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THE EDUCATIONAL IMPLICATIONS OF DIBELS ORAL READING FLUENCY  
ASSESSMENTS AND MISSISSIPPI CURRICULUM TEST 2 IN READING FIRST  
SCHOOLS

A Dissertation  
presented in partial fulfillment of requirements  
for the degree of Doctor of Philosophy  
in the Department of Leadership and Counselor Education  
The University of Mississippi

By

DEBRA A. DACE

December 2010

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## ABSTRACT

The purpose of this study was to examine the predictive strength and decision-making utility of oral reading fluency as it relates to reading comprehension. The relationship of DIBELS ORF scores and the Language Arts (LA) Mississippi Curriculum Test 2 (MCT2) scores was explored. Specifically, the research questions addressed were: (1) Is there a significant relationship between third grade students' Oral Reading Fluency score on DIBELS and Reading Achievement level on the third grade Mississippi Curriculum Test, second edition (MCT2) for language arts? (2) Is there a significant relationship between third grade students' obtained MCT2 proficiency levels of minimal, basic, proficient, and advanced and DIBELS Oral Reading Fluency performance levels? and (3) Is there a significant relationship between third grade students' obtained MCT2 language arts scale score (student achievement) and other factors: gender, lunch status, and attendance.

When DIBELS ORF scores and MCT2 Language Arts scores were compared using the Pearson Product Moment Correlation, a positive correlation existed for the data collected from 261 third grade students in the Mississippi delta region (2007-2008 and 2008-2009 cohorts). A Two-Way Chi Square revealed that students who performed at the low risk benchmark for DIBELS ORF also performed in the proficient and above ranges on the MCT2 (LA). Finally, an Independent Samples T-Test demonstrated that other factors such as gender and attendance were not significant in predicting MCT2 (LA) performance. However, lunch status showed some significance with one cohort of third grade students. Nevertheless, the findings from this study are in alignment with other states such that a high correlation between the state assessment

(MCT2) and DIBELS ORF exists.

The researcher found evidence that the use of DIBELS ORF as a formative assessment tool, along with other variables, may provide useful data to educators to identify students at risk of reading failure on the third grade end-of-year MCT2 (LA). The information provided from this research supports the contention that DIBELS ORF data may be used to inform intervention decisions in order to prevent future reading failure.

## DEDICATION

I would like to dedicate this dissertation to my mother, Jessie McClure, my husband, Derrick Dace, and my wonderful daughter, Jessica Dace. This has been a long journey and the support and patience of my family has been very important. My mother truly believes in me and definitely gave me the strength to pursue this degree whole-heartedly. I thank my husband for his undivided love and belief in me. When I wanted to give up, he told me that I could do it and I continued on. It is my desire to let my daughter know that she can do whatever her little heart desires. All she has to do is believe that she can and be willing to put forth the effort.

## ACKNOWLEDGEMENTS

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I also want to thank the educators representing the various schools and districts for their help and support in making this process successful. The entire process was long but well worth the effort.

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## CHAPTER I

### **Introduction**

According to Stewart (2004), The No Child Left Behind (NCLB) Act of 2001 is changing the literacy climate of classrooms and schools in the United States. The implementation of NCLB has forced school districts to examine instructional practices and ensure that all students are successful in the areas of reading and literacy.

Additionally, the NCLB legislation has forced states to increase accountability requirements of school districts each year and cause school leaders to search fervently for ways to promote student achievement. An area of concern for most schools is the reading achievement of students. Because of the onset of current political and educational emphasis on accountability, standards-based reform, and high-stakes testing assessment, the field of education has seen a dramatic shift toward focusing monies, resources, and personnel on improving students' reading achievement levels (Ravitch, 1999). Consequently, school leaders are faced with creating educational systems in which students are successful on state assessments such as the Mississippi Curriculum Test, Second Edition (MCT 2).

Along with legislation such as NCLB, the Reading First Initiative (2001) charges schools with the overwhelming task of developing school wide reading assessments and intervention systems beginning in early grades to prevent reading failure from occurring.

Although the legislation has been in force for several years, recent data provided by the National Assessment of Educational Progress (NAEP) informs us that only 67% of fourth

graders read at or above basic and that only 33% of those students read above the proficient levels of performance (NAEP, 2007). Current NAEP data (2009) shows that the results were not significantly different from those of 2007 as 67% of fourth graders scored at the basic and above level once again ([www.nationsreportcard.gov](http://www.nationsreportcard.gov)). Kaminski and Good (1996) suggest that the differentiating factor for successful versus unsuccessful readers is foundational skill knowledge. Consequently, it is imperative that reading interventions are implemented during a child's early reading years. Several research studies (National Research Council, 1998, Stanovich & Stanovich, 1995) contend that not only are the skills involved in early reading acquisition critically important to the ability to comprehend text and future reading success, but they are also the skills that are typically the most troublesome for students with reading disabilities and significant reading difficulties. Three essential skills necessary for successful reading development are (a) phonological awareness, (b) phonetic skills related to the alphabetic principle, and (c) automaticity (National Research Council, 1998; National Reading Panel, 2000).

Research suggests that reading failure can be prevented if procedures to identify and treat deficiencies are implemented early (National Institute of Child Health and Human Development (NICHD), 2000, National Research Council, 1998). However, timely identification of reading deficiencies depend heavily upon valid and reliable assessment measures of core reading skills that can effectively predict reading achievement and guide the development of high intensity interventions in the classroom.

Nevertheless, the effectiveness of school-wide decision making systems such as progress monitoring and Response-to-intervention (RTI) or Teacher Support Teams (TST) is directly related to the accuracy of the measure used to identify at-risk students for reading.

