student achievement and proficiency in the subjects of mathematics, science, communication arts, and social studies at a statewide level. These subject area assessments consist of three types of test items: multiple choice, constructed response, and performance events. In addition, MAP results should be evaluated and

utilized to commend and strengthen a district's educational program. Finally, summative assessments provide vital information about adolescent reading and subject-area achievements.

Another form of summative assessment is the Gates-MacGinitie Reading Test. Developed in 2000, this type of assessment instrument has been used in many districts to determine eligibility for summer school as well as display student growth in reading from year to year. The basic premise of this assessment is that it is useful for teachers and schools to know the general level of reading achievement of individual students throughout their entire school career. The Gates-MacGinitie Reading Test has three strengths. First, the assessment is very easy to administer. It is given in a whole group setting and can be administered any time during the school year to monitor and evaluate growth. Second, testing time is approximately 55 minutes (20 minutes for vocabulary and 35 minutes for comprehension). Third, scoring is flexible. It can be done locally with a machine scan or sent out to a publishing company for scoring. The data generated from the assessment includes raw scores, percentiles, grade level equivalent, scale scores, and Stanine scores. Although testing time is short and group administration is easy, the assessment instrument does have one drawback. The Gates-McGinite Reading Test only evaluates a student's reading vocabulary and comprehension. The data generated does not provide information on individual student's strengths and weaknesses. Unfortunately, this information is often vital when strategically placing students in small groups. According to the NIFL (2007),

> Although summative assessments provide important data needed to assess the overall academic achievement of students in a class, school, district, or state, both

> formative and diagnostic assessments provide data that can help classroom teachers make more informed decisions about which readers can successfully undertake which activities with which texts. (p. 27)

Although not necessarily the most effective, teacher questioning is considered the most common form of formative assessment. Teachers often check student comprehension by asking questions at the end of a reading selection. The NIFL (2007) pointed out that although comprehension checks may help a teacher assess what students have understood, they do not pinpoint the reading skills and strategies students use to help them understand the assigned reading. In other words, teachers should not rely only on questioning to assess comprehension. Performance assessments are another example of formative assessments. According to the NIFL (2007), performance assessments simulate tasks that are deemed important to higher education and usually use prompts that are developed so that student responses involve multifaceted tasks. Such assessments are also given on the MAP assessment. The advantage of giving performance assessments includes helping students reflect and understand their own assessment efforts. Unfortunately, like questioning, performance assessments do not help teachers understand students' strengths and weaknesses in reading skills and reading strategies.

Unlike summative and formative assessments, diagnostic assessments provide teachers with the understanding of individual reading abilities. This type of assessment involves measuring, assessing, and evaluating students' strengths and weaknesses and identifies "…appropriate content and learning activities that will facilitate the student's reading development" (NIFL, 2007, p. 29).

> A high quality, reliable, and valid assessment should (1) assess reading performance, strategies, and skills; (2) evaluate the student's performance, strategies, and skills in relation to academic expectations; (3) evaluate texts in relation to the student's literacy and content learning needs; (4) assess and evaluate the student's ability to learn and the optimal conditions for that learning to occur; and (5) design instruction that integrates information learned in steps one through four and that results in content and literacy development. (NIFL, 2007, p. 30)

It is unfortunate that currently few such instruments exist for diagnosing adolescents' reading ability. The Developmental Reading Assessment (DRA) is an instrument that not only determines a student's reading level, it also diagnoses the following: (a) student's rate of reading, (b) student's strengths and weaknesses in comprehension, (c) student's listening ability, (d) student's ability to use sight vocabulary, (e) phonic analysis, (f) context clues, and (g) structural analysis. According to Natalie Rathvon's Developmental Reading Assessment Review (2006),

> additional purposes include identifying students' reading strengths and weaknesses, planning instruction, monitoring reading growth, and…preparing students to meet classroom and testing expectations and providing information to stakeholders regarding reading achievement levels. (p. 1)

In addition, MRI (2007) believes "DRA is used to monitor and document changes in student achievement within a year and across the middle grades. It can also be used more frequently with struggling readers to assure continued progress" (MRI, 2007 Manual, p. 25). Rathvon (2006) pointed out the two basic components of the DRA4-8

assessment: a student reading survey and a set of leveled books with a teacher guide and student booklet. When administering the assessment, the student first completes the reading survey. Once finished, the student has a one-on-one conference with the teacher, which includes an oral reading record and a prediction component. During the oral reading record portion of the assessment, the teacher utilizes a guide to record nine categories of reading behavior, including six types of errors: (a) substitutions, (b) omissions, (c) insertions, (d) reversals, (e) incorrectly sounded out words, and (f) words told by the teacher. In the last portion of the assessment, the students read a designated book independently and respond in writing to the text. There are no time constraints for the DRA4-8; however, the teacher guides estimate 10 to 15 minutes for the student reading survey, 5 to 10 minutes for the one-on-one conference, and 30 to 45 minutes for the independent student work. Like all assessments, the DRA has strengths and weaknesses. According to MRI (2007), the DRA exhibits four strengths:

1. Monitor student growth on a variety of crucial skills and strategies that successful readers utilize,
2. Help teachers diagnose student needs and plan for timely instruction,
3. Prepares students to be successful at meeting today's classroom and testing expectations, and
4. Support teachers and school districts in keeping parents and other stakeholders informed about the level of student achievement. (MRI, 2007, p. 25)

Weaknesses of the DRA have become evident. For instance, Rathvon points out that the text selection is based on "teacher judgment rather than on an objective, standardized routing task" (p. 4). Another concern voiced by Rathvon regarding administration

procedures involves the "vague guidelines for word supply during the oral reading component" (p. 4). As mentioned above, no assessment is without error; however, the DRA does provide teachers with information regarding students' strengths and weaknesses on particular reading strategies.

Summary

Chapter two has reviewed the literature in the following areas: (a) reading theory, (b) national and state middle school reading scores; (c) reading initiatives; (d) reading components; (e) professional development; (f) national mandates; and (g) evaluation tools. The information provided by the literature within this search was an essential element when designing this project. The review provided useful information that was analyzed to determine the most effective avenue to increase students' achievement in the area of reading. Reading is a skill that offers knowledge that prepares students for a world composed of letters, words, and sentences. Developing good reading skills and strategies improves students' ability to comprehend concepts and ideas. However, without quality professional development and teacher preparation and instruction, this improvement in reading ability seems unlikely. The methodology that seemed to best fit the study was the relationship between MRI implementation and student achievement scores on MAP in communication arts. The researchers will also examine the impact of teacher attitudes and perceptions of MRI on student achievement. Both of these areas will be discussed in Chapter Three.

Chapter Three – Methodology

This causal-comparative study was designed to determine if a relationship existed between MRI implementation and student achievement scores on the communication arts MAP test at North Middle School. The study further examined whether this relationship differed among the subgroups (Total School, Black, White, Free/Reduced Lunch, and Individual Education Plan) of NCLB, as identified by MO DESE. Chapter Three describes the methodology and procedures used in this study. This chapter contains sections that address the research design including the participants, setting, validity of the study, and procedures including the instruments used to measure the data. The attitudes and perceptions of teachers regarding the effectiveness of MRI implementation were also analyzed by the researchers.

Design

A comprehensive approach to literacy coupled with effective quality professional development is key to student achievement in reading. This study evaluated the impact of Missouri Reading Initiative (MRI) on student achievement (independent variable) as measured by the communication arts MAP test scores (dependent variable). MAP test data from 2007, the control group, was compared to the data generated from 2008, the scores from students having the benefit of instructional practice influenced by MRI. Analysis of this relationship was conducted for the overall student population involved in MRI instruction. The null hypothesis was that a relationship between the communication arts scores and the implementation of MRI does not exist. The alternate hypothesis was that MRI implementation would result in a difference in communication arts MAP scores.

This study was measured quantitatively and qualitatively. As a quantitative measure, the researchers collected MAP score results from 2007 and compared them to MAP test results from 2008. Scores were disaggregated by subgroups outlined by NCLB, which are the same subgroups reportable by MAP. Schools are deemed to have made adequate yearly progress if the percentage of students scoring proficient or advanced meets or exceeds a proficiency target established each year (MO DESE, 2008b). In addition to AYP results, Item Benchmark Descriptions (IBD), developed by MO DESE, were analyzed from one year to the next. These descriptors break down achievement not by individual student but in aggregate for each goal within MO DESE's process standards being assessed. Analysis of IBDs allowed the researchers to identify specific student strengths and weaknesses in the communication arts content area (MO DESE, 2008b).

As a qualitative measure, the researchers utilized the MRI End-of-the-Year Questionnaire and analyzed those results in aggregate and disaggregated formats without identifying individual participants. The questionnaire was given to 18 middle school communication arts and reading teachers at the end of the first year of MRI implementation. The questionnaire identified teachers only by subject area—communication arts or reading. The questionnaire gathered information about MRI in the following categories: (a) delivery and format, (b) process, (c) student achievement, and (d) overall rating. A combination of question formats was used including Likert Scales and open ended questions. The frequency of teacher responses taken from Likert Scales were tallied and recorded. In addition, the researchers measured teacher attitudes and perceptions by viewing the responses to the open ended questions and pulling common

themes. These common themes included comments directed toward the strengths and weaknesses of the program and the overall effectiveness of the professional development training. Information from this report was not listed for public viewing.

Participants. Fort Zumwalt School District is located in O'Fallon, Missouri, in Saint Charles County. O'Fallon, Missouri consists of 85, 000 residents in 125 square miles. The district is comprised of 24 schools: 15 elementary, 4 middle, and 4 high schools. At the time of this writing, the enrollment for the 2008 school year was 18,776 students. The 2000 census for Fort Zumwalt reported a 59.7% increase in population from 1990 to 2000. According to the *Missouri Census Data Center* (2000), the average family household income is $63,232. The average family housing value is $135,212. The ethnicity of the Fort Zumwalt School District includes 1.8% Asian, 5.8% African American, 2.2% Hispanic, 0.2 % Indian, and 90.1% White. Within the district, 12.9% of the student population is eligible for the free or reduced lunch price program. A total of 1,305 certified staff is employed in the district. In summary, given the above data, the Fort Zumwalt School District is the largest school district in St. Charles County, among the top six largest districts in the state of Missouri, and is more demographically diverse each year (MO DESE, 2007).

