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THE EFFECTIVENESS OF USING THE MISSISSIPPI STUDENT PROGRESS MONITORING SYSTEM TO IMPROVE A DISTRICT'S STATE TEST SCORES

By

Timothy Eugene Wilcox

A Dissertation
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in Partial Fulfillment of the Requirements
for the Degree of Doctor of Philosophy
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in the Department of Leadership and Foundations

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THE EFFECTIVENESS OF USING THE MISSISSIPPI STUDENT PROGRESS MONITORING SYSTEM TO IMPROVE A DISTRICT'S STATE TEST SCORES

By

Timothy Eugene Wilcox

Approved:

Debra L. Prince Associate Professor of Leadership and Foundations (Director of Dissertation)	Amanda Taggert Assistant Professor of Leadership and Foundations (Committee Member)
James E. Davis Associate Professor of Leadership and Foundations (Committee Member)	Kay Brocato Associate Professor of Leadership and Foundations (Committee Member)
Dwight Hare Professor and Graduate Coordinator of Leadership and Foundations	Richard Blackbourn Dean of the College of Education

Name: Timothy Eugene Wilcox

Date of Degree: May 11, 2012

Institution: Mississippi State University

Major Field: Elementary, Middle, and Secondary Education Administration

Major Professor: Dr. Debra L. Prince

Title of Study: THE EFFECTIVENESS OF USING THE MISSISSIPPI STUDENT PROGRESS MONITORING SYSTEM TO IMPROVE A DISTRICT'S STATE TEST SCORES

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Candidate for Degree of Doctor of Philosophy

The purpose of this study was to determine if there were differences in MCT2 scores between students who attended a school district that used MSPMS and students who attended a school district that did not use MSPMS. The data for this study were archived and consisted of math and language arts MCT2 scores for two groups of students. The independent variable was the use of MSPMS for progress monitoring and the dependent variable was student scores on the MCT2. All data were analyzed using the Analysis of Covariance (ANCOVA) statistical procedure. In this study the 2008-2009 math and language arts MCT2 scores were the covariate.

Hypothesis one stated that there was no statistically significant difference in the MCT2 language scores of students in Grades 4-8 in a school district using MSPMS and MCT2 language scores of students in Grades 4-8 in a district not using MSPMS while controlling for pre-test differences. The results of the first hypothesis indicated that there was a statistically significant difference between the 2009-2010 language arts MCT2

scores of a school district that used MSPMS and a district that did not use MSPMS. The district that did not use the MSPMS had higher MCT2 Language Arts overall and higher scores in fourth and sixth grades. Hypothesis two stated that there was no statistically significant difference in the MCT2 math scores of students in grades 4-8 in a school district that used the MSPMS and MCT2 math scores of students in grades 4-8 in a district that did not use the MSPMS while controlling for pre-test differences. The results of the second hypothesis indicated that there was not a significant difference in the 2009-2010 math MCT2 scores of the school district that used the MSPMS and the school district that did not use the MSPMS. The district that did not use the MSPMS had higher MCT2 Math scores overall and higher scores in sixth grade. The district that did use the MSPMS had higher MCT2 math scores in eighth grade. Further study should explore larger populations, assessment instruments of different lengths and fidelity of teacher implementation.

DEDICATION

I dedicate this research paper to my wife Kristy, who is the love of my life, and to my family. I am blessed beyond measure, for there is no greater gift.

ACKNOWLEDGMENT

I thank God from whom comes every perfect gift. I also thank Dr. Debra Prince for her professional mentoring through this process and my committee members for their direction. A special thanks goes to Joe York and the faculty and staff at New Hope Elementary and all of my Evangel Church family for their tireless encouragement through the years.

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CHAPTER 1

INTRODUCTION

Accountability in education has become one of the most discussed topics of teacher's lounges, school board rooms and legislative offices across the country. Everyone wants to know if the American educational system is working. Although many differing opinions about the success of education are expressed, each is founded in the belief that students in the American educational system should succeed and gain life benefit from the experience. The question that divides the opinions is how to determine success. This debate began in the first classroom and continues today (Brigham, Tochterman, & St. Peter Brigham, 2000).

Standardized testing in American education evolved as the need for understanding the success of American education grew. According to Hamilton and Koretz (2002), although standardized testing in American education dates back to the end of the 19th Century, it was not widely used until the introduction of the Stanford Achievement Test (SAT) in 1923. From 1923 into the 1960s, the SAT was used as the standard assessment of academic performance for the nation's students. However, according to Hamilton and Koretz, the SAT was not used for accountability purposes, but as a means of evaluating students and curricula. It was not until the creation of the National Assessment of Educational Progress (NAEP) in that standardized tests would be used as a measure of

educational accountability (Hamilton & Koretz, 2002). And even then, the focus was on educational accountability for the nation and not the states.

The Elementary and Secondary Education Act (ESEA) of 1965 represented the largest involvement of the federal government in education to date. ESEA outlined the first federal programs that tied student performance to federal funding and consequently the option for consequences to states that did not comply (Elementary and Secondary Education Act, 1965). With the passage of ESEA, more federal dollars were made available to help schools serving disadvantaged students and to fund educational research. Four years following the passage of ESEA, the first NAEP assessment was conducted.

When initiated in 1969, the NAEP received nearly half of its funding from the Carnegie Foundation, but by 1972, the federal government was providing all of the funding to support the assessment with a cost of $447 million (in constant 1996 dollars) for the period 1969 to 1997 (Vinovskis, 1998). Francis Keppel, the United States Commissioner of Education from 1962 to 1965, said that the NAEP was developed because the nation knew very little about the academic achievement of American students. Vinovskis said that there was resistance to the NAEP because many feared that it was created to increase federal control over state and local education and to justify a national curriculum. To squelch those fears, the NAEP results would only be reported for the nation as a whole. Consequently, information gathered from the NAEP offered little use to the states for issues of accountability (Hamilton & Koretz, 2002). However, in 1990, as the demands for educational accountability increased (Hamilton, Stecher, &

Klein, 2002) and wide-scale reports such as A Nation at Risk were circulated, the NAEP results were made available to states (Vinovskis, 1998).

According to Barrett (2003), in addition to the 1983 publication of A Nation At Risk by the National Commission on Excellence in Education, other agendas put forth in the "America 2000" educational strategy of president George H. W. Bush and the "Goals 2000" educational plan of President Bill Clinton highlighted the need for increased measures of accountability (Goals 2000: Educate America Act, 1994). As reported by Barrett (2003), each new administration had its own ideas about how to improve education and proposed a plan to solve the problems of the American education system using assessment based instruction.

As with past administrations, former President George W. Bush had a plan to improve the American education system. Under the administration of George W. Bush, the No Child Left Behind Act of 2001 (NCLB), which was a reauthorization of ESEA, was signed into law (U.S. Department of Education, 2004). NCLB required states to not only assess student and school performance but also to document adequate yearly progress (AYP; U.S. Department of Education, 2004). Not only was it no longer acceptable for schools to only meet their state imposed minimum requirements, they also had to demonstrate yearly improvement. In addition to the requirement of documenting AYP for the entire school population, NCLB also required that states document AYP for specific subgroups of the school's population. Although NCLB did not mandate how states were to determine and measure AYP, it did require states to develop a comprehensive plan.

In response to the NCLB requirement of states using scientifically-based practices to increase student learning, the Mississippi Department of Education (MDE) implemented a three-tier, teacher support team (TST) model as a Response to Intervention (RtI) component (MDE, 2008b). RtI is designed to help monitor student progress and to provide a framework for remediating students who do not show adequate growth (MDE, 2007).

RtI divides instruction into three tiers. Tier I is defined by MDE as good classroom instruction that meets the educational needs of all students. Tier II includes more intensive instructional strategies such as small group instruction or computer based tutorials to help struggling students gain mastery of instructional objectives. Tier III intervention is targeted, intensive, one to one intervention intended for students with significant delays in objective mastery (MDE, 2010b). The TST uses multiple avenues to determine the tier level for all students. One of the avenues through which students are identified for placement in these tiers is through universal screening. Universal screeners are administered to all students to identify academic deficits. This screening includes an assessment given at the beginning, middle, and end of the school year to identify deficits and monitor the effectiveness of the instruction that students receive. The data collected from the screeners are used to track student performance during the school year. Progress is measured by calculating what a student know or should be able to perform in each month of school. Students who show progress that is equal to or greater than the number of months in the school year at the time of the assessment remain in tier I instruction. Students who do not show growth at that rate are placed in tier II and are given classroom interventions. Students in tier II are also assessed weekly to monitor intervention

effectiveness. If after three complete intervention cycles in tier II students are not successful, they are moved to tier III and intensive interventions are implemented (MDE, 2007b).

NCLB (U.S. Department of Education, 2004) requires states to monitor student performance but does not specify how they are to monitor that progress. States and Local Education Agencies (LEA) may choose to use published progress monitoring programs or develop their own means of monitoring student progress. Publishers have begun producing technology enhanced progress monitoring tools to help teachers monitor student performance and adjust instruction (Edformation, 2004; Good & Kaminski, 2002; McGraw-Hill Digital Learning 2004; Renaissance Learning 1998). These products provide technically adequate tools for teachers to implement an RtI process and, subsequently, make changes in instructional delivery (Fuchs, Mock, Morgan, & Young, 2003). If states choose to use monitoring systems, they may choose from existing products or use custom developed products. The State of Mississippi chose the latter option. After submitting a request for proposals, MDE chose Vantage Learning to develop a custom progress monitoring system for schools to use to meet their progress monitoring requirement (Vantage Learning, 2004). This product became available for use by Mississippi schools in 2004 as the Mississippi Student Progress Monitoring System (MSPMS). Since some schools had previously invested in other products, MDE did not mandate a specific product for progress monitoring. However, MDE did provide an incentive for using MSPMS by fully or partially funding its use as the selected progress monitoring tool.

