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**Examination of Mississippi fourth and eighth grade students' reading performance on the Mississippi Curriculum Test, Mississippi Curriculum Test 2, and National Assessment of Educational Progress**

Shundria Summers Shaffer

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EXAMINATION OF MISSISSIPPI FOURTH AND EIGHTH GRADE STUDENTS'  
READING PERFORMANCE ON THE MISSISSIPPI CURRICULUM TEST,  
MISSISSIPPI CURRICULUM TEST 2, AND NATIONAL  
ASSESSMENT OF EDUCATIONAL PROGRESS

By

Shundria Summers Shaffer

A Dissertation  
Submitted to the Faculty of  
Mississippi State University  
in Partial Fulfillment of the Requirements  
for the Degree of Doctor of Philosophy  
in Elementary, Middle School, Secondary Education Administration  
in the Department of Leadership and Foundations

Mississippi State, Mississippi

April 2011

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Candidate for Degree of Doctor of Philosophy

High stakes testing in reading demands that educators are providing the appropriate instruction to ensure student's success on state and national assessments. Causal comparative research was conducted to examine the research questions. 6 reading assessments were used for the study: (a) the 2007 administration of the fourth and eighth grade NAEP, (b) the 2006-2007 administration of the fourth and eighth grade MCT, and (c) the 2007-2008 administration of the fourth and eighth grade MCT2. Data were drawn from the Mississippi Department of Education's website and from the National Assessment of Education Progress' website. District level data were available for both Mississippi Curriculum Tests and state level data were available for the NAEP.

Results revealed that there were statistically significant differences between achievement levels for fourth and eighth grade students on the MCT and MCT2. Comparison of the means for the two reading tests at the fourth and eighth grade level indicated that students scored statistically significant lower on the MCT2 than they did on

the MCT. Results also revealed that there were higher percentages of fourth grade students scoring minimal on NAEP than on the MCT and MCT2. In the basic category, there were higher percentages of students scoring basic on the MCT2 and higher percentages of students scoring proficient and advanced on the MCT. Relying on the targeted percentage of students at the achievement levels of proficient and advanced, the percentages of students on the MCT and MCT2 exceeded NAEP levels. At the eighth grade level, there were higher percentages of students scoring minimal and basic on NAEP and higher percentages of students scoring proficient and advanced on the MCT. Relying on the targeted percentage of students at the achievement levels of proficient and advanced, the percentages of students on the MCT and MCT2 exceeded NAEP levels.

Based on the above findings, the MCT2 is more aligned to NAEP, given that there were statistically significant differences between the MCT and MCT2. Further studies are needed in other subject areas to ensure state tests alignment with NAEP.

## DEDICATION

I would like to dedicate my dissertation to my lovely daughters: Nasya and Nyaah. Girlies, you are truly my inspiration!

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First of all, I would like to thank my Lord and Savior, Jesus Christ for always being with me. Because of the wisdom and knowledge He has instilled in me, I have been able to endure various facets of life. God is good and I am eternally grateful.

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## CHAPTER I

### INTRODUCTION

The United States is in the midst of a remarkable, yet controversial education reform effort. A centerpiece of this movement has been standards-based testing in reading, a tactic that has steadily gained in distinction over the past two decades (Gallagher, 2010). Reading is one of the basic skills that students are expected to master in elementary school. The focus is to have students reading on grade level by meeting at least the proficient level on state assessments, by the end of third grade, as required by federal mandates (No Child Left Behind Act, 2001).

Reform efforts have been put in place to ensure that student success is evident. Focus on accountability is a crucial step in addressing the achievement gaps that plague our nation. In an effort to restructure the educational system, the No Child Left Behind Act of 2001 (NCLB) was signed into law. NCLB contains three significant provisions regarding assessing student achievement. The first provision requires states to participate in the National Assessment of Educational Progress (NAEP), also known as the nation's report card, if they wish to receive Title I grants (NAEP, n.d.d.). A second provision obliges every state to set principles for grade-level achievement and develop a system to assess the progress of all students and subgroups of students in meeting those state determined grade-level standards. A final provision of interest requires states to maintain Adequate Yearly Progress (AYP) towards the goal of 100% proficiency for all students

and closing the achievement gap between advantaged and disadvantaged students (NCLB, 2002).

NCLB struck a balance: It required the development of state testing programs, but gave states the authority to set standards (Mathews, 2006). The federal law sought to hold public schools liable for academic performance, but allowed states to devise their own assessments. Thus, the characterization of proficiency varies from state to state. This means that results are not comparable across states (Skinner, 2005). Also, the discrepancies in the percentages of students whom states report as having achieved higher achievement levels is enormous, leading critics to question the reliability of states' tests as measures of academic progress (Cavanaugh, 2006).

Uncertainty frequently surrounds the process of setting performance standards for a state's high stakes achievement assessments. This factor becomes extremely challenging because achievement data from tests are used to meet the AYP stipulations of the NCLB legislation. NCLB requires states to participate in NAEP to receive funding. In light of these demands, there is a tendency for policy makers, the press, and the public to use NAEP for comparisons and guidance (Pellegrino, 2007).

NAEP is considered the gold standard of educational assessments based on its history as a national gauge of student success and the quality that has gone into its design and development (Mathews, 2006). NAEP is regarded as a high quality indicator of academic achievement: its performance standards are perceived to have greater rigor and validity than those set for many other assessments, including the achievement tests developed by individual states. Unlike state tests, which are used to assist in rating public schools and determining achievement of all students in certain grades, NAEP has a more

restricted assignment. It tests selected groups of students in key subject areas to generate data on long-term educational tendencies (Mathews, 2006).

NAEP results are scrutinized by educators and policymakers as a uniform benchmark against which students from every state can be judged. States are required to have a sample of their students participate in NAEP every two years in fourth and eighth grade reading and math. The statistical arm of the United States Department of Education conducted a study to determine how states' definitions of student academic proficiency match up to the manner as they are implied by the nation's report card (Cavanaugh, 2006). Findings revealed that far greater numbers of students are proficient on state reading and mathematics tests than on NAEP. These gaps have grown exponentially since NCLB became law (Cavanaugh, 2007; Olson, 2007). For example, Mississippi reports for 2004-2005 showed that only 18% of fourth graders scored at or above the proficient level on the NAEP reading test, however, 87% have reached at or above the proficient level on the reading state exam (Skinner, 2005). In fourth grade reading during the 2004-2005 school year, Mississippi had the lowest score equivalents on NAEP which placed them at the bottom (Cavanaugh, 2007).

Mississippi Department of Education (MDE, 2007) reported there were gaps between where the students were and where they should be. At the current rate of improvement, it would take students until 2069 to reach the achievement levels set by NAEP in fourth grade reading. In an effort to eliminate this problem, Mississippi has revised its former test, the Mississippi Curriculum Test (MCT) to reflect the NAEP Standards in its new 2007-2008 version of the test, the Mississippi Curriculum Test, Second Edition (MCT2). Since there is growing talk of national testing and standards

which persists during the fifth year of the NCLB era, expectations for student learning were increased and the alignment between curriculum, assessment, and instruction were improved.

To ensure that the rigor of the curriculum and the assessments were aligned, MDE adopted the Depth of Knowledge (DOK) framework developed by Dr. Norman Webb. The DOK Framework addresses the cognitive complexity of what students are expected to know and do. Use of DOK assists in ensuring that higher order thinking reflected in the curriculum frameworks is appropriately measured on state assessments (Rucker, 2005).

There are four DOK levels: (a) level 1 (recall), (b) level 2 (skill/concept), (c) level 3 (strategic thinking), and (d) level 4 (extended thinking). DOK 1 involves simple knowledge with little complexity such as recall and rote response and is a foundation upon which deeper knowledge can be constructed. DOK 2 requires more comprehension. At this stage, students begin to apply skills and process concepts such as inferring, concluding, comparing, summarizing, and determining relationships which are not very complex. At DOK 3, students analyze, evaluate, reason, and plan at a much deeper and complex level. At DOK 4, students' attainment of knowledge is deep. Higher-level thinking is a focal point at this level, and students do such things as synthesize, hypothesize, evaluate, and analyze. Their interaction with material becomes in-depth, complete, and purposeful (Baughman, 2008).

## **Statement of the Problem**

The shifting demands of a world economy, along with societal mandates for school reform initiatives necessitate an educational system proficient in delivering world-class learning to all students (Altshuler & Schmatutz, 2006). A convergence of needs, monetary constraints, declining test scores in worldwide comparisons, and changing employment demands which establish higher demands for efficient reading skills strengthened the cry for educational accountability in the United States (Johnson, 1998).

NCLB (2001) was created in response to such demands, with the intention of reforming public education and improving student achievement throughout the United States. It relies on assessment and accountability requirements as the foremost apparatus for improving achievement and broadens the responsibility of state educational agencies in executing a standards-based accountability system (Linn, Baker, & Betebenner, 2002). According to Schmidt and Cogen (2009), NCLB brought attention to some important issues; however a fundamental flaw is disconnect between the assessments that are instrumental in establishing educational results and the content standards that direct classroom instruction and learning.

In order to accomplish the goals of NCLB, NAEP has become a driving force for achievement. NAEP plays an integral role in determining the success of America's schools by providing information on academic performance to policymakers, educators, and the general public nationally (National Center for Education Statistics, 2005). Consequently, NCLB's focus on the inspection of NAEP results required changes in the practices of many states (Linn et al., 2002). Mississippi's assessment's rigor was also questioned.



An independent study conducted by the Council for Basic Education demonstrated that there were issues with rigor that needed to be examined in Mississippi's state tests (Rucker, 2005). Based on information from that study, officials at MDE began revising the curriculum. The state's goal was to make profound strides in improvement and become one of the top states in absolute achievement.

Officials at MDE also realized that there was a poor correlation between the Mississippi Curriculum Test and the Nation's Report Card. Findings revealed that there were major gaps between where students currently were in comparison to where they should be (MDE, 2007). Alignment deficits were found in the curriculum, assessment, and instruction. A policy statement issued by the United States Department of Education indicated that NAEP would be used as an external measure for ensuring that all states are adhering to NCLB requirements (United States Department of Education, 2003), thus requiring states to adjust their curriculum and test.

Mississippi's standards had to be brought into closer alignment with the NAEP standards. The definition of proficient varied with the two assessments. Mississippi and NAEP used different definitions of the term Proficient which resulted in a much larger percentage of students rated as proficient on the state assessment than on the NAEP assessment (Cavanaugh, 2007).

A review of literature indicates misalignments in the NAEP and state tests (Linn et al., 2002; National Assessment Governing Board [NAGB], 2002). In order to better align the NAEP and MCT, MDE created a new framework, the 2006 Mississippi Language Arts Framework, and state test, the MCT2 (MDE, 2006).

## **Research Questions**

This study compared the MCT and MCT2 to NAEP to determine if the two Mississippi tests were aligned with NAEP. Focus was placed on the percentages of students who were in the minimum, basic, proficient, and advanced categories. The MCT tested students in Grades 2-8 in reading. The MCT2 assesses third - fourth graders in reading. NAEP only assesses fourth and eighth graders in reading. Therefore, the research questions focused on fourth and eighth grades reading. All three reading assessments: MCT, MCT2, and NAEP are administered to fourth and eighth grade students. Achievement level data were used to make these comparisons. The primary research questions which guided this study included the following.

1. What are the differences in achievement levels for the MCT and MCT2 in fourth grade reading?
2. What are the differences in achievement levels for the MCT and MCT2 in eighth grade reading?
3. Does the reading portion of the MCT or MCT2 more closely correspond to achievement levels on the NAEP at the fourth grade?
4. Does the reading portion of the MCT or MCT2 more closely correspond to achievement levels on the NAEP at the eighth grade?

## **Significance of the Study**

The increasing stipulations for accountability in the public education systems of the United States has given rise to a propagation of high stakes tests as the principle means of individual and system assessment (Altshuler & Schmautz, 2006). The National

Assessment Governing Board (1996) released a policy statement that called for states to link their assessments with NAEP. Several years later, the NAEP Validity Studies Panel (2002) prioritized four studies, two which are significant to MDE: (a) alignment with state standards and (b) limits on the NAEP's capacity to evaluate state results. The NAEP Validity Studies Panel urged that the design of the Nation's Report Card be considered when determining the limits on validity of inferences that policymakers might wish to make on the basis of NAEP results. Further, there were concerns that NAEP results could be discounted by states that could argue that NAEP was not assessing skills in the appropriate state mandated form. The panel expressed that it was the responsibility of NAEP to measure the alignment of its standards with each state's standards.

NAEP results have been emphasized by governors and state school superintendents. They continue to highlight gains in state test scores though state trend lines often resemble a jagged mountain range, erratically moving up and down as tests are changed and achievement levels are moved (Fuller, Wright, Gesicki, & Kang, 2007).

According to trend lines, improvement on the Mississippi Curriculum Tests, have shown only slight gains and losses in each grade and subject. During the 2006-2007 school year, statewide, schools achieved just about as well as the previous school term. The results have flat-lined (Helmes, 2007). In order to change this trend, five strategies were introduced by the Mississippi Department of Education's Board. Of significance to this study was the first strategy: to increase the rigor of the curriculum and assessment system (MDE, 2007). According to Hank Bounds, former state superintendent of education for Mississippi, a more rigorous curriculum would be implemented (Blanton, 2007). For the 2007-2008, Mississippi used a more rigorous assessment, the MCT2,

which required students to demonstrate a greater depth of knowledge that is more in line with national assessments (Blanton, 2007).

The significance of the study revolves around misalignments which have been found in state tests when compared to NAEP (Cavanaugh, 2007) and reading deficiencies in some of America's students (Harrison, 2004). Based on these factors, officials at MDE revamped the curriculum and state test in an attempt to align Mississippi's test with NAEP. Therefore, it is necessary to determine if reading as tested at the fourth and eighth grade level on the MCT2 is better aligned to reading at the fourth and eighth grades on NAEP. The purpose of this study is to examine which test, fourth and eighth grades reading on the MCT or MCT2, is more closely aligned in relation to fourth and eighth grade reading on the Nation's Report Card.

### **Definitions of Terms**

Several key terms are used throughout the research.

*Achievement levels* are performance standards showing what students should know and be able to do. They can be classified into four levels: (a) minimum, (b) basic, (c) proficient, and (d) advanced. Students are rated according to these categories on the MCT, MCT2, and NAEP assessment (NAEP, n.d.d., MDE, 2007).

*Adequate Yearly Progress (AYP)* is an individual state's calculation of progress meeting the goals set forth in the NCLB (NCLB, 2001).

*Assessment* is a systematic approach used to obtain evidence from tests and other sources for making inferences about the characteristics of a student (Bracey, 2009).

*Correlation* is a measure of the degree of relationship between two paired values on two variables (Lee, 2006).

*Framework* is an outline of competencies and objectives which are used for classroom instruction (National Assessment Governing Board, 2004).

*High Stakes Tests* are mandated achievement tests which carry rewards and consequences for success or failure (Marchant, 2004).