North Middle School is located in the northern part of the Fort Zumwalt School District boundaries. The current student population enrolled is 1,129. According to MO DESE (2007), the ethnicity of the North Middle School student population is comprised of 1.2% Asian, 6.3% African American, 1.9% Hispanic, 0.01% Indian, and 90.6% White. Students eligible for the Free/Reduced lunch price program are 16.4%. The number of disciplinary referrals in 2007 was 2,980, followed by 2,782 in 2008 — a net decrease of

198. According to MO DESE, 2007, compared to the rest of the Fort Zumwalt School District, North Middle's demographics are consistent with the exception of the Free/Reduced lunch population, which appears relatively higher, but still much lower than the state percentage (see Table 2).

Table 2

Comparison of Percentage of Ethnicity in Fort Zumwalt and Missouri

Subgroups	North Middle	Fort Zumwalt	Missouri
Asian	1.2	1.8	1.7
Black	6.3	5.8	18.1
Hispanic	1.9	2.2	3.4
Indian	0.1	0.2	0.4
White	90.6	90.1	76.4
Free/Reduced Lunch	16.4	12.9	41.1

Note. From MO DESE (2007)

In the 2008 school year, one head principal and three assistant principals supervised 85 certified staff. The ratio of students per teacher was 21:1, and students per administrator was 282:1. The eighteen teachers directly involved with MRI implementation were as follows: (a) three communication arts, three reading, and one special education in sixth grade; (b) three communication arts and two reading in seventh grade; and (c) three communication arts and three reading in 8th grade. Among these 18 teachers, 67% have obtained higher education degrees. Over 50% of the communication arts and reading teachers have 11 to 20 years experience. The lowest number of years of experience is in the six to ten years category. The average number of years experience is 12 (see Figure 2) (Fort Zumwalt School District, 2008b).

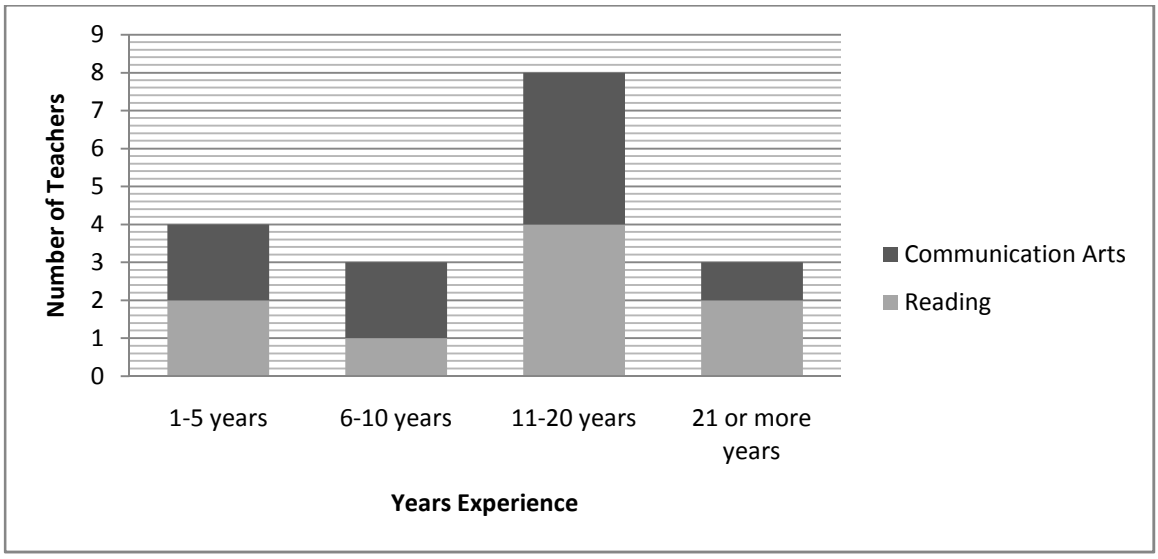

*Figure 2***.** Years of Teaching Experience at North Middle School

Setting. The research for this study was conducted at North Middle School in the Fort Zumwalt School District in O'Fallon, Missouri. The MAP assessment was given to students in a classroom setting. At one time, North Middle School housed the entire Fort Zumwalt School student population, grades one through eight. Currently, the building is made up of three major sections, or wings. The first wing was built in 1952 as an elementary school and was the only school building in the district at the time. From 1952 to 1960 high school students attended either the Wentzville or St. Charles School District. An additional wing was constructed in 1960, as the first ninth through twelfth grade high school in Fort Zumwalt. To accommodate growth in student population, a larger addition, which included two wings, the library, the guidance office, and two small gymnasiums, was built in 1967. The buildings were used for split sessions for a period of years when high school occupied the morning and junior high occupied the afternoon. Until 1982, the three wings were separate entities. However, the 1982 renovation connected the three wings with corridors. The main office, used to house the head principal's office, was also

built during this renovation, as well as a new library. In 1987, the name of the building, Central Junior High, was officially changed to North Middle School with the addition of sixth grade and the loss of ninth grade. Due to the rapid growth of the district, other minor renovations, repairs, and modernizations have been completed over the intervening years (Fort Zumwalt School District, 2008a).

Validity. To ensure that test results were valid, reliable, and equitable, the MAP Assessment was administered with the same directions and time limits in every classroom. The assessments were also scored by the state scoring team, using the same scoring criteria. Students were not allowed to use any materials that related to the content and processes of the assessment, and all classroom maps, charts, and other materials were taken out of students' view.

External validity. Due to the number of students and length of time involved in the study, it is not reasonable to believe results could be generalized to other school districts unless they were consisted of similar demographics.

Procedures

Data collected for this study were compiled utilizing the MO DESE database of student testing information from the MAP. Students were de-identified for this study by removing personal names and state identification numbers from test results data. In addition, students were not recruited since the source of information used in this study was derived directly from the DESE website. Data sets were collected from the MAP 2007 concerning Fort Zumwalt North Middle School communication arts test scores. This query generated a data set containing MAP scores for communication arts, specifically the number and percentage of students scoring proficient or advanced, and

communication arts IBD achievement scores. Within the scores of the student population being observed, students who were not MAP tested or had not received MRI instruction were excluded from this study. MRI was implemented in reading and communication arts classrooms for the 2008 school year. Results from communication arts test scores were collected from the MAP 2008. These results were compared to data from MAP 2007 test scores. Test score data was analyzed and reported in aggregate and disaggregated formats. The percentage of students scoring proficient or advanced is reported through MO DESE by subgroup as a whole school only. Individual student scale scores were used to generate the same information by grade level. The data for each IBD identifies the success of the student population on each process skill being assessed and is reported from MO DESE by test item. Therefore, for each process skill, the average correct score was established by grade level and a weighted average was generated to get a school total. A z test for proportions was used for both the AYP and IBD data to measure for statistical differences in the results from the treatment and control groups.

Instruments. The MAP standardized test is one of several educational reforms mandated by the Outstanding Schools Act of 1993. As a result of the Act, "the State Board of Education directed the MO DESE to identify knowledge, skills, and competencies that students should acquire by the time they complete high school" (MO DESE, 1998, p. 4). While working with teachers, school administrators, and business professionals, MO DESE developed an assessment tool that evaluated student proficiencies and progress toward academic standards and expectations. The MAP included the three following types of items: selected-response (multiple choice), constructed response, and performance events. Selected response items present students

with a question followed by three, four, or five response options. Constructed response items require students to provide an appropriate response by showing their work. Finally, performance events require students to work through more complicated items dealing with real-life situations. With these types of events, there is often more than one way to get a correct answer (MO DESE, 1998).

All eighteen reading and communication arts teachers were surveyed to identify teacher attitudes and perceptions about MRI implementation, specifically related to teacher buy-in and perceived effectiveness of the program. MRI is a comprehensive approach to professional development in all aspects of literacy. The MRI End-of-the-Year Questionnaire was given to teachers at the end of the first year of MRI implementation. The questionnaire, designed by MRI, gathered responses from the instructional staff with regards to (a) delivery and format, (b) process, (c) student achievement, and (d) overall rating. The questionnaires were given in paper and pencil format, completely confidential, and administered and collected by the MRI trainer during the last training session. The responses were analyzed and summarized by the MRI trainer, and the results were reported to the principal. This summary of teacher responses to MRI is presented in Chapter Four.

Summary

Chapter Three presented (a) the research design of this study, (b) the population studied, (c) the design and procedures used for data collection, and (d) the statistical treatment used to test the data, which included the use of the *z* test for proportions to analyze the differences between treatment and control group MAP data. The study used quantitative procedures to determine if a relationship existed between MRI

implementation and student test scores on standardized tests. In addition, the study used qualitative procedures to determine teacher attitudes and perceptions toward MRI. The data results will be provided in Chapter Four. Chapter Five will present a discussion of the findings, conclusions, and recommendations for further research.

Chapter Four – Results

The purpose of Chapter Four is to present the data collected relative to the hypothesis. The hypothesis was that the implementation of MRI will indicate a difference in student achievement as evidenced by a statistically significant increase in communication arts scores on the MAP test. The null hypothesis stated that no difference would exist among the scores of the treatment and control groups. In addition to MAP test data, the End-of-the-Year Questionnaire was used to gather teacher attitudes and perceptions of MRI effectiveness on student achievement. There were two distinct data sets used for the purposes of this study: (a) MAP test results at Fort Zumwalt North Middle School and (b) the End-of-the-Year Questionnaire provided by MRI. Included in this chapter are (a) a description of the sample population participating in MAP testing, b) MAP AYP data disaggregated by grade level and MAP subgroup, (c) IBD analyses, and (d) teacher attitudes and perceptions of the effectiveness of MRI implementation.

Sample Population Participating in MAP Testing

A total of 1,121 scores were used from the 2007 MAP test, and 1,115 scores were used from the 2008 MAP test. The only students not included in the study were those who were not MAP tested or those who received an entirely different test, the alternate assessment. The MAP test results are reported from MO DESE according to subgroups. North Middle School has five distinct subgroups for reporting purposes: (a) Total School, (b) Black, (c) White, (d) students receiving Free/Reduced Lunch (F/R Lunch), and (e) students with an IEP. The number and percentage of students in each subgroup are illustrated in Table 3.