Currently, assessments such as DIBELS, a general outcome measure for reading achievement, is being used by many Mississippi Reading First schools to assess students as it relates to mastery of early literacy skills. Consequently, these schools are concerned about the validity and decision-making utility of the assessment in identifying at-risk students. If schools are to rely on information gathered from assessing students with instruments such as DIBELS, it is imperative that researchers and educators take the time to scrutinize the strengths and possible limitations in regard to decision-making for high-stakes testing such as the MCT 2. The current research will be used to assist school representatives with making instructional decisions that are data-driven via the use of assessments such as DIBELS.

### **Statement of the Problem**

The purpose of this quantitative study is to examine the predictive strength and decision-making utility of the Dynamic Indicators of Basic Early Literacy Skills (DIBELS), (Good & Kaminski, 2002), a curriculum based measurement for reading achievement used in Mississippi Reading First schools. The major emphasis of the study is to determine if DIBELS Oral Reading Fluency (ORF) benchmarks correctly differentiate among students who are at-risk for reading failure and those who are not as measured by third grade (end-of-grade) achievement on the Mississippi Curriculum Test, second edition (MCT2) for Language Arts. In a broader sense, this study will address the effectiveness of DIBELS ORF for informing educational decisions with regard to current benchmarks for identification of children considered to be at risk readers.

This study will also test the Theory of Automatic Information Processing in Reading that was established by LaBerge and Samuels (1974). The LaBerge-Samuels model insists that a readers' internal attention is limited such that if readers spend too much time on simple tasks such as decoding, there will not be enough internal energy left to give comprehension.

According to research, fluent readers require little internal attention to decode words which gives them the ability to decode the majority of words they encounter easily and thus are able to focus their attention on comprehension (Lagerge & Samuels, 1974). This study will seek to analyze the relationship that exists among a third grade student's oral reading fluency measure from DIBELS and the reading comprehension as measured by the Mississippi Curriculum Test 2 (MCT2) for Language Arts.

### **Research Questions and Hypotheses**

To explore the implications of the DIBELS Oral Reading Fluency Assessment and MCT2, the following questions and hypotheses will be examined:

Research Question 1:

Is there a significant relationship between third grade students' Oral Reading Fluency score on DIBELS and Reading Achievement level (language arts scale score) on the third grade Mississippi Curriculum Test, second edition (MCT2)?

Research Hypothesis 1 (Null):

There is no significant relationship between third grade students' Oral Reading Fluency score on DIBELS and Reading Achievement level (language arts scale score) on the third grade Mississippi Curriculum Test, second edition (MCT2)?

Research Question 2:

Is there a significant relationship between third grade students' obtained MCT2 proficiency levels of minimal, basic, proficient, and advanced and DIBELS Oral Reading Fluency performance levels?

Research Hypothesis 2 (Null):

There is no significant relationship between third grade students' obtained MCT2 proficiency

levels of minimal, basic, proficient, and advanced and DIBELS Oral Reading Fluency performance levels.

Research Question 3:

Is there a significant relationship between third grade students' obtained MCT2 language arts scale score (student achievement) and other factors: gender, lunch status, and attendance.

Research Hypothesis 3 (Null):

There is no significant relationship between third grade students' obtained MCT2 language arts scale score (student achievement) and other factors: gender, lunch status, and attendance.

### **Significance of Study**

According to information provided in the NICHD (2000) report, if students are not identified during their early years of learning, some reading difficulties may hinder adult learning and suppress the enjoyment of reading. Consequently, it is imperative that effective early assessment become a key aspect of elementary schooling. As the nation's schools are faced with the educational epidemic of meeting the requirements of NCLB (2001), the need for effective, valid, and predictive reading assessments are necessary tools to ensure student success in reading.

Due to the increasing emphasis placed on high-stakes achievement outcomes, program evaluation, and instructional accountability, DIBELS has been celebrated as the tool for the early diagnosis of reading problems. As the popularity of this assessment increases, it is imperative that research be conducted on the theoretical soundness of the reading skills measured by DIBELS and data about its predictive validity and utility as a decision-making tool be collected and analyzed.

The information gathered from this type of study can prove instrumental in assisting school leaders with identifying the best tools available to target and prevent reading failure.

According to Gibson and Levin (1975), fluency was viewed as having little importance in the process of learning to read. However, as more research is conducted, reading fluency is being recognized as an important factor in student reading success. Torgesen and Buck (2004) conducted a study that involved DIBELS ORF and reading comprehension on the Florida Achievement test. Based on the data, researchers concluded that DIBELS ORF was a predictor of reading comprehension. Additionally, Alsup (2007) conducted a similar study in Tennessee to determine if oral reading fluency was a predictor of reading difficulty (comprehension) and the findings supported the utility of oral reading fluency to guide instructional decisions. Until now, no such study has been conducted to determine the relationship that exists between the Mississippi Curriculum Test 2 and DIBELS ORF measures.

### **Definition of Terms**

At Risk Readers – At-risk readers are those children who are in danger of not fulfilling their academic learning potential (Allington & Cunningham, 1996)

The Dynamic Indicators of Basic Early Literacy Skills (DIBELS)- is a set of standardized, short duration fluency measures designed to serve as general outcome indicators measuring students' proficiency of basic literacy skills documented to be highly related to reading proficiency (Good & Kaminski, 2002).

Benchmark Goals- the performance level required to reach the standard level established by the authors of DIBELS for fall, winter, and spring assessment administrations (Good & Kaminski, 2002).

### DIBELS Levels of Performance

- At Low Risk- defined by the DIBELS technical manual as the performance level at which an individual's score indicates the "odds are in favor of achieving subsequent outcomes" on later subtests.
- At Some Risk- defined by the DIBELS technical manual as the performance level at which an individual's score indicates the "odds are neither in favor of nor against achieving subsequent outcomes" on later subtests.
- At Risk- defined by the DIBELS technical manual as the performance level at which an individual's score indicates the "odds are against achieving subsequent outcomes" on later subtests (Good & Kaminski, 2002).