*Linking* is an approach used to make the results of one assessment equivalent to another (Oakes, Blasi, & Rogers, 2004).

*Mississippi Curriculum Test 2 (MCT2)* is a test given to Mississippi students in the third - eighth grades, which assesses students' knowledge and skills in reading/language arts and mathematics (MDE, 2007).

*National Assessment of Educational Progress (NAEP)* is an assessment in fourth, eighth, and twelfth grades in reading, mathematics, and several other subjects given to a representative sample of students in the United States. NAEP is also known as the Nation's Report Card (NAEP, n.d.d.).

*Reading* is the practice of obtaining meaning from print (Harrison, 2004).

*Standardized test* include a set of rules for administration which are the same for everyone taking the test (Orfield & Wald, 2000).

### **Delimitations**

The 2006-2007 MCT and the 2007-2008 MCT2 were administered to two different groups of students, while 2007 NAEP was administered to a select group of fourth and eighth graders who also took the 2007-2008 MCT2. The assumption is that

both groups of students taking the MCT and MCT2 consisted of the same type of students.

## CHAPTER II

### LITERATURE REVIEW

#### **Introduction**

Worldwide, reading is used as an indicator of educational progress. Measuring what and how well students learn is an imperative building block in the process of strengthening and improving the nation's schools (Alan, 2009). Tests, when used properly, are among the most sound and objective ways to measure student performance. Tests can provide critical measures of students' skills, knowledge, and abilities. Legislation mandates testing to measure student performance and to hold schools and districts accountable for that performance (NCLB, 2001). Educational stakeholders including policymakers, educators, and the general public expect large-scale assessments to serve a variety of purposes: (a) measuring student learning, (b) holding educational systems accountable, (c) signaling worthy goals for students and teachers to work towards, and (d) providing useful feedback for instructional decision making (Chudowsky & Pellegrino, 2003).

NCLB mandates that each state participate in testing in reading and mathematics every two years. In this sense, NAEP is not considered to be a high stakes test for students. However, results of the state tests are compared to the Nation's Report Card (Cavanaugh, 2007). NAEP, therefore, increases the stakes for states because it serves as a comparison for adequate yearly progress. The present study scrutinizes the association

between the fourth and eighth grade reading portions of the Nation's Report Card, MCT, and the MCT2.

This chapter presents a review of the literature and research on the three assessments. It commences with a discussion of reading and the background of high stakes testing as a motivating force for standards based reform policy in the context of NAEP and the MCT2. Information from the MCT is also included to serve as a comparison to the MCT2.

### **Reading and the American Society**

Children who become adults with low levels of literacy are at an escalating disadvantage in a society that is establishing higher demands for efficient reading skills within the workplace. These intensifying demands can only be met by shifting the way reading is taught so that better literacy outcomes are produced for more children (Schmidt & Cogan, 2009).

There is an emerging sense of exigency about advancing reading instruction and literacy outcomes in America fueled by statistics such as 37% of fourth-grade school children cannot read well enough to accomplish grade-level work (National Center for Education Statistics, 2001). A report by the National Research Council stated that concerns about literacy are not developing from declining levels of literacy in our schools, but rather from recognition that the demands for high levels of literacy are rapidly accelerating in our society (Torgesen, 2002).

The capacity to read is extremely valued in American society and imperative for social and economic progression. A large percentage of adolescents in the United States



cannot successfully read grade-level text. According to Grigg, Daane, Jin, and Campbell (2003), the report from the National Assessment of Educational Progress clearly outlined the literacy shortcomings of the nation's eighth and 12<sup>th</sup> graders. It was reported that two-thirds of these adolescents read below the proficient level. One quarter of these same adolescents did not possess the literacy skills necessary to read at the basic level.

Because of these deficits in adolescent reading, similarities are seen in adults. According to the National Institute for Literacy, many adults in the United States lack an adequate background of basic reasoning skills to function successfully in society (National Institute for Literacy, n.d.). Between 46-51% of adults have low literacy skills and lack the foundation needed to find and keep decent jobs and actively participate in civic life (Sum, Kirsch, & Traggart, 2002). A competitive economy requires increased levels of literacy which were lacking in the past.

In order to meet the demands of America's technological society, a 100% literacy rate has been recommended for all students (NCLB, 2001). Policymakers need to ensure that students are receiving the literacy education necessary to succeed in our global society, yet they are removed from classroom instruction. Therefore, policymakers rely on large scale assessments to measure progress (Linn, 2000).

## **Reading**

Society has produced challenges for persons whose professional responsibilities include the literacy outcomes for children. According to Alan (2009), there is a growing concern in public education that reading instruction is not as effective as it should be in teaching all children to read. Reading is the process of obtaining meaning from print

(Harrison, 2004). It is a complex process which involves decoding print from text in order to comprehend what is read. Word identification, fluency, vocabulary, comprehension, knowledge of text, personal experience, social context, and motivation contribute to reading (Harrison, 2004; Pressley, 2006). They work in combination as children gain reading proficiency. An excellent approach for improving reading is to construct basic literacy skills which include word recognition, oral and reading comprehension, writing, and spelling, thereby guaranteeing all children are readers early in their educational careers (Silliman & Wilkinson, 2004).

Reading serves as the major foundational skill for all school-based learning. The early childhood years, from birth to age eight, are critical for literacy development (Helping Children Learn to Read, 2005). Statistics show that only 5% of children learn to read effortlessly and 20-30% of children learn to read relatively easily once exposed to formal instruction. For the remaining 60-65% of children, other challenges exist.

1. For 20-30% of students, reading is one of the most difficult tasks that they will have to master throughout their schooling.
2. Approximately 90-95% of poor readers can greatly increase reading skills to average reading levels through prevention and early intervention programs that include phonemic awareness, phonics, fluency development, and reading comprehension strategies (Helping Children Learn to Read, 2005).
3. At least 75% of children, who are poor readers that do not receive assistance prior to nine years old, will continue to have reading difficulties.

4. Of the 75% of children who are poor readers, 10-15% of them will drop out of school.
5. Only 2% of students will complete a four-year college program in the remaining 75% of poor readers (Helping Children Learn to Read, 2005).

According to Pressley (2006), reading experts believe that proficient readers are able to read selections with fluency and prosody, and discuss or retell the selection. This requires measuring this process with one-on-one interaction between teachers and students. Because it would be difficult to standardize and implement reading and response sessions for large numbers of students across the country, mass produced tests are used to measure reading skills (Pressley, 2006). Students work independently to meet testing expectations. As a result, reading tests typically include reading passages followed by questions about the passages to be answered after reading.

### **Reading Challenges for Adolescents**

Students who fall behind in reading rarely catch up to their peers. As they become older, they have a tendency to avoid reading (Moats, 2001). Less than half of 13-year olds are daily readers which is a 14% decline from 20 years earlier (National Endowment for the Arts, 2007). Also, American 15-year olds ranked 15<sup>th</sup> in average reading scores from 31 industrialized nations. These trends present a growing necessity to address the needs of struggling readers and bring them to achievement levels of, at, or above proficient, as measured by NCLB.

According to Gallagher (2010), a 2006 report on adolescent literacy by the National Council of Teachers of English brought out several discouraging points about

adolescent reading. The Alliance for Excellent Education stated that out of 8.7 million secondary students, one in four, are not capable of reading or comprehending the resources in their textbooks. The 2004 NAEP revealed that U.S. secondary school students were reading at rates considerably under expected levels. The 2005 ACT College Readiness Benchmark for Reading established that merely half of the students assessed were equipped for college-level reading. Reading scores were the lowest in a decade.

### **High Stakes Testing**

Federal interest in education has increased as America's public schools are consistently under scrutiny. Corporate and governmental officials blamed education for the economic problems of the 1980s and began to call for more uniform educational policies, ultimately focusing on raising standards, implementing standardized tests, and holding students and teachers accountable (Apple, 1996). According to Orfield and Wald (2000), the publication of *A Nation at Risk* shifted educational decision making from the local to the state level. Since the publication of *A Nation at Risk*, the standards-based school reform movement has spurred a broad coalition. This movement has frequently been reduced to a single policy, high stakes testing.

High stakes testing is a centerpiece of educational reform (Weber, Gerber, Turcios, Wagner, & Forbes, 2006). High stakes tests are usually national or state-wide standardized tests (Marchant, 2004). Certain uses of achievement test results are termed high stakes if they carry serious consequences for students or educators (Carpenter, 2001; Madaus, 1988). Specifically, high stakes tests are a part of a policy design that links the

score on one set of standardized tests to grade promotion, high school graduation, and in some cases, teacher and principal salaries, and tenure decisions (Orfield & Wald, 2000). As part of the accountability movement, stakes are also deemed high because the results of tests, as well as the ranking and categorization of schools, teachers, and children, are reported to the public (McNeil, 2000). Consequence-based educational assessments have been used by the federal government beginning with the first Bush administration stressing the use of annual assessments as a precept of its educational reform policy (Linn, 2000).

According to Oakes et al. (2004), the linkage between standards, accountability, and market choice is at least partly explained by the lack of political will at the federal level to follow through on a set of commitments reached by President George H.W. Bush and governors at the 1989 educational summit. The national agenda of standards, accountability, and resources lost its focus during the years between the summit and the adoption of NCLB. During the 1990s, the majority of states introduced an element of statewide testing and, to a lesser extent, accountability measures. By 2002, most states had some form of testing procedure in place (Rudalevige, 2003).

The American Educational Research Association (AERA, 2000) issued a policy statement on high stakes testing in pre-kindergarten through twelfth grades testing in 2000 based on the 1999 Standards for Educational and Psychological Testing. They believe the following.

reporting of test results may be beneficial in directing public achievement to gross achievement disparities among school or among student groups....if high stakes testing programs are implemented in circumstances where educational resources

are inadequate or where tests lack sufficient reliability and validity for their intended purposes, there is potential for serious harm. (AERA, 2000, p.6)

AERA (2000) stated that every high stakes achievement testing program should meet the following 12 conditions.

1. High stakes decisions should not be made using only one assessment.
2. Adequate resources and opportunity to gain knowledge must be offered.
3. High stakes tests must be assessed for separate intended use.
4. Negative consequences must be revealed.
5. Tests should be based on curriculum standards.
6. Appropriate measures must be taken to determine passing scores or achievement levels.
7. Remediation must be available.
8. English language learners should receive accommodations.
9. Students with disabilities must be provided with accommodations.
10. Policies for inclusion and exemption must be clear.
11. Scores should be accurate so that they support the intended interpretation.
12. Ongoing analysis of assessment effects must be present.

The impact of high stakes testing on student academic performance has been scrutinized. Prior to NCLB, Amrein and Berliner (2002) found that states which used high stakes test performed as well as the rest of the nation. Thus, there was no apparent effect of high stakes testing on performance. Using NAEP scores, they examined whether the academic achievement increases when high stakes tests are used in Grades 1-8. Results were mixed: 67% of states had overall decreases in Grade 4 NAEP mathematics

performance and 50% showed increases in Grade 4 NAEP reading performance. There were not consistent results across states to make a determination of the effects of high stakes testing as a public policy.

Consequences of high stakes testing can be critical which include making bad decisions, narrowing the curriculum, focusing exclusively on certain segments of students, losing instructional time, and moving decision making to central authorities and away from local personnel (International Reading Association, 1999). Basing important decisions on limited and imperfect information can lead to bad decisions that harm students and teachers and sometimes have unfortunate legal and economic consequences for schools (Carpenter, 2001).

Another way that educators sometimes respond to test pressure is to focus on certain groups of students. For instance, the lower performing students get the instructional resources they need and those only doing slightly better are left behind (Carpenter, 2001). The loss of instructional time, also, is a negative impact of high stakes testing. Preparing for and taking the tests takes away from basic instruction. High stakes testing also shifts decision making from teachers and principals to bureaucrats and politicians, thereby diminishing the quality of educational services provided to students.

High stakes testing, the technology par excellence of the standards and accountability movements, has steadily gained distinction in its role in public school accountability (Cuban, 2004). Large scale, standardized tests of student achievement have long been a feature of kindergarten through twelfth grade education. It is necessary for states to ensure that the tests are aligned with state curricula and provide a fair measure of students' learning (Carpenter, 2001). Educators need coordinated systems of

local assessments that are aligned to good standards and that provide lots of different evidence on understanding and improving their students' learning (Lewis, 2007).

### **No Child Left Behind**

In the last 50 years, the United States government has gained a progressive interest in testing. Originally, tests were examined as a useful tool to provide insight on the state of America's schools. Recently, tests are used as the sole instrument needed to evaluate teachers, schools, districts, states and nations (Bracey, 2009). NCLB is a composite of earlier legislation, including statewide accountability protocols and testing regimes (Smith, 2005). NCLB reauthorized the Elementary and Secondary Act of 1965 and defined the federal government's role in education. With the passage of NCLB in 2001, testing became a federally mandated benchmark for evaluating children and schools (Orfield & Kornhaber, 2001). NCLB is designed to close the achievement gap with accountability, flexibility, and choice so that no child is left behind (NCLB, 2001). Because of this legislation, concerns of appropriate principles for all students and evenhanded access to sufficient learning opportunities have acquired a new urgency in education reform (Schmidt & Cogan, 2009).

#### *Key Features*

According to NCLB, there are four key features: (a) accountability, (b) using scientifically based research to improve student achievement, (c) parental options, and (d) expanded local control and flexibility (NCLB, 2001). NCLB became law because it, like



the standards, testing and accountability movement on which it builds, ostensibly aimed to improve education (Hursh, 2005).

Accountability is at the heart of NCLB. Each state is responsible for creating its own standards for student learning at each grade level. Each state, school district, and school is expected to meet adequate yearly progress toward meeting state standards. Yearly progress is calculated for all students regardless of race or socioeconomic status. Locally and nationally, school and district performance is openly reported (Smith, 2005). Each state must define AYP for each district and individual schools within the boundaries set by Title I (United States Department of Education, 2003). If a district or school falls short of meeting AYP, they are liable.

The pressure associated with performance of students on the tests used under the NCLB accountability system is heightened because the tests are scrutinized, used as a factor affecting school and accountability status, and reported publicly. However, NCLB mandates do not require test results to be used for high stakes decisions regarding individual students. Yet, student performance is linked to an array of consequences for schools and administrators. In an attempt to improve student accountability, states are increasingly choosing to convey these test-based consequences on their students (American Psychological Association, 2001). NCLB mandates allow each state to craft independent standards (Tuerk, 2004). Many states have begun to attach higher stakes to their assessment programs, using them for student accountability, school accountability, instructional purposes, and in some cases, teacher and principal salaries and tenure decisions.

Traditionally, NAEP was not a high stakes test. However, with the enactment of NCLB, higher stakes were attached. NCLB (2001) requires all states and local education agencies to participate in NAEP as a condition of receiving federal funding. If states fail to participate, they lose funding under Title I grant programs which assist disadvantaged children. Additionally, NAEP performance results are used to verify progress on state assessments and the states' reports of AYP (Koretz, 1992). Therefore, NAEP can be considered as an integral part of the educational process that ensures success for all children.