Table 3

Number and Percentage of Student Population in Each Subgroup at North Middle School

	2007 School Year		2008 School Year	
	# students	% of population	# students	% of population
Total School	1121	100.0%	1115	100.0%
Black	69	6.2%	84	7.5%
White	1019	90.9%	994	89.2%
F/R Lunch	187	16.7%	184	16.5%
IEP	186	16.6%	211	18.9%

Note. From MO DESE, Web Applications Section, 2009.

The data in Table 3 shows that the population remained relatively stable during the two years of the study with no dramatic changes among the subgroups.

MAP Adequate Yearly Progress Disaggregated Data

Each year MO DESE reports MAP data in several formats. The first data available to schools and districts is relative to AYP. Schools achieve AYP based on meeting an annual proficiency target. To meet this annual proficiency target for a given subject test, a pre-determined percentage of students in each subgroup must score proficient or advanced on the MAP test in that subject area (MO DESE, 2008b). Therefore, the percentage of students earning proficient or advanced becomes an important piece of information when analyzing MAP results. Figure 3 illustrates an overview of the percentage of students earning proficient or advanced in each subgroup for both years involved in the study. As indicated by the graph, every subgroup experienced gains in the percentage of students earning proficient or advanced scores.

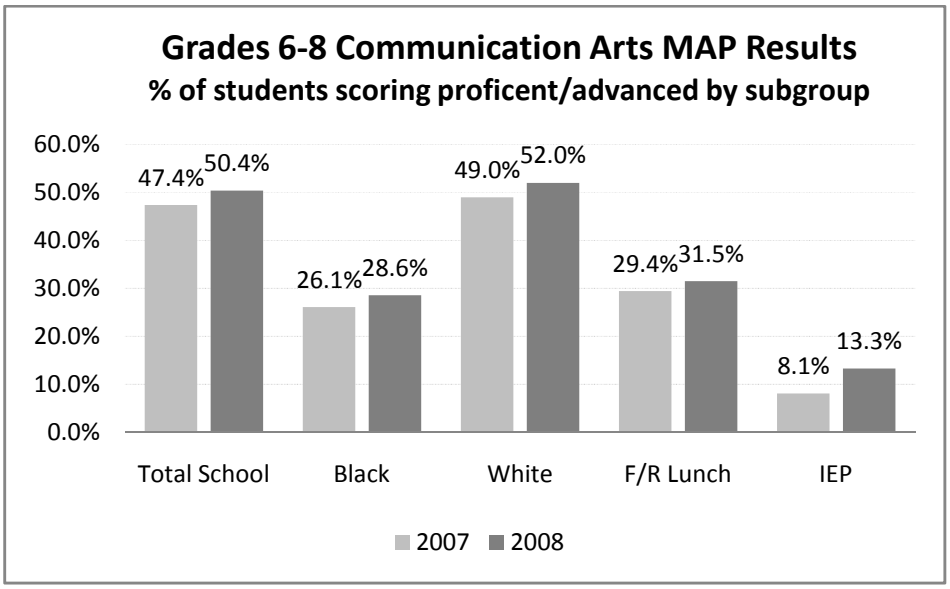

*Figure 3***.** Percentage of Students Scoring Proficient or Advanced by Subgroup--Whole School (MO DESE, 2009)

In addition to reviewing AYP results for the entire student population, a similar comparison was done by grade level. The AYP results for sixth grade (see Figure 4) shows gains overall and in all subgroups. Sixth grade students outperformed the total school scores slightly in the Black and White subgroups and by more than 5% each in the F/R Lunch and IEP subgroups.

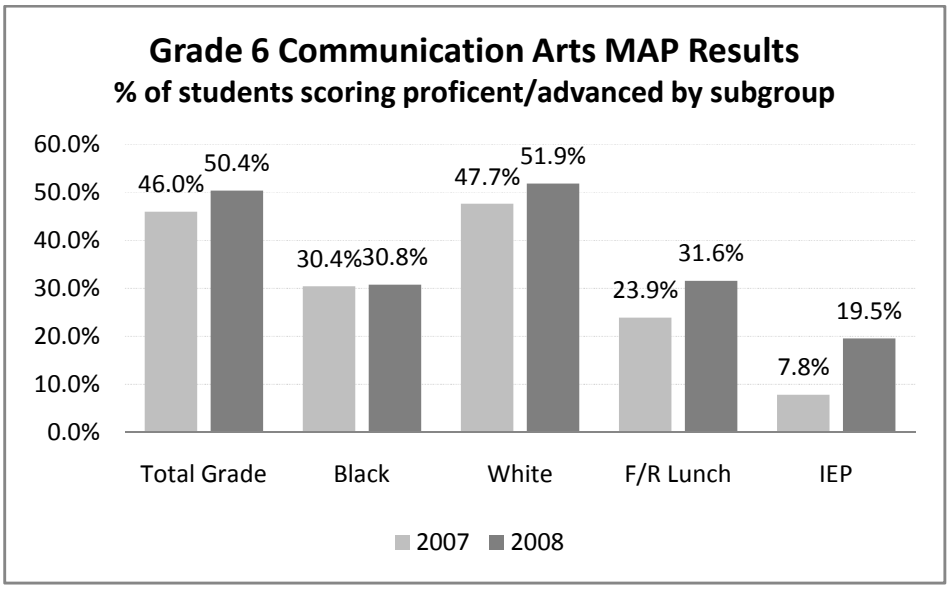

Figure 4. Percentage of Students Scoring Proficient or Advanced by Subgroup--Grade 6 (MO DESE, 2009)

The seventh grade showed a small gain overall, but the subgroup results raised concerns about student performance (see Figure 5). The White subgroup gained more than 2%, and the Black subgroup increased by nearly 12%. However, the IEP subgroup lost more than 4%, and the F/R Lunch subgroup dropped by nearly 12%.

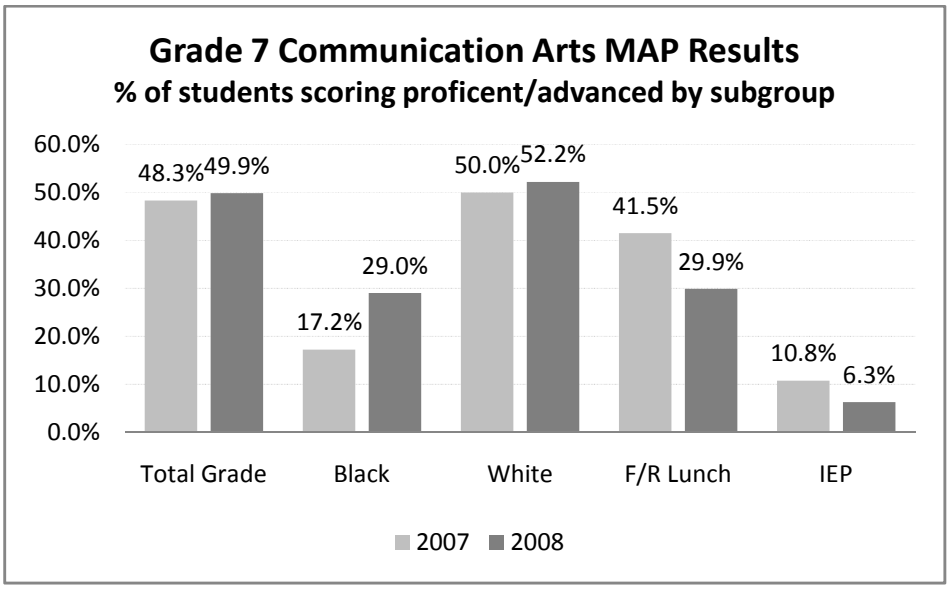

Figure 5. Percentage of Students Scoring Proficient or Advanced by Subgroup--Grade 7 (MO DESE, 2009)

In eighth grade, the results were again mixed. Figure 6 illustrates that the White subgroup made a small gain, and the F/R Lunch and IEP subgroups posted much larger gains. However, the Black subgroup experienced nearly a 10% decrease from 2007 to 2008. Overall, the eighth grade AYP results showed a gain of more than 3%.

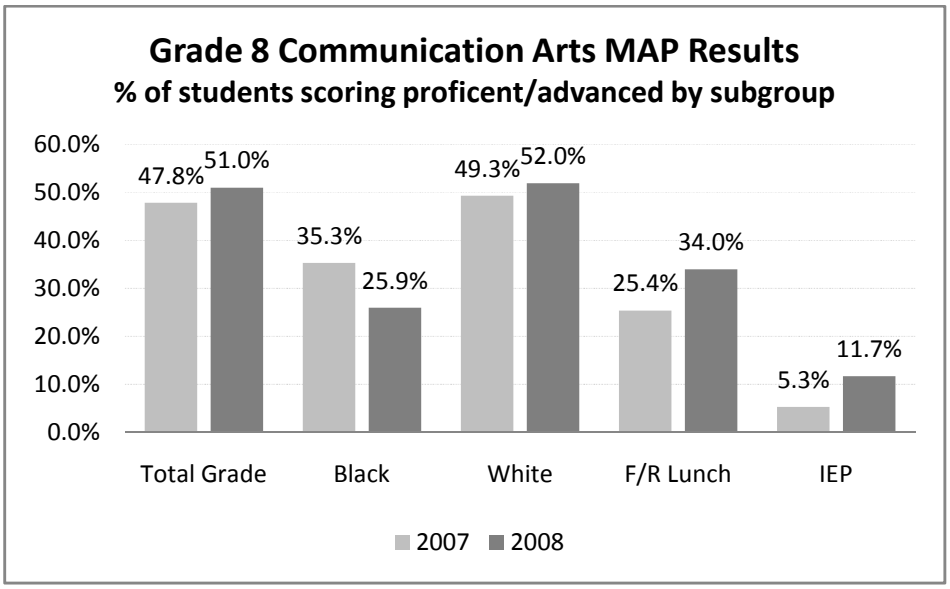

Figure 6. Percentage of Students Scoring Proficient or Advanced by Subgroup--Grade 8 (MO DESE, 2009)

After gathering, organizing, and reviewing the data, a statistical analysis was done to see if the gains and losses in each subgroup, both school-wide and by grade level, were statistically significant. In each subgroup, the percentage of students scoring proficient or advanced is considered a population proportion. Therefore, a *z* test was used for testing the difference between proportions. The null hypothesis was that the proportion of students scoring proficient or advanced of the treatment group, the 2008 data set, is equal to the proportion of students scoring proficient or advanced of the control group, the 2007 data set. Conversely, the alternative hypothesis stated that the proportion of students scoring proficient or advanced in the treatment group is not equal to the proportion of students scoring proficient or advanced in the control group. Otherwise stated:

H_0: $P_{2008} = P_{2007}$

H_1: $P_{2008} > P_{2007}$

Assuming a 95% confidence interval, the *z* score derived from each test was compared to a critical value of 1.645. Hence, if $z < 1.645$, then the result was not statistically significant and no difference between the data sets could be concluded. However, if $1.645 < z$, then the difference in the score was deemed significant. Table 4 shows the *z* scores derived from the testing of the whole school, followed by *z* scores from each grade level.