### Dibels Instructional Recommendations-

- Benchmark- defined by the DIBELS technical manual as corresponding with the "at low risk" performance level. Students are performing "at or above grade-level" so no changes to instruction are needed. Cut points suggest that approximately 80% of students would be in need of Benchmark-level instruction and considered "at low risk" for reading failure.
- Strategic- defined by the DIBELS technical manual as corresponding with the "at some risk" performance level. No clear prediction can be made about students' exact performance (i.e., 50-50 odds of meeting future goals), so "additional intervention" would be beneficial. Cut points suggest that approximately 15% of students would be in need of Strategic-level instruction and considered at some risk for reading failure.
- Intensive- defined by the DIBELS technical manual as corresponding with the "at risk" performance level. Students are performing "below grade-level" and are in need of "substantial intervention." Cut points suggest that approximately 5% of students would be in

need of Intensive-level instruction and considered “at risk” for reading failure (Good & Kaminski, 2002).

Lunch Status- For the purpose of this study, lunch status will be determined based on a student receiving free, reduced, or full price lunch at their respective schools. This status is determined at the school level based on parent/student lunch applications.

Mississippi Curriculum Test, Second Edition, MCT2 -consists of customized criterion-referenced reading/language arts and mathematics assessments that are fully aligned with the 2006 Mississippi Language Arts Framework Revised and the 2007 Mississippi Mathematics Framework Revised. These assessments allow Mississippi to be in compliance with the requirements of the federal legislation No Child Left Behind (NCLB). The assessments are administered to students in grades 3 through 8, including special education students whose Individual Education Plan (IEP) specify instructional goals that are aligned with the 2006 Mississippi Language Arts Framework Revised and the 2007 Mississippi Mathematics Framework Revised for the aforementioned grades. (<http://www.mde.k12.ms.us/acad/osa/mct2/>)

Mississippi Curriculum Test, Second Edition, MCT2 Performance Levels

Advanced- 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.

Proficient- 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.

Basic- 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.

Minimal- Students at the minimal level inconsistently demonstrate the knowledge or skills that define basic level performance. ([http://www.mde.k12.ms.us/acad/osa/mct2/MCT2\\_IG.pdf](http://www.mde.k12.ms.us/acad/osa/mct2/MCT2_IG.pdf))

Mississippi Statewide Accountability System - The Mississippi Statewide Accountability System provides schools and districts with an annual estimate of instructional effectiveness for the previous school year. The system uses results from statewide assessments (tests) administered at certain grades and in certain high school courses.

(<http://orshome.mde.k12.ms.us/ors/accountability/2009/MSAS-U.pdf>)

No Child Left Behind Act of 2001 (NCLB)- An Act to close the achievement gap with accountability, flexibility, and choice, so that no child is left behind.

(<http://www.ed.gov/policy/elsec/leg/esea02/beginning.html#sec1>)

Quality Distribution Index - QDI (Quality of Distribution Index) represents an overall measure of student performance on statewide assessments during the previous school year. The QDI is based on a relatively simple concept – if more students score in the higher proficiency levels on the test, the distribution of scores is more “positive”.

$QDI = (1 \times \%Basic) + (2 \times \%Proficient) + (3 \times \%Advanced)$

(<http://orshome.mde.k12.ms.us/ors/accountability/2009/MSAS-U.pdf>)

Reading First Initiative of 2001- This program focuses on putting proven methods of early reading instruction in classrooms. Through Reading First, states and districts receive support to apply scientifically based reading research—and the proven instructional and assessment tools consistent with this research—to ensure that all children learn to read well by the end of third grade. (<http://www.ed.gov/programs/readingfirst/index.html>)

### **Limitations/Delimitations**

This study was confined to analyzing data in K-12 schools throughout the state of Mississippi. Consequently, the data may be generalized to schools having students with similar demographics. Additionally, the researcher acknowledges that purposive sampling occurred as

Reading First Schools were identified because the schools are required to administer both the DIBELS and MCT2 assessments and therefore remains aware of the possible bias that may occur (Gay, 1996).

The results of this research study may only be generalized to Mississippi as the data was between DIBELS and the Mississippi Curriculum Test 2 (MCT 2).

### **Organization of the Study**

This study is organized into five chapters. The goal of Chapter One was to share the basis for this research study. The purpose of this research study is to determine the utility and validity of DIBELS ORF measures as it relates to the third grade end of course MCT2 language arts scale scores and instructional decision-making. Chapter Two places the problem of oral reading fluency into perspective as the researcher examines a brief history of reading research, delves into the aspects of learning to read, examines the DIBELS and MCT2 assessments, and discusses the No Child Left Behind Act of 2001, the Mississippi Statewide Accountability System, and the Reading First Initiative. Chapter Two provides information regarding progress monitoring, high and low stakes assessments and concludes with a summary.

The focus of Chapter Three is to provide the methodology of the study. In this chapter, the researcher describes the premise for using selected schools in the Mississippi Delta, discusses DIBELS as an assessment tool, and shares the instrumentation process. Additionally, research questions and a review of the hypotheses are provided along with an examination of the procedures for collecting data from DIBELS and the MCT2, and a review of how the data was analyzed. The results of the study are provided in Chapter Four and presented according to the questions and hypotheses that were discussed in Chapters One and Three.

Finally, Chapter Five concludes with a summary of the data and a discussion of the findings. Recommendations for educators and suggestions for possible future research are provided in Chapter Five as well.