### *Challenging Academic Standards*

Each state was required to adopt challenging academic content and student academic achievement standards. Also, states were required to develop academic standards in the areas of mathematics, reading or language arts, and science in 2006 for all public elementary and secondary school students. Academic standards were required to specify what children are expected to know and be able to do (Hochschild, 2003). They must contain rigorous and coherent content, and encourage higher level thinking skills. Student academic standards had to be aligned to the state's academic content standards. Academic standards were required to describe high achievement, proficient and advanced, and low achievement, basic. (NCLB, 2001).

### *Academic Assessments*

According to the NCLB (2001), each state plan must demonstrate that a set of high quality, yearly student academic assessments in language arts or reading, science,

and math have been implemented. The assessments must measure the same skills for all children, be aligned with the state's curriculum framework, be valid and reliable instruments for measuring achievement, measure proficiency of students in Grades 3-12, and involve multiple up-to-date measures of student academic achievement. An elemental flaw in NCLB is the detachment between the assessments that are used to decide educational outcomes and the content standards that steer and enlighten classroom instructional practices and learning (Schmidt & Cogan, 2009).

### **National Assessment of Educational Progress**

#### *The History of NAEP*

NAEP, referred to as the Nation's Report Card, is America's only nationally representative assessment of what students know and should be able to do in core academic subjects. In order to gain historical insights and an understanding of the challenges that NAEP encounters today, it is essential to inspect the early forces that helped mold and direct the assessment. Federal involvement in education grew rapidly during the 1960s. The historic Elementary and Secondary Education Act of 1965 provided federal aid for disadvantaged students and more money for federal research and development (NAEP, n.d.d.). A reason for federal involvement in education was the planning and development of a national student assessment system during the 1960s. At the forefront of the movement was Francis Keppel, the United States Commissioner of Education from 1962 to 1965. During 1963, Keppel called on Ralph W. Tyler, a psychologist and the nation's most prominent educational evaluator, to assist with the

technical and political difficulties involved in the establishment of a national student assessment system (Beaton & Zwick, 1992.).

Initial problems with acquiring funding were rampant. Funding was eventually secured from the Carnegie Corporation on the premise that there was practicality in establishing a measurement system to assess the educational level of the United States population. Multiple conferences were held to assess America's educational system. Based on Tyler's findings and the recommendations of other experts, his recommendation was to periodically evaluate a small sample of different students rather than trying to test all students nationally (Vinovskis, 1998). Immediately, opposition was evident from several major educational associations such as the American Association of School Administrators and the National Council of English Teachers (Koretz, 1992). These influential organizations were opposed to any student assessment data being collected and released at the state level because they feared that the results would be used to make improper and harmful comparisons. Also, the perception of a national assessment raised key issues connected with the purpose of the assessment, the role of the federal vs. the state government in education, and the sources of funding (NAEP, n.d.d.). Many of these issues would resurface periodically during different periods of NAEP's history.

Based on this rejection, Keppel, Tyler, and other supporters retreated from the idea of compiling states and local results to improve education (Vinovskis, 1998). In order to calm the fears of critics, promises were made not to release the results of the state level assessments (NAEP, n.d.d.). The administration of tests was eventually transferred to the Education Commission of the States (ECS) which calmed the hostility

towards the national assessment. This commission was a trusted entity which would not infringe on state's rights.

Private funding continued to drive the creation of the assessment. Several corporations, which were experts in evaluation and test development, assisted in developing appropriate prototypes for the assessments. The development and refinement of matrix sampling made the national assessment more credible because it provided a statistical means of asking each student only a few items, but still obtained sufficient information on a much larger number of questions for subgroups of the population (Koretz, 1992). Additionally, the procedure allowed for compilation of accurate aggregate data, but did not provide reliable or usable individual-level results which eased the concerns of educators and parents who feared that students would be stigmatized.

The first NAEP assessment was administered in 1969. Funding support and funding for NAEP eventually shifted from private sources to the federal government. By 1971, the United States Department of Education was the sole source of funding for the assessment. The organizational structure of NAEP was altered in 1978 when Congress enacted Public Law 95-561 which transferred the program to the National Institute of Education and called for it to either be a grant or cooperative agreement with a nonprofit educational association (NAEP, n.d.d.). A 17 member Assessment Policy Committee, which was comprised of two business and industry representatives, three general public representatives, four classroom instructors, two state legislators, two school district superintendents, one state governor, one chairman of a state educational board, one chairman of a local school board, and one chief state school officer, was formed. They

were responsible for the design of NAEP, as well as the studies to evaluate its effectiveness, validity, and utilization.

In 1983, the Educational Testing Service (ETS) replaced the Assessment Policy Committee and brought significant change. New features included BIB-spiraling, item response theory (IRT) scaling, grade-based data, and collection of richer background information (NAEP, n.d.d.). These changes had some implications for sample design, weighting, variance estimation, and field operations. The takeover resulted in NAEP's extension and conversion, placing it in a position that might update educational policy and curricular reforms.

In 1984, Congress clarified the responsibility of the Assessment Policy Committee to include information about background materials. The addition of the state NAEP since 1990 presented a new aspect for NAEP thus expanding the scope of the national effort (NAEP, n.d.d.). In 1988, Congress authorized a Trial State Assessment (TSA) and established the NAGB to presuppose accountability for setting policy on NAEP independently of any federal agency. NAGB completed efforts to improve the understanding of results by instituting performance standards which represented basic, proficient, and advanced levels of achievement by 1990.

### *NAEP's Role*

NAEP is a congressionally endorsed assignment of the National Center for Education Statistics within the Institute of Education Sciences of the United States Department of Education. The Commissioner of Education Statistics is accountable for the NAEP project. The NAGB is a bipartisan group of governors, state legislators, local

and state officials, educators, business representatives and members of the general public. The NAGB, which is appointed by the Secretary of State, supervises and establishes policy for NAEP. They are also responsible for developing the framework and test specifications that serve as the blueprint for the assessments (NAEP, n.d.d.).

NAEP is the only nationally representative and continuing assessment of American students' knowledge and abilities in various subjects. Although NAEP is not the assessment utilized by NCLB to determine accountability goals for states and districts, it is the assessment that policymakers and the media use to discuss the state of public schools (Mathews, 2006). By collecting and reporting information on student performance at the national, state, and local levels, NAEP is an integral part of our nation's evaluation of the condition and progress of education (NAEP, n.d.d.).

For over 40 years, NAEP assessments have been conducted in mathematics, reading, science, writing, the arts, civics, economics, geography, and U.S. history. Results from NAEP are referred to as the Nation's Report Card. The Nation's Report Card reports to the public the academic achievement of elementary and secondary students in the United States. Scores are not provided for individual students or schools. Results focus on subject-matter achievement, instructional experiences, and school environment for populations of students and groups within those populations. NAEP is categorized according to national NAEP and state NAEP (NAEP, n.d.d.).

### *National NAEP*

National NAEP reports information for the nation and specific geographic regions of the country. Students from both public and nonpublic schools participate (NAEP,

n.d.d.). The framework developed by the board and the latest advances in assessment methodology are used to construct the test. Results are reported for student achievement in the fourth, eighth, and 12<sup>th</sup> grades.

Before 1980, it was an annual assessment. Between 1980-1996, it was administered every two years. In 1997, it returned to annual assessments. The tests are constructed based on the frameworks that are developed by the NAGB and updated on a regular basis to reflect changes in curriculum and pedagogical thought. However, short term trends can be measured in reading and mathematics. NAEP assessments include a large percentage of constructed response questions and multiple choice questions.

#### *State NAEP*

The State NAEP is the assessment conducted at the state level. Separate representative samples of students in grades four and eight have been chosen for each participating state since 1990. Beginning with the 2002 assessments, a combined sample of public schools were selected for both state and national NAEP. Thus, the national sample is a subset of the combined sample of students assessed in each participating state NAEP, plus additional samples from the states that did not participate in the assessment (Mathews, 2006). This additional sample ensures that the national sample is representative of the entire national student population. The data are analyzed jointly, allowing all statistics to contribute to the final results, thus setting a single scale for the assessment (NAEP, n.d.d.). NCLB requires states that receive Title I funding to participate in state NAEP in reading and mathematics every 2 years.



State results for public school students make it possible to compare each state's performance to other states and the nation (National Center for Educational Statistics, 2007). According to the Nation's Report Card, there was an increase in overall average reading scores from 2005 to 2007 for Mississippi's fourth grade students. For eighth grade students in Mississippi, there was no significant change in reading scores.

### *Student Sample Design*

In order to insure that the samples of students selected are representative of the entire population, a complex sampling scheme was utilized to collect NAEP data (Beaton & Zwick, 1992). The assessment used a stratified multistage probability sampling design. For national NAEP, a three stage sample design was used which consisted of the sampling of students from selected schools within selected geographic regions. These geographic regions, referred to as primary sampling units (PSUs), consisted of counties or groups of counties.

In the first stage, PSUs were selected within each of the four geographic regions: (a) Northeast, (b) Southeast, (c) Central, and (d) West (Allen, Carlson, & Zelenak, 1999). The second selection stage involved elementary and secondary schools within each PSU. During the third stage, students were selected within the chosen schools. Beginning with the 2002 school year, the national sample was obtained by aggregating the samples from each state in order to reduce state burden (Mullis, 2003). State and national samples are drawn in the same way in odd numbered years, while national samples are drawn using the three-stage method in even-numbered years.

For the state assessment, a sample of public schools and fourth and eighth grade students is selected to represent a participating state. According to Allen, Donoghue, and Schoeps (2001), a two stage sample design is utilized. Schools are stratified hierarchically by district size, urbanization, school class size as denoted by student enrollment, and minority percentages. The students within a school are randomly sampled from a list of students within the grade level.

### *NAEP Scores and Achievement Levels*

The NAGB sets specific achievement levels for each subject area and grade (NAGB, 2002). Achievement levels are performance standards showing what students should know and be able to do. They are categorized as basic, proficient, and advanced. The achievement levels indicate the degree to which student performance meets expectations of what they should know and be able to do. Basic denotes partial mastery of prerequisite knowledge and skills that are fundamental for proficient work at a given grade. Proficient entails solid academic performance. Students reaching this level have demonstrated competency over challenging subject matter. Advanced represents superior performance. NAEP results are presented in two ways: scale scores and achievement levels. Scale scores represent what students know and can do, while the achievement level results indicate the degree to which student performance meets expectations of what they should know and be able to do (NAEP, n.d.a.).

NAEP scores play a major role in determining the success or failure of schools nationwide. Yet, the similarities and differences of the test are rarely discussed. Assessment results based on state tests construct a more successful picture of their

schools' success than NAEP (United States Chamber of Commerce, 2007). The National Center for Education Statistics (2007) found that the achievement levels on state tests were not indicative of the achievement levels on NAEP. The lack of alignment has played a major role in the upcoming reauthorization of NCLB. Proposals are requesting that states report their NAEP proficiency results with their state tests results (United States Department of Education, 2007).

### *NAEP Studies*

A study conducted by Fuller and Wright (2007) affirmed that results on state elementary reading tests were improving while the NAEP scores were not improving at the same rate. The study examined state tests used under NCLB accountability systems and the long term NAEP data to determine if NCLB mandates actually produced results. Long term NAEP data showed that fourth grade reading scores have improved between 1971 and 2004. The largest growth rate occurred between 1999 and 2004. The most significant gain was prior to the signing of NCLB.

Lee (2006) conducted a performance review on NAEP and state assessments. Long term trends were reported. Lee computed ratios of the state proficiency rates to the NAEP proficiency rates. Discrepancies were found. The ratios centered around one, with results greater than one showing a relatively lower standard compared to the NAEP and results below one showing relatively stronger standards compared to NAEP. The results for fourth grade reading ratios were above the score of one, ranging from 1.28 to 5.01. These calculations suggest that all states had lower proficiency requirements than NAEP.

## Mississippi's Assessment

### *Mississippi's Accountability System*

NCLB requires that states develop and implement a single statewide accountability system that is used to evaluate schools and school districts. Mississippi has attempted to strengthen student assessment, school accreditation, and accountability standards in an effort to raise student achievement (MDE, 2006). During the past 20 years, a series of significant legislative mandates have been instrumental in creating the current public school accountability system beginning with the Education Reform Act of 1982. Senate Bill 2156 prompted the creation of the Mississippi Student Achievement Act of 1999 which directed MDE officials to create a state-of-the-art school evaluation and improvement system. The legislation required that the performance-based accreditation concentrate on individual schools and school districts. The Mississippi Board of Education was also required to set annual performance standards for every Mississippi public school using student growth and performance measures in order to obtain school improvement status.

Senate Bill 2488, approved during the 2000 MS Legislative Session, specified that MDE must classify schools that do not meet expected levels of student achievement and label them as Priority Schools (MDE, 2005). School accreditation and accountability measures that required individual school accreditation ratings to be based on the percentage of students proficient at grade level and meeting an annual growth expectation in student achievement are known as the Achievement Model and Growth Model respectively.

### *Development of the Achievement and Growth Models*

In August, September, and October of 2002, the initial development of the school level achievement and growth models occurred. As the models were developed and tested, the procedures and results were developed at the student, school, and model levels. The analyses focused on the accuracy of the assessment information used within the models at the student level. Chance scores and comparability of data from assessment models were analyzed. School level data was examined to identify problems that may comprise the functioning of the model. At the model level, analyses were performed to examine whether the model functioned as intended and to identify problems that might make the model function differentially depending on variables outside of the scope of the school (Office of Research and Statistics, 2005). The school level accountability system combined results from an achievement model and growth model to produce a School Performance Classification for schools.

### *Student Assessment*

The purpose of the state assessment required under NCLB is to provide an independent insight into each child's progress, as well as school progress. This information is pertinent to parents, schools, districts, and states as they work to ensure that no child is consistently trapped in a low-performing school. They also measure student learning.

In the spring of each year prior to the 2007-2008 school year, students in Grades 2-8 took the MCT which assessed reading, language, and mathematics skills. Beginning

with the 2007-2008 school year, students in Grades 3-8 took the MCT2 which tested content knowledge in reading/language, and mathematics. Schools are held responsible only for the performance of students who have been enrolled for 70% of the school year. By 2014, all students are expected to meet the proficient level and be in accordance with NCLB. Since states are required to establish their own achievement levels, Mississippi students are measured against performance standards established by Mississippi teacher committees. Mississippi teachers also participate in the development of the content standards that are defined in the Mississippi Curriculum Frameworks (MDE, 2006).

### *Achievement Levels*

According to Blanton (2007), student achievement is reported by four achievement levels: (a) minimal, (b) basic, (c) proficient, and (d) advanced. On the MCT, students who did not reach the basic level in Grades 4 and 8 on the MCT were required to receive instructional interventions which assisted in increasing their content knowledge and strengthening their skills. The students were retested in January of each school year. Based upon their achievement on the retest, decisions regarding promotion and retentions were made (MDE, 2005).