Table 4

Z Scores Generated from AYP Analysis

	z scores			
Subgroup	Whole School	6th grade	7th grade	8th grade
Total	1.433	1.211	0.424	0.862
Black	0.342	0.026	1.079	-0.663
White	1.364	1.107	0.563	0.680
F/R Lunch	0.442	0.958	-1.371	1.017
IEP	1.667*	2.019*	-0.919	1.240

The *z* scores illustrate that two scores surpassed the critical value of 1.645, the IEP subgroup for sixth grade with a *z* score of 2.019 and the IEP subgroup for the whole school with a *z* score of 1.667. Therefore, the null hypothesis was rejected for those two tests and the gain was concluded to be statistically significant. In each of the other tests the null hypothesis was not rejected.

Three subgroups experienced a decrease in scores. The eighth grade Black subgroup had a *z* score of -0.663, and the seventh grade IEP subgroup had a z score of -0.919. The lowest *z* score, -1.371, was from the F/R Lunch subgroup in seventh grade. In summary, the graphs of AYP results show more gains than losses. In addition, some of the gains and losses appear to be dramatic. However, only two comparisons proved to be statistically significant following *z* test analysis.

Item Benchmark Description Analysis

Another report of MAP data available through MO DESE provides the average percentage of points earned with IBD. In essence, this report provides feedback on every test item. Specifically, the process standard, grade level expectation, standard description, depth of knowledge, and question type are provided (MO DESE, 2008b). Most importantly, the percentage of points earned by all students tested is reported for each item. This information becomes valuable as it is a good way to determine weaknesses in specific skills across a grade level or school. For purposes of this study, the scores were collected by process standards, referred to by MO DESE as goals. These goals reflect specific skills students are able to perform and the skills are consistent across grade levels. For example, Goal 2.2 reflects the same skill in sixth, seventh, and eighth grades. Test data from both 2007 and 2008 illustrate that there were nine goals that were tested both years. The nine goals are shown in Table 5.

Table 5

DESE Goals and Standards Tested on MAP

Goal Number	Process Standard
1.5	Students will demonstrate within and integrate across all content areas the ability to comprehend and evaluate written, visual and oral presentations and works.
1.6	Students will demonstrate within and integrate across all content areas the ability to discover and evaluate patterns and relationships in information, ideas and structures.
1.7	Students will demonstrate within and integrate across all content areas the ability to evaluate the accuracy of information and the reliability of its sources.
1.8	Students will demonstrate within and integrate across all content areas the ability to organize data, information and ideas into useful forms (including charts, graphs, outlines) for analysis and presentation.
2.1	Students will demonstrate within and integrate across all content areas the ability to plan and make written, oral and visual presentations for a variety of purposes and audiences.
2.2	Students will demonstrate within and integrate across all content areas the ability to review and revise communications to improve accuracy and clarity.
2.4	Students will demonstrate within and integrate across all content areas the ability to present perceptions and ideas regarding works of the arts, humanities, and sciences.
3.1	Students will demonstrate within and integrate across all content areas the ability to identify problems and define their scope and sequence.
3.5	Students will demonstrate within and integrate across all content areas the ability to reason inductively from a set of specific facts and deductively from general premises.

Note. From MO DESE (2008).

Since the scores are provided as percentage of points earned, again the *z* test for population proportions was used. However, given that the results are reported by test item and percent correct by grade level, the data needed to be combined to an overall score by goal. An average score was generated by grade level. Then a weighted average was computed due to the fact that the number of students per grade level was different. This weighted average was found by multiplying the number of students in each grade level by

the average score of the grade level. The sum of those products was then divided by the total number of students tested. Tables 6-14 present data collected for each goal; specifically, the number of students and average score by grade level are presented, followed by the calculated weighted average and presented so that N, the number of students tested, and P, the average score, are displayed for each goal. The resulting N and P data were later used to convert data into proportions which were used to calculate *z* scores and determine statistical significance with regard to change. It should be noted that a value of zero indicates that the goal was not assessed.

Table 6

Goal 1.5 – Number of Students Tested and Average Score by Year with Weighted Average

Goal	Grade	2007		2008	
1.5	6	374	273.02	0	0
	7	356	234.96	385	286.44
	8	391	330.40	347	275.52
		N	P	N	P
	Total	1121	280.95	732	281.26

Table 7

Goal 1.6 – Number of Students Tested and Average Score by Year with Weighted Average

Goal	Grade	2007		2008	
1.6	6	374	276.47	383	268.50
	7	356	239.76	385	266.93
	8	391	314.85	347	242.41
		N	P	N	P
	Total	1121	278.20	1115	259.84

Table 8

Goal 1.7 – Number of Students Tested and Average Score by Year with Weighted Average

Goal	Grade	2007		2008	
1.7	6	0	0	0	0
	7	356	117.48	385	288.75
	8	391	218.96	0	0
		N	P	N	P
	Total	747	170.60	385	288.75

Table 9

Goal 1.8 – Number of Students Tested and Average Score by Year with Weighted Average

Goal	Grade	2007		2008	
1.8	6	374	250.58	383	283.42
	7	356	309.72	385	304.15
	8	0	0	347	251.58
		N	P	N	P
	Total	730	279.42	1115	280.67

Table 10

Goal 2.1 – Number of Students Tested and Average Score by Year with Weighted Average

Goal	Grade	2007		2008	
2.1	6	0	0	0	0
	7	356	247.09	385	273.99
	8	391	238.51	347	305.36
		N	P	N	P
	Total	747	242.60	732	288.86

Table 11

Goal 2.2 – Number of Students Tested and Average Score by Year with Weighted Average

Goal	Grade	2007		2008	
2.2	6	374	257.26	383	270.75
	7	356	230.96	385	271.76
	8	391	211.40	347	214.45
		N	P	N	P
	Total	1121	232.91	1115	253.58

Table 12

Goal 2.4 – Number of Students Tested and Average Score by Year with Weighted Average

Goal	Grade	2007		2008	
2.4	6	374	205.08	383	260.44
	7	0	0	385	215.12
	8	391	277.61	347	180.44
		N	P	N	P
	Total	765	242.41	1115	219.89

Table 13

Goal 3.1 – Number of Students Tested and Average Score by Year with Weighted Average

Goal	Grade	2007		2008	
3.1	6	374	268.81	383	235.55
	7	356	210.04	385	157.85
	8	391	351.90	347	218.61
		N	P	N	P
	Total	1121	279.13	1115	203.45

Table 14

Goal 3.5 – Number of Students Tested and Average Score by Year with Weighted Average

Goal	Grade	2007		2008	
3.5	6	374	261.25	383	268.31
	7	356	256.08	385	265.78
	8	391	253.17	347	201.95
		N	P	N	P
	Total	1121	256.79	1115	246.79

Table 15 illustrates, for 2007 and 2008, N, the number of students assessed, and P, the average score earned, for each goal. The final column displays the resulting *z* score after performing the statistical test.

Table 15

Number and Points Earned by Goal with Z Score Statistic

Goal	2008		2007		*z* score
	N	P	N	P	
1.5	732	281.26	1121	280.95	0.024
1.6	1115	259.84	1121	278.20	-1.616
1.7	385	288.75	747	170.60	8.956*
1.8	1115	280.67	730	279.42	0.094
2.1	732	288.86	1121	161.66	3.357*
2.2	1115	253.58	1121	232.91	2.013*
2.4	1115	219.89	1121	165.25	-2.098
3.1	1115	203.45	1121	279.13	-7.428
3.5	1115	246.79	1121	256.79	-0.941

The null hypothesis stated that no difference would exist between the 2007 and 2008 scores. The alternate hypothesis stated that comparing the treatment group, 2008, scores to the control group, 2007, scores would yield a significant difference. Otherwise stated:

H_0: $P_{2008} = P_{2007}$

H_1: $P_{2008} > P_{2007}$

At a 95% confidence interval and using +/- 1.645 for the confidence value, four *z* scores proved to be statistically different. Goals 1.7, 2.1, and 2.2 each posted statistically significant gains with *z* scores of 8.956, 3.357, and 2.013 respectively. In addition, Goal 3.1 showed a sizeable loss with a *z* score of -7.428. Goals 1.6, 2.4, and 3.5 also showed losses with z scores of -1.616, -2.098, and -0.941, respectively. Therefore, the null hypothesis was rejected for the three goals that showed statistically significant gains and accepted for all other goals. Overall, the review of IBD resulted in data that provided statistical significance to the study.

Teacher Attitudes and Perceptions of the Effectiveness of MRI Implementation

In order to gain an understanding of teacher perceptions of the effectiveness of MRI, the researchers utilized MRI's End-of-the-Year Questionnaire. The questionnaire was given to 18 certified communication arts and reading teachers at Fort Zumwalt North Middle. All 18 teachers completed and submitted responses to the questionnaire.