## CHAPTER II

### **Review of Literature**

#### **Introduction**

Research informs us that the factor that discerns a successful reader from an unsuccessful reader is foundational skill knowledge (Kaminski & Good, 1996; Torgesen, Wagner, & Rashotte, 1997; Yopp, 1988). In this chapter, there will be a discussion of the elements of reading necessary to ensure later success, an analysis of the components of literacy development, a discussion of the DIBELS and MCT 2 assessments, and a review of the No Child Left Behind Act of 2001, the Mississippi Statewide Accountability System, and the Reading First Initiative. The chapter will conclude with a discussion of progress monitoring, high and low stakes assessments, and a summary.

#### **Elements of Reading**

Reading research from various studies agree that not only are the skills involved in early reading acquisition critical to the ability to comprehend text and ensure future reading success, but also are the skills that prove to be most problematic for students with reading disabilities and significant reading difficulties (Adams, 1990; CIERA, 2001; NRC, 1998, Stanovich & Stanovich, 1995). The National Reading Panel (NRP, 2000) reports that the stepping stone literacy skills include: phonological awareness and phonemic awareness, alphabet principle (phonics), fluency, and comprehension. Additionally, the NRP recommends that these skills be addressed daily during reading instruction to ensure that young readers embark on a path to

ensure proficient reading in later years.

Phonemic awareness is the ability that a student has to hear and manipulate sounds in words. Using the phonemic awareness skills to associate sounds with letters and use them to form words is known as the alphabetic principle. Fluency is the automatic ability to read words in connected text. Vocabulary is the ability to understand (receptive) and use (expressive) words to acquire and convey meaning.

Lastly, comprehension is the cognitive process that involves the interaction between reading and text to express meaning. Comprehension skills are indirectly achieved via the acquisition of the aforementioned early literacy skills and the re-telling assessment component of DIBELS. As a child's reading fluency improves, the reader's focus shifts from reading words to reading sentences. This shift typically results in a gain of cognitive capacity and a stronger level of comprehension. Along with reading fluency, the skills of phonological and phonemic awareness and alphabetic principle have been deemed important in ensuring that students learn to read via early literacy developmental efforts. In the next section, a review of the skills necessary to ensure literacy development will be discussed.

### **Learning to Read (Literacy Development)**

**Phonological and phonemic awareness.** Kame'enui and Carnine (1998) defined phonological awareness as a range of activities in which individuals manipulate either individual or groups of sounds. On the other hand, phonemic awareness is a sub-component of phonological awareness that focuses on recognizing and manipulating individual sounds. Phonemic awareness is defined as “an awareness of the phonological segments in speech—the segments that are more or less represented by alphabetic orthography” (Blachman, 2000, p. 483). Researchers (Adams, 1990; Blachman, 1997; Stanovich, 1992, Wagner & Torgesen, 1987) suggest that instruction in

the awareness and manipulation of sounds appear to be crucial in ensuring mastery of alphabetic awareness, especially for children with reading deficits.

Lundberg (1991) suggests that phonemic awareness and literacy achievement are very dependent upon one another. Phonemic awareness assists learners in later word recognition that promotes advanced reading skills. Advanced reading skills promote more reading which increases phonemic awareness and promotes greater gains in reading. According to Stanovich (1992), evidence has been provided to support the notion that children who begin their reading instruction with greater levels of phonemic awareness have a “powerful bootstrapping mechanism to reading progress” (p. 308).

**Alphabetic principle.** The NRP (2000) and the Center for the Improvement of Early Reading Achievement (CIERA, 2001) refer to alphabetic understanding (principle) as “phonics.” Phonics instruction helps a reader to apply phonics skills by relating print to speech that is crucial to reading success. Additionally, Ehri (1992) provides extensive evidence that successful reading comprehension depends strongly on phonics ability. A study conducted by Groff (2001) discusses the implementation of two methods of teaching children to read which entails the order in which students learn sound and letter connections. The researcher refers to the two methods as letter-to-speech-sound and speech-sound-to-letter based on the order in which students make necessary connections during classroom instruction. The results of the study indicate that neither method significantly supports achievement more than the other. Consequently, the researcher suggests that additional studies in this area should be conducted. However, in a significant longitudinal study, Bradley and Bryant (1983) studied the effects of directly teaching 4 and 5 year-old students letter-sound connections. The results of the study indicated that the students involved demonstrated strong reading skills three and four years later.

Several studies (Beck & Juel, 1995; Ehri, 1991; NRP, 2000) have been conducted to provide evidence that identifying deficits in alphabetic code and providing direct instruction in phonics are essential components to skilled reading. Duncan and Seymour (2000) cited evidence that a high correlation existed when children were of low socioeconomic status and showed weaknesses in letter identification, phonemic awareness, and word identification tasks.

**Reading fluency and comprehension.** Schreiber (1980) describes reading fluency as “that level of reading competence at which textual material can be effortlessly, smoothly and automatically understood” (p. 177). Fluent readers use decoding skills, semantic knowledge, and background knowledge efficiently to make connections between words, sentences, and paragraphs. These readers are also able to relate the connections to broader ideas to understand story plots or informational topics. The Center for the Improvement of Early Reading Achievement (CIERA, 2001) reports that fluency is vital because it provides a connection between phonemic awareness, alphabetic principles, and comprehension, which are all necessary to support the end goal of proficient reading skills.

Reading comprehension is a concern for educators at all levels. According to NRP, comprehension is termed as the “essence of reading” (citing Durkin, 1993), “essential not only to academic learning but to lifelong learning as well” (p. 4-11) (Stewart, 2004). Harris and Hodges (1995) contend that comprehension is the intentional thinking during which meaning is constructed via interactions between text and the readers.

Alsup (2007) conducted a study to determine the relationship between oral reading fluency and reading comprehension via the assessment of the correlation that existed between high stakes reading assessment (comprehension) and DIBLELS (oral ready fluency).