The previous text provided the background that is useful for understanding this study. The remainder of chapter one includes the statement of the problem, the purpose of the study, the research hypotheses, the theoretical framework, and a summary of chapter one. Chapter two provides a review of the literature related to this study and chapter three discusses the methodology that was used to conduct this study.

Statement of the Problem

Standardized tests require significant investments in time during the instructional year. For example, the Mississippi Curriculum Test, Second Edition (MCT2) requires that three to four days be designated in the month of May as test administration days (MDE, 2010). However, since the results of the MCT2 are not available until the following school year, this summative assessment tool does not provide information that can change the course of student instruction in the current year. Consequently, as a formative means of monitoring students' progress, the state of Mississippi also requires that additional assessments for universal screening be administered three times a year (Garrison & Ehringhaus, n.d.; MDE, 2008b).These three testing cycles can be very time consuming, especially in large districts. While there is significant evidence to support the premise that providing multiple formative assessments improves standardized test scores (Black & Wiliam, 2010), the problem for schools is ensuring that the product they have chosen effectively provides information useful for improving student success. The measure of that effectiveness is how well the progress monitoring product helps to improve scores on the MCT2.

Since using the MSPMS imposes a burden of both time and resource allocation while there is little evidence to suggest that it is an effective tool for improving test scores of students in schools that use the system, the problem that this study addresses is that the MSPMS may not be effective at improving state test scores.

Purpose of the Study

Assessments are clearly necessary to ensure effective instruction, and progress monitoring is an important part of a school's assessment portfolio. Progress monitoring tools must be sensitive to student change, educationally meaningful and must not monopolize instructional time (Stecker, Lembke & Foegen, 2008). Since progress monitoring is required as a part of RtI, it is important to understand the effectiveness of particular products that are used to monitor student progress. Many schools have chosen to implement the MSPMS to help monitor student performance, but little formative data is available regarding its effectiveness in improving student performance on the MCT2. The purpose of this study is to determine if there are differences in MCT2 scores between students who attend school districts that use the MSPMS and students who attend school districts that do not use the MSPMS.

Research Hypotheses

Educational agencies have been scrutinized and held accountable for student learning, and the measures of accountability have been standardized tests. These tests are given at the end of the school year and results are not available until the next school year. Consequently, these tests fail to provide diagnostic data to address student deficiencies

during the current school year. Because of the inability of the year end tests to provide needed diagnostic data, the state of Mississippi commissioned the MSPMS to be used at least three times per year to monitor student progress throughout the year. Currently, little is known about the effectiveness of this system in improving student achievement as measured by the MCT2. The purpose of this study was to determine if there were differences in MCT2 scores between students who attend school districts that use the MSPMS and students who attend school districts that do not use the MSPMS. To fulfill the purpose of this study, the following hypotheses were tested.

Hypothesis 1 states that there is no statistically significant difference in the MCT2 language scores of students in Grades 4-8 in a school district using MSPMS and MCT2 language scores of students in Grades 4-8 in a district not using MSPMS while controlling for pre-test differences.

Hypothesis 2 states that there is no statistically significant difference in the MCT2 math scores of students in Grades 4-8 in a school district using the MSPMS and MCT2 math scores of students in Grades 4-8 in a district not using the MSPMS while controlling for pre-test differences.

Theoretical Framework

This research follows the cognitive learning theories of Jerome Bruner. His discovery learning emphasizes learners as information processors who organize and assimilate information according to an individualized coding system. This process requires information to be presented in logical steps to create relationships between that

which is known and that which is being learned. The information must be presented on an aligned continuum of guidance to be correctly assimilated by the learner (Borgatti, 1999).

The process of formative assessment helps teachers determine the readiness of the learner. The teacher knows what prior knowledge the learner possesses and helps the learner understand what information or skill is needed to reach the mastery goal. The use of formative assessments keeps the teacher and learner aligned. The teacher is never presenting information that the learner does not have the prior knowledge necessary to master and is not reintroducing previously mastered skills, causing boredom in the learner. The strategic use of formative assessments keeps the learner in Vigotsky's Zone of Proximal Development (ZPD). This challenges the learner without presenting content that is too difficult and might frustrate the learner (Borgatti, 1999; Falk, Ort & Moirs, 2007). This research explored the effectiveness of MSPMS as a formative assessment tool with the final mastery goal being MCT2 student performance.

MSPMS is a tool for assessing a student's performance based on curriculum. Students should be regularly assessed and the results should be used to tailor instruction to their needs. If MSPMS is effective, then the information gained will accurately reflect the present level of performance of the students in their classrooms and will be useful in determining what information is lacking or what information is mastered. The teacher can re-teach the content that is lacking or omit instruction for content that is mastered. This process maintains the student in their ZPD and provides instruction at the appropriate level for assimilation into individual coding systems. This study sought to determine if there were differences in MCT2 scores between students who attend school districts that use the MSPMS and students who attend school districts that do not use the MSPMS.

Limitations

Data that was utilized in this study were archived data; therefore random assignment of participants was not possible. The lack of random assignment represents a serious limitation and inhibits the researcher's ability to rule out many alternative explanations for the research findings. In an attempt to control some of the extraneous variables, Analysis of Covariance (ANCOVA) was used to statistically control for pre test differences between the participants who attended a school using the MSPMS and students who attended a school that did not use MSPMS. In addition to using ANCOVA, comparable districts were selected as comparison districts.

Delimitations

This study was limited to two school districts in the state of Mississippi. Because of the exploratory nature of the study, the information gathered from this preliminary study provided a beginning understanding of the usefulness of the MSPMS. Moreover, this study was limited to the academic school years of 2008-2010. Prior to 2008, the MCT rather than the MCT2 was the state assessment.

Justification for the Study

In Mississippi, schools are under a significant amount of pressure to improve their educational programs. Administrators and teachers alike search for best practices and instructional programs to meet the needs of their students in a timely and effective manner. This means that they can no longer lecture and test as in the past, but they must try new instructional strategies and discard ineffective practices to stay competitive.

These strategies must be research based and must be responsive to the data obtained to redirect instruction.

Many schools use the MSPMS as an instructional tool by assessing student performance and adjusting instruction, but little formative data are available as to the effectiveness of the MSPMS. This research is imperative to determine if the MPSPMS should continue to be used or if resources should be devoted elsewhere. The results of this study could be used to adjust the course of student assessment throughout the state. Continued use of an ineffective progress monitoring tool is a waste of instructional time and taxpayer money and could put a school district at risk of not meeting accountability standards. Conversely, using an effective progress monitoring tool in the implementation of scientifically based research practices can improve student learning.

CHAPTER 2

REVIEW OF RELATED LITERATURE

Introduction

This study focuses on monitoring student progress through the school year to improve performance on standardized tests. To provide context for such a study, the review of literature begins with a review of assessment history in American education. It then addresses accountability issues and assessment models from "A Nation at Risk" through NCLB to current literature. A further examination of standards and assessment will follow. Finally, a look at successful school districts, an overview of data collection, the role of technology and specifically, the role of technology based student monitoring systems will provide a basis for study.

Review of Assessment History

A significant amount of pressure has been exerted on schools in recent years to demonstrate educational effectiveness. Lawmakers have been scrutinized for approving large budgets for education and are demanding results for the monetary investments. Public opinion of the American educational system and it's comparison to other countries

has stirred debate as to the effectiveness of schools in our country. All of this has generated a call for educational accountability.

Educational accountability in our country is not a new idea. Assessment instruments have been used since the 19th Century. Effectiveness testing continued in the late 1800s with assessments of instructional programs, school comparisons, and even teachers. Standardized testing became more common after the introduction of the SAT in 1923 and was widely used into the 1960s to assess individual students and curricula. In 1969, the first "Nation's Report Card" was issued and the National Assessment of Educational Progress began monitoring the condition of education in America. The 1960s also saw the passage of the ESEA that established the Title I program with stringent evaluation requirements. Subsequently, states began implementing their own testing systems (Hamilton & Koretz, 2002).

Schools continued to assess student performance, but, for the most part, did little to use the data in directing instruction. Schools reflected an attitude of "hobby teaching," a phrase coined by Dr. Walter Tobin to describe teachers who have always taught the same way and resist change (Motivating Teachers, n.d.). The 1983 publication of "A Nation At Risk" by the National Commission on Excellence in Education began the modern standards movement in education. The "America 2000" and "Goals 2000" of presidents George H. W. Bush and Bill Clinton continued to show the need for assessment based instruction (Guthrie & Springer, 2004).

A meta-analysis of schools that were successful in raising test scores began by analyzing data and using that analysis to plan for improvement. The use of test data to

adjust instruction is a proven strategy and student assessment is critical (Educational Research Service, 2001). To continually improve instruction, a school must have a cycle of instruction and assessment. More assessment will in turn generate more data. The volume of assessment data can be overwhelming; therefore, schools often turn to technology innovations to manage the information. Software companies are responding and producing data management software packages to improve the effectiveness of instruction and assessment in schools.

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A Nation at Risk

This report was published in 1983 by the National Commission on Excellence in education as an indictment of the U. S. educational system. According to Guthrie and Springer (2004), a negative result of the report was the federalization of educational policy. Some viewed this as a threat to creativity and diversity among the nation's schools. A second negative reported was the tendency to judge student achievement

solely on standardized tests. A third negative was turning social reform to school reform and the belief that improving schools would solve all the social problems in the nation (Guthrie & Springer, 2004).

Despite predictions of national economic collapse without immediate education reform, Bracey (2003) reported that the nation's productivity soared. When looking back at "A Nation at Risk" 20 years after its publication, Bracey found that students who were in the first grade then and went directly to work from high school graduation had been working for nine years. Those continuing their education through college had been working for five years. This productivity conflicted with the prediction of economic collapse (Bracey, 2003).