The questionnaire was comprised of four sections: (a) delivery and format, (b) process, (c) student achievement, and (d) overall program rating. Using a Likert scale, teachers were asked to rate the effectiveness of MRI according to the four sections. In addition, teachers had the opportunity to explain their rating choice by responding to open-ended questions. The remaining questions on the End-of-the-Year Questionnaire were designed to elicit feedback on the effectiveness of MRI on student achievement. The following data is described as it relates to the research question. *Research Question:*

Is there a relationship between teacher perceptions of MRI effectiveness and actual student achievement results?

Section one of the End-of-the-Year Questionnaire addressed the delivery and format of MRI. Using the Likert scale, teachers had the choice to "Agree" or "Disagree" with the following statement: *The information and classroom strategies taught by MRI are best delivered in an on-site, on-going professional development format as opposed to workshops, conferences, and one-day, in-service programs.* The results are shown in Table 16.

Table 16

Delivery and Format of MRI Program

Delivery and Format	Strongly Agree				Strongly Disagree
	5	4	3	2	1
The information/classroom strategies taught by MRI are best delivered in an on-site, on-going professional development format as opposed to workshops or conferences.	13	3	1	0	1
Percentage of Teachers	72%	17%	6%	0%	6%

According to Table 16, 72% of teachers strongly agreed that the delivery and format of MRI was best delivered in an on-site, on-going professional development format. Only one of the 18 teachers felt the delivery of the program should be taught in the format of one-day workshops or conference in-services. In addition, teachers were provided the opportunity to list the strengths and weaknesses of the MRI delivery format. Of the 18 teachers, 16 provided comments about the strengths and weaknesses of the program. Strengths of the program included the amount of time given for teacher collaboration and the effectiveness of current research practices. Weaknesses of MRI involved the lack of

time given with the MRI trainer, lack of one-on-one feedback given from the trainer, the combination of reading and communication arts teacher collaboration, and the lack of internet accessibility to MRI strategies and information. In conclusion, the data collected displayed a high level of teacher satisfaction concerning the delivery and format of MRI.

Another important part of professional development programs is that the participants are motivated and feel as if they are part of the program. The second section of the End-of-the-Year Questionnaire gathered teacher perceptions on the amount of teacher involvement in the process of the program. Teachers ranked their participation in the initial implementation and development of MRI from highest to lowest, with highest ranked as "5" and lowest ranked as "1" (See Table 17).

Table 17

Process of MRI

Process	Very Much				Not at all
	5	4	3	2	1
Do you feel as though you had a say in setting up MRI?	4	2	2	3	7
Do you feel as though you have a voice in how MRI develops?	3	4	5	3	3

In Table 17, the results of the first question: *Do you feel as though you had a say in setting up MRI?,* show that seven out of 18 teachers (39%) felt they were not at all involved in the process of MRI. Only four teachers, 22%, marked a "5" on the Likert scale when expressing their involvement in the MRI implementation. The results of the second question in the process section: Do *you feel as though you have a voice in how MRI develops?*, reveal that seven teachers (39%) felt they had a voice in the development of MRI. In summary, teachers did not feel they had a voice in the initial implementation

of MRI but felt more involved in the process of MRI development once the program began.

In the third section of the End-of-the-Year Questionnaire, teachers were asked to rank MRI in reference to student achievement. Teachers had to mark if the program affected student achievement "A great deal" or "Not at all" with the question: *How has MRI changed or reinforced your teaching?* Table 18 shows that 15 out of the 18 teachers, 83%, believe MRI definitely changed or reinforced their teaching. If fact, all the teachers felt that MRI impacted their teaching at least somewhat, as all responses were marked between "3" and "5." Another question pertaining to the impact of student achievement was: *Are students reading or writing better?* (See Table 18)

Table 18

MRI Impact on Student Achievement

Student Achievement	A great deal				Not at all
	5	4	3	2	1
How has MRI changed or reinforced your teaching?	9	6	3	0	0
Are your students reading and writing better?	1	9	7	1	0

While the majority of teachers did not feel strongly about the impact of MRI on student achievement, a little more than half the teachers marked a "4" that MRI seemed to affect student achievement positively in the areas of reading and writing. Table 18 further shows that more than a third of the teachers marked a "3," showing that MRI did not have a major impact on student achievement.

In the last section of the End-of-the-Year Questionnaire, teachers were asked to rank the overall effectiveness of MRI. Five choices were given ranging from "Excellent" to "Poor." The results are displayed in Table 19.

Table 19

Overall Rating of MRI Program

Overall Rating	Excellent				Poor
	5	4	3	2	1
Reflecting on effectiveness of MRI as a whole, how would you rate it?	7	8	3	0	0
Percentage of Teachers	39%	44%	17%	0%	0%

When reflecting on the effectiveness of MRI as a whole, 39% of the teachers felt it was "excellent." None of the teachers felt that the program was "poor." The teachers were given the opportunity to provide additional comments to this question. These comments included, "This is a wonderful program for old and new teachers to embrace these philosophies in the classroom," and, "I have enjoyed new ideas and reinforcement of things I have used."

Summary

Chapter Four was a disaggregation of two distinct data sets used in this study: MAP test scores and End-of-the-Year Questionnaire. A description of the sample from each instrument was included, highlighting trends in the data. Once disaggregated, the MAP test data showed gains and losses in both the percentage of students earning proficient and advanced scores, and student performance relative to specific goals being assessed. Among relatively small gains and losses from the control to the treatment groups there were some statistically significant increases observed. In addition, teacher

responses on the End-of-the-year-Questionnaire were generally positive. A review of data and recommendations for future consideration of MRI are presented in Chapter Five.

Chapter Five – Conclusion

The NCLB law was established to set accountability measures for all public schools and is based on the ambitious goal that all children will be proficient in reading and math by 2014. Meeting the demands of NCLB requirements to improve student achievement in reading has become a priority in public schools around the nation. In order to meet this increase in accountability, public schools have turned to reading initiative programs that ensure increases in student achievement and provide quality on-going staff development. The Missouri Reading Initiative (MRI) program was chosen by Fort Zumwalt because it possessed three logical goals that addressed the need for improved student achievement and quality professional development:

1. Provide ongoing, systemic professional development to enhance the quality of literacy instruction leading to improved student achievement throughout all grade levels.
2. Examine and disseminate research in reading and writing to educators throughout the state, assisting schools with the implementation of instructional best practices in literacy through modeling lessons, coaching, and collaboration.
3. Assist schools with assessment, planning, implementation, and evaluation of school improvement efforts in literacy toward a comprehensive model. (MRI, 2008b, ¶ 2)

This study was conducted to determine and evaluate the success or failure of MRI on student achievment implemented at North Middle School in the Fort Zumwalt School District.

The purpose of this study was to determine if a relationship existed between the implementation of MRI and student achievement. Specifically, student performance on the MAP test was evaluated using control and treatment group data. In addition to looking at overall performance of students on the MAP, average scores on process skills were collected and analyzed. Finally, teacher perceptions of MRI program effectiveness were reviewed to answer the research question, Is there a relationship between teacher perceptions of MRI effectiveness and actual student achievement results? To test the hypothesis and research question, two instruments were used: MAP test and End-of-the-Year Questionnaire. The first instrument, MAP test, quantitatively measured student performance in the area of communication arts and was given to all students in grades 6-8. The second instrument, End-of-the-Year Questionnaire, was given to 18 communication arts and reading teachers in grades 6-8 at the end of the MRI implementation year. All 18 teachers completed the questionnaire and provided additional feedback concerning the strengths and weaknesses of the program. Included in this chapter are: (a) the results of the investigation, (b) the findings relative to the research question, (c) the implications of the findings, and (d) recommendations for additional research in the future.

Results of the Investigation

A cursory review of the North Middle AYP data determined that the percentage of students who scored proficient or advanced in each subgroup increased in the treatment year, 2008. This finding was a positive outcome across the board when viewing AYP data across all grade levels. However, the only subgroup with results that proved to be statistically significant was the IEP group. With a z score of 1.667, this subgroup

barely surpassed the critical value of 1.654. The null hypothesis was rejected for the whole school IEP subgroup. While not statistically significant, the whole school Total subgroup had a *z* score of 1.433, and the white subgroup had a *z* score of 1.364. Therefore, although gains were seen across the board, only one result was positive to a statistical level of significance.

Looking at the grade level AYP results provided additional ways to disaggregate information. The percentage of students earning proficient or advanced scores also increased in all subgroups in sixth grade during the treatment year. Although each subgroup increased, the only subgroup earning a statistically significant increase was the IEP subgroup with a *z* score of 2.019. This caused the null hypothesis to be rejected for the IEP subgroup in sixth grade and the null hypothesis to be accepted for all other subgroups at the same grade level. Again, there was only one positive outcome that was statisticallly significant.

Seventh grade posted mixed results and unfortunately showed a decrease in the percentage of students scoring proficient or advanced in two subgroups. The seventh grade IEP subgroup had a *z* score of -0.919, and the *z* score for the F/R Lunch subgroup was -1.371. These losses are a significant concern because implementation of MRI to would expectedly cause scores to increase. The losses were not great enough to be of statistical significance but will be the subject of discussion under the conclusions. The other three subgroups showed gains, the highest of which was within the Black subgroup which increased by nearly 10%. With a *z* score of only 1.079, the increase was not statistically significant, and the other two subgroups had smaller gains. The null

hypothesis was accepted in the analysis of each seventh grade statistical test. In other words, with gains and losses among subgroups, no results were statistically significant.

Eighth grade AYP results were also mixed but had only one subgroup showing a decrease in students earning proficient or advanced scores. The Black subgroup in eighth grade posted a z score of -0.663. Again, this is a concern because scores should be rising. Although the other four subgroups all showed increases, none of the results proved to be statistically significant, and the null hypothesis was accepted for all subgroups in eighth grade. Consequently, the hypothesis was not proven and the gains noted were not significant.

In all, when examining AYP results, 20 *z* tests were conducted for comparing population proportions between the treatment and control groups. Only two of the 20 tests provided statistically significant gains, and three of the 20 tests showed decreases in the treatment group.