Relying on results from the MCT from 2002-2006, Hank Bounds, former state superintendent of education for Mississippi, believed that the rigor of the curriculum and assessment needed to be increased. Scores appeared to flat-line yearly on the annual assessment. In order to progress education, two bold goals were implemented. Reaching the national average on national assessments within the next five to seven years was one

of the bold goals (Blanton, 2007). In order to accomplish this goal, the State Board of Education increased the rigor of the curriculum and assessment system.

*Mississippi Curriculum Test Second Edition*

The MCT2 was field tested in May of 2007. Two significant changes occurred. First, the MCT required separate testing for reading and language arts. The MCT2 combined the two subject areas into one test. Second, on the MCT, second grade students were required to take the assessment. The MCT2 omits second grade students. The intended goal of the MCT2 was to make the connection between expectations for the curriculum and assessment and to show progression across grades (Blanton, 2007).

The MCT2 is an evaluation of student achievement in Language Arts and Mathematics in Grades 3-8 based on the 2006 Mississippi Language Arts Framework-Revised and 2007 Mississippi Mathematics Framework-Revised. Student mastery of the Language Arts MCT2 for Grades 3-8 is measured based upon the following competencies: vocabulary, reading, writing, and grammar. In addition to being the foundation for state accountability in Grades 3-8, the MCT2 is intended to meet the federal examination requirements of the NCLB (Jones, 2008).

Performance Level Descriptors explain the results for the MCT2. Information is supplied concerning the probable level of student achievement on the standards which are articulated in the curriculum frameworks. By connecting the standards to descriptions of how well students are doing in learning the knowledge and skills contained therein, performance level descriptors characterize content standards. Performance level

descriptors are classified as (a) advanced, (b) proficient, (c) basic, and (d) minimal.

According to Jones (2008),

Students at the advanced level consistently perform in a manner clearly beyond that required to be successful in the grade or course in the content area. Students at the proficient level demonstrate solid academic performance and mastery of the knowledge and skills required for success in the grade or course in the content area. Students at the basic level demonstrate partial mastery of the knowledge and skills in the course and may experience difficulty in the next grade or course in the content area. Students at the minimal level inconsistently demonstrate the knowledge or skills that demonstrate the knowledge or skills that define basic level performance. These achievement levels portray the content and processes that a student at a given level are expected to be acquainted with, exhibit, or achieve. (p.2)

### **Summary**

NCLB, which reauthorized the Elementary and Secondary Act of 1965, defined the federal government's role in education. When NCLB passed in 2001, testing became a federally mandated benchmark for evaluating children and schools (Orfield & Kornhaber, 2001). NCLB's design focuses on closing the achievement gap with accountability, flexibility, and choice so that no child is left behind (NCLB, 2001). Because of this legislation, concerns of appropriate principles for all students and evenhanded access to sufficient learning opportunities are being stressed in education



reform (Schmidt & Cogan, 2009). NCLB requires states that receive Title I funding to participate in state NAEP in reading and mathematics every two years.

NAEP is the only nationally representative assessment of American students' comprehension abilities in various subjects. Although NAEP is not the assessment utilized by NCLB to determine accountability goals for states and districts, it is the assessment that policymakers use to discuss the status of public schools (Mathews, 2006). By collecting and reporting information on student performance at the national, state, and local levels, NAEP is an integral part of our nation's evaluation of the condition and progress of education (NAEP, n.d.d.).

NCLB requires that states develop and implement a single statewide accountability system that is used to evaluate schools and school districts. Mississippi has attempted to strengthen student assessment, school accreditation, and accountability standards in an effort to raise student achievement (MDE, 2006). Because NCLB requires that each state plan must demonstrate that a set of high quality, yearly student academic assessments in language arts or reading, science, and math have been implemented; Mississippi reinvented the current testing program.

The MCT2 is an evaluation of student achievement in Language Arts and Mathematics in Grades 3-8 based on the 2006 Mississippi Language Arts Framework-Revised and 2007 Mississippi Mathematics Framework-Revised. Student mastery of the Language Arts MCT2 for Grades 3-8 is measured based upon the following competencies: vocabulary, reading, writing, and grammar. Results for the MCT2 are based on Performance Level Descriptors. They supply information about the probable level of student achievement on the standards articulated in the curriculum frameworks.

According to Jones (2008), performance level descriptors are structured into four distinct levels: advanced, proficient, basic, and minimal.

To move education forward in Mississippi, two bold goals were put in place. One of the bold goals was to reach the national average on national assessments within the next five to seven years (Blanton, 2007). Therefore, a pressing need exists to determine if the increased rigor of the curriculum and assessment systems are more closely aligned to NAEP.

## CHAPTER III

### METHODOLOGY

This chapter discusses the research methodology. It consists of the research design, data collection, participants, reliability and validity, and statistics.

#### **Research Design**

This study compared the MCT and MCT2 scores to NAEP scores to determine if the two Mississippi tests were aligned with NAEP using causal comparative which is a common design in educational research studies. Causal comparative research designs usually involve the existence of pre-existing or created groups to explore differences between or among groups on a dependent variable (Schenker & Rumrill, 2004). Causal comparative research involves comparing two groups in order to explain existing differences between them on a variable of interest. Groups are classified according to common preexisting characteristic, and compared on some other measure (Gay, Mills, & Airasian, 2006).

According to Picciano (2004), the most important consideration for causal-comparative research is identifying two or more groups that are demonstrably different in an educational manner. In this study, the percentages of students being reported for the 2006-2007 MCT, 2007-2008 MCT2, and 2007 NAEP consisted of different groups of students.

Because causal-comparative research has already happened, it is often referred to as ex post facto research (Picciano, 2004). Ex post facto research is used to describe relationships between two variables (Shavelson, 1996). The designs are called ex post facto because the researcher arrives at the scene after the treatment has been administered. In general, ex post facto designs inspect the degree of association between two or more variables. In terms of this study, the MCT and MCT2 were compared to NAEP to determine if they were aligned.

### **Participants**

Four aggregated district level scores and 2 aggregated state level scores in reading were included in the study: fourth grade MCT, fourth grade MCT2, eighth grade MCT, eighth grade MCT2, fourth grade NAEP, and eighth grade NAEP, respectively. NAEP utilizes a sampling process in choosing students from across each state which allows the collection of state and national data to measure student success (International Reading Association, 1999). There were 7,830 schools which participated in the 2007 NAEP Reading Assessment for Grade 4 and 6,930 for Grade 8. From these schools, 191,000 students completed the assessment in the fourth grade and 160,700 completed the assessment in the eighth grade (NAEP, 2007). In Mississippi, there were 82 districts represented which included 117 schools.

The national results reflected the performance of a representative sample of students from public schools, private schools, Bureau of Indian Affairs Education Schools, and Department of Defense schools. To ensure unbiased samples, NCES and the Governing Board created involvement rate standards that states and jurisdictions were

obligated to meet in order for their results to be valid. Participation rates were set at 85% for schools. In the 2007 reading assessment, all 52 states and jurisdictions met participation rate standards. The national school participation rates for public and private schools combined were 98% for Grade 4 and 97% for Grade 8. Student participation rates were 95% for Grade 4 and 92% for Grade 8 (NAEP, 2007).

Public school students in the state of Mississippi participated in the administration of the MCT (Grades 2-8) and MCT2 (Grades 3-8) because it is mandated. These tests are administered annually during the spring.

### **Data Collection**

Data for the study were derived from the fourth and eighth grades reading portions of the 2007 NAEP, 2006-2007 MCT, and 2007-2008 MCT2. Data from all 6 assessments are public information and can be accessed via the Internet. Data for the Mississippi Assessments are available from [www.mde.k12.ms.us](http://www.mde.k12.ms.us) and data from NAEP can be retrieved from [www.nces.ed.gov/nationsreportcard](http://www.nces.ed.gov/nationsreportcard). Data were aggregated at the district level which includes Mississippi's fourth and eighth grade students who participated in the NAEP and state testing. A total of 7,830 schools participated in the 2007 NAEP Reading Assessment for Grade 4 and 6,930 schools in the Grade 8. From these schools, 191,000 students completed the assessment in Grade 4 and 160,700 students in Grade 8 (NAEP, 2007).

Data from the 2006-2007 MCT Reading were collected from MDE's website. The test was taken in May of 2007. Approximately 36,488 students in fourth grade and 37,728 students in the eighth grade participated in testing. Collection of the 2007-2008

MCT2 scores was completed during the fall of 2008 from MDE's website. Students taking the test in Grade 4 equaled 36,893 and 37,080 in Grade 8.

### **Instruments**

Six instruments were significant to the study: NAEP fourth grade reading test, fourth grade reading portion of the MCT, fourth grade reading portion of the MCT2, NAEP eighth grade reading test, eighth grade reading portion of the MCT, and eighth grade reading portion of the MCT2. Data from each assessment is public information and readily accessible on the Internet.

The reading portion of the NAEP categorizes the texts used on the fourth grade assessment into two broad categories: reading for literacy experience and reading for information. The reading portion of the NAEP categorizes the texts used on the eighth grade assessment into three broad categories: reading for literary experience, reading for information, and reading to perform a task for eighth grade (NAGB, 2004).

A variety of genres are used. Reading for literary experience involves passages that enable students to explore literary language and events including plot, characters, themes, and settings. Reading for information includes text passages that have information for the reader to learn about the world around them, including magazine articles, textbook selections, newspaper articles, speeches, and essays. Reading to perform a task occurs when readers apply what they learn from the reading materials.

The Language Arts portion of the MCT2 determines student knowledge of grade-level curriculum as specified in the 2006 MS Language Arts Curriculum Framework-Revised. Reading is administered as section one and writing is section two. Fourth grade

students answer 60 reading/writing items. Each test question is aligned to the content, skills, and processes represented by Mississippi's academic contents standards as specified in the Mississippi curriculum frameworks and the academic performance level descriptors (MDE, 2007). Webb's DOK Levels are an integral part of the assessment.

### **Reliability and Validity**

NAEP is comprised of two parts: constructed response items (students are required to explain their answers by writing a response to the question) and multiple choice test items. Scoring all NAEP items in an objective, consistent, and valid fashion are key program goals. To ensure the reliability and validity of the assessment, the following steps were carried out in three phases: (a) the scoring guide development and pilot, (b) first operational scoring or pre-calibration, and (c) subsequent operational scoring. During each stage, quality control and validity checks were executed in the scanning, processing, and scoring (NAEP, n.d.c.). Conventional item and test reliability yielded an internal consistency correlation of test items as  $r = .77$  (NAEP, n.d.b.).

The initial development of the Mississippi school level achievement and growth models occurred during August, September, and October of 2002. As pilot achievement and growth models were developed and tested, the procedures and models were examined at the student, school and model level to ensure validity and reliability. For validity assessment at the student level, the analyses focused on the precision of the assessment information used within the models. Particular attention was paid to problems such as chance scores and comparability of data from different assessment modes. School level data were scrutinized to classify problems that might compromise the performance

of the model. At the model level, analyses were executed to observe whether the model functioned as projected and to categorize problems that might make the model function differentially depending on variables outside the control of the school (MDE, 2006).

Conventional item and test reliability yielded an internal consistency correlation of test items as  $r = .74$  (MDE, 2005).

The same process was repeated for the MCT2 in the spring of 2007. Conventional item and test reliability for the MCT2 yielded an internal consistency correlation of test items as  $r = .84$  (MDE, 2008).

### **Statistics**

Mean scores, standard deviations, and percentages were calculated. The statistics that were used to test each research question are described below.

1. What are the differences in achievement levels for the MCT and MCT2 in fourth grade reading?

An ANOVA was used to determine the differences in achievement levels for the MCT and MCT2 for fourth graders. MCT and MCT2 data were aggregated at the district level. NAEP does not have district aggregation. Descriptive statistics were also used to determine the mean and standard deviation of each assessment.

2. What are the differences in achievement levels for the MCT and MCT2 in eighth grade reading?

An ANOVA was used to determine the differences in achievement levels for the MCT and MCT2 for eighth graders. MCT and MCT2 data were aggregated at the



district level. NAEP does not have district aggregation. Descriptive statistics were also used to determine the mean and standard deviation of each assessment.

3. Does the reading portion of the MCT or MCT2 more closely correspond to achievement levels on the NAEP at the fourth grade?

Descriptive statistics were calculated to describe student achievement levels on the MCT and the MCT2. MCT and MCT2 data were aggregated at the district level. NAEP does not have district aggregation. Achievement levels on the MCT and MCT2 were correlated with those on the NAEP.

4. Does the reading portion of the MCT or MCT2 more closely correspond to achievement levels on the NAEP at the eighth grade?

Descriptive statistics were calculated to describe student achievement levels on the MCT and the MCT2. MCT and MCT2 data were aggregated at the district level. NAEP does not have district aggregation. Achievement levels on the MCT and MCT2 were correlated with those on the NAEP.

## CHAPTER IV

### DATA ANALYSES AND FINDINGS

Chapter IV is a presentation of the analyses of data describing fourth and eighth graders performance on the reading portion of the NAEP, MCT, and MCT2. This study compared the MCT and MCT2 to NAEP to determine if the two Mississippi tests were aligned with NAEP.

For purposes of analysis, focus was placed on the percentages of students who were categorized in the minimal, basic, proficient, and advanced categories. Achievement data were used to make comparisons in the students' performances. This chapter consists of the statistical findings from the data analysis collected for this study.

Data were collected from four aggregated district level scores and two aggregated state level scores in reading: fourth grade MCT, fourth grade MCT2, eighth grade MCT, eighth grade MCT2, fourth grade NAEP, and eighth grade NAEP, respectively. The Mississippi NAEP assessment was conducted utilizing a group of students sampled from across the state. A similar sampling process across the states allowed for the collection of national NAEP data which measured nationwide student performance. In Mississippi, there were 82 school districts represented which included 117 schools. The national results reflect the performance of a representative sample of students from public, private, Bureau of Indian Affairs Education, and Department of Defense schools. To ensure

unbiased samples, NCES and the NAGB created involvement rate standards that states and jurisdictions were obligated to meet in order for their results to be valid.

### **Research Questions**

The following questions guided this research study:

1. What are the differences in achievement levels for the MCT and MCT2 in fourth grade reading?
2. What are the differences in achievement levels for the MCT and MCT2 in eighth grade reading?
3. Does the reading portion of the MCT or MCT2 more closely correspond to achievement levels on the NAEP at the fourth grade?
4. Does the reading portion of the MCT or MCT2 more closely correspond to achievement levels on the NAEP at the eighth grade?

#### *Research Question 1*

What are the differences in achievement levels for the MCT and MCT2 in fourth grade reading?

MCT and MCT2 data are only publicly available at the district level. Student level data are confidential information. The tables that follow present the school districts of Mississippi and the percentages of fourth grade students at each achievement level who participated in the MCT (2006-2007) and MCT2 (2007-2008).