According to Guthrie and Springer (2004), the years of 1983-1990 saw a push for longer school days and years, more required courses and fewer electives in high school, more math and science, and higher graduation requirements and college admission standards. From 1990-2000 two theories of change emerged. The first was called systemic reform, but was also referred to as standards-based reform and the second was market centered. The systems theory involved aligning components of the educational system, linking standards, statewide achievement tests, and performance rating, and allowing for sanctions for achievement progress. Studies began targeting the effectiveness of the standards-based reform movement, but it was too soon to draw accurate conclusions. Initial studies in seven states showed signs of success (Guthrie & Springer, 2004).

No Child Left Behind

From 2001 to the present, the focus has been on measurement of outcomes and the building of today's accountability system. NCLB is a reauthorization of the 1965 ESEA. The previous law, also known as Public Law 89-10 was sponsored by President Lyndon B. Johnson. He contended household poverty prevented many children from being successful in school. During the first 35 years of ESEA, $300 billion was distributed for educational services to children from low-income families. Guthrie & Springer feel that while ESEA was an influential document, NCLB is more influential in reshaping the way American schools operate daily (Guthrie & Springer, 2004).

By 2012, states must show sufficient improvement to ensure students are performing at high levels of proficiency on achievement tests and that schools are closing achievement gaps between advantaged and disadvantaged students. Failure to meet AYP can mean consequences including permitting parents of students attending persistently low-performing schools to claim public resources and choose to place their children at other schools, including private schools. With these outcome measures, the accountability focus is on school outcomes rather than inputs. Accountability measures mandated by NCLB have been a driving force in American education (Guthrie & Springer, 2004).

Standards and Assessment

NCLB asserts that standards are essential in improving education (Education Commission of the States, 2002). Carr and Harris (1996) maintained that states use two types of standards: those which deal with content and those which deal with academic

achievement. They distinguished between the two types by stating that content standards are about what students know and can do, while student performance standards are about quality of work. The standards that educators expect students to know have been compared to a target that is clear only when students can identify it and know what is necessary to hit it. Time should be spent discussing the standards with students. Teachers should use clear, easily understood language when communicating with students, parents, and others about student performance (Carr & Harris, 1996).

The roles of assessment in standards-based reform are to communicate goals, provide targets, and shape achievement (Education Commission of the States, 2002). Black and Wiliam (2004) classified assessments as summative or formative. Summative assessments include those tests given at the end of the chapter or unit before moving on to determine accountability, ranking, or competence. The purpose of formative assessment, they stated, is to promote learning and occurs when the data generated are used to adapt teaching to meet learning needs. They maintained that weekly tests are only frequent summative tests unless the results are used to give feedback and improve performance. Even portfolio assessment is not formative unless there is active feedback that allows the student to change and improve his or her work as the portfolio is developed (Black & Wiliam, 2004).

Dirksen (2011) described formative assessment as the cook tasting the soup whereas summative assessment is the guest tasting the soup. She also says that formative assessment does not need to be difficult and, in fact, the easiest are some of the best. Simple observation of students during instruction may reveal those who do not appear to "get it." This tool provides her the opportunity to revise instruction on the spot by

providing a specific example, metaphor or varied explanation. Additional formative tools include assignments using rubrics, performance based assessments with clear descriptions of the end product and collaborative learning with peer feedback. Additionally, quick writes that require two concepts to be described and compared are effective formative assessments. Finally, weekly summaries, graphic organizers, journaling and even summative assessments with appropriate feedback can be used to revise instruction (Dirksen, 2011).

Student self-assessment is also a key component of formative assessment. The main problem is that students cannot assess themselves if they do not have a clear understanding of the targets that they are to attain in their learning. Black and Wiliam (2010) described the three components of effective formative assessment. The first component is the student's recognition of the desired goal. The second is the identification of the student's present position in relationship to the goal and the third is the understanding of the way to close the gap between the two. All three must be understood to some degree before action can be taken to improve learning. Feedback to any student should be about the qualities of his or her work with advice for improvement, not comparison to other students (Black & Wiliam, 2010). The ability to take the advice given to the learner through formative assessment and use it to fill the gaps is crucial to the effectiveness of the feedback in student improvement (Jenkins, 2010).

The challenge for educators is to raise test scores without sacrificing the quality of instruction in the classroom (Kennedy, 2003). One possible negative consequence of testing to be avoided is excessive drilling of students. Popham (2003) alleged that some teachers have turned their classrooms into "drill-dominated, test-preparation factories" (p.

11). While he acknowledged that research has shown that time-on-task practice will raise test scores, he was opposed to what he called "eternity-on-task" (p. 11). The use of curriculum based measures (CBMs) to measure student performance allows short reading passages or math assignments to be introduces and regular intervals. The data are then plotted and a growth over time graph to determine if instructional practices are effective. This method allows for short assessment sessions and quick responses to redirect instruction at the point of critical need (Clarke, 2009). Critics complain that the skills measured are too narrow in scope and are not aligned to the curriculum (Thrall & Tingey, 2002).

To gain high levels of achievement from students, teachers must use assessment tools that give them feedback for instructional decision making. The data obtained from progress monitoring are used to target students who are not performing satisfactorily and track their growth through the school year. To help eliminate the lack of scientifically based instruction and help identify students with specific learning disabilities, many schools implement large scale RtI practices that include periodic screenings of academic success with regular progress monitoring of students identified as academically needy. These assessments may include screenings that track student performance toward meeting district or state expectations on high stakes tests at the end of the year (Stecker et al., 2008). Although there are varied RtI implementation practices, it is important that any system of screening and monitoring be technically adequate (Fuchs et al., 2003). The effectiveness of the system is only as good as the fidelity of the teacher's implementation. This includes reviewing instructional procedures, time allocation for instruction, size of the instructional group, instructional materials and motivational strategies used during

instruction. Since the screening and progress monitoring process is so important to student success, the process must be sensitive to student change, educationally meaningful, and must not monopolize instructional time (Stecker et al., 2008). In Mississippi, the state department of education has significant influence over what is taught in the schools, but little influence on how the strategies are implemented from classroom to classroom (Buchanan, 2007).

Because of the NCLB, Mississippi is required to obtain data from the assessment regarding student achievement. In 1999, the Mississippi Curriculum Test (MCT) was created. The MCT consisted of reading, language, and mathematics assessments for students in Grades 2 through 8 (MDE, 2008). Benchmarks and passing scores in reading, language, and mathematics were established in grades three and seven to help determine whether students had the knowledge and skills needed to be successful at the next grade level. Grades 3 and 7 were chosen as benchmark grades in order to ensure that students do not go on to middle or high school without the basic skills needed. Students are required to successfully meet benchmarks in reading, language, and mathematics to be promoted to the next grade at Grades 3 and 7. In May of 2008, the Mississippi Curriculum Test, 2nd edition (MCT2) was implemented in Grades 3 through 8 (MDE, 2008).

The MCT2 consists of criterion-referenced assessments in reading/language arts and mathematics (MDE, 2008). Students in Grades 3 through 8, including special education students whose Individualized Education Plans (IEPs) specify the same goals are assessed using the MCT2. These assessments are aligned with the Mississippi Frameworks that were revised for language arts in 2006 and revised for mathematics in

2007. The results are used in the Mississippi State Accountability System and provide data that can be used for the purpose of improving instruction and increasing student achievement. Because students must master standards at certain levels to be promoted the next grade, the MCT2 is considered a high-stakes test (MDE, 2008).

The performance level descriptors provide information about the expected level of student performance on the standards expressed in the curriculum frameworks MDE, 2008). These descriptors define how well students gain knowledge and skills in the content standards. The performance level descriptors are organized into four distinct levels: advanced, proficient, basic, and minimal. These performance levels describe the content and process that a student at a given level is expected to know, demonstrate, and perform. At the advanced level, students perform in a manner beyond that which is required for success in the grade or course in the content area. These students can perform at a high level of difficulty, complexity, or fluency as specified by the grade-level content standards. Students at the proficient level demonstrate solid academic performance and mastery of the knowledge and skills required for success in the grade in the content area. These students are able to perform at a level of difficulty, complexity, and fluency and are prepared to begin work on even more challenging material that is required in the next grade in the content area. At the basic level, partial mastery of the knowledge and skills is demonstrated. These students are able to perform some of the content standards at a low level of difficulty, complexity, and fluency. Remediation is recommended for these students. Students at the minimal level inconsistently demonstrate the knowledge or skills that define basic level performance. These students require additional instruction and remediation in the knowledge and skills that are

necessary for success in the grade in the content area. Students who score at the minimal level on any part of the MCT2 in Grades 3 and 7 will be referred to the TST as part of the State Board of Education Intervention Policy (MDE, 2008).

Successful Schools

According to Wisniewski (2003), successful teachers used the information from testing to make a difference in the classroom. One teacher in an inner-city school began her research when she was not satisfied with her school's scores on the Massachusetts Comprehensive Assessment System (MCAS) test in 2000. She and her colleagues took the data from the MCAS school report and converted it from large tables to graphs that were more easily understood by the faculty. Believing good teachers modify teaching practices yearly, she felt this data could provide solid evidence on which to make changes. The teachers discovered some positive results in the data. Their efforts with at-risk students had been rewarded by having smaller percentages of students with disabilities and limited English proficiency fail the test in their school than in the district as a whole.

They also found that some students at risk of failure needed only one to four points to reach the next level and pass the test (Wisniewski, 2003).

Black and Wiliam (2010) pointed out that teachers will not implement ideas, even those with substantial research to support their benefit, if the ideas are presented as basic principles without examples of how to effectively implement them. The same principle applies to students. Successful schools help clear away the obstacles to student learning by providing examples for effective implementation (Black & Wiliam, 2010).