Analyzing the IBD report provided additional information about student performance on the MAP test. In order to meet NCLB requirements, states have designed systems for achieving academic and performance standards. States have also defined performance standards that are aligned with the state academic content standards. The IBD report showed the success rate of students relative to specific process skills. A total of nine process standards, or goals, were assessed in both years, and the results of data analysis were again mixed in this portion of the study. Six of the nine goals showed increases in student achievement during the treatment year. The remaining three goals showed lower student achievement levels during the treatment year. In fact, one of the three that showed a loss, Goal 3.1—Students will demonstrate within and integrate across

all content areas the ability to identify problems and define their scope and sequence, had a *z* score of -7.428. That is a dramatic decrease in performance in that skill area and had the *z* test been two-tailed, that figure would have been statistically significant. Therefore, Goal 3.1 should be an area of significant focus due to the significant decrease in performance. The other two goals that showed losses, Goal 1.6—Students will demonstrate within and integrate across all content areas the ability to discover and evaluate patterns and relationships in information, ideas and structures, and Goal 3.5—Students will demonstrate within and integrate across all content areas the ability to reason inductively from a set of specific facts and deductively from general premises, were less dramatic in their decreases. The null hypothesis was accepted on each of these three goals. Not only were the results lacking in statistical significance, the results demonstrated a decline in performance.

On the other hand, the gains showed in Goals 1.5 and 1.8 were not statistically significant but moved in a positive direction. The null hypothesis was also accepted for Goals 1.5—Students will demonstrate within and integrate across all content areas the ability to comprehend and evaluate written, visual and oral presentations and works, and Goal 1.8—Students will demonstrate within and integrate across all content areas the ability to organize data, information and ideas into useful forms (including charts, graphs, outlines) for analysis and presentation. The null hypothesis was rejected on the remaining four goals, Goal 1.7—Students will demonstrate within and integrate across all content areas the ability to evaluate the accuracy of information and the reliability of its sources, Goal 2.1—Students will demonstrate within and integrate across all content areas the ability to plan and make written, oral and visual presentations for a variety of purposes

and audiences, Goal 2.2—Students will demonstrate within and integrate across all content areas the ability to review and revise communications to improve accuracy and clarity, and Goal 2.4—Students will demonstrate within and integrate across all content areas the ability to present perceptions and ideas regarding works of the arts, humanities, and sciences, with *z* scores of 8.956, 12.662, 2.013, and 6.726, respectively. Not only are these scores statistically significant, but with the exception of goal 2.2, the results are staggering when compared to the critical value, 1.645. These data indicate the kind of statistically significant positive results desired from new program implementation.

To assess teacher perceptions of MRI effectiveness, the End-of-the-Year-Questionnaire developed and administered by MRI was used. This information was deemed important to consider a relationship between teacher attitudes and perceptions of the program and increases in student achievement based on implementation of the program. Data from the questionnaire provided by MRI showed that, overall, teachers had favorable attitudes and perceptions about the program. Nearly 90% of the teachers agreed with the on-site, on-going professional development format. The majority of teachers felt they had no say in the initial setting up of the program, but just over half agreed that they had input as the program evolved. On a Likert Scale, 83% of the teachers indicated that MRI has changed or reinforced their teaching with 50% of those marking the highest score of “5”. Even though only one teacher marked a “5” when asked if students are reading and writing better, 50% of the teachers marked a “4”. An additional 40% of the teachers gave a neutral score of “3”, and only a single teacher somewhat disagreed by marking a “2”. With 83% indicating a positive impact on teaching, and 56% indicating a positive impact on reading and writing skills of students, the results are

certainly positive. Finally, when asked about the effectiveness of the program as a whole, 17% of the teachers gave a neutral response by marking a "3", and the remaining 83% gave favorable responses of either "4" or "5". As discussed in the review of literature, it is evident to the researchers that the teacher attitudes and perceptions of the program have a positive impact on student achievement if the program is effective.

Implications

The results of the study disproved the initial hypothesis that the implementation of MRI will improve student achievement as evidenced by a statistically significant increase in communication arts scores on the MAP test. The way the MO DESE reports AYP data is by MAP subgroups of the whole school population. The data showed that all five of the MAP subgroups increased in the number of students scoring proficient or advanced; however, only the gain made by the IEP subgroup was statistically significant. It is noteworthy that the *z* score for the whole school population was 1.433 which is not far from the 1.645 critical value needed for statistical significance.

The next step in reflecting on program effectiveness was to look at the additional data that was available beyond evaluation of the hypothesis. Applying the same AYP analysis to the grade levels led to only one additional statistically significant figure found within the sixth grade IEP subgroup. Since the other 14 scores do not show statistical significance, trends can certainly be observed. In sixth grade, every subgroup showed increases, and most of those gains were comparatively large. The subgroup showing the smallest increase in sixth grade was the Black subgroup.

In seventh grade, two subgroups showed decreases in performance during the treatment year (2008), and both of those decreases were comparatively large. This

substantial increase indicates that the F/R Lunch and IEP subgroups in seventh grade will require much scrutiny looking forward.

In addition, in eighth grade, the Black subgroup showed a decrease in performance during the treatment year (2008). On the other hand, the IEP and F/R Lunch subgroups in eighth grade did comparatively well. Therefore, the data provided information that will guide further study and additional recommendations.

Looking at the overall achievement scores was done in direct response to the stated hypothesis. Analysis of the IBD report was done as an additional step to target specific skills that were being assessed and to provide feedback on how effectively those skills were taught. To restate, of the nine goals assessed during both the treatment and control assessment cycles, student achievement improved on six of the goals, four of which proved to be statistically significant. Conversely, decreases in performance were observed in the remaining three goals. This information is valuable to teachers who implement MRI and develop their lessons using the state standards and goals as a framework. The planning and delivery of instruction has been validated in relation to Goals 1.7, 2.1, 2.2, and 2.4, with statistically significant gains being shown. Hence, the more narrowly focused look at process standards being assessed improved the outlook and provided information that can be more closely related to effective MRI implementation. Furthermore, MRI strategies and best practices must be aligned with district and state standards and assessments. Specifically, 67% of the skills being assessed are increasing within the implementation window, and 44% of the gains are significant to a statistical level. Those skills showing dramatic decline in student achievement (1.6, 3.1, 3.5) should be further evaluated with the MRI trainer to develop a plan to address and

improve on areas of weakness in classroom instruction. Common strands predominantly answered incorrectly on the MAP test pertained to the following ten skills:

1. Develop vocabulary through text using roots and affixes; context clues; glossary, dictionary, and thesaurus.
2. Make predictions and inferences using details from the text.
3. Apply post-reading skills to comprehend and interpret text, question to clarify, reflect, analyze, summarize, and paraphrase.
4. Compare, contrast, analyze, and evaluate connections between information and relationships in various fiction and non-fiction works, and text ideas and own experiences.
5. Identify and explain figurative language in poetry and prose.
6. Use details from text to analyze the influence of setting on characters, plot and resolution.
7. Explain cause and effect.
8. Use details from text to analyze point of view, mood and theme.
9. Interpret actions, behaviors, and motives of characters.
10. Evaluate problem solving processes, consequences, and effectiveness of solutions of characters.

Teacher attitudes, beliefs, and skills are shaped by professional development (National Staff Development Council, 2001). The End-of-the-Year Questionnaire data provided by MRI showed, overall, that teachers believed the program was valuable, the format was appropriate, and they were seeing positive outcomes with students as a result of the initiative. Given that the study was done during the first year of a multi-year

professional development effort, these generally positive attitudes were encouraging when planning for future years and growth of the program. Most of the teachers felt good about the kind of development they were receiving, and they felt positive about the results. According to MRI (2007), ratings of the program tend to go up from year to year as participants become more familiar with the program and, more importantly, begin to see the tangled results of improved student reading. While not readily measurable, it could be reasonable to suspect that these attitudes contribute to the effectiveness of MRI implementation in the classroom and, in the long term, to increased student achievement.

From a teacher's perspective, attitudes and perceptions are positive about MRI and continued growth and success of the program is predictable. In addition, data is readily available showing the strengths and weaknesses of the process skills of the students. This information can readily be integrated into MRI program development and the skills that are lacking can become the focus for future professional development with teachers. At the site level, the percentage of students earning proficient or advanced continues to rise, and those subgroups needing specific attention have been clearly identified. With this information in mind, and with most data showing student achievement heading in a positive direction, it is reasonable to conclude that although the hypothesis for the study was not supported, the implementation of MRI is potentially having a positive effect on student achievement at Fort Zumwalt North Middle School and should be continued through the entire three year implementation period. According to research conducted by MRI (2007), on average, those schools participating in MRI scored higher on the MAP test than those taken from a random sampling of Missouri public schools.

Recommendations for Future Research

The study provided a wealth of information regarding the implementation of a new professional development initiative. Since 15 out of the 18 teachers, 83%, believed MRI definitely changed or reinforced their teaching, the researchers recommend continuing the use of MRI. As discussed in the review of literature, Taylor, et al. (2003) stated, "Successful schools have ongoing professional development and a strong sense of community" (p. 3). According to the teacher responses on the questionnaire, MRI provided quality, on-going professional development. However, in order to continue to strive to be a successful school, North Middle must consider teacher attitudes and perceptions throughout the three-year implementation, as the questionnaire revealed that only 39% of the teachers felt they had a voice during MRI implementation. Based on these findings, the researchers have made six recommendations as outlined in Table 20, followed by a detailed explanation of each:

Table 20

Recommendations for Practice

1.	Gather comparison data from schools that involved teachers in the MRI adoption process.
2.	Identify teachers by grade level on the End-of-the-Year Questionnaire.
3.	Ensure active participation of school administrators in MRI training and implementation.
4.	Use the DRA instead of MAP scores to measure program effectiveness.
5.	Delay judgment of program effectiveness until the completion of year two of implementation.
6.	Conduct more longitudinal research that includes comparison data from additional years in a variety of settings.

1. *Gather comparison data from schools that involved teachers in the MRI adoption process.* Schools must involve teachers early in the process of adopting MRI

instead of waiting until after the program begins to get them involved. By involving teachers early in the process, their attitudes and perceptions are more likely to be favorable toward the program. Data should be collected from schools that included teachers in the adoption process to see if gains in student achievement are higher in those settings compared to the results found at Fort Zumwalt North Middle School.