Table 1

## Fourth grade MCT Data by School District

MCT						
2006 - 2007						
Fourth Grade Reading						
School District	Number Tested	Mean Scale Score	% Minimal	% Basic	% Proficient	% Advanced
Mississippi	36488	517.2	5.2	4.7	59.8	30.3
Aberdeen	124	499	9.7	4	65.3	21
Alcorn	287	517.2	7.3	2.4	58.9	31.4
Amite County	77	501.7	6.5	9.1	62.3	22.1
Amory	124	519.6	5.6	4	56.5	33.9
Attala County	101	509.7	4.9	2	73.3	19.8
Baldwyn	88	517.1	4.6	4.5	63.6	27.3
Bay St. Louis	113	520.3	7.1	3.5	58.4	31
Benoit	12	485.2	8.3	16.7	75	0
Benton County	87	515.8	2.3	4.6	66.7	26.4
Biloxi	360	530.2	3	2.8	53.6	40.6
Booneville	111	542.3	3.6	3.6	39.6	53.2
Brookhaven	221	520.3	5.9	4.5	54.8	34.8
Calhoun County	194	507.5	6.2	6.7	65.5	21.6
Canton	277	493.1	10.9	9.7	63.9	15.5
Carroll County	65	504.7	6.2	4.6	69.2	20
Chickasaw County	37	517.1	5.4	2.7	64.9	27
Choctaw County	118	516.3	6	4.2	59.3	30.5
Claiborne County	159	539.8	1.3	8.2	48.4	42.1
Clarksdale	298	485.1	14.4	9.4	67.8	8.4
Clay County	20	517.7	5	0	75	20
Cleveland	244	519.6	2.4	3.7	68.9	25
Clinton	364	520	4.4	4.1	60.2	31.3
Coahoma County	167	488	11.9	8.4	73.1	6.6
Coffeerville	48	493.3	8.3	12.5	68.8	10.4
Colombia	135	532.8	2.9	3	51.1	43
Columbus	330	515.9	4.2	3.6	66.4	25.8
Copiah County	206	512.9	6.3	5.3	61.7	26.7
Corinth	148	535.8	0.6	2.7	56.8	39.9
Covington County	231	514.3	2.2	5.2	68.8	23.8

Table 1 Continued

School District	Number Tested	Mean Scale Score	% Minimal	% Basic	% Proficient	% Advanced
DeSoto County	2247	531.3	3.2	3.2	51.7	41.9
Drew	43	499.5	7	11.6	60.5	20.9
Durant	49	495.3	12.2	2	77.6	8.2
East Jasper	95	501.5	4.2	13.7	63.2	18.9
East Tallahatchie	89	495.9	6.7	7.9	73	12.4
Enterprise	64	536.4	0	0	51.6	48.4
Forest City	123	501.5	7.3	11.4	65	16.3
Forest County	234	512.6	5.2	6.4	58.5	29.9
Franklin County	102	508.9	8.8	2	64.7	24.5
George County	350	515.5	5.7	4.3	63.7	26.3
Greene County	146	521.3	2.7	4.8	63	29.5
Greenville	534	499.4	5.8	8.1	71.9	14.2
Greenwood	234	500.4	6.5	13.2	62.8	17.5
Grenada	326	515.7	5	5.8	61.3	27.9
Gulfport	406	524.2	4	3.4	54.2	38.4
Hancock County	335	523.9	6	3.3	56.1	34.6
Harrison County	968	525	4.8	3	53.9	38.3
Hattiesburg	332	508.8	6.4	9	60.8	23.8
Hazelhurst City	112	495.2	8	14.3	60.7	17
Hinds County	480	518.4	3.8	3.5	64.6	28.1
Hollandale	68	492.5	10.3	5.9	73.5	10.3
Holly Springs	134	493.7	12.7	9	66.4	11.9
Holmes County	217	498.3	9.2	8.3	66.8	15.7
Houston Separate	140	517.1	7.1	2.1	57.9	32.9
Humphreys County	139	513	6.4	10.8	51.1	31.7
Indianola	163	488.4	12.9	7.4	69.3	10.4
Itawamba County	266	520.2	4.9	4.9	59.4	30.8
Jackson County	622	533.8	3.1	1.3	50.3	45.3
Jackson Public	2495	507	7.8	6	63.8	22.4
Jefferson Davis County	139	498.6	7.9	7.2	70.5	14.4
Jefferson County	100	498.1	5	10	66	19
Jones County	631	523.6	3.7	3.5	55.2	37.6
Kemper County	81	500.6	6.2	4.9	74.1	14.8
Kosciusko	142	533.4	0.7	0.7	62.7	35.9

Table 1 Continued

School District	Number Tested	Mean Scale Score	% Minimal	% Basic	% Proficient	% Advanced
Lafayette County	176	524.3	4.6	2.8	53.4	39.2
Lamar County	576	528.1	4.4	1.7	55.2	38.7
Lauderdale County	478	518.7	4	4.4	61.9	29.7
Laurel	220	502.5	6.8	10.5	62.7	20
Lawrence County	168	524.7	3.6	3	60.7	32.7
Leflore County	216	509	9.7	5.6	56.9	27.8
Leland	99	503.8	3.1	4	79.8	13.1
Lincoln County	204	535.1	3.9	2	46.6	47.5
Long Beach	186	543.1	2.2	0.5	41.9	55.4
Louisville	185	501.1	8.1	7.6	67	17.3
Lowndes County	408	515.6	5.4	3.2	63.5	27.9
Lumberton	61	508.9	9.8	3.3	65.6	21.3
Madison	771	536.3	2.3	2.1	49.7	45.9
Marion County	178	509.9	5.6	7.3	62.9	24.2
Marshall County	274	500.6	9.8	8.8	63.5	17.9
McComb	188	497.2	6.9	10.1	64.9	18.1
Meridian	457	508.5	7	4.4	63.9	24.7
Monroe County	187	519.7	2.1	5.9	58.8	33.2
Montgomery County	36	516.3	0	2.8	72.2	25
Moss Point	255	501.5	9	6.3	64.7	20
Mound Bayou	48	503.8	2	10.4	68.8	18.8
Natchez Adams	278	503.2	5.7	5.4	69.1	19.8
Neshoba County	248	520.6	6.9	4	55.6	33.5
Nettleton	104	524.1	4.8	1.9	55.8	37.5
New Albany	179	527	3.8	0.6	55.9	39.7
Newton City	79	513.7	3.9	6.3	58.2	31.6
Newton County	132	530	2.3	1.5	57.6	38.6
North Bolivar	56	491.4	9	8.9	71.4	10.7
North Panola	116	484.8	12.9	14.7	66.4	6
North Pike	152	524.5	2.6	2	59.9	35.5
North Tippah	99	530.9	5.1	3	44.4	47.5
Noxubee County	151	500.5	6.6	7.3	68.9	17.2
Ocean Springs	357	537.4	2.6	2.2	50.1	45.1
Okolona Separate	62	499.9	4.8	8.1	71	16.1

Table 1 Continued

School District	Number Tested	Mean Scale Score	% Minimal	% Basic	% Proficient	% Advanced
Oktibbeha County	63	507.7	1.6	4.8	73	20.6
Oxford	229	534.7	4.4	3.5	51.1	41
Pascagoula	550	517.3	4.5	3.3	63.3	28.9
Pass Christian	108	543.1	1.8	0.9	41.7	55.6
Pearl	303	525.5	2.6	3.3	58.1	36
Pearl River	235	526.4	2.9	3	56.2	37.9
Perry County	110	509.4	3.6	6.4	71.8	18.2
Petal	298	527.9	3	2	58.4	36.6
Philadelphia	98	512.4	6.1	9.2	61.2	23.5
Picayune	256	509.7	9.4	4.3	58.2	28.1
Pontotoc City	184	531.2	2.7	1.1	58.7	37.5
Pontotoc County	233	528.3	1.7	3	61.4	33.9
Poplarville	158	512.9	7.6	5.1	53.8	33.5
Prentiss County	159	523.5	5.7	2.5	52.2	39.6
Quitman	174	508.2	8.7	3.4	65.5	22.4
Quitman County	107	487.4	15.8	4.7	63.6	15.9
Rankin County	1311	531.2	2.6	2.5	53.6	41.3
Richton	48	535.4	2.1	0	52.1	45.8
Scott County	280	515.8	6.1	4.3	61.4	28.2
Senatobia	128	527.9	2.3	0.8	57.8	39.1
Shaw	46	491.3	8.7	13	69.6	8.7
Simpson County	298	514.7	2	4.7	69.1	24.2
Smith County	208	521.1	1.8	6.3	60.6	31.3
South Delta	84	512.5	4.8	1.2	72.6	21.4
South Panola	368	501.6	11.2	6.5	60.3	22
South Pike	130	509.5	7	5.4	63.8	23.8
South Tippah	204	520.9	3.9	3.4	60.3	32.4
Starkville	304	520.2	5.5	5.6	56.3	32.6
Stone County	210	521.7	5.7	3.3	56.7	34.3
Sunflower County	150	489	9.9	12.7	66.7	10.7
Tate County	220	512.4	7.2	5.5	59.1	28.2
Tishomingo County	247	534.2	4.5	4	43.3	48.2
Tunica County	162	491	9.9	11.7	69.8	8.6
Tupelo	517	529.2	4.6	1.7	51.5	42.2

Table 1 Continued

School District	Number Tested	Mean Scale Score	% Minimal	% Basic	% Proficient	% Advanced
Union City	69	516.9	8.7	0	62.3	29
Union County	184	532.1	2.7	1.1	58.2	38
Vicksburg-Warren	660	509	6.7	5.2	64.8	23.3
Walthall County	201	515.4	3.9	5	64.7	26.4
Water Valley	93	517.1	3.1	2.2	66.7	28
Wayne County	297	521.2	2.3	3.7	63	31
Webster County	150	523.1	4	2	64	30
West Bolivar	74	508.1	2.7	4.1	77	16.2
Western Line	135	510.8	3	5.2	67.4	24.4
West Jasper	125	512.6	4	4	68.8	23.2
West Point	225	515.2	4.4	5.8	63.1	26.7
West Tallahatchie	62	489.7	11.2	8.1	69.4	11.3
Wilkinson County	96	510.1	4.1	6.3	64.6	25
Winona	102	523.8	6.8	4.9	52	36.3
Yazoo City	217	496.9	7.9	10.1	69.1	12.9
Yazoo County	126	513.2	2.4	6.3	65.1	26.2



Table 2

## Fourth grade MCT2 Data by School District

MCT2						
2007 - 2008						
Fourth Grade Reading						
School District	Number Tested	Mean Scale Score	% Minimal	% Basic	% Proficient	% Advanced
Mississippi	36893	148.8	15.2	35.3	36.6	12.9
Aberdeen	91	143.8	25.2	45.1	27.5	2.2
Alcorn	288	149.7	16	29.9	39.2	14.9
Amite County	98	143.4	27.6	49	16.3	7.1
Amory	104	151.5	12.5	27.9	40.4	19.2
Attala County	97	144.8	19.6	50.5	22.7	7.2
Baldwyn	64	146.9	15.6	39.1	40.6	4.7
Bay St. Louis	99	149.2	12.1	37.4	39.4	11.1
Benoit	28	140.3	39.3	35.7	25	0
Benton County	93	148.1	12.9	41.9	35.5	9.7
Biloxi	354	151.5	8.5	31.6	45.5	14.4
Booneville	95	156.1	6.4	22.1	36.8	34.7
Brookhaven	221	150.4	7.3	39.8	39.8	13.1
Calhoun County	204	148	15.7	42.6	31.4	10.3
Canton	266	144.6	26.3	40.2	26.7	6.8
Carroll County	65	148.3	18.6	33.8	33.8	13.8
Chickasaw County	39	145.5	33.3	23.1	35.9	7.7
Choctaw County	134	148.3	15.7	35.1	38.8	10.4
Claiborne County	141	142.5	29.8	44	22.7	3.5
Clarksdale	302	140.3	35.8	48	13.2	3
Clay County	24	147.5	12.5	45.8	41.7	0
Cleveland	251	149.2	10.7	42.2	35.9	11.2
Clinton	352	152.6	7.7	32.1	40.3	19.9
Coahoma County	133	140.6	38.3	37.6	20.3	3.8
Coffeeville	51	138.7	39.2	35.3	25.5	0
Colombia	130	149.6	13.1	33.1	40	13.8
Columbus	324	149.7	11.4	35.5	42.9	10.2
Copiah County	215	143.5	30.7	36.3	27	6
Corinth	159	154	4.4	28.9	40.3	26.4
Covington County	249	147.2	18.6	36.5	34.5	10.4
DeSoto County	2355	152.7	9.2	27	42.6	21.2

Table 2 Continued

School District	Number Tested	Mean Scale Score	% Minimal	% Basic	% Proficient	% Advanced
Drew	38	143.9	26.4	42.1	28.9	2.6
Durant	42	144.1	23.8	50	23.8	2.4
East Jasper	94	143.1	26.5	39.4	29.8	4.3
East Tallahatchie	97	141.5	34.1	44.3	17.5	4.1
Enterprise	59	151.3	11.8	28.8	44.1	15.3
Forest City	122	142.2	35.2	33.6	24.6	6.6
Forest County	234	147.9	15.3	40.2	32.1	12.4
Franklin County	114	148.2	14.1	35.1	41.2	9.6
George County	325	147.9	14.1	38.5	39.4	8
Greene County	167	150.8	10.2	32.9	43.1	13.8
Greenville	553	144.8	23.6	41	29.8	5.6
Greenwood	221	144	24.9	44.8	23.5	6.8
Grenada	393	147.6	17.8	35.1	35.9	11.2
Gulfport	388	152.9	7	27.3	46.4	19.3
Hancock County	308	149.6	11.7	36.7	39.6	12
Harrison County	954	151.7	8.8	32.7	38.4	20.1
Hattiesburg	324	145.5	25	38.3	28.7	8
Hazelhurst City	106	140.8	36.8	34.9	25.5	2.8
Hinds County	572	148.4	13.4	38.3	38.3	10
Hollandale	59	142.5	28.8	52.5	13.6	5.1
Holly Springs	121	141.7	27.3	50.4	21.5	0.8
Holmes County	234	144.4	24.4	45.7	24.8	5.1
Houston Separate	169	147	18.9	37.9	32.5	10.7
Humphreys County	126	146.9	19.1	33.3	40.5	7.1
Indianola	157	143.7	28.6	41.4	26.8	3.2
Itawamba County	247	148.8	14.2	34.4	41.3	10.1
Jackson County	665	152.6	7.4	28.3	43.5	20.8
Jackson Public	2293	147.4	19.4	36	34.5	10.1
Jefferson Davis County	142	141.7	33.2	41.5	21.8	3.5
Jefferson County	98	152.8	4.1	38.8	40.8	16.3
Jones County	630	149.3	11.6	36	41	11.4
Kemper County	84	142.1	29.8	44	21.4	4.8
Kosciusko	195	152.6	6.7	29.2	46.7	17.4
Lafayette County	204	152.4	8.4	26	47.5	18.1