The results indicated a high correlation between high stakes reading tests such as the TCAP (Tennessee Comprehensive Assessment Program) and DIBELS. This information supports the usefulness of oral reading fluency scores from the DIBELS assessment in supporting instructional strategies and targeting students for intervention purposes. In the next section, a review of the DIBELS and state MCT 2 assessments will be provided to shed light on the specifics of each.

### **Assessments**

**Dynamic indicators of basic early literacy skills (DIBELS).** The Dynamic Indicators of Basic Early Literacy Skills (DIBELS) (Good & Kaminski, 2002) are a series of subtests measuring the foundational reading skills as follows: phonological and phonemic awareness, alphabetic principle, and oral reading fluency. According to the authors (Good & Kaminski, 2002), DIBELS can be used to a) identify children at-risk for reading failure; b) identify children in need of additional instruction in specific reading skills; and c) establish if current instructional practices for identified children are effective. Research (Good, Kaminski, Simmons, & Kame'enui, 2001) suggests DIBELS is a valid assessment for accurate identification of students' reading difficulties and instructional needs and is a particularly valuable tool in a problem-solving model in which students' deficits can be remedied before they fall significantly behind their peers.

As mentioned in Chapter I, the increased accountability requirements of schools have led many schools to depend on formative assessments to drive instructional decisions. The Mississippi Reading First Schools are required to use some form of early literacy assessment, such as DIBELS, as a means of assessment in identifying the acquisition of early literacy skills of children in grades K-3. At this time, non-Reading First Schools in Mississippi are not

currently required to use assessments such as DIBELS to identify student acquisition of early literacy skills. However, the Mississippi Department of Education began phasing in early literacy assessment requirements in the spring of 2009. Consequently, a review of research regarding the use of DIBELS- ORF- is necessary to help non-Reading First Schools determine how important assessments such as DIBELS ORF are in making instructional decisions.

The results of a longitudinal study (Good, Simmons, and Kame'enui, 2001) established to determine the predictive validity of the DIBELS early literacy skills subtests including a) phoneme segmentation fluency (PSF), b) nonsense word fluency (NWF) and c) oral reading fluency (ORF) on a students' later DIBELS achievement and third grade reading competence on the Oregon Statewide Achievement Test (OSA) show good results. Several within year analyses were conducted as part of this study. They included a) 353 kindergarten students' winter to spring DIBELS achievement b) 378 first graders' winter to spring DIBELS achievement and c) 364 third graders' spring DIBELS to spring OSA achievement during the 2000 school year. The results showed that 91% of the kindergarteners who reached PSF goals in January also met PSF goals in the spring ( $r=0.34$ ). Additionally, 90% of the first grade students who reached NWF benchmark goals in the winter met ORF benchmark goals in the spring ( $r=0.78$ ). Finally, the results indicated that 96% of the third grade students who achieved proficient fluency rates on the Spring ORF also exceeded expectations on the reading subtests of the OSA. The authors established that the findings indicated DIBELS as being useful in ascertaining student success in later years when high stakes testing was required. The results of this study shed positive light on the use of DIBELS as a formative assessment to determine which students were targeted for intensive remediation to support later achievement goals in reading.

Kloo (2006) conducted a study to determine the accuracy of predictive strength and

decision making utility of DIBELS by analyzing the Receiver Operating Characteristics and DIBELS cut scores. Additionally, Hierarchical Linear Modeling (HLM) analyses of long-term student achievement indicated that DIBELS data from first grade did not provide a strong prediction of student achievement on the third grade assessment. The data indicated that only 18% of the variability in students' third grade reading scores on the PSSA (Pennsylvania System of School Assessment) could be explained. The results of the data inform educators to be concerned about the over-reliance on DIBELS in regard to early intervention and the identification of educational and instructional needs.

Another study (Hintze, Ryan, and Stoner, 2003) involving high-stakes student assessment was implemented. In this study, the researchers compared 86 kindergarteners' scores on DIBELS to their scores on the Comprehensive Test of Phonological Processing (CTOPP). Identified subtests measuring similar constructs of phonological awareness were administered in the winter of the kindergarten year. Receiver Operating Characteristic analysis results showed moderate to strong correlations between the two measures. However, although DIBELS was highly sensitive in identifying children with low phonological awareness skills on the CTOPP (true positives), the measure also identified many children as low performers who did not perform poorly on the CTOPP (false positives).

The results of the aforementioned studies indicate positive and negative concerns with regard to DIBELS as an assessment tool. Consequently, the proposed purpose of this study is essential in guiding Mississippi educators in their use of DIBELS ORF assessments to inform curricula and instructional decisions. However, according to the DIBELS technical manual (Good, Simmons, Kame'enui, Kaminski, & Wallin, 2002, p. 53), "DIBELS are not designed to serve as a comprehensive or diagnostic reading assessment tool. Rather, they are intended to

provide a fast and efficient indication of the academic well-being of students with respect to important literacy skills.”

**Mississippi curriculum test, second edition, (MCT 2).** The Mississippi Curriculum Test, Second Edition, (MCT 2) is a measure of student achievement in Language Arts and Mathematics in grades three through eight based on the 2006 Mississippi Language Arts Framework - Revised and 2007 Mississippi Mathematics Framework - Revised. In addition to being the basis for state accountability in these grades, the MCT 2 is designed to meet the federal testing requirements of the No Child Left Behind Act (NCLB), 2001.

[http://www.mde.k12.ms.us/acad/osa/mct2/MCT2\\_brochure.pdf](http://www.mde.k12.ms.us/acad/osa/mct2/MCT2_brochure.pdf), p. 2)

According to information gathered from the Mississippi Department of Education (MDE) ([www.mde.k12.ms.us](http://www.mde.k12.ms.us)), the test was piloted in 2007 for validity purposes. The pilot assessment did not include all schools and schools that participated took either the Language Arts or Mathematics assessment (not both). The MCT 2 was implemented statewide beginning May 13, 2008 (three day process) and will continue to be implemented annually. Students in grades three through eight will take Language Arts and Mathematics assessments. The results of the initial assessments were reported for federal and state accountability purposes in August 2008.