2. *Identify teachers by grade level on the End-of-the-Year Questionnaire*. Of most concern was the fact that teachers completing the End-of-the-Year Questionnaire were entirely anonymous. Both the AYP results and IBD results can be disaggregated by grade level, but the teacher perceptions cannot be disaggregated in the same way. Particularly in reference to a subgroup showing a decrease in performance, it would be helpful to know if the teachers within that grade level had more or less favorable opinions of MRI implementation. Then, perhaps a better connection could be made between teacher attitudes and perceptions and impact on student achievement. Therefore, teachers should be identified by grade level on the End-of-the-Year Questionnaire.
3. *Ensure active participation of school administrators in MRI training and implementation. According to MRI (2007), participation of administration also plays a vital role to teacher attitudes and perceptions of MRI.* MRI recommends that principals fulfill the MRI requirement of attending workshops and in-services pertaining to the best instructional practices of comprehensive literacy. The researchers believe that the administrator must hold the teachers accountable for implementing MRI strategies. Teacher participation and willingness to accept the

comprehensive literacy model can be assessed via informal walk-throughs and formal observations conducted by administrators. Teachers must also feel that their efforts are supported by administration. Further data should be collected to address a relationship between administrator participation and program success.

4. *Use the DRA instead of MAP scores to measure program effectiveness*. The DRA is a tool that could measure individual student reading progress and development more accurately than the MAP test. As discussed in the review of literature, the DRA is a formalized assessment that is administered at the start and end of each year. The DRA allows teachers to be highly specific in addressing individual needs. This assessment essentially drives instruction and is an accurate indicator of a student's reading level. Unlike MAP results, DRA results show ongoing strengths and weaknesses in the communication arts content area. Teachers should give the DRA to every student at the beginning of each year to serve as baseline data. To show trends in progress and effectiveness of MRI, the teachers should administer the DRA again in the spring. The results should be analyzed and become the center of goal setting for the second year of implementation.
5. *Delay judgment of program effectiveness until the completion of year two of implementation*. During the first year of MRI implementation, teachers went through a steep learning curve. Given that there was new learning happening on a regular basis, trial and error was part of the growth process. Therefore, it could be asserted that the students did not have full implementation of MRI over the course of the entire school year. New strategies were being integrated with older teaching methods and some teachers tried new strategies more frequently than others.

6. *Conduct more longitudinal research that includes comparison data from additional years in a variety of settings.* Gathering MAP data from multiple years prior to MRI implementation will allow the researchers to compare assessment results during MRI implementation to historical gains or losses. In addition, assessment information from multiple districts in which MRI has been implemented, would provide comparison data from which a greater perspective of program effectiveness could be gained.

Neither the gains nor the losses can be directly attributed to MRI implementation, nor is it reasonable to conclude that MRI should be abandoned because the results did not show the gains desired. In fact, completing the same statistical analysis over the next two years is recommended. It would be beneficial to maintain the 2007 scores as a control group, and use 2009 scores as a treatment group. This analysis would provide scores of a treatment group influenced by teachers with a more solid foundation in MRI implementation. The same analysis should be done using 2007 scores as a control group, and scores from 2010 as a treatment group. MRI is designed to be conducted for a period of three years. The students testing in 2010, and even in 2011, will experience instruction from teachers with every benefit the program is designed to offer. Data from this study just described showed to be most significant in assessing the effectiveness of MRI.

Summary

Recommendations for future research and practice address teacher attitudes and perceptions according to the feedback provided from the MRI End-of-the-Year Questionnaire. Teacher attitudes and perceptions are in alignment with the characteristics

of high quality professional development as well as research-based best practices for professional learning. In fact, Fiszer (2003) suggested that a professional development culture of ongoing learning must be established, and teachers must be immersed in this culture in order to increase the likelihood of new idea implementation. Furthermore, the recommendations were a direct result of the findings related to the hypothesis and research question developed at the onset of this study. Once these recommendations are implemented, North Middle School will continue to see an increase in student learning and achievement as well as improvement in teaching and classroom practices.

References

American Educational Research Association. (1999). *Standards for educational and psychological testing* (2nd ed.).Washington, DC: American Psychological Association, National Council on Measurement in Education, Author.

Brynildssen, S. (2002). *Recent reading initiatives: examples of national, state, and professional organizations' efforts*. [Electronic Version]. Bloomington, IN: ERIC Clearinghouse on Reading English and Communication. (ERIC No. ED469927).

Burns, P., Roe, B., & Smith, S. (2002). *Teaching reading in today's elementary schools* (4th ed.). Boston: Houghton Mifflin Company.

Dillon, D., & Parsons, J. (1982, April). *Towards a new theory of reading instruction*. Paper presented at the Annual Meeting of the International Reading Association, Chicago. Retrieved from ERIC database. (ED214157).

Donahue, P., Grigg, W., & Lee, J. (2007, September). *The Nation's Report Card: Reading 2007. National Center for Education Statistics*. Retrieved February 8, 2008, from http://www. nces.ed.gov/nationsreportcard/pubs/main2007/ 2007496.asp.

Fiszer, Edward, P. (2003). *How Teachers Learn Best: An Ongoing Professional Development Model.* Lanham, MD: Scarecrow Education.

Fort Zumwalt School District. (2008a). About our school. Retrieved February 13, 2008 from http://www.fz.k12.mo.us/nms/aboutus/Pages/AboutOurSchool.aspx.

Fort Zumwalt School District. (2008b). School Information System. Retrieved April 23, 2008 from https://sdm.fz.k12.mo.us/FZ/SISK12/aspx.

Guskey, T. (2000). *Evaluating professional development*. Thousand Oaks, CA: Corwin Press, Inc.

Iowa Association of School Boards. (2001). *The Lighthouse Inquiry: School Board/ Superintendent Team Behaviors in School Districts with Extreme Differences in Student Achievement*. Retrieved on May 28, 2008, from http://www.ia-sb.org/ studentachievement.aspx ?id=436&terms=the+lighthouse+inquiry& rawsearchtype=1& fragment=false& SearchType=AndWords.

Johnson, R. C. (2000). As studies stress link to scores, districts get tough on attendance. *Education Week, 20* (7), 1, 10.

LeDoux, J. (2002). *Synaptic self: How our brains become who we are*. New York: Viking Penguin Company.

Lowden, C. (November 2005). Evaluating the impact of professional development. [Electronic version] *Journal of Research in Professional Learning.* Retrieved February 7, 2008, from http://www.nsdc.org/library/publications/research/ lowden.pdf.

Merriam, S., & Caffarella, R. (1999). *Learning in adulthood* (2nd ed.). San Francisco: Jossey-Bass Publishers.

Minnesota Center for Reading Research. (2008). Our Mission. Retrieved June 19, 2008, from http://cehd. umn.edu/reading/mission.html.

Missouri Census Data Center. (2000). *MCDC Demographic Profile 1, 2000 Census*. Retrieved May 2, 2008, from http://mcdc2.missouri.edu.

Missouri Department of Elementary and Secondary Education. (1998). *Assessment standards for Missouri public schools*. Retrieved February 15, 2008, from http://www.dese.mo.gov/ divimprove/assess/assessmentstandards.html.

Missouri Department of Elementary and Secondary Education. (2005). Grade-Level Expectation Documents. Retrived July 12, 2008, from http://www.dese.mo.gov/divimprove/ curriculum/GLEDocuments.html.

Missouri Department of Elementary and Secondary Education. (2006a). Consolidated state application accountability workbook. Retrieved June 18, 2008, from http://dese.mo. gov/divimprove/fedprog/AYPTARGETS.html.

Missouri Department of Elementary and Secondary Education. (2006b). Questions & Answers about No Child Left Behind. Retrieved May 26, 2008, from http://www.dese.mo.gov/ divimprove/nclb/QandA.html.

Missouri Department of Elementary and Secondary Education. (2007). *School data and statistics*. Retrieved May 2, 2008, from http://dese.mo.gov.

Missouri Department of Elementary and Secondary Education. (2008a). Curriculum. Retrieved on May 26, 2008, from http://dese.mo.gov/divimprove/curriculum/frameworks/preface.html.

Missouri Department of Elementary and Secondary Education. (2008b). *Missouri Assessment Program Technical Report 2008*. Monterey, California: CTB McGraw Hill. Author.

Missouri Department of Elementary and Secondary Education. (2008c). Missouri School Improvement Program. Retrieved May 6, 2008, from http://www.dese.mo.gov/ divimprove/sia/msip/msip overview.htm.

Missouri Department of Elementary and Secondary Education. (2009). Web Applications. Retrieved January 6, 2009, from https://k12apps.dese.mo.gov/webapps/reportmenu/reportmenu.aspx.

Missouri Reading Initiative. (2007). *Components of Secondary Resource Manual.* Springfield, MO: Author.

Missouri Reading Initiative. (2008a). Program Evaluation. Retrieved November 29, 2008, from http http://missourireadinginitiative.com/program_evaluation.php.

Missouri Reading Initiative. (2008b). Program Overview. Retrieved May 21, 2008, from http://missourireadinginitiative.com/7_12_overview.php.

Missouri Reading Initiative. (2009). Program Content. Retrieved January 3, 2009 from http://missourireadinginitiative.com/4_6_program.php.

National Center for Education Statistics. (2008). Overview. Retrieved June 3, 2008, from http:// nces.ed.gov/nationsreportcard/about.

National Conference of State Legislatures. (2003). NCLB mandates and legal issues. Retrieved June 18, 2008, from https://www.ncsl.org/statefed/nclblegal.htm.

National Institute for Literacy. (2007). *What content-area teachers should know about adolescent literacy*. (pp. 1-61). National Institute of Child Health and Human Development. Retrieved February 14, 2008, from http://www.nifl.gov.

National Institute for Literacy. (2008). Programs and Services. Retrieved June 12, 2008, from http://www.nifl.gov.

National Reading Panel. (2000). *Teaching children to read*. (pp. 1-33). Washington DC: National Institute of Child Health and Human Development. Retrieved February 7, 2008, from http://www.nationalreadingpanel.org.