Table 2 Continued

School District	Number Tested	Mean Scale Score	% Minimal	% Basic	% Proficient	% Advanced
Lamar County	675	152	9.8	27.4	42.7	20.1
Lauderdale County	476	150.8	9.5	33.4	40.3	16.8
Laurel	251	144.3	22.3	48.6	24.7	4.4
Lawrence County	144	149.9	9.7	38.2	36.1	16
Leake County	236	146.6	18.6	42.4	31.4	7.6
Lee County	508	148.1	16.1	37.4	37.2	9.3
Leflore County	203	142.2	37.9	36	20.7	5.4
Leland	79	149.7	5	41.8	45.6	7.6
Lincoln County	232	153.2	10.4	22.8	42.2	24.6
Long Beach	219	153.8	6.4	25.1	42.9	25.6
Louisville	193	146.2	21.2	35.8	33.7	9.3
Lowndes County	400	151.3	7.9	33.3	42.3	16.5
Lumberton	72	145.2	22.3	34.7	36.1	6.9
Madison	856	153.1	7.2	26.9	44.2	21.7
Marion County	172	144.7	22.7	45.9	25	6.4
Marshall County	276	144.5	23.9	41.7	30.8	3.6
McComb	189	145.5	20.7	45.5	28	5.8
Meridian	488	146.7	16.2	43.6	33	7.2
Monroe County	173	147.8	18.5	33.5	39.9	8.1
Montgomery County	36	145.1	25.1	47.2	19.4	8.3
Moss Point	226	144.6	23	41.6	29.2	6.2
Mound Bayou	37	146.1	19	29.7	45.9	5.4
Natchez Adams	321	145.3	20.5	45.8	28.7	5
Neshoba County	229	149.1	12.7	36.2	38.4	12.7
Nettleton	90	150.3	6.7	34.4	53.3	5.6
New Albany	153	154.4	3.4	26.1	44.4	26.1
Newton City	85	144.5	17.6	45.9	30.6	5.9
Newton County	146	150.2	12.3	30.8	42.5	14.4
North Bolivar	51	142.2	31.4	52.9	13.7	2
North Panola	125	139.4	38.4	44.8	16.8	0
North Pike	211	149.8	12.3	35.1	38.9	13.7
North Tippah	101	149.9	11.9	29.7	48.5	9.9
Noxubee County	157	144.8	21.6	45.9	28.7	3.8
Ocean Springs	368	154.4	3.5	28	43.5	25

Table 2 Continued

School District	Number Tested	Mean Scale Score	% Minimal	% Basic	% Proficient	% Advanced
Okolona Separate	52	145.8	15.5	53.8	28.8	1.9
Oktibbeha County	76	143.2	23.7	51.3	18.4	6.6
Oxford	235	151.4	12.3	27.7	36.6	23.4
Pascagoula	508	148.6	15.1	39	33.5	12.4
Pass Christian	107	156.5	4.7	15.9	46.7	32.7
Pearl	298	150.9	10.4	32.9	40.3	16.4
Pearl River	225	149.3	16	30.2	42.7	11.1
Perry County	102	146.7	20.6	41.2	33.3	4.9
Petal	274	150.5	12.8	29.9	42	15.3
Philadelphia	79	145.5	17.7	50.6	26.6	5.1
Picayune	253	147.3	18.9	36	33.6	11.5
Pontotoc City	171	152	11.7	22.8	47.4	18.1
Pontotoc County	213	150.9	7.5	31.9	46.5	14.1
Poplarville	168	148.7	16.7	35.1	33.9	14.3
Prentiss County	161	150	13	28.6	41.6	16.8
Quitman	142	146.3	18.3	43	33.1	5.6
Quitman County	83	146.4	19.2	38.6	28.9	13.3
Rankin County	1434	151.6	8.8	29.5	45.7	16
Richton	61	151.4	1.6	36.1	55.7	6.6
Scott County	275	149.4	12	38.5	36	13.5
Senatobia	123	151.5	9	34.1	32.5	24.4
Shaw	40	149.3	7.5	40	45	7.5
Simpson County	281	148.8	11.4	40.9	39.9	7.8
Smith County	233	148.9	14.6	35.6	38.2	11.6
South Delta	86	148	11.6	46.5	38.4	3.5
South Panola	371	145.3	22.9	41.8	28	7.3
South Pike	145	147.8	16.6	33.1	40	10.3
South Tippah	216	151.1	12	27.8	42.6	17.6
Starkville	331	148.2	19.4	31.4	32	17.2
Stone County	212	149.6	11.8	35.8	34.9	17.5
Sunflower County	150	145.6	23.3	38.7	32.7	5.3
Tate County	233	145.8	21	36.1	35.2	7.7
Tishomingo County	237	153.9	5.5	29.1	38.4	27
Tunica County	187	143.6	24.6	46	25.7	3.7

Table 2 Continued

School District	Number Tested	Mean Scale Score	% Minimal	% Basic	% Proficient	% Advanced
Tupelo	511	149.9	13.6	32.5	38.6	15.3
Union City	67	153.6	4.4	29.9	37.3	28.4
Union County	201	152.8	6.9	25.9	45.8	21.4
Vicksburg-Warren	661	148.9	13.8	36.9	36.6	12.7
Walthall County	203	144.3	24.2	50.2	20.2	5.4
Water Valley	105	149.5	12.4	36.2	39	12.4
Wayne County	297	147.8	14.8	40.1	36.7	8.4
Webster County	143	148.8	15.3	38.5	30.8	15.4
West Bolivar	68	152.5	10.4	27.9	38.2	23.5
Western Line	134	144	28.4	40.3	26.1	5.2
West Jasper	147	148.8	14.9	38.8	35.4	10.9
West Point	263	147.5	14.4	44.9	32.7	8
West Tallahatchie	77	138.9	41.5	42.9	14.3	1.3
Wilkinson County	96	145.8	20.9	37.5	38.5	3.1
Winona	85	152.3	10.5	25.9	41.2	22.4
Yazoo City	207	141.3	31.4	44.9	21.3	2.4
Yazoo County	126	147	15.9	42.1	34.9	7.1

School districts were used as a level of analysis. Scores were converted in the following manner: 1 = minimal, 2 = basic, 3 = proficient, and 4 = advanced. In order to obtain a single score for each school district the following conversion occurred: the percentage of students in minimal  $\times$  1, percentage of students in basic  $\times$  2, percentage of students in proficient  $\times$  3, and the percentage of students in advanced  $\times$  4. These scores were then transformed to relate the percentages of students at each achievement level by dividing each by 100.

An ANOVA was conducted to assess whether there were differences between the achievement levels for the MCT and MCT2 in fourth grade reading. Results indicated that there were statistically significant differences at the .05 level between achievement

levels for fourth grade students on the MCT and MCT2,  $F(1, 148.00) = 2,474.96, p < .05$ . Applying Cohen's (1968) criteria for interpreting eta squared (less than .01 = trivial; .01 up to 0.06 = small; .06 up to .14 = moderate; .14 or greater = large), the partial eta squared value of 0.94 was interpreted as a strong effect size. Table 3 represents the findings of the ANOVA.

Table 3

Differences Between Achievement Levels for the MCT and MCT2 at Fourth grade

Source	F	df	MS	p	$\eta^2$
MCT	2474.96	1	38.51	.05	.94

Comparison of means for two MCT reading tests at Grade 4 indicated that students scored statistically significantly lower on the MCT2 ( $M = 2.39, SD = .29$ ) than they did on the MCT ( $M = 3.11, SD = .18$ ). Table 4 represents the descriptive statistics for the fourth grade MCT and MCT2.

Table 4

Descriptive Statistics for the Fourth grade MCT and MCT2

Assessment	Mean	Std. Deviation	N
MCT	3.11	.18	149
MCT2	2.39	.29	149

*Research Question 2*

What are the differences between achievement levels for the MCT and MCT2 in eighth grade reading?

MCT and MCT2 data are only publicly available at the district level. The tables that follow present the school districts of Mississippi and the percentages of the eighth grade students' achievement levels who participated in the MCT and MCT2.

Table 5  
Eighth Grade MCT Data by School District

MCT							
2006 - 2007							
Eighth Grade Reading							
School District	Grade Level	Number Tested	Mean Scale Score	% Minimal	% Basic	% Proficient	% Advanced
Aberdeen	8	129	541	25.6	35.7	32.6	6.2
Alcorn	8	293	552	19.5	25.6	45.1	9.9
Amite	8	105	544.3	23.8	37.1	32.4	6.7
Amory	8	163	567.3	14.7	17.2	45.4	22.7
Attala	8	91	560.5	20.9	19.8	45.1	14.3
Baldwyn	8	79	555.9	12.7	35.4	43	8.9
Bay St. Louis	8	126	564.1	13.5	23.8	46.8	15.9
Benoit	8	20	518.7	55	40	5	0
Benton County	8	72	558.9	11.1	43.1	31.9	13.9
Biloxi	8	361	573.7	11.6	21.1	44	23.3
Booneville	8	98	582.3	5.1	15.3	52	27.6
Brookhaven	8	258	556.2	16.7	28.7	44.6	10.1
Calhoun County	8	190	550.5	20	32.6	38.9	8.4
Canton	8	240	526.3	35.4	37.5	24.2	2.9
Carroll County	8	89	551.3	15.7	43.8	34.8	5.6
Chickasaw County	8	41	542.1	17.1	31.7	41.5	9.8

Table 5 Continued

School District	Grade Level	Number Tested	Mean Scale Score	% Minimal	% Basic	% Proficient	% Advanced
Choctaw County	8	141	558.3	12.8	34	40.4	12.8
Claiborne County	8	120	543.3	27.5	30.8	38.3	3.3
Clarksdale	8	302	537.9	26.2	39.4	30.1	4.3
Clay County	8	0	0	0	0	0	0
Cleveland	8	263	551.9	23.6	31.2	37.3	8
Clinton	8	421	574.8	13.8	16.9	45.1	24.2
Coahoma County	8	146	528.9	39	36.3	23.3	1.4
Coffeeville	8	57	535.6	28.1	42.1	28.1	1.8
Colombia	8	129	569.3	13.2	20.2	49.6	17.1
Columbus	8	311	535.7	29.9	29.6	30.5	10
Copiah County	8	236	548.8	25.8	28.8	37.3	8.1
Corinth	8	114	571.9	11.4	20.2	50.9	17.5
Covington County	8	239	547.9	23.4	30.5	36.4	9.6
Desoto County	8	2147	567.4	13.5	23.8	43.3	19.5
Drew	8	46	524.5	47.8	26.1	21.7	4.3
Durant	8	36	541.4	30.6	27.8	36.1	5.6
East Jasper	8	96	527	43.8	28.1	20.8	7.3
East Tallahatchie	8	121	548.7	24.8	23.1	43.8	8.3
Enterprise	8	65	562.2	12.3	35.4	38.5	13.8
Forest City	8	107	534.9	26.2	35.5	26.2	12.1
Forrest County	8	247	558.8	20.6	27.1	38.1	14.2
Franklin County	8	110	549.6	22.7	30	38.2	9.1
George County	8	347	555.2	18.4	28.8	39.5	13.3
Greene County	8	145	559.5	15.2	24.8	45.5	14.5
Greenville	8	462	542.1	24.9	37.7	32.9	4.5
Greenwood	8	205	544.2	20	35.6	38.5	5.9
Grenada	8	380	548.7	21.3	30.3	37.6	10.8
Gulfport	8	422	570	14.2	21.8	41.7	22.3
Hancock County	8	345	568	13	21.4	47	18.6
Harrison County	8	1009	563	16.2	25.2	42.3	16.4
Hattiesburg	8	346	546.9	24.9	31.8	34.7	8.7
Hazlehurst City	8	135	525.9	36.3	34.8	24.4	4.4
Hinds County	8	512	561.9	14.6	28.9	40.2	16.2
Hollandale	8	70	533.1	27.1	51.4	18.6	2.9



Table 5 Continued

School District	Grade Level	Number Tested	Mean Scale Score	% Minimal	% Basic	% Proficient	% Advanced
Holly Springs	8	141	527.7	31.2	42.6	22.7	3.5
Holmes County	8	274	518.7	47.1	32.8	15.7	4.4
Houston Separate	8	147	564	12.9	24.5	49	13.6
Humphreys County	8	148	534.2	33.8	37.2	25	4.1
Indianola	8	199	530.9	42.2	30.2	24.6	3
Itawamba	8	286	564.1	14	26.6	43	16.4
Jackson County	8	724	569.8	12	23.8	45.2	19.1
Jackson Public	8	2397	542.7	25.8	33.4	35.1	5.7
Jefferson Davis	8	145	541.6	29.7	34.5	30.3	5.5
Jefferson County	8	134	541.9	35.8	23.9	32.8	7.5
Jones	8	588	563.7	13.4	29.8	39.1	17.7
Kemper	8	117	538.1	30.8	35.9	31.6	1.7
Kosciusko	8	148	568.5	10.8	29.7	39.9	19.6
Lafayette County	8	177	555.9	19.8	28.2	37.3	14.7
Lamar County	8	599	570.7	13.5	21.7	41.6	23.2
Lauderdale County	8	498	566.2	15.3	23.1	44	17.7
Laurel	8	198	529.2	36.4	33.3	27.3	3
Lawrence County	8	184	559.3	17.9	26.6	44	11.4
Leake County	8	252	548.1	23.4	33.3	33.7	9.5
Lee County	8	513	551.4	22.4	26.1	39.8	11.7
Leflore County	8	239	526.5	35.6	35.6	27.6	1.3
Leland	8	87	553.6	14.9	39.1	36.8	9.2
Lincoln	8	259	560.6	14.3	25.9	47.1	12.7
Long Beach	8	241	584.4	4.6	18.7	47.3	29.5
Louisville	8	218	549.8	19.7	32.6	40.8	6.9
Lowndes County	8	436	556.5	16.7	27.5	44.3	11.5
Lumberton	8	70	551.4	18.6	28.6	44.3	8.6
Madison	8	793	575.2	8.4	21.3	46.5	23.7
Marion County	8	174	538.9	26.4	31	38.5	4
Marshall County	8	245	541.8	30.6	30.2	31.4	7.8
McComb	8	233	541.9	28.3	38.6	23.6	9.4
Meridian	8	499	553.1	20	32.3	34.1	13.6
Monroe County	8	207	547.7	22.2	30.4	37.7	9.7
Montgomery County	8	43	546.8	23.3	34.9	32.6	9.3