Data Collection and Technology

Assessment programs should be designed so that stakeholders can use the results to improve the quality of education for their students. This requires that results be available to the people who make decisions about the educational process in a format they can use. The information must also be available in a timely manner. The data must be available for use to inform action. For this to happen, a technology infrastructure with appropriate tools and processes must be implemented (Pelligrino & Edys, 2010).

Technology can be used in the implementation of the assessment, in the collection and management of data, in reporting data, or in applying the data to instruction. It is critical to the data management process to provide agility and cohesiveness. A key element of the success of technology integration into assessment is the development of common standards on which each component is based. This provides for interoperability between products and flexibility for the user. The goal is to have assessment data collected quickly so instruction can be redirected quickly (Safer & Fleishman, 2005). An effective technology infrastructure is imperative for the data management process to be successful (Pelligrino & Edys, 2010).

Dede (2004) describes how a policy study was conducted by the North Central Regional Educational Laboratory (NCREL), the research and development division of Learning Point Associates. This policy study was done as an analysis of the educational technology policies of the seven states in the North Central region: Illinois, Indiana, Iowa, Michigan, Minnesota, Ohio, and Wisconsin. The author examined the official state websites of these states for documentary evidence of their state educational technology policy (Dede, 2004).

Policy recommendations included using technology to achieve policy objectives, improving equity, integrating technology into the state education plans, and providing oversight of district technology plans. Dede (2004) proposed that decision-makers be responsible for improvement initiatives based on data collected over time, that these initiatives be fully funded, and that initiatives be directed toward improving students' educational outcomes. Perhaps the answer to collecting usable data in a time-efficient manner lies in the marriage of data and technology. A plethora of data is available from the statewide assessments given each year. Teachers could benefit from a system whereby they could track individual student performance, as well as classroom and district performance (Dede, 2004).

Across the nation, schools see highly qualified teachers, differentiated instruction, and informed data-driven decision-making as effective means of improving the academics of all students. Many districts have not begun effective integrations of technology in teaching, learning, and leadership in schools. States must make a commitment to providing instructional resources that are made available to all teachers and provide professional development for teachers to use this technology (Gardner, 2002).

Student Monitoring Systems

The use of computers in the assessment process, also called computer adaptive testing, consists of performing the assessment, managing the data, and performing analysis of that data. As a result, student performance can be reported in graphs that show

relationships between student performance and predefined student target lines (McLeod & Ysseldyke, 2008).

Several companies have developed student monitoring systems which allow teachers and others to track student progress throughout the school year. Researchers Fuchs and Fuchs (1999) stated that the standardized tests which are administered annually are long and expensive and provide little diagnostic information. Recognizing the need for reliable tools to track student progress through the school year on skills addressed in the curriculum, they issued six considerations in selecting monitoring systems that produce accurate, meaningful information. To provide for sound decision-making, student monitoring systems should adhere to traditional psychometric standards of reliability and validity, should depict growth over time, and must demonstrate sensitivity to individual change. The systems should also be independent from specific instructional techniques, have the capacity to inform teaching, and meet feasibility criteria that permit frequent data collection on large numbers of children. . If effectively implemented, these six considerations are consistent with Wisniewski's (2003) belief that a school's curriculum can be shaped and refined by action research to give teachers a chance to focus on positive ways to improve their own instruction, thereby providing a better education for all students. STAR Reading and Math are both products developed by Renaissance Learning. In 2004, they were used in over 65,000 schools nationwide with implementation costs between $30,000 and $75,000 per school annually. Implementation of these products in conjunction with Accelerated Reader, Accelerated Math and the Reading Renaissance model meets the requirements for designation as a comprehensive school reform (Nunnery, Ross & McDonald, 2006). Accelerated Math

used in conjunction with an established math curriculum such as Everyday Math has been shown to improve student performance (Spicuzza, et al., 2001).

Accelerated Reader is a software package used to manage reading instruction. Students are assessed in STAR Reading, the companion assessment program, and a ZPD based reading level is identified. Students choose books from that reading level and take comprehension tests. Their scores are assigned a point value and are added to their reading record. These points accumulate toward a point goal for the grading period. The reading is monitored in three areas (reading aloud, paired reading, and independent reading) and can come from fiction, non-fiction, and informational texts (Nunnery et al., 2006).

STAR Early Literacy (Renaissance Learning, 2004) is a technology based assessment system computer based assessment system that emergent readers and beginning readers can complete in less than 10 minutes. Teachers receive immediate results that help them intervene faster and provide effective instruction during the most critical years of literacy development. The assessment includes measures of general readiness, phonemic awareness, graphophonemic knowledge, phonics, structural analysis, vocabulary, and comprehension, all of which can be given three to nine times per year (Ysseldyke & McLeod, 2007).

Another method of monitoring student progress monitoring is using CBMs. A CBM is a set of specific measurement methods for assessing student progress over time and for identifying students in need of additional instructional support and/or further diagnostic testing (McGlinchey & Hixson, 2004). In addition, teachers can redirect instruction using CBM data (Allsopp, et al., 2008). CBM's are research based probes

given during the year to determine the effectiveness of an instructional program because they are reliable and valid indicators or student performance. They are useful because they are easy and quick to administer (Hosp & Hosp, 2003) and provide information so teachers can quickly adjust instruction (Wiley & Deno, 2005). CBMs were initially developed to monitor the progress of students with individualized education plans (IEP) toward IEP goals. They can also be used to design educational programs and for monitoring remediation (McGlinchey & Hixson, 2004). CBMs provide information for experimentation, establishing benchmark norms, about screening for mastery of basic skills and for guiding classroom instruction and intervention (Crawford, Tindal, & Stieber, 2001; Shinn, 2002; Simmons, et al., 2002). CBMs measure the functional outcome of an instructional program so they are useful for making decisions about the instructional plan (Van Der Heyden & Burns, 2005).

Where curriculum based assessments measure progress in a curriculum, CBMs measure progress on specific skills (Hosp & Hosp, 2003). CBM's can be single or multiple measure probes. Multiple measure probes may be a better predictor of math success on high stakes tests (Witt & Chun, 2006).

A 2006 study compared two Mississippi school districts, one using the Edusoft progress monitoring package and another using no progress monitoring system to determine if there was a difference in their test scores. The study showed significantly different MCT reading and math scores, but not language arts scores between a district that used the Edusoft product and one that did not. Edusoft is and curriculum based progress monitoring package used in some Mississippi schools. The study looked at 6

different population groups second through eighth grade in the areas of math, reading and language arts (Walton, 2006).

A CBM is a part of curriculum based assessment (CBA) because it meets three criteria. A CBA must come from the curriculum being taught and be repeated over time. The results must be used to direct instruction. It differs from teacher made assessments which incorporate task analysis requiring different items and test be used for each skill taught (Fuchs, 2004). CBMs use general outcome measures (GOMs) that require the same assessment be used over time (Hosp & Hosp, 2003). Performance on these CBMs during universal screening has shown a positive relationship to performance on state wide tests (Webb, 2007).

GOM oral reading involves having a student read a passage aloud for 1 minute, and performance is measured by counting the number of words read correctly. In addition to oral reading, the maze task is another general outcome measure that has been used to measure students' reading growth. A maze passage is usually constructed by deleting every seventh word and replacing it with three multiple choice alternatives (one correct and two incorrect words). The first sentence is left intact. Rather than having students read aloud, as in oral reading fluency, the maze task requires students to read silently. The number of correct word choices is then counted (Wiley & Deno 2005).

AIMSweb is a formative assessment system of CBMs which uses curriculum-based measures in oral reading fluency, reading comprehension, phonics and phonological awareness, early numeracy, math computation, spelling, and writing. While the assessment is not computer based, the product has a web-based data management and

reporting system that uses standardized probes and protocol consisting of 1 to 5 minute probes (Ysseldyke & McLeod, 2007).

Good and Kaminsky (2003) describe another product called the Dynamic Indicators of Basic Early Literacy Skills (DIBELS). It is a set of standardized measures of early literacy development. DIBELS assessments are taken individually by students periodically throughout the year. DIBELS probes are short (1 minute) and address a variety of student capacities in areas such as phonemic awareness, nonsense word fluency, and oral reading fluency. DIBELS is used widely across the country. The University of Oregon DIBELS Data System website allows educators to upload student data and generate automated reports (Ysseldyke & McLeod, 2007).

Dace (2010) explored the relationship between the DIBELS oral reading fluency scores for Mississippi third grade students and their performance on the third grade MCT2. Her focus was on the Delta region of the state and concluded that there was a relationship between the DIBELS oral reading fluency scores from the spring semester and the MCT2 language arts scores from the same time period. This relationship between DIBELS, a progress monitoring tool and state assessment performance was reinforced by findings of Torgeson and Buck (2004) that DIBELS oral reading fluency performance is a good predictor of performance at a level 3 or above in language arts on the Florida Comprehensive Assessment Test. A relationship was also identified between DIBELS oral reading fluency performance and reading performance on the Tennessee Comprehensive Assessment Program (Alsup, 2007).

Yearly Progress Pro (McGraw-Hill Digital Learning, 2004), is a computer based system that offers item banks of questions that can be used to create customized

assessments, much like the MSPMS. Yearly Progress Pro also includes a number of curriculum based assessments that can be administered as often as weekly, as well as a sophisticated data management and reporting system. Yearly Progress Pro also exemplifies a growing trend, which is to also include instructional resources that can be used after receipt of assessment results to boost student proficiency in the skills just assessed. Assessment companies increasingly are partnering with or acquiring curriculum providers to build up the post assessment resources that they can offer to school districts (Ysseldyke & McLeod, 2007).

The MSPMS was implemented in 2004 as an easy to use, web-based system to help schools monitor the progress of their students toward mastery of state objectives. MSPMS was designed to be used from Kindergarten to 12th grade as a diagnostic tool. By design, the program assisted in the development, administration, scoring, and performance tracking of practice tests aligned with the Mississippi Curriculum Frameworks (MDE, 2005).