National Reading Panel. (2008). About the National Reading Panel. Retrieved June 16, 2008, from http://www.nationalreadingpanel.org/NRPAbout/about_nrp.htm.

National Staff Development Council. (2001). NSDC's standards for staff development. Retrieved May 26, 2008, from http://www.nsdc.org/standards/index.cfm.

National Staff Development Council. (2008). About NSDC. Retrieved May 26, 2008, from http://www.nsdc.org/about/index.cfm.

Nation's Report Card. (2008). About. Retrieved June 3, 2008, from http://nationsreportcard.gov/ about_nrc.asp.

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).

Pearson. (2008). Developmental Reading Assessment® (DRA) 2nd Edition. Retrieved May 26, 2008, from http://www.pearsonschool.com/index.cfm?locator=PSZ4Z4&PMDbSiteID=2781&PMDbSolutionID=&PMDbProgramId=23661&level=4&prognav=po.

Rathvon, N. (2006). *Developmental Reading Assessment*. Retrieved March 14, 2008, from http://www.natalierathvon.com/images/DRA_Review-08-25-2006.pdf.

Shanahan, T. (2003, April). Research-based reading instruction: myths about the National Reading Panel report. *The Reading Teacher*, 56(7), 646-655.

Snow, C., Burns, M., Griffin, P. (1998). *Preventing reading difficulties in young children*. Washington, D.C.: National Academies Press.

Taylor, B., Frye, B., Peterson, D., Pearson, P. (2004, June). *Effective Reading Instruction: Steps for Schoolwide Reading.* National Education Association. Retrieved June18, 2008, from http://www.nea.org.

Truby, D. (2001). Education news: Attendance makes the difference. *Instructor, 101*, 8.

United States Department of Education. (2004). Four Pillars of NCLB. Retrieved June 24, 2008, from http://www.ed.gov/nclb/overview/intro/4pillars.html.

United States Department of Education. (2009). No Child Left Behind. Retrieved May 2, 2008, from http://answers.ed.gov/cgi-bin/education.cfg/php/enduser/std_adp.php?p_faqid=4.

United States Department of Education Professional Development Team. (1994). *Building bridges: The mission and principles of professional development.* Retrieved June 13, 2009, from http://www.ed.gov/G2K/bridge.html.

Wong, K., & Nicotera, A. (2007). *Successful schools and educational accountability*. Boston: Pearson Education, Inc.

Wren, S. (2002). *Ten myths of reading instruction*. Retrieved April 25, 2008, from http://www. sedl.org/reading/topics/myths.html.

Appendix

Missouri Reading Initiative

Secondary Communication Arts

End-of-the-Year Questionnaire

Please complete and return to the manila envelope in the school office. Your answers and comments are extremely valuable for planning and improving MRI. Thank you very much for your time and effort in completing this survey.

School_____

Subject(s)_____

Grade level_____ # of years teaching_____ # of years at this school_____

Highest Degree (circle one): BA MA Ph.D. Ed.D Years of post-graduate education __

All questionnaires will be kept strictly confidential. No names will be used, nor will reports include any identifying characteristics (e.g., grade level, school, etc.).

A. Information: In this section think about the *content* of the Missouri Reading Initiative as opposed to who or how it was delivered.

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

	(Not exposed) Least				Most
ASSESSMENT					
1. Initial	0	1	2	3	4	5
2. Informal, Ongoing	0	1	2	3	4	5
3. Anecdotal Records	0	1	2	3	4	5
COMPREHENSIVE READING MODEL					
4. Matching Books to Readers	0	1	2	3	4	5
5. Read Aloud	0	1	2	3	4	5
6. Reading Comprehension Strategies	0	1	2	3	4	5
7. Strategic Instructional Groups	0	1	2	3	4	5
8. Reading Mini-lesson	0	1	2	3	4	5

9. Independent Reading	0	1	2	3	4	5
10. Reading Conferences	0	1	2	3	4	5
11. Reading Share	0	1	2	3	4	5
12. Scaffolding Reading of Text	0	1	2	3	4	5
13. Shared Reading	0	1	2	3	4	5
14. Literature Circles	0	1	2	3	4	5
15. Responding to Literature	0	1	2	3	4	5

COMPREHENSIVE WRITING MODEL

16. Writing Mini-lesson	0	1	2	3	4	5
17. Modeled Writing	0	1	2	3	4	5
18. Interactive Writing	0	1	2	3	4	5
19. Independent Writing	0	1	2	3	4	5
20. Writing Conferences	0	1	2	3	4	5
21. Writing Share	0	1	2	3	4	5
22. Good Traits of Writing	0	1	2	3	4	5

WORD WORK

23. Spelling	0	1	2	3	4	5
24. Vocabulary	0	1	2	3	4	5

CLASSROOM ORGANIZATION / MANAGEMENT

25. Community Building	0	1	2	3	4	5
26. Active Engagement of Students	0	1	2	3	4	5

CHANGES OF STATES WHILE LEARNING

27. Transitions	0	1	2	3	4	5
28. Music	0	1	2	3	4	5
29. Movement	0	1	2	3	4	5

2. How has MRI changed or reinforced your teaching?

Not at all				A great deal
1	2	3	4	5

Specifics?

3. Please list any components you feel need more support?

4. Any additional comments about the Information or Content?

B. Delivery and Format: In this section we will be asking questions about how the program was structured.

1. The basic format of the program consists of ***collaborating, modeling, observing, and coaching***. Please tell us what you felt were the strengths and weaknesses. Please include any changes you would make to the format.

Strengths:

Weaknesses:

2. Please indicate whether you agree or disagree with following statement:

The information and classroom strategies taught by MRI are best delivered in an on-site, on-going professional development format as opposed to workshops, conferences, and one-day, in-service programs.

Strongly Disagree Strongly Agree

1 2 3 4 5

C. Process: An important part of professional development programs is that participants are motivated and feel as if they are part of the program.

1. Do you feel as though you had a say in setting up MRI?

Not at all Very Much

1 2 3 4 5

Briefly describe the process of setting up MRI at your school (was there a vote, meetings, etc.).

2. Do you feel as though you have a voice in how MRI develops?

Not at all Very Much

1 2 3 4 5

Have there been issues that have arisen about MRI? If so, how were they addressed?

D. Student Achievement:

1. Are students reading and writing better?

Not at all A great deal

1 2 3 4 5

2. How do you know (e.g., observation, specific tests, etc.)?

E. Overall Program Rating: Reflecting on the effectiveness of the MRI program as a whole, how would you rate it?

Poor				Excellent
1	2	3	4	5

Additional comments? (Please use the back of the survey or attach additional pages if necessary.)

Thank you very much for your cooperation. This information really does help MRI improve its program at your school.

Vitaé

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OBJECTIVE

Administrative leader valuing flexibility and organization with strong, interpersonal, and management skills.

CERTIFICATION

Elementary, Grades 1-6 – Missouri
Administrative, Elementary and Secondary

EDUCATION

Doctorate in Education Administration, In progress—Lindenwood University, St. Charles, MO
GPA: 4.0

Masters in School Administration, June 2006—Lindenwood University, St. Charles, MO
GPA: 4.0

Masters of Arts in Education, May 2004—Avila University, Kansas City, MO
GPA: 4.0

Graduate Certification Program, May 2003—Avila University, Kansas City, MO
GPA: 4.0

Bachelor of Arts in Interdisciplinary Studies, May 2001—University of Missouri, Columbia
GPA: 3.45

ADMINISTRATIVE EXPERIENCE

Administrative Assistant
Rock Creek Elementary School, O'Fallon, MO
July 2008-Present

- Assist in supervision of 600 students, kindergarten-fifth grade.
- Assist principal with decision making and scheduling.
- Observe and evaluate certified and support staff.
- Implement discipline techniques and behavior plans.
- Act as LEA in special education meetings.
- Communicate and interact with the community.
- Conduct staff meetings and professional development activities.
- Train staff and tutors on DIBELS Intervention Program.
- Act as OASIS Coordinator for the district.

Cooperating Assistant Superintendent: Jackie Floyd

- Revised Fort Zumwalt District's Technology Plan.
- Formulated strengths and weaknesses of Technology Plan.
- Created a 5th Grade Camp Questionnaire to be used to evaluate strengths and weaknesses of camp.
- Created spreadsheets analyzing camp data collected.

TEACHING EXPERIENCE

Teacher, 6th grade Reading
North Middle School, O'Fallon, MO
August 2007-June 2008

- Trained staff on School Information Systems (SIS).
- Attended Missouri Reading Initiative (MRI) In-services.
- Supervised student teacher.
- Incorporated MRI philosophy in Reading curriculum.
- Co-sponsored Positive Peer Influence (PPI).
- Served on Crisis Planning Committee.
- Sponsored an at-risk student in the Support One Student (SOS) Program.

Teacher, Kindergarten and 5th grade
Russell H. Emge Elementary School, O'Fallon, MO
August 2004-June 2007

- Represented Emge Professional Development and continuing education at district level.
- Served as Reading Cadre at building level.
- Served on several committees including School Improvement, Social, and RESPECT.
- Played an active role in the adoption of the new reading series for the district.
- Co-sponsored 5th Grade Drama Club.
- Managed field trip to Junior Achievement Enterprises.
- Served as Emge IAC Communication Arts representative

Social Studies and Science Teacher, 6th grade
Eagle Glen 5th and 6th Grade Center, Raymore, MO
August 2003-May 2004

- Developed units and lesson plans that pertained to the district and state curriculum.
- Incorporated literature, manipulatives, technology, and cooperative learning in all lesson plans to accommodate unique learning styles.
- Employed the Behavior Intervention Support Team Plan (BIST) to maintain discipline.
- Involved students in active learning to promote critical thinking and problem solving.
- Established positive and professional relationships with students, parents, and faculty.

- Attended student-led and parent conferences, IEP meetings, and faculty meetings.
- Employed a variety of assessments for self-reflection.
- Created adaptations for students with special needs.
- Played an active role on the Merit Team.

OTHER EXPERIENCE

Admissions Workstudy, Avila University, Kansas City, MO, January 2002-December 2002.

Administrative Assistant and Marketing Director, Doctors Hospital, Springfield, MO, August 2000-December 2001.