Afterwards, MDE representatives worked with state stakeholders and implemented a process of identifying cut-scores (standardization) for the various proficiency levels of the assessment.

Currently, the MCT2 places students in one of four areas to include a) Advanced - above grade level b) Proficient- at grade level c) Basic- below grade level and d) minimal- well below grade level. The Mississippi Department of Education bases accountability standards on the expectations of the No Child Left Behind Act of 2001 and expects schools to work diligently to meet the needs of students accordingly. In the next section, an analysis of the No Child Left

Behind Act of 2001, The Mississippi Statewide Accountability System, The Reading First Initiative, and Progress Monitoring will be shared to further explain the increase in accountability.

### **Educational Accountability**

**No child left behind (NCLB) 2001.** The No Child Left Behind Act of 2001 (NCLB) legislative reforms attempt to close the achievement gap by requiring more accountability and giving the power of flexibility to schools while providing the power of choice to parents so that no child is left behind. The four essential components of this law include: accountability for results, emphasis on research-based practice, educational choice by parents, and local control and flexibility of education. According to the requirements of NCLB, states are required to assess the progress of public school students in reading and math in grades three through eight on a yearly basis and at least once in grades 10 through 12 using assessments aligned to state academic standards. In Mississippi, the Mississippi Curriculum Test, Second Edition (MCT 2) is currently used to assess students in Language Arts and Mathematics in grades three through eight. The results of these high-stakes assessments are used to discern each school's accountability by measuring their adequate yearly progress (AYP) toward ensuring that all students are meeting academic standards based on the pre-determined goals. Adequate Yearly Progress is defined as the measures that schools and districts are held accountable for with regard to student performance under the Title I, No Child Left Behind Act of 2001 (<http://www.edweek.org/ew/issues/adequate-yearly-progress/>). Schools that fail to meet AYP face state determined penalties that districts are aware of prior to testing.

**Mississippi statewide accountability system.** The current version of the Mississippi Statewide Accountability System was implemented for the first time during the fall of 2009.

However, the most recent updated manual explaining the system was provided to the public in February 2010. The Mississippi Statewide Accountability System provides schools and districts with an annual estimate of instructional effectiveness for the previous school year. The system uses results from statewide assessments (tests) administered at certain grades and in certain high school courses. For most districts and for some schools, the system also uses information about high school completion. (<http://orshome.mde.k12.ms.us/ors/accountability/2009/MSAS-U.pdf>)

The accountability system uses results from statewide assessments (tests) such as the MCT2, Subject Area Testing Program and high school completion data tracked over a five year period. As part of this system, schools receive an achievement rating based on the Quality Distribution Index (QDI) that is calculated using test results from the previous school year. The QDI value ranges from 0 (100% of students scoring in the lowest proficiency level on the assessments) to 300 (100% of the students scoring in the highest proficiency level on the assessments). As of February 2010, the state approved ranges provide a label for schools and districts that include the following: High Performing (200-300), Successful (166-199), Academic Watch (133-165), At Risk of Failing (100-132), Failing (Below 100).

**Reading first initiative.** The NCLB legislative reform focuses on prevention and research-based instruction and assessment. The Reading First Initiative, Part B of NCLB legislation, focuses on providing state and local education agencies with the resources to assist districts in implementing practices to ensure that highly effective reading instruction that is based on scientific research for children in kindergarten through third grade takes place. The overall goal of NCLB is for all third graders to read at or above grade level by 2013 and assessment and accountability are the driving forces of Reading First. Schools receiving Reading First funds are required to practice systematic screening along with diagnostic and classroom-based reading

assessments. This prevention approach focuses on early intervention to target struggling students' reading efforts to prevent future failures.

To be eligible for Reading First funding, school districts must:

a. have the highest numbers or percentages of students reading below grade level in the state; b. include an Empowerment Zone or Enterprise Community designated by either the U.S. Department of Housing and Urban Affairs (urban areas) or the Department of Agriculture (rural areas); c. have a significant number of Title 1 schools; d. have the highest numbers or percentages of Title 1 students in the state. (Denton, 2003, p. 3)

Priority must be given to districts with at least 6,500 students or 15 percent of all students in families living below the poverty level. Isaia (2006) reports on a study that shared how Michigan Reading First schools in Detroit were implementing activities to address the requirements of Reading First and NCLB. A review of how national policies are interpreted and implemented within the Detroit School System is discussed by the author. An examination of how decisions at various levels affect reading achievement is addressed throughout the study. The establishment of the Reading First Initiative definitely serves as a key component in helping districts meet the reading requirements of NCLB.

**Progress monitoring (PM) and teacher support teams (TST).** Progress Monitoring is a research-based practice used to assess students' academic performance and evaluate the effectiveness of instruction (Fuchs, Fuchs, & Hamlett, 1989). This practice is correlated with the requirements established by NCLB in regard to working to ensure that no child is left behind due to lack of effective interventions. The process entails assessing students on a regular basis to ensure that learning goals are being met. The DIBELS assessment provides a progress monitoring component that enables educators to establish on-going benchmarks for students

identified as at-risk learners. According to research (Fuchs, Fuchs, Hamlett, & Allinder, 1991; Speece & Case, 2001), the essence of progress monitoring involves screening all students for potential reading failure (initial benchmarks), diagnosing specific skill deficits and making data-driven instructional decisions to establish pre-determined goals. Many school districts use the practice of progress monitoring to meet the requirements of response to intervention, which is referred to as the teacher support team (TST) process, in the state of Mississippi. The process is a three-tier process that involves varying levels of instructional interventions to help students achieve pre-determined learning goals. The levels include tier 1 (regular classroom instruction), tier 2 (target differentiated instruction) and tier 3 (researched based interventions). Progress monitoring has been very instrumental in making eligibility decisions as a part of the TST process through which student eligibility for special education services is a function of the students' non-responsiveness to effective interventions (Vaughn, Linan-Thompson, & Hickman, 2003).