Many schools use the MSPMS to conduct student progress monitoring using comprehensive benchmark tests, three times per year in compliance with state RtI requirements (MDE, 2010b). A 2009 study regarding teacher attitudes toward the implementation of the MSPMS identified time constraints as a source of feeling challenged, frustrated or anxious by Mississippi Delta teachers in their implementation of the MSPMS. The success of this product lies in the implementation. Perceptions of the product can affect the implementation fidelity (Barron, 2009).

CHAPTER 3

METHODOLOGY

This chapter describes the methods and procedures used to determine if there were differences in MCT2 scores between students who attended school districts that used the MSPMS and students who attended school districts that did not use the MSPMS during the same school years. The study focused on grades 3 through 8. This chapter consists of the following sections: research design, participants, instrumentation, procedure, and methods of data analysis.

Research Design

This study utilized a causal comparative design. Causal comparative research is used to determine if differences in the independent variable are related to differences in the dependent variable. While causal comparative designs attempt to determine cause and effect relationships between independent and dependent variables, because of the inability to manipulate the independent variable, the relationships indentified by causal comparative designs should be interpreted with caution (Mills et al., 2009). The inability to manipulate the independent variable decreases the control the researcher has in the study and limits the ability the researcher has in interpreting the results as causal

relationships. However, according to Mills et al., causal comparative designs are useful when the independent variable cannot or should not be manipulated.

Causal comparative research was used in this study because it was not possible to manipulate the independent variable. The independent variable in this study is student progress monitoring systems. The two levels of this independent variable are the MSPMS and a system other than the MSPMS. It was not possible to manipulate the independent variable because the data from this study are archived and school districts self-selected their student progress monitoring systems. The dependent variable for this study was student achievement as measured by MCT2 language arts and math scores. Specifically, a causal comparative design was in this study to determine if there are differences in measures of student achievement between a school district that uses MSPMS and a school district that does not use MSPMS.

Participants

The study used archived data from two school districts in the state of Mississippi. One of the districts used the MSPMS in the 2008-2010 school years and the other district did not use the MSPMS during the same school years. In selecting the districts, efforts were made to select districts that are similar in terms of student demographics and school district population.

The schools were selected by comparing the demographic information found in the Mississippi Special Education District Data Profile for the 2009-2010 school year (see Appendixes A and B). Since it was determined that the Lowndes County School district used MSPMS and was a willing participant, a compatible match was selected

from all other districts in the state. The Biloxi Public School District was the most demographically similar based on total enrollment, racial distribution, and percentage students with a disability (MDE, 2010c, 2010d). Although the Biloxi Public School district is in enrollment category 1 and the Lowndes County School District is in enrollment category 2, the difference between the enrollments is only 390 students. In spite of these differences, the Biloxi Public School District was the most demographically similar district to the Lowndes County School District in Mississippi

Instrumentation

The data that were used to compare the two school districts were the 2008 - 2010 MCT2 language arts and math scores. The MCT2 is required by the state as a measure of student achievement. The MCT2 administration takes place in the first week of May of each school year. The tests are administered according to strict guidelines to ensure consistency. Test administrations are always implemented by a licensed educator and proctor over a three day period. The language arts reading section is administered on the first day and it includes approximately thirty test items. The language arts writing section is administered on the second day and includes approximately 30 test items. The math section is administered on the third day and it includes approximately 60 test items. All tests are administered at the same time and under as similar conditions as possible but are not timed.

According to information recorded in the testing manual, the MCT2 is a valid and reliable measure of student academic achievement (MDE, 2008). Table 3.1 displays Cronbach's alpha scores as a measure of reliability for the MCT2 instrument.

Table 3.1

MCT2 Cronbach's Alpha Scores

SUBJECT	GRADE	N	CRONBACH'S ALPHA
Language Arts	3	50	0.90
Language Arts	4	50	0.87
Language Arts	5	59	0.88
Language Arts	6	59	0.84
Language Arts	7	70	0.85
Language Arts	8	68	0.87
Mathematics	3	44	0.87
Mathematics	4	45	0.88
Mathematics	5	50	0.88
Mathematics	6	49	0.91
Mathematics	7	50	0.89
Mathematics	8	50	0.90

N = number of scores

Multiple measures were employed to establish and document the validity of the MCT2 assessment. As an indicator of content validity, all items were explicitly developed to measure the specific knowledge and skills of the Mississippi Curriculum Framework. Goodness of Fit was measured through confirmatory factor analysis. According to MDE (2008), index values higher than 0.90 for the Adjusted Goodness of

Fit (AGFI) and less the 0.05 on the Root Mean Square Residual (RMR) represent sufficient measures of validity. The results of the Goodness of Fit analysis recorded by MDE (2008) are displayed in Table 3.2.

Table 3.2

MCT2 Goodness of Fit

Grade	Language Arts		Mathematics	
	AGFI	RMR	AGFI	RMR
3	0.9686	0.0135	0.9926	0.0095
4	0.9744	0.0142	0.9962	0.0067
5	0.9462	0.0195	0.9908	0.0101
6	0.9808	0.0138	0.9946	0.0076
7	0.9934	0.0080	0.9855	0.0122
8	0.9889	0.0092	0.9928	0.0080

Once the items are scored, the results are categorized by performance level in one of four levels: minimal, basic, proficient and advanced. These category levels are set by a formula from the MDE and are defined in Table 3.3.

Table 3.3

MCT2 Performance Categories

Proficiency Level	General Descriptor
4-Advanced	Students at the Advanced level consistently perform in a manner clearly beyond that required to be successful at the next grade.
3-Proficient	Students at the Proficient level demonstrate solid academic performance and mastery of the content area knowledge and skills required for success at the next grade. Students who perform at this level are well prepared to begin work on even more challenging material that is required at the next grade.
2-Basic	Students at the Basic level demonstrate partial mastery of the content area knowledge and skills required for success at the next grade. Remediation may be necessary for these students.
1-Minimal	Students at the Minimal level are below Basic and do not demonstrate mastery of the content area knowledge and skills required for success at the next grade. These students require additional instruction and remediation in the basic skills that are necessary for success at the grade tested.

Procedure

Two Mississippi school districts were selected based on similarity in size, student demographics, and choice of student progress monitoring systems. One of the districts used the MSPMS and the other did not use the MSPMS. The superintendents from each district were contacted and permission was obtained to include the districts in the study (see Appendixes C and D). Upon school district approval, application was made to the Mississippi State University Institutional Review Board (IRB) for approval for this study to proceed (see Appendix E). After IRB approval, the researcher gathered the MCT2 scores that had been delinked from particular students from the school districts and enter them into the Statistical Package for the Social Sciences (SPSS) computer program for analysis.

Data Analysis

The data for this study were archived and consisted of math and language arts MCT2 scores for two groups of students. The independent variable was the use of MSPMS for progress monitoring and the dependent variable was student scores on the MCT2. All data were analyzed using the ANCOVA statistical procedure. According to Tabachnick and Fidell (2007), ANCOVA is used to statistically equate groups in causal comparative designs by adjusting scores on the dependent variable based on initial differences on some other variable (covariate) that is related to the dependent variable. In this study the 2008-2009 math and language arts MCT2 scores were the covariate. According to Mertler and Vannatta (2005), there are two major assumptions of ANCOVA. One is that the scores on the dependent variable are normally distributed and

the other is that there is homogeneity of variance. Pre-screening of data was conducted to test these assumptions. However, according to Tabachnick and Fidell (2007), ANCOVA is robust to moderate violations of these assumptions, especially when due to skew rather than outliers. All analysis was computed at the .05 alpha level.

CHAPTER 4

RESULTS

The purpose of this study was to determine if there were differences in MCT2 scores between students who attended a school district that used MSPMS and students who attended a school district that did not use MSPMS. An ANCOVA was used to analyze MCT2 language arts and math scores from the 2009-2010 school year (2010) using the 2008-2009 (2009) MCT2 language arts and math scores as the covariate. The scores were obtained from the Biloxi Public School District (without MSPMS) and the Lowndes County School District (with MSPMS). The scores were analyzed both by the language arts and math subject areas and by grade level. This chapter includes the results of all data analysis and concludes with a summary of the major findings.

Data Analysis

The fourth through eighth grade population from Biloxi Public Schools for the 2009-2010 school year was 1837 students, from which 1497 language arts and 1408 math MCT2 test scores were obtained. The fourth through eighth grade population at the Lowndes County School District for the 2009-2010 school year was 2005 students, from which 1847 language arts and math MCT2 scores were obtained. Since student scores for both years were required for the study, scores from students who only took one of the

tests were eliminated. Table 4.1 shows the population distribution by grade and the sample size by grade and subject. Because matched pairs were required between the dependent variable and the covariate, some student scores were eliminated if they did not have a match in the previous year's data file as obtained from the school. As observed in table 4.1, for each grade level, the sample size varied from the population size.

Table 4.1

School Population and Sample Size by Grade

Grade	Biloxi Public School District			Lowndes County School District		
	N	n		N	n	
		Language Arts	Math		Language Arts	Math
Fourth	382	291	291	414	378	378
Fifth	366	288	286	403	354	354
Sixth	330	256	256	419	366	366
Seventh	375	286	286	420	384	384
Eighth	384	376	287	399	365	365

According to Mertler and Vannetta (2005), there are two major assumptions of ANCOVA. One is that the scores on the dependent variable are normally distributed and the other is that there is homogeneity of variance. Homogeneity was tested using Levene's Test of Equality of error with results for the language arts and math scores in table 4.2. The assumption of homogeneity was met in the test of language arts scores but

was not in the math scores. The Shapiro-Wilk test of normality was used to determine normality. The assumption of normality was not met in the tests of language arts or math scores. According to Tabachnick and Fidell (2007), ANCOVA is robust to moderate violations of these assumptions, especially when the violation is due to due to skew and not outliers.