Table 5 Continued

School District	Grade Level	Number Tested	Mean Scale Score	% Minimal	% Basic	% Proficient	% Advanced
Moss Point	8	245	543.3	27.3	30.6	35.9	6.1
Mound Bayou	8	49	543.8	22.4	34.7	40.8	2
MS School for the Blind	8	4	0	0	0	0	0
Natchez Adams	8	324	536.5	30.9	34.3	32.7	2.2
Neshoba County	8	225	565.5	12	29.3	41.3	17.3
Nettleton	8	86	563.9	14	18.6	55.8	11.6
New Albany	8	161	562.7	13	23.6	49.1	14.3
Newton City	8	85	548.8	12.9	44.7	37.6	4.7
Newton County	8	133	564.5	15	23.3	47.4	14.3
North Bolivar	8	64	559.7	14.1	23.4	53.1	9.4
North Panola	8	148	526.3	42.6	37.2	19.6	0.7
North Pike	8	180	558.5	17.2	27.8	41.1	13.9
North Tippah	8	104	560.7	18.3	23.1	46.2	12.5
Noxubee County	8	159	524.5	35.2	41.5	21.4	1.9
Ocean Springs	8	394	580.1	7.6	16	51.5	24.9
Okolona Separate	8	57	533.6	26.3	49.1	21.1	3.5
Oktibbeha County	8	68	531.8	27.9	35.3	33.8	2.9
Oxford	8	230	578.7	8.3	19.6	45.7	26.5
Pascagoula	8	541	558.4	18.3	25.3	42.5	13.9
Pass Christian	8	121	575	10.7	22.3	41.3	25.6
Pearl	8	303	563.8	16.2	25.1	41.6	17.2
Pearl River	8	227	562.3	14.5	21.1	48.9	15.4
Perry County	8	114	556.6	19.3	29.8	37.7	13.2
Petal	8	310	571.7	11.9	21.6	47.1	19.4
Philadelphia	8	87	548.5	23	36.8	28.7	11.5
Picayune	8	302	551.3	22.8	26.5	36.4	14.2
Pontotoc City	8	164	569	18.3	17.1	43.3	21.3
Pontotoc County	8	247	571.3	12.1	23.9	42.5	21.5
Poplarville	8	169	556.9	18.9	26	40.8	14.2
Prentiss County	8	175	558.2	19.4	25.1	35.4	20
Quitman	8	165	551.2	20	30.3	35.2	14.5
Quitman County	8	126	511.2	51.6	30.2	17.5	0.8
Rankin County	8	1284	571.3	12.5	21.7	45.6	20.2
Richton	8	55	560	5.5	32.7	56.4	5.5

Table 5 Continued

School District	Grade Level	Number Tested	Mean Scale Score	% Minimal	% Basic	% Proficient	% Advanced
Scott County	8	286	551	18.5	28.7	43	9.8
Senatobia	8	142	559.6	14.8	31.7	40.8	12.7
Shaw	8	53	537.2	28.3	41.5	28.3	1.9
Simpson County	8	329	555.7	17.3	32.8	40.4	9.4
Smith County	8	247	559.1	15.8	26.3	47	10.9
South Delta	8	105	537.7	27.6	42.9	26.7	2.9
South Panola	8	341	542	27.3	32.8	31.4	8.5
South Pike	8	159	546.1	20.1	34.6	39.6	5.7
South Tippah	8	198	551.3	23.2	25.3	39.4	12.1
Starkville	8	286	557.7	18.9	32.5	32.9	15.7
Stone County	8	207	546.5	20.3	29	39.1	11.6
Sunflower County	8	135	548.5	21.5	31.1	41.5	5.9
Tate County	8	220	542.9	31.4	25.9	34.5	8.2
Tishomingo County	8	286	565.8	12.2	23.1	47.2	17.5
Tunica County	8	172	543.2	23.8	34.3	37.8	4.1
Tupelo	8	535	556.6	20	29.5	34.8	15.7
Union City	8	60	550.2	28.3	16.7	38.3	16.7
Union County	8	192	562.3	14.6	26	45.8	13.5
Vicksburg-Warren	8	704	548.4	23.2	31.5	35.9	9.4
Walthall County	8	197	542.9	22.3	35.5	35.5	6.6
Water Valley	8	104	562.1	10.6	29.8	45.2	14.4
Wayne County	8	312	558.4	19.6	27.6	37.8	15.1
Webster County	8	126	571.5	13.5	27	38.1	21.4
West Bolivar	8	62	535.6	27.4	46.8	22.6	3.2
Western Line	8	178	551.5	18	40.4	33.1	8.4
West Jasper	8	134	543.7	28.4	37.3	24.6	9.7
West Point	8	283	548.8	19.1	37.5	36	7.4
West Tallahatchie	8	91	527.8	41.8	27.5	28.6	2.2
Wilkinson County	8	140	529.2	41.4	29.3	27.1	2.1
Winona	8	121	555.7	13.2	35.5	43.8	7.4
Yazoo City	8	260	528.4	37.7	33.1	27.3	1.9
Yazoo County	8	142	552.1	19.7	31	33.8	15.5

Table 6

## Eighth Grade MCT2 Data by School District

MCT2						
2007 - 2008						
Eighth Grade L.A./Reading						
School District	Number Tested	Mean Scale Score	% Minimal	% Basic	% Proficient	% Advanced
Aberdeen	124	143.6	21.8	46.8	31.5	0
Alcorn	327	148.1	12.8	37.9	44.6	4.6
Amite	92	141.7	25	55.4	19.6	0
Amory	140	147.8	16.4	35	44.3	4.3
Attala	96	143.7	22.9	40.6	33.3	3.1
Baldwyn	69	148.1	8.7	39.1	50.7	1.4
Bay St. Louis	146	150.4	12.3	24.7	57.5	5.5
Benoit	18	137.3	38.9	50	11.1	0
Benton County	95	147.4	12.6	41.1	41.1	5.3
Biloxi	384	148	16.9	31.3	47.7	4.2
Booneville	114	150.9	13.2	24.6	57.9	4.4
Brookhaven	205	145.6	17.6	42	38	2.4
Calhoun County	192	145.8	15.6	46.4	36.5	1.6
Canton	249	139	40.2	40.6	19.3	0
Carroll County	84	146.1	20.2	42.9	34.5	2.4
Chickasaw County	38	146.8	18.4	18.4	60.5	2.6
Choctaw County	126	143.8	23.8	40.5	34.1	1.6
Claiborne County	121	149.3	9.1	37.2	49.6	4.1
Clarksdale	272	142.6	21.7	50	27.6	0.7
Clay County	0	0	0	0	0	0
Cleveland	228	145.4	19.7	40.8	37.7	1.8
Clinton	379	151.3	9.2	29.6	54.4	6.9
Coahoma County	127	139.2	34.6	47.2	18.1	0
Coffeerville	48	143.3	25	47.9	27.1	0
Colombia	123	147.2	18.7	31.7	46.3	3.3
Columbus	326	144.4	21.8	43.6	32.8	1.8
Copiah County	241	142.7	29.9	39.4	29	1.7
Corinth	126	153	10.3	26.2	53.2	10.3
Covington County	248	144.4	25.8	37.1	33.9	3.2
Desoto County	2205	149.8	10.8	32.6	52.7	3.8
Drew	55	143.8	21.8	47.3	30.9	0

Table 6 Continued

School District	Number Tested	Mean Scale Score	% Minimal	% Basic	% Proficient	% Advanced
Durant	56	143.1	25	53.6	21.4	0
East Jasper	84	143.2	29.8	38.1	31	1.2
East Tallahatchie	130	141.1	30.8	46.9	21.5	0.8
Enterprise	63	150.3	6.3	33.3	58.7	1.6
Forest City	103	145.9	16.5	41.7	40.8	1
Forrest County	221	148	12.2	36.7	47.5	3.6
Franklin County	108	145.4	18.5	43.5	37	0.9
George County	344	147.9	13.1	37.8	46.2	2.9
Greene County	129	147.1	14	38.8	45	2.3
Greenville	548	144.3	21.7	44.3	32.1	1.8
Greenwood	189	146.2	17.5	38.6	43.4	0.5
Grenada	334	146.7	18	40.4	38.6	3
Gulfport	391	148.6	11.8	37.1	46.5	4.6
Hancock County	323	149.2	13	32.8	49.5	4.6
Harrison County	967	149.1	11.4	35	49.9	3.7
Hattiesburg	304	142.3	27.3	43.8	28	1
Hazlehurst City	119	140.3	34.5	44.5	19.3	1.7
Hinds County	541	147.9	14	37.9	44.5	3.5
Hollandale	54	140.3	27.8	57.4	14.8	0
Holly Springs	113	141.3	27.4	48.7	23	0.9
Holmes County	275	139	41.5	37.5	21.1	0
Houston Separate	162	149.2	12.3	27.8	58	1.9
Humphreys County	146	139.4	36.3	44.5	19.2	0
Indianola	156	140	39.1	41.7	18.6	0.6
Itawamba	285	146.8	17.2	39.6	40	3.2
Jackson County	716	150.5	10.1	30.2	55.3	4.5
Jackson Public	2403	143.2	24.1	45.3	29.9	0.6
Jefferson Davis	148	139.6	34.5	45.3	19.6	0.7
Jefferson County	113	136.8	43.4	35.4	21.2	0
Jones	607	147.3	15	37.4	45.8	1.8
Kemper	108	141	27.8	51.9	19.4	0.9
Kosciusko	143	150.8	3.5	40.6	49	7
Lafayette County	179	147.9	12.3	40.2	45.3	2.2
Lamar County	611	150.6	11.1	27.5	56.5	4.9

Table 6 Continued

School District	Number Tested	Mean Scale Score	% Minimal	% Basic	% Proficient	% Advanced
Lauderdale County	495	149.1	11.5	33.7	51.3	3.4
Laurel	221	142.4	24.9	50.7	23.1	1.4
Lawrence County	187	147.1	16	34.8	49.2	0
Leake County	230	144.1	22.6	45.7	30	1.7
Lee County	509	145.5	20.8	40.7	36.3	2.2
Leflore County	218	140.8	31.2	44	24.8	0
Leland	96	145.9	11.5	57.3	30.2	1
Lincoln	200	148.3	9.5	42.5	47	1
Long Beach	238	153.4	6.3	22.3	62.6	8.8
Louisville	209	147	15.3	41.1	41.6	1.9
Lowndes County	435	148.6	10.3	37.7	50.3	1.6
Lumberton	67	142.5	31.3	38.8	29.9	0
Madison	853	153.4	7.5	24.7	57.3	10.4
Marion County	199	143.3	21.6	49.2	29.1	0
Marshall County	219	145.4	19.2	42.5	38.4	0
McComb	211	141.5	32.2	44.5	21.8	1.4
Meridian	445	144	20.7	47.2	30.1	2
Monroe County	181	146.9	18.2	34.8	44.2	2.8
Montgomery County	43	142.3	23.3	51.2	25.6	0
Moss Point	253	143.5	25.3	39.9	34.4	0.4
Mound Bayou	66	142	27.3	42.4	30.3	0
Natchez Adams	312	143.5	24	44.6	30.8	0.6
Neshoba County	244	147.3	16.4	36.1	44.7	2.9
Nettleton	99	146.8	13.1	46.5	39.4	1
New Albany	165	149	10.9	37	46.7	5.5
Newton City	65	143.3	20	47.7	32.3	0
Newton County	161	149.3	14.3	32.3	49.7	3.7
North Bolivar	63	141.4	30.2	49.2	19	1.6
North Panola	125	140	34.4	48	17.6	0
North Pike	187	147.4	14.4	39.6	45.5	0.5
North Tippah	110	148.5	14.5	30	52.7	2.7
Noxubee County	182	141.9	31.9	41.8	26.4	0
Ocean Springs	422	152.2	7.8	25.8	60	6.4
Okolona Separate	70	139	37.1	44.3	18.6	0

Table 6 Continued

School District	Number Tested	Mean Scale Score	% Minimal	% Basic	% Proficient	% Advanced
Oktibbeha County	57	140.1	29.8	56.1	14	0
Oxford	214	149.8	14	27.6	52.8	5.6
Pascagoula	532	146.5	18.6	38	41	2.4
Pass Christian	118	153.3	0.8	27.1	69.5	2.5
Pearl	263	148.7	12.9	38.8	44.1	4.2
Pearl River	259	148.5	17.4	35.1	40.9	6.6
Perry County	91	147.8	8.8	45.1	46.2	0
Petal	295	151.8	7.1	26.8	60.7	5.4
Philadelphia	87	147.2	14.9	42.5	40.2	2.3
Picayune	273	148.2	13.2	38.8	46.2	1.8
Pontotoc City	183	151.6	7.1	29.5	60.1	3.3
Pontotoc County	272	147.9	12.1	36	49.6	2.2
Poplarville	177	147.3	11.9	43.5	42.9	1.7
Prentiss County	160	148.8	12.5	34.4	49.4	3.8
Quitman	145	145.8	20	38.6	37.9	3.4
Quitman County	99	138.8	39.4	45.5	15.2	0
Rankin County	1285	149	12.6	34.8	49	3.6
Richton	56	150.5	7.1	33.9	53.6	5.4
Scott County	268	145.9	20.1	37.7	39.9	2.2
Senatobia	136	148.5	14.7	32.4	50	2.9
Shaw	48	143.3	27.1	43.8	29.2	0
Simpson County	315	145.7	18.1	42.2	38.1	1.6
Smith County	245	146.8	20	36.7	38.8	4.5
South Delta	97	143.4	21.6	46.4	30.9	1
South Panola	306	143.8	23.2	40.2	34.6	2
South Pike	122	143.9	20.5	50.8	27.9	0.8
South Tippah	183	146.6	16.4	41	39.9	2.7
Starkville	273	146.3	20.1	34.4	42.9	2.6
Stone County	222	148.9	14	35.6	44.6	5.9
Sunflower County	166	140	34.3	46.4	19.3	0
Tate County	227	145.2	16.3	44.1	38.8	0.9
Tishomingo County	258	149.9	13.2	28.7	52.3	5.8
Tunica County	143	141.9	22.4	53.8	23.8	0
Tupelo	565	147.8	18.1	34.3	41.6	6

Table 6 Continued

School District	Number Tested	Mean Scale Score	% Minimal	% Basic	% Proficient	% Advanced
Union City	75	150.7	10.7	24	61.3	4
Union County	171	151.7	9.9	28.1	55	7
Vicksburg-Warren	708	143.8	23.9	39.4	36	0.7
Walthall County	212	144.7	19.8	43.4	35.8	0.9
Water Valley	87	150.1	8	34.5	55.2	2.3
Wayne County	303	147.5	14.2	41.3	41.3	3.3
Webster County	155	148.3	12.3	40.6	45.2	1.9
West Bolivar	94	138.2	43.6	39.4	17	0
Western Line	152	145.1	19.7	37.5	42.1	0.7
West Jasper	123	145.6	23.6	35	40.7	0.8
West Point	248	146.8	16.5	39.5	41.9	2
West Tallahatchie	83	140.6	27.7	55.4	16.9	0
Wilkinson County	109	143.8	23.9	42.2	33	0.9
Winona	110	149.1	13.6	35.5	49.1	1.8
Yazoo City	223	141.1	29.6	48.9	21.5	0
Yazoo County	127	145.9	19.7	37	41.7	1.6

School districts were used as a level of analysis. Scores were converted in the following manner: 1 = minimal, 2 = basic, 3 = proficient, and 4 = advanced. In order to obtain a single score for each school district the following conversion occurred: the percentage of students in minimal  $\times$  1, percentage of students in basic  $\times$  2, percentage of students in proficient  $\times$  3, and the percentage of students in advanced  $\times$  4. These scores were then transformed to relate the percentages of students at each achievement level by dividing each by 100.