**Assessments (high and low stakes).** The purpose and use of assessment data differ dependent upon whether the assessment is considered to be high-stakes or low-stakes testing (Salvia & Ysseldyke, 1998). The MCT 2 is considered to be a high-stakes assessment based on the notion that school and district accountability ratings are determined by how well students score on the assessment. The assessment information is forwarded to the federal government as part of the state's requirements concerning required assessments in grades three through eight. The influx of educational accountability and making AYP has made the results of this summative assessment lead to high-cost decision-making including staffing, funding, and grade level promotions. On the other hand, low-stakes assessments are typically used within the confines of individual schools and districts to make site-based decisions regarding instructional practices,

grouping concerns, and other curricular decisions.

Formative assessments, such as progress monitoring, used at the school level are very important as the process involves continuous measurement of students' mastery level of skills and learning over a specified period. Research (Fuchs & Fuchs, 1986) informs us that formative low-stakes assessments tend to provide more reliable, valid, and explicit information about a students' progress in regard to meeting educational goals and facilitating greater student achievement than high-stakes assessments. As progress monitoring is very important, this study will attempt to shed light on the need to progress monitor students based on the results of the DIBELS ORF assessments.

The results of a study conducted by the Center for the improvement of Early Reading Achievement (CIERA) (1999) identified early reading intervention as a key factor in the successes of the most effective schools. Consequently, it behooves school districts to determine ways to target the problem of reading failure. Torgesen (1998) suggests that school districts must allocate resources for early identification of reading failure and prevention such as implementing the use of a prevention-oriented assessment in the classrooms. The DIBELS assessment is considered to be the tool most widely used by schools and districts to detect early reading deficits in an attempt to prevent later reading failure. However, researchers share that the use of any single indicator of competence to make important decisions, such as teacher evaluation or funding, violates professional standards of measurement (American Education Research Association, 1999).

Effective assessment is a key component of early identification. Consequently, educational laws such as NCLB places emphasis on high-stakes achievement outcomes, program evaluation, and instructional accountability that make highly predictive and accurate assessment

measures invaluable tools for school improvement and increased achievement. However, although the field is currently filled with research on the theoretical aspects of the reading skills measured by DIBELS, data about its predictive validity and utility as a decision making tool is definitely lacking.

### **Summary**

As the DIBELS assessment grows in popularity and the Reading First Initiative begins to work with more schools throughout the state of Mississippi, the types of decisions made based on students' achievement on DIBELS become more serious. Additionally, as the Mississippi Department of Education seeks to support schools via site-based mandates, it is important to determine if DIBELS is a useful tool that generalizes beyond the studies presented in this literature review. There are numerous studies regarding state achievement tests and Oral Reading Fluency relationships; however, research for Mississippi is non-existent. Consequently, the need to conduct a study of this nature would prove beneficial for stakeholders. In the next chapter, the researcher will share information regarding the methodology of the study. In doing so, a review of the purpose of this study, a discussion of the population and sample identification, and information about the instrumentation process will be shared. Additionally, the researcher will share research questions and hypotheses and discuss the data collection and analysis processes conducted.

## CHAPTER III

### **Methods and Methodology**

#### **Introduction**

Changes in educational accountability policies have led to a high level of interest in early literacy assessments that help with the identification of at-risk reading failure. The Mississippi Reading First Initiative requires that districts use a research based assessment in working with students to determine reading levels and detect problems (Denton, 2003). Although DIBELS is not required to be used by states, it is one of the approved assessments on the list provided by Reading First representatives. Nevertheless, DIBELS is widely used by many Mississippi schools and the results influence many educational decisions for students including: the amount of time spent in reading instruction, the intensity of interventions, and the frequency of assessments.

Former research regarding the reliance on DIBELS cut-scores has raised questions about educational decision-making because of imbalanced levels of sensitivity and specificity (Hintze et al., 2003). Due to the heavy emphasis placed on the use of DIBELS assessment results for educational decision making, further investigation of its predictive validity is needed. This study adds to the research base on the diagnostic accuracy and appropriateness of DIBELS as a screening and diagnostic tool for low-performing readers like those in Mississippi Reading First Schools.

In this chapter, there is an initial discussion of the population, the sample, and design of the study. Lastly, information is provided in regard to the procedures for the study, the instrumentation, and data analysis.

The methods and procedures of this study were designed to answer the following research questions:

Research Question 1:

Is there a significant relationship between third grade students' Oral Reading Fluency score on DIBELS and Reading Achievement level (language arts scale score) on the third grade Mississippi Curriculum Test, second edition (MCT2)?

Research Question 2:

Is there a significant relationship between third grade students' obtained MCT2 proficiency levels of minimal, basic, proficient, and advanced and DIBELS Oral Reading Fluency performance levels?

Research Question 3:

Is there a significant relationship between third grade students' obtained MCT2 language arts scale score (student achievement) and other factors: gender, lunch status, and attendance.

### **Statement of Problem**

The purpose of this quantitative study is to determine the usefulness of DIBELS assessments, general outcome measures for reading achievement used in Mississippi Reading First schools, in identifying at-risk readers as determined by student performance on the language arts MCT2 high-stakes assessment. Data were collected to determine if a relationship exists between third grade students' obtained MCT2 language arts (scale score) and DIBELS ORF scores and other factors such as gender, lunch status, and attendance rate.

Additionally, data were collected to determine if a relationship exists between third grade students' obtained MCT2 proficiency levels of minimal, basic, proficient, and advanced and DIBELS ORF scores.