Table 4.2

Levene's Test of Equality of Error Variances

Source	F	df1	df2	Sig.
Language Arts	.355	1	739	.551
Math	6.145	1	650	.013

Hypothesis 1

Hypothesis one states that there is no statistically significant difference in the MCT2 language scores of students in Grades 4-8 in a school district using MSPMS and MCT2 language scores of students in Grades 4-8 in a district not using MSPMS while controlling for pre-test differences. To examine hypothesis one, a one-way between subjects ANCOVA was calculated to determine the effect of MSPMS on 2010 MCT2 language arts scores while controlling for 2009 MCT2 language arts scores. Table 4.3 shows the means and standard deviation of the language arts scores.

Table 4.3

Language Arts Descriptive Statistics – 2010 MCT2

Source	n	*M*	*SD*
Without MSPMS	1497	152.79	11.217
With MSPMS	1847	151.20	10.397

The 2009 MCT2 language arts scores were significant related to 2010 MCT2 language arts scores ($F(1,3341) = 4450.62$, $p = .000$). The main effect for MSPMS was significant ($F(1,3341) = 5.23$, $p = .022$, $\eta^2 = .002$), with the language arts scores of the school district that did not use the MSPMS ($M = 152.79$, $sd = 11.22$) higher than the language arts scores of the school district that used the MSPMS ($M = 151.20$, $sd = 10.40$). Further analysis of language arts scores was conducted to determine if the difference found between the two districts continued to exist when examined by grade level. The results of a series of ANCOVAs by grade level revealed that with each grade level, the covariate (2009 MCT2 language arts scores) was significantly related to the dependent variable (2010 MCT2 language arts scores). However, after controlling for the effect of the covariate, the only significant differences found between the district that used the MSPMS and the district that did not use the MSPMS was at the fourth and sixth grade level. Fourth grade language arts MCT2 scores ($M = 155.10$, $sd = 10.66$) and sixth grade language arts MCT2 scores ($M = 154.36$, $sd = 11.07$) of the district that did not use the MSPMS were significantly higher than the fourth grade language arts MCT2 scores ($M = 151.54$, $sd = 10.64$) and sixth grade language arts MCT2 scores ($M = 150.87$, $sd =$

10.58) of the district that did use the MSPMS. Tables 4.4 – 4.9 display the results of the analysis that examined the differences by districts and grade level.

Table 4.4

Analysis of Covariance Summary – 2010 MCT2 Language Arts

Source	Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Covariate	221502.785	1	221502.785	4450.621	.000	.574
2010 MCT2 language arts scores	260.532	1	260.532	5.235	.022	.002
Error	166278.091	3341	49.769			

Table 4.5

Analysis of Covariance Summary – 2010 MCT2 Language Arts – Fourth Grade

Source	Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Covariate	43841.024	1	43841.024	917.868	.000	.580
Fourth grade language arts scores	209.399	1	209.399	4.384	.037	.007
Error	31810.822	666	47.764			

Table 4.6

Analysis of Covariance Summary – 2010 MCT2 Language Arts – Fifth Grade

Source	Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Covariate	35521.813	1	35521.813	705.403	.000	.525
Fifth grade language arts scores	16.948	1	16.948	.337	.562	.001
Error	32177.950	639	50.257			

Table 4.7

Analysis of Covariance Summary – 2010 MCT2 Language Arts – Sixth Grade

Source	Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Covariate	44055.833	1	440555.833	972.141	.000	.611
Sixth grade language arts scores	808.793	1	808.793	17.847	.000	.028
Error	28052.069	619	45.318			

Table 4.8

Analysis of Covariance Summary – 2010 MCT2 Language Arts - Seventh Grade

Source	Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Covariate	40935.122	1	40935.122	790.605	.000	.542
Seventh grade language arts scores	95.296	1	95.296	1.841	.175	.003
Error	34535.213	667	51.777			

Table 4.9

Analysis of Covariance Summary – 2010 MCT2 Language Arts - Eighth Grade

Source	Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Covariate	49211.661	1	49211.661	1021.294	.000	.581
Eighth grade language arts scores	32.905	1	32.905	.683	.409	.001
Error	35560.968	738	48.186			

The results of the first hypothesis indicated that there was a statistically significant difference between the 2009-2010 language arts MCT2 scores of a school district that used MSPMS and a district that did not use MSPMS. The district that did not use the MSPMS had higher MCT2 Language Arts overall and higher scores in fourth and sixth grades.

Hypothesis 2

Hypothesis two states there is no statistically significant difference in the MCT2 math scores of students in Grades 4-8 in a school district using the MSPMS and MCT2 math scores of students in Grades 4-8 in a district not using the MSPMS while controlling for pre-test differences. To examine hypothesis 2, a one-way between subjects ANCOVA was calculated to determine the effect of MSPMS on 2010 MCT2 math scores

while controlling for 2009 MCT2 math scores. Table 4.10 shows the means and standard deviation of the language arts scores.

Table 4.10

Math Descriptive Statistics – 2010 MCT2

Source	n	*M*	*SD*
Biloxi	1408	154.73	11.105
Lowndes	1847	152.92	10.193

The 2009 MCT2 math scores were significant related to 2010 MCT2 math scores ($F(1,3252) = 4072.12$, $p = .000$). The main effect for MSPMS was not significant ($F(1,3252) = .829$, $p = .363$, $\eta^2 = .000$), with the math scores of the district that did not use the MSPMS ($M = 153.27$, $sd = 11.35$) lower than the math scores of the district that used the MSPMS ($M = 153.62$, $sd = 9.94$). Further analysis of math scores was conducted to determine if a difference was found between the two districts when examined by grade level. The results of a series of ANCOVAs by grade level revealed that with each grade level, the covariate (2009 MCT2 math scores) was significantly related to the dependent variable (2010 MCT2 math scores). However, after controlling for the effect of the covariate, the only significant differences found between the district that used the MSPMS and the district that did not use the MSPMS was at the sixth and eighth grade level. Sixth grade math MCT2 scores ($M = 155.59$, $sd = 11.13$) of the district that did not use the MSPMS were significantly higher than the sixth grade math MCT2 scores ($M = 150.11$, $sd = 10.59$) of the district that did use the MSPMS, whereas eighth grade math

MCT2 scores (M = 153.27, sd = 11.35) of the district that did not use the MSPMS were significantly lower than the eighth grade math MCT2 scores (M = 153.90, sd = 8.69) of the district that did use the MSPMS. Tables 4.11 – 4.16 display the results of the analysis that examined the differences in scores by districts and grade level.

Table 4.11

Analysis of Covariance Summary – 2010 MCT2 Math

Source	Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Covariate	203110.232	1	203110.232	4072.123	.000	.556
2010 MCT2 math scores	41.346	1	41.346	.829	.363	.000
Error	162203.954	3252	49.878			

Table 4.12

Analysis of Covariance Summary – 2010 MCT2 Math – Fourth Grade

Source	Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Covariate	37906.785	1	37906.785	722.182	.000	.520
Fourth grade math scores	.095	1	.095	.002	.966	.000
Error	34957.814	666	52.489			

Table 4.13

Analysis of Covariance Summary – 2010 MCT2 Math – Fifth Grade

Source	Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Covariate	38909.968	1	38909.968	739.056	.000	.537
Fifth grade math scores	24.573	1	24.573	.467	.495	.001
Error	33536.918	637	52.648			

Table 4.14

Analysis of Covariance Summary – 2010 MCT2 Math – Sixth Grade

Source	Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Covariate	42324.238	1	42324.238	867.050	.000	.583
Sixth grade math scores	1893.373	1	1893.373	38.787	.000	.059
Error	30215.919	619	48.814			

Table 4.15

Analysis of Covariance Summary – 2010 MCT2 Math – Seventh Grade

Source	Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Covariate	43741.053	1	43741.053	980.719	.000	.595
Seventh grade math scores	3.560	1	3.560	.080	.778	.000
Error	29748.880	667	44.601			

Table 4.16

Analysis of Covariance Summary – 2010 MCT2 Math – Eighth Grade

Source	Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Covariate	37714.616	1	37714.616	922.393	.000	.587
Eighth grade math scores	447.526	1	447.526	10.945	.001	.017
Error	26536.174	649	40.888			

The results of the second hypothesis indicated that there was not a significant difference in the 2009-2010 math MCT2 scores of the school district that used the MSPMS and the school district that did not use the MSPMS. The district that did not use the MSPMS had higher MCT2 Math scores overall and higher scores in sixth grade. The district that did use the MSPMS had higher MCT2 math scores in eighth grade.

Summary

Two hypotheses were tested in this study. Hypothesis 1 states that there is no statistically significant difference in the MCT2 language scores of students in Grades 4-8 in a school district using MSPMS and MCT2 language scores of students in Grades 4-8 in a district not using MSPMS while controlling for pre-test differences.

The null hypothesis was rejected. The results of the first hypothesis indicated that there was a statistically significant difference between the 2009-2010 language arts

MCT2 scores of the school district that did not use the MSPMS and the school district that did not use the MSPMS. Significance was found in the fourth and sixth grade subgroups but not in fifth, seventh and eighth grades.

Hypothesis 2 states that there is no statistically significant difference in the MCT2 math scores of students in Grades 4-8 in a school district using the MSPMS and MCT2 math scores of students in Grades 4-8 in a district not using the MSPMS while controlling for pre-test differences.

The null hypothesis was accepted. The results of the second hypothesis indicated that there was not a significant difference in the 2009-2010 math MCT2 scores of the school district that did not use the MSPMS and the school district that did not use the MSPMS. Significance was found in the sixth and eighth grade subgroups but not in fourth, fifth, and seventh grades.

While examining the MCT2 test data, it was observed that the scores were not normally distributed. The scores were determined to be negatively skewed and appeared to have a peaked kurtosis. The raw scores were clustered in the score range associated with a performance level 3 on the Performance Level Scale. This shows that the school districts in the study had more students performing in the proficient range than any other. This is consistent with the state average of 44.3% of students in grades three through eight scoring in the proficient range (MDE, 2012).