An ANOVA was conducted to assess whether there were differences between the achievement levels for the MCT and MCT2 in eighth grade reading. Results indicated that there were statistically significant differences at the .05 level between achievement levels for eighth grade students on the MCT and MCT2,  $F(1, 148.00) = 132.44, p < .05$ .



Applying Cohen’s (1968) criteria for interpreting eta squared (less than .01 = trivial; .01 up to 0.06 = small; .06 up to .14 = moderate; .14 or greater = large), the partial eta squared value of 0.47 was interpreted as a strong effect size. Table 7 represents the findings of the repeated measures ANOVA.

Table 7

Differences Between Achievement Levels for the MCT and MCT2 at Eighth Grade

Source	F	df	MS	p	η <sup>2</sup>
MCT	132.44	1	1.45	.05	.47

Comparison of means for two MCT reading tests at Grade 8 indicated that students scored statistically significantly lower on the MCT2 (M = 2.22, SD =.30) than they did on the MCT (M = 2.36, SD = .35). Table 8 represents the descriptive statistics for the eighth grade MCT and MCT2.

Table 8

Descriptive Statistics for the Eighth Grade MCT and MCT2

Assessment	Mean	Std. Deviation	N
MCT	2.36	.35	149
MCT2	2.22	.30	149

*Research Question 3*

Does the reading portion of the MCT or MCT2 more closely correspond to achievement levels on the NAEP at the fourth grade?

Achievement levels on the NAEP, MCT, and MCT2 were categorized according to the percentage of students scoring minimal, basic, proficient, and advanced. There were higher percentages of students scoring proficient and advanced on the MCT. District level data were available for the MCT and MCT2, however, there was no district level data available for NAEP.

In order to make a comparison as to which Mississippi Curriculum Tests (MCT or MCT2) more closely resembled NAEP, percentages for minimum/basic and proficient/advanced were combined. Relying on the targeted achievement levels of proficient and advanced, the MCT (59.80% + 30.30% = 91.10%) and MCT2 (36.60% + 12.90% = 49.50%) exceeded NAEP (24.00% + 7.00% = 31.00%). Although there was still a difference between MCT2 and NAEP, MCT2 (as compared with MCT) was found to be more closely aligned with NAEP, particularly given that there was a statistically significant difference between MCT and MCT2. Table 9 represents the percentage of students' scores at each achievement level.

Table 9

Fourth Grade Achievement Levels on NAEP, MCT, and MCT2

Assessment	Grade Level	% Minimal	% Basic	% Proficient	% Advanced
NAEP	fourth	35.00	34.00	24.00	7.00
MCT	fourth	5.20	4.70	59.80	30.30
MCT2	fourth	15.20	35.30	36.60	12.90

*Research Question 4*

Does the reading portion of the MCT or MCT2 more closely correspond to achievement levels on the NAEP at the eighth grade?

Achievement levels on the NAEP, MCT, and MCT2 were categorized according to the percentage of students scoring minimal, basic, proficient, and advanced. District level data were available for the MCT and MCT2, however, there was no district level data available for NAEP.

There were higher percentages of students scoring proficient on the MCT2. There were higher percentages of students scoring advanced on the MCT. In order to make a comparison as to which Mississippi Curriculum Tests (MCT or MCT2) more closely resembled NAEP, percentages for minimal/basic and proficient/advanced were combined.

Relying on the targeted achievement levels of proficient and advanced, the MCT ( $38.70\% + 12.90\% = 51.60\%$ ) and MCT2 ( $41.40\% + 2.20\% = 44.20\%$ ) exceeded NAEP ( $27.00\% + 2.00\% = 29.00\%$ ). Although there is still a difference between MCT2 and NAEP, MCT2 (as compared with MCT) was found to be more closely aligned with NAEP, particularly given that there is a statistically significant difference between MCT and MCT2. Table 10 represents the percentage of students' scores at each achievement level.

Table 10  
Eighth Grade Achievement Levels on NAEP, MCT, and MCT2

Assessment	Grade Level	% Minimal	% Basic	% Proficient	% Advanced
NAEP	eighth	27.00	43.00	27.00	2.00
MCT	eighth	19.90	28.40	38.70	12.90
MCT2	eighth	17.70	38.10	41.40	2.80

## Summary

Data were collected from four aggregated district level scores and 2 aggregated state level scores in reading: fourth grade MCT, fourth grade MCT2, eighth grade MCT, eighth grade MCT2, fourth grade NAEP, and eighth grade NAEP. For analyses purposes, focus was placed on the percentages of students who were categorized in the minimal, basic, proficient, and advanced categories.

In order to address research question 1, an ANOVA was conducted to assess whether there were differences between the achievement levels for the MCT and MCT2 in fourth grade reading. Results indicated that there were statistically significant differences between achievement levels for fourth grade students on the MCT and MCT2. Comparison of means for two MCT reading tests at Grade 4 indicated that students scored statistically significantly lower on the MCT2 than they did on the MCT.

For research question 2, an ANOVA was conducted to assess whether there were differences between the achievement levels for the MCT and MCT2 in eighth grade reading. Results indicated that there were statistically significant differences between achievement levels for eighth grade students on the MCT and MCT2. Comparison of means for two MCT reading tests at Grade 8 indicated that students scored statistically significantly lower on the MCT2 than they did on the MCT.

In order to make a comparison and answer research question 3 as to which Mississippi Curriculum Tests (MCT or MCT2) more closely resembled NAEP, percentages for minimal/basic and proficient/advanced were combined. Based on these results, relying on the targeted achievement levels of proficient and advanced, the MCT and MCT2 exceeded NAEP. Although there was still a difference between MCT2 and

NAEP, MCT2 (as compared with MCT) was found to be more closely aligned with NAEP, particularly given that there is a statistically significant difference between MCT and MCT2.

For research question 4, there were higher percentages of students scoring proficient on the MCT2. There were higher percentages of students scoring advanced on the MCT. In order to make a comparison as to which Mississippi Curriculum Tests (MCT or MCT2) more closely resembled NAEP, percentages for minimal/basic and proficient/advanced were combined. Based on these results, relying on the targeted achievement levels of proficient and advanced, the MCT and MCT2 exceeded NAEP. Although there was still a difference between MCT2 and NAEP, MCT2 (as compared with MCT) was found to be more closely aligned with NAEP, particularly given that there is a statistically significant difference between MCT and MCT2.

## CHAPTER V

### FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

Chapter V consists of a presentation of the findings, conclusions, and recommendations of this completed study. The purpose of the study was to determine if the MCT or MCT2 was aligned with NAEP. To facilitate a comprehensive response to the research questions, the analyses concentrated on the percentages of students who were categorized in the minimal, basic, proficient, and advanced categories. Mississippi's fourth and eighth grades students' achievement level data were used to make comparisons with the national fourth and eighth grade students' achievement level data.

In order to provide guidance and support to school districts, it is important to understand the beliefs that teachers, parents, other educators, and community partners have pertaining to student academic performance and how they relate to other students across the country at their grade level. The information gathered from this research provides additional knowledge to educators and administrators as they consider tough decisions to overhaul an educational system that some believe might not have served the children as well as it should. In order to positively impact the lives of Mississippi children, educators will have additional information at their disposal as they make the tough choices that are designed to improve the academic performance of their students.

## Findings

The primary research questions which guided this study were the following.

1. What are the differences in achievement levels for the MCT and MCT2 in fourth grade reading?
2. What are the differences in achievement levels for the MCT and MCT2 in eighth grade reading?
3. Does the reading portion of the MCT or MCT2 more closely correspond to achievement levels on the NAEP at the fourth grade?
4. Does the reading portion of the MCT or MCT2 more closely correspond to achievement levels on the NAEP at the eighth grade?

An ANOVA was computed for research question one which asked: “What are the differences between the achievement levels for the MCT and MCT2 in fourth grade reading?” An examination was made of the percentage of students in each performance level. The analysis indicated that there were statistically significant differences at the .05 level between achievement levels for fourth grade students on the MCT and MCT2. Comparison of means for two MCT reading tests at Grade 4 indicated that students scored statistically significantly lower on the MCT2 than they did on the MCT.

An ANOVA was computed for research question two which asked: “What are the differences in achievement levels for the MCT and MCT2 in eighth grade reading?” Results indicated that there were statistically significant differences at the .05 level between achievement levels for eighth grade students on the MCT and MCT2. Comparison of means for two MCT reading tests at Grade 8 indicated that students scored statistically significantly lower on the MCT2 than they did on the MCT.

A comparison analysis of achievement levels was used for research question 3 which asked: Does the reading portion of the MCT or MCT2 more closely correspond to achievement levels on the NAEP at the fourth grade?" Results indicated that there were higher percentages of differences between students scoring minimal on the NAEP. In the basic category, there were higher percentages of students scoring basic on the MCT2. There were higher percentages of students scoring proficient and advanced on the MCT. Relying on the targeted achievement levels of proficient and advanced, both the MCT and MCT2 exceeded NAEP levels. However, the MCT2 is more closely aligned to NAEP.

A comparison analysis of achievement levels was used for research question 4 which asked: Does the reading portion of the MCT or MCT2 more closely correspond to achievement levels on the NAEP at the eighth grade?" In the minimal category, there were higher percentages of students scoring minimal and basic on the NAEP. There were higher percentages of students scoring proficient on the MCT. There were higher percentages of students scoring advanced on the MCT. Relying on the targeted achievement levels of proficient and advanced, both the MCT and MCT2 exceeded NAEP levels. Though the numbers are still inflated, MCT2 is more closely aligned to NAEP.

### **Limitations**

NAEP assesses a relatively small number of randomly chosen students in a small number of schools in each state. Therefore, it is not feasible to report individual scores on the NAEP assessment. Also, students do not take the entire NAEP test. There is no



district level data available for NAEP. Scores are reported at five percentiles to show trends in performance for lower, middle, and higher performing students (NAEP, 2007). Because NAEP does not have district level data, the study was replicated at two different grade levels: fourth and eighth grades.

The MCT is taken by all public school students in the state of Mississippi. Thus, individual scores can be computed and district level data can be determined. On the other hand, individual scores are not taken by NAEP. A final limitation is that the MCT2 combines reading and language arts. On the MCT, reading and language arts were two separate tests. Both reading sections of the MCT and MCT2 were used for the study.

### **Conclusions**

The objective of MDE is to ensure that students are reading on grade level by meeting at least the proficient achievement level on state assessments, by the end of third grade, as required by NCLB (MDE, 2006). It is evident from the results of this study that the student achievement on the MCT and MCT2 do not align equally with the NAEP, which has been considered the standard of educational assessments and a reliable national gauge of student success (Mathews, 2006). Although the reading comprehension levels of the MCT and MCT2 do not adequately match NAEP, the MCT2 is more closely aligned to NAEP.

There are some who believe that while NAEP could be a useful tool to promote teaching and learning, its reign as the only nationally representative assessment measuring American students' academic achievement and progress over time should be in question (Mullis, 2003). Probably for this reason, officials at MDE openly admitted

that that there were gaps between where the students currently were and where they should be (Helmes, 2007). As a result, officials at MDE agreed that it would take students until 2069 to reach the achievement levels set by NAEP in fourth grade reading. The MCT2 was designed as an assessment tool that approached the rigor of the NAEP. The goal of the MCT2 was to improve student learning and align the curriculum with assessment and instruction.

It is critical for the educational leaders in Mississippi to develop an appropriate tool for accurately measuring student academic performance. This will make it possible for them to identify the most beneficial intervention strategies for those students who are classified as under-performing/under-achieving. If children fall seriously behind in the growth of early reading skills, they have fewer opportunities to practice reading. When faced with these lost practice opportunities children who remain poor readers during the first three years of elementary school lose the opportunity to ever obtain normal levels of reading fluency and comprehension (Torgesen et al., 2001).

The need for stringent scrutiny is even more apparent when one reviews the trend lines that indicate that improvement on the Mississippi Curriculum Tests, have shown only slight gains and losses in each grade and subject. During the 2006-2007 school year, statewide, schools achieved at the same level as the previous school term, without any noticeable improvement (Blanton, 2008). That is one reason why the former State Superintendent of Education in Mississippi endorsed the five strategies designed to boost student achievement, which began with increasing the rigor of the curriculum and assessment system.

There are many who believe that the way reading is taught must be changed in order to adequately address the fundamental problem that too many children are leaving elementary school with reading skills inadequate for the next level of instruction, (Torgesen, 2002). There are some critics who believe that high stakes tests have a tendency to narrow the reading curriculum and inflate the importance of the test. State testing usually focuses on reading, writing, and math, and, as a result, other subject areas are often neglected (Smith, 2005).

The use of the NAEP as a reliable measure of student reading performance in Mississippi has drawn much criticism. Fuller and Wright (2007) affirmed that results on state elementary reading tests have shown improvement, but the scores produced by the NAEP assessment have not been encouraging. These scores are not improving at the same rate.

As stated earlier, all states have shown lower proficiency requirements than NAEP, and Mississippi is no exception. The Mississippi Curriculum Tests are taken by public school students in the state of Mississippi. Thus, district scores can be computed. District scores are not provided by NAEP. The present study provides additional support that the MCT2, when compared with MCT, is better aligned with NAEP data. A concern is that NAEP data are not available at the district level.

### **Recommendations**

NCLB required that states develop testing programs and gave them the authority to set their own standards (Mathews, 2006). Even though the law sought to hold public schools liable for academic performance, it allowed states to devise their own

assessments. Based on a major limitation of my study, it is recommended that NAEP data are provided at the district level. It is also necessary to look at the sampling of NAEP. If this occurs school districts will be able to assess the specific areas in which they are experiencing the most difficulties. This comparison will also provide insight into how the curriculum can be revamped to improve instruction thus ensuring increased success on the assessments. NAEP could also analyze data from a small subgroup of students who take the NAEP and MCT2. This will allow for a direct comparison for achievement levels for racial subgroups, free and reduced lunch, and exceptional education.

Results from this study can also be used in educational leadership. School level data analysis would be beneficial. By comparing a school's performance on NAEP (though NAEP does not currently offer this capability) and the MCT2, administrators can disaggregate data and determine deficiencies. By targeting these weak areas with interventions, increased school success on these two assessments can be a reality.

For further research in this area, studies in other subject area should also be conducted. Because mathematics and science are areas which are tested on the MCT2 and NAEP, analyses in these two areas would be beneficial in determining alignment between the MCT2 and NAEP.

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