CHAPTER 5

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

This study examined two school districts in Mississippi that were demographically similar. One school district did not use a student progress monitoring system while another used the MSPMS. The study examined whether the use of the student progress monitoring system raised the scores of the school district where it was used on the statewide test administered annually. It was hypothesized that there would be no significant difference between the school district that used MSPMS and the one that did not in both areas of language arts and math.

The history of assessment in the American educational system shows a progression toward current accountability models. The roots of standardized testing can be seen in the implementation of the SAT and later, the NAEP. American educational leaders were searching for a method to determine if the American educational system was effective. Legislation tied funding to accountability in the Elementary and Secondary Education Act. Through several reauthorizations and enhancements including Goals 2000 and NCLB, accountability measures were imposed of States and LEA's to ensure effective education for all American students.

A resulting component of those requirements was the 3 Tiered model for Response to Intervention. This model depends on successful student progress monitoring to determine the effectiveness of the instructional process. Products were developed to assist educators in managing the assessment progress as well as the data that were collected so that instruction could be refined to meet student needs. The MSPMS was Mississippi's answer to these requirements.

The purpose of this study was to determine if there were differences in MCT2 scores between students who attended a school district that used the MSPMS and students who attended a school district that did not use the MSPMS. If, as Jerome Bruner believed, students could be guided in a curriculum based on a logical continuum of knowledge development through careful and constant determination of readiness and need, they could learn. This process requires careful monitoring because instruction that is below a student's standing in Vigotsky's ZPD does not challenge the student to take in new concepts. Conversely, instruction above the ZPD is too difficult and can frustrate the learner. This underscores the importance of effective progress monitoring in education.

School improvement is not a new concept. The review of literature section shows a historical precedent for school improvement based on accountability requirements. This cycle drives educators to improve instructional strategies and refine the process of teaching and learning to meet performance requirements imposed by government agencies and the constituents that they represent. Increased accountability identified the schools that were succeeding and those who were not. Researchers began identifying the qualities of successful schools to establish a model for others to follow. One of the key components identified in this process is effective student assessment. Educators have

worked to improve assessment in an effort focus instruction on specific student needs. The use of technology has streamlined the assessment process making it more agile so that assessment instruments can produce relevant data. To meet the growing demand for effective assessment information, companies began developing comprehensive, computer based programs to monitor student progress. The MSPMS is a result of this development.

The Biloxi Public School District received a rating of "High Performing" on the 2009-2010 MDE Accountability Status with a Quality Distribution Index of 182. The Lowndes County School District received a rating of "Successful" with a quality distribution index of 162 for the same testing year. This information is notable because it underscores the importance using effective strategies for improvement on the part of the Lowndes County School District and seeking to close the performance gap between itself and higher performing districts.

Scores for this study were obtained from the Biloxi Public School District and the Lowndes County School District. The fourth through eighth grade population from Biloxi Public Schools for the 2009-2010 school year was 1837 students, from which 1497 language arts and 1408 math MCT2 test scores were obtained. The fourth through eighth grade population at the Lowndes County School District for the 2009-2010 school year was 2005 students, from which 1847 language arts and math MCT2 scores were obtained. Two hypotheses were used to direct this study.

Hypothesis 1 state that there is no statistically significant difference in the MCT2 language scores of students in Grades 4-8 in a school district using MSPMS and MCT2 language scores of students in Grades 4-8 in a district not using MSPMS while controlling for pre-test differences.

Hypothesis 2 states that there is no statistically significant difference in the MCT2 math scores of students in Grades 4-8 in a school district using the MSPMS and MCT2 math scores of students in Grades 4-8 in a district not using the MSPMS while controlling for pre-test differences.

Discussion of Findings and Conclusions

To explore hypothesis one, an ANCOVA was used compare the 2009-2010 MCT2 language arts scores of the two schools with previous year's scores used as a covariate. The results are shown below.

Hypothesis 1states that there is no statistically significant difference in the MCT2 language scores of students in Grades 4-8 in a school district using MSPMS and MCT2 language scores of students in Grades 4-8 in a district not using MSPMS while controlling for pre-test differences.

The language arts score analysis showed significance, but the school district that did not use the MSPMS was higher than the school district that did use the MSPMS. This supports rejecting the null hypothesis. In the analysis by grade level, the school district that did not use the MSPMS had higher scores in fourth, fifth and seventh grade, but only the fourth grade scores were significantly higher. The sixth and eighth grade scores of the school district the used the MSPMS were higher, but only the sixth grade scores were significantly higher.

The results of the analysis of language arts scores show the school district that did not use the MSPMS had a significantly higher adjusted mean score in language arts than the school district that used the MSPMS. This implies that the use of MSPMS had no

positive effect on the MCT2 language arts scores, or that any positive effect that existed was negated by other factors beyond the scope of this study.

Hypothesis 2 states that there is no statistically significant difference in the MCT2 math scores of students in Grades 4-8 in a school district using the MSPMS and MCT2 math scores of students in Grades 4-8 in a district not using the MSPMS while controlling for pre-test differences.

To explore hypothesis two, an ANCOVA was used to compare the 2009-2010 MCT2 math scores of the two school districts with previous year's scores used as a covariate. The results showed no significance in the difference of scores between the school district that used the MSPMS and the school district that did not use the MSPMS, leading to an acceptance of the null hypothesis. When examined by grade, the fourth, sixth and seventh grade scores of the school district that did not use the MSPMS were higher than the school district that used the MSPMS, but only the sixth grade scores were significantly higher. The fifth and eighth grade scores of the school district that used the MSPMS were higher with only the eighth grade scores significantly higher. It should be noted that an ANCOVA analysis of math MCT2 scores excluding sixth grade showed a significance of .026 implying that the strength of the significance of the sixth grade scores significantly impacted the school results.

The results of the study were somewhat mixed with significance in different grades in both language arts and math showing higher scores for both schools. The resulting conclusion could be that the use of MSPMS did not show a consistent benefit. This may be, in part, due to the fidelity of implementation of the MSPMS. As Wisniewski (2003) said, successful teachers use the data obtained from assessment

instruments to direct teaching. This study did not examine teacher effectiveness. A study of teachers' perceptions about implementing MSPMS by Barron (2009) suggested that while teachers value the information gained from the MSPMS, they were unhappy when they felt they did not have enough time to implement the program. Since the MSPMS benchmark assessment is administered only three times per year, it covers multiple objectives and requires a large amount of time to administer. Barron identified implementation time as a factor to teacher dissatisfaction and possible breach in implementation fidelity, so the cumbersome nature of the test may have contributed to its lack of effectiveness. Clear examples of best practices may have assisted teachers in implementing the MSPMS according to the research of (Black & Wiliam, 2010). DIBELS is a more frequent test that only takes 6 minutes to administer. Research suggests a positive relationship between DIBELS scores and standardized test scores (Alsup, 2007). It appears that shorter, more frequent tests are more liked by teachers and are more likely implemented with fidelity and, as a result, are better predictors of performance on standardized state tests.

Another notable aspect of accountability and school improvement is the complexity factor. It is difficult to make systemic change to an organization when the outcomes of the organization are not based on the actions of the organization as a whole, but are based on the actions of each individual member of the organization (O'Day, 2002). The complexity factor suggests that a school wide system is less effective at measuring the progress of the school if it is not calibrated to the individuality of each student. It is possible that the MSPMS did not have a consistent effect across the sample because of the individual differences of the students. Consequently, O'Day suggests that

the more agile an assessment is to monitor a smaller number or students, a smaller amount of instructional content or a smaller amount of instructional time, the more effective it will be. Since MSPMS is a comprehensive assessment that is only implemented 3 times per year and includes multiple instructional objectives and is implemented to all students equally, O'Day's model would suggest that it would be less effective than a fine grained, targeted assessment that was quicker and less disruptive to implement. This would be consistent with the strength of the results explored in the supporting research.

Recommendations for Further Research

Based on the findings of this study, further research is recommended in the following areas. Additional research may include samples from a larger population or multiple school districts to see if the inconsistencies found in the current research are due to student differences or instructional practices. Further research should include other, more current software packages that monitor student progress and provide prescriptive instructional strategies to remediate deficiencies identified in the assessment data. A comparison between frameworks based content assessments such as the MSPMS and skills based CBM's should be conducted to determine the effectiveness of each so that more informed decisions can be made regarding assessment in light of teacher attitudes, budgetary restrictions and time constraints. Also research on the fidelity of implementation of assessment instruments would bring clarity to the assessment picture.

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APPENDIX A

DISTRICT DATA PROFILE REPORT 2009-2010

BILOXI PUBLIC SCHOOL DISTRICT

District: 2420 Biloxi Public Schools **Enrollment Group: 1**

I. POPULATION DESCRIPTION	District	State
1. Total Student Enrollment (month one data)	4,862	492,550
2. Number of Students with Disabilities (12/1 IDEA child count)	493	54,143
3. Percent of Students with Disabilities	10.14%	10.99%
4. Percent of Students with Disabilities, excepting those with Language/Speech Impairments	6.66%	7.71%
5. Percent of Students with Low Incidence Disabilities (AU, DB, DD, EmD, HI, MR, MD, OHI, OI, PD, TBI, VI)	3.35%	3.75%
6. Percent of Students Enrolled who are Black	36.63%	50.31%
7. Percent of Students Enrolled in Other Racial/Cultural Groups	63.37%	49.69%

II. CHILD IDENTIFICATION - A. Percent of Students with Disabilities by Disability Category	District	State
Autism (AU)	6.09%	3.34%
Deaf-Blind (DB)	0.00%	0.01%
Developmental Delay (DD)	6.49%	4.51%
Emotional Disturbance (EmD)	3.25%	3.61%
Hearing Impaired (HI)	0.41%	1.15%
Mental Retardation (MR)	3.25%	7.37%
Educable Mental Retardation (EMR)*	2.84%	6.20%
Language/Speech Impaired (L/S)	34.28%	29.87%
Multiple Disabilities (MD)	2.64%	1.50%
Other Health Impaired (OHI)	9.53%	10.92%
Orthopedically Impaired (OI)	0.41%	0.87%
Specific Learning Disabilities (SLD)	32.66%	35.99%
Traumatic Brain Injury (TBI)	0.00%	0.30%
Visual Impairments (VI)	1.01%	0.55%

II. CHILD IDENTIFICATION - B. Students with Disabilities as a Percent of the Total Enrollment	District	St
Autism (AU)	0.62%	0
Deaf-Blind (DB)	0.00%	0
Developmental Delay (DD)	0.66%	0
Emotional Disturbance (EmD) Mattie T. 2009-10 target: 0.55%	0.33%	0
Hearing Impaired (HI)	0.04%	0
Mental Retardation (MR)	0.33%	0
Educable Mental Retardation (EMR)*	0.29%	0
Language/Speech Impaired (L/S)	3.48%	3
Multiple Disabilities (MD)	0.27%	0
Other Health Impaired (OHI)	0.97%	1
Orthopedically Impaired (OI)	0.04%	0
Specific Learning Disabilities (SLD)	3.31%	3
Traumatic Brain Injury (TBI)	0.00%	0
Visual Impairments (VI)	0.10%	0

* The category of EMR is included to compare district identification rates.

III. DISPROPORTIONATE DIFFERENTIALS	District	State
8. Percent of Black Students with Educable Mental Retardation	0.45%	0.96%
9. Percent of Other Students with Educable Mental Retardation	0.19%	0.40%
10. Differential for Educable Mental Retardation Mattie T. 2009-10 target: 1.15 or less for all districts	0.25	0.57
11. Percent of Black Students with Specific Learning Disabilities	4.27%	4.59%
12. Percent of Other Students with Specific Learning Disabilities	2.76%	3.31%
13. Differential for Specific Learning Disabilities Mattie T. 2009-10 target: 1.85 or less for all districts	1.51	1.28

APPENDIX B

DISTRICT DATA PROFILE REPORT 2009-2010

LOWNDES COUNTY SCHOOL DISTRICT

District: 4400 LOWNDES CO SCHOOL DIST **Enrollment Group: 2**

I. POPULATION DESCRIPTION	District	State
1. Total Student Enrollment (month one data)	5,252	492,550
2. Number of Students with Disabilities (12/1 IDEA child count)	517	54,143
3. Percent of Students with Disabilities	9.84%	10.99%
4. Percent of Students with Disabilities, excepting those with Language/Speech Impairments	7.10%	7.71%
5. Percent of Students with Low Incidence Disabilities (AU, DB, DD, EmD, HI, MR, MD, OHI, OI, PD, TBI, VI)	3.81%	3.75%
6. Percent of Students Enrolled who are Black	36.69%	50.31%
7. Percent of Students Enrolled in Other Racial/Cultural Groups	63.31%	49.69%

II. CHILD IDENTIFICATION - A. Percent of Students with Disabilities by Disability Category	District	State
Autism (AU)	2.71%	3.34%
Deaf-Blind (DB)	0.00%	0.02%
Developmental Delay (DD)	3.87%	4.51%
Emotional Disturbance (EmD)	4.26%	3.61%
Hearing Impaired (HI)	2.13%	1.15%
Mental Retardation (MR)	7.35%	7.37%
Educable Mental Retardation (EMR)*	6.77%	6.20%
Language/Speech Impaired (L/S)	27.85%	29.87%
Multiple Disabilities (MD)	2.71%	1.50%
Other Health Impaired (OHI)	14.70%	10.92%
Orthopedically Impaired (OI)	0.19%	0.87%
Specific Learning Disabilities (SLD)	33.46%	35.99%
Traumatic Brain Injury (TBI)	0.39%	0.30%
Visual Impairments (VI)	0.39%	0.55%

II. CHILD IDENTIFICATION - B. Students with Disabilities as a Percent of the Total Enrollment	District	State
Autism (AU)	0.27%	0.37%
Deaf-Blind (DB)	0.00%	0.00%
Developmental Delay (DD)	0.38%	0.50%
Emotional Disturbance (EmD) Mattie T. 2009-10 target: 0.55%	0.42%	0.40%
Hearing Impaired (HI)	0.21%	0.13%
Mental Retardation (MR)	0.72%	0.81%
Educable Mental Retardation (EMR)*	0.67%	0.68%
Language/Speech Impaired (L/S)	2.74%	3.28%
Multiple Disabilities (MD)	0.27%	0.17%
Other Health Impaired (OHI)	1.45%	1.20%
Orthopedically Impaired (OI)	0.02%	0.10%
Specific Learning Disabilities (SLD)	3.29%	3.96%
Traumatic Brain Injury (TBI)	0.04%	0.03%
Visual Impairments (VI)	0.04%	0.06%

* The category of MMR is included to compare district identification rates.

III. DISPROPORTIONATE DIFFERENTIALS	District	State
8. Percent of Black Students with Educable Mental Retardation	1.14%	0.96%
9. Percent of Other Students with Educable Mental Retardation	0.39%	0.40%
10. Differential for Educable Mental Retardation Mattie T. 2009-10 target: 1.15 or less for all districts	**0.75**	**0.57**
11. Percent of Black Students with Specific Learning Disabilities	4.41%	4.59%
12. Percent of Other Students with Specific Learning Disabilities	2.65%	3.31%
13. Differential for Specific Learning Disabilities Mattie T. 2009-10 target: 1.85 or less for all districts	**1.76**	**1.28**

APPENDIX C

SCHOOL DISTRICT APPROVAL TO CONDUCT RESEARCH

BILOXI PUBLIC SCHOOL DISTRICT

Tim Wilcox
79 Chinquapin Drive
Caledonia, MS 39740
December 15, 2011

Arthur McMillan, Superintendent
Biloxi Public School District
P.O. Box 168
Biloxi, MS 39533

Dear Mr. McMillan:

As a doctoral student at Mississippi State University, I am conducting research into the effectiveness of using the Mississippi Student Progress Monitoring System (MSPMS) to improve a school district's test scores. Since formative assessment is critical to guiding instruction toward student success, this research is needed to evaluate the effectiveness of MSPMS.

With your permission, archived MC12 student scores from 2008–2010 will be used in the study. Student names, MSIS numbers and all other identifiers are not needed and should be removed from the data file before releasing it to me. All student data will be deleted at the completion of the study.

There will not be any subject participation in this study, so an informed consent is not needed. The study must first be approved by the Mississippi State University Institutional Review Board (IRB) which reviews all research on human studies before any research data is collected.

Your participation in this study is greatly appreciated. Thank you for your time and consideration. I look forward to hearing from you. If you have further questions, feel free to contact me at (662)574-3775 or twilcox@cableone.net.

If you agree to participate in the study, please sign below and return. Please retain a copy for your records.

Sincerely,

Tim Wilcox

I provide consent for the Biloxi Public School District to participate in the study entitled "The Effectiveness of using the Mississippi Student Progress Monitoring System to Improve a District's Test Scores."

_____ _____
Superintendent Signature Date

APPENDIX D

SCHOOL DISTRICT APPROVAL TO CONDUCT RESEARCH

LOWNDES COUNTY SCHOOL DISTRICT

Edna McGill
Asst. Superintendent

Percy Lee
Voc. and Tech. Prep

Frances Coleman
Business Office/Administrator

Lowndes County School District

1053 Highway 45 South - Columbus, MS 39701 - (662) 244-5000 - Fax (662) 244-5043

Michael L. Halford
Superintendent

Dr. Peggy J. Rogers
Asst. Superintendent

Andra Brown
Special Education

Betty Clinton
Child Nutrition

December 9, 2011

Mr. Tim Wilcox
199 Enlow Drive
Columbus, MS 39702

Dear Mr. Wilcox;

Please accept this letter as permission to use MCT2 data from the Lowndes County School District in your doctoral research at Mississippi State University. I understand that this research will utilize archived MCT2 student scores from 2008-10 and that student names, MSIS numbers and any other identifiers will be removed before they are released to you.

I congratulate you on your endeavors. If we can be of further assistance, let me know.

Respectfully;

Michael L. Halford, Superintendent
Lowndes County School District

APPENDIX E

NOTIFICATION OF APPROVAL TO CONDUCT RESEARCH

December 19, 2011

Tim Wilcox

79 Chinquapin Drive

Caledonia, MS 39740

RE: IRB Study #11-349: The Effectiveness of Using the Mississippi Student Progress Monitoring System to Improve a District's Test Scores

Dear Mr. Wilcox:

This email serves as official documentation that the above referenced project was reviewed and approved via administrative review on 12/19/2011 in accordance with 45 CFR 46.101(b)(4). Continuing review is not necessary for this project. However, any modification to the project must be reviewed and approved by the IRB prior to implementation. Any failure to adhere to the approved protocol could result in suspension or termination of your project. The IRB reserves the right, at anytime during the project period, to observe you and the additional researchers on this project.

Please note that the MSU IRB is in the process of seeking accreditation for our human subjects protection program. As a result of these efforts, you will likely notice many changes in the IRB's policies and procedures in the coming months.

These changes will be posted online at

http://www.orc.msstate.edu/human/aahrpp.php.

Please refer to your IRB number (#11-349) when contacting our office regarding this application.

Thank you for your cooperation and good luck to you in conducting this research project. If you have questions or concerns, please contact me at nmorse@research.msstate.edu or call 662-325-3994.

Sincerely,

Nicole Morse

Assistant Compliance Administrator

cc: Debra Prince (Advisor)