### **Population and Sample**

Mississippi has 152 school districts and more than 32,000 teachers who are employed throughout the state ( <http://www.mde.k12.ms.us/Extrel/comm/facts.html>). As of June 2007, 66 Mississippi schools and 33 districts had received Reading First Awards since 2002 (<http://www.sedl.org/readingfirst/state-awards.html>). The participants for this study were randomly selected from K-12 public schools in Mississippi who have been awarded a Reading First grant to target literacy in grades K-3.

Initially, the researcher acquired the appropriate Institutional Review Board (IRB) approval to conduct the study. Then, consistent with IRB requirements, informed consent documentation was drafted for prospective district/school participation. As the information gathered in this study was strictly anonymous and archival, no parental consent was requested. All the data acquired was archived data for students who participated and received scores for both DIBELS ORF and MCT2 language arts assessments during the school years of 2007-2008 and 2008-2009.

A total of three schools from random Reading First districts were selected for this study based on convenience sampling. However, the sampling process was a multistage process as Reading First schools were initially identified throughout the state and then contacted via telephone, letter, or email. Districts that provided consent for participation were selected to be a part of this study.

As stated previously, the researcher acquired permission from the district superintendent

or designee to collect data from district schools. Afterwards, contact with school representatives was made to discuss the data collection process. Third grade student data was gathered from the approved school via the use of excel files provided to the school representative. The data consisted of the students' DIBELS ORF (third grade) scores/at risk categories, MCT 2 language arts scale scores/proficiency levels (grade three), and other factors. Complete anonymity was provided as school representatives were asked to code the data that was collected in a manner easily understood by the researcher. Data was entered into an excel file provided by the researcher to ensure that coding took place and the appropriate data was provided.

### **Instrumentation**

**Dynamic indicators of basic early literacy (DIBELS).** The DIBELS measure that was used in this study was one of the fluency-based measures of early literacy skills designed to assess second through third grade students' competency with three of the *Five Big Ideas* of reading including: phonemic awareness (PSF), alphabetic principal (NWF), and oral reading fluency (ORF) (Good & Kaminski, 2002). For this study, the Oral Reading Fluency (ORF) measurement was the only subset correlated with the MCT 2 language arts test.

The DIBELS assessment includes the subtests as follows: (a) phoneme segmentation fluency (PSF) (b) non-sense word fluency (NWF) (c) word use fluency (WUF) and (d) oral reading fluency (ORF). However, only the ORF was used for this study. The DIBELS assessment consists of four essential assessments as listed above. However, information regarding three of the assessment components will be discussed in the subsequent paragraphs.

***Phoneme segmentation fluency (PSF).*** Phoneme Segmentation Fluency is an individually administered, standardized measure of phonological awareness designed to measure a student's ability to segment the sound units (phonemes) of an orally presented word with

fluency (Good and Kaminski, 2002). This measure is administered to students in the winter of kindergarten through the spring of first grade. According to the administration manual, there are 20 alternate forms available with a one month alternate-form reliability of .88. The concurrent validity of the PSF subtest is 0.54 with the spring Readiness Cluster score of the Woodcock-Johnson Psycho-Educational Battery. The predictive validity of spring kindergarten PSF scores are 0.68 with the spring first grade Total Reading Cluster score of the Woodcock-Johnson Psycho-Educational Battery; 0.62 with winter first grade DIBELS NWF, and 0.62 with spring first grade DIBELS ORF (Good & Kaminski, 2002).

***Nonsense word fluency (NWF).*** Nonsense Word Fluency is a standardized and individually administered test of alphabetic understanding (Good & Kaminski, 2002). This measure is administered to students in the winter of kindergarten through the fall of second grade. It is designed to assess a student's ability to recognize letter-sound correspondence and recode or blend into make-believe words. According to the technical manual, there are 20 alternate forms available with a one month alternate-form reliability of 0.78. The concurrent validity of the NWF subtest is 0.36 and 0.59 with the January and February Readiness Cluster scores of the Woodcock-Johnson Psycho-Educational Battery. The predictive validity of winter first grade NWF scores is 0.66 with the Total Reading Cluster score of the Woodcock-Johnson Psycho-Educational Battery is; 0.82 with spring first grade DIBELS ORF; and 0.60 with spring second grade DIBELS ORF.

***Oral reading fluency (ORF).*** Oral Reading Fluency is also a standardized and individually administered assessment. This subtest measures the fluency and accuracy with which a student reads connected text aloud (Good & Kaminski, 2002). The procedures and passages for the ORF are a downward extension of the Curriculum Based Measurement (CBM)

materials and guidelines developed by Deno (1989) and the Test of Oral Reading Fluency (TORF). For the purpose of this study, only the ORF assessment data was analyzed. Table 1 denotes the established cut-scores for this particular assessment.

Table 1

*DIBELS ORF Performance Levels (Risk Categories)*

Grade	Benchmark Period	Performance	Descriptor
3 <sup>rd</sup> Months 7-10	Spring	DORF < 80	At Risk
		80 ≤ DORF < 110	Some Risk
		DORF ≥ 110	Low Risk

*Note.* (Adpated from: Good, R.H. & Kaminski, R.A., 2002)

**Mississippi curriculum test 2 (MCT2).** The MCT 2 consists of customized criterion-referenced language arts and mathematics assessments that are fully aligned with the 2006 Mississippi Language Arts Framework Revised and the 2007 Mississippi Mathematics Framework Revised. These assessments allow Mississippi to be in compliance with the requirements of the federal legislation No Child Left Behind (NCLB). The assessments are administered to students in grades three through eight (<http://www.mde.k12.ms.us/acad/osa/mct2/>). This type of assessment involves a summative measurement of a student’s knowledge of pre-established skills at a single point. In light of educational accountability, schools are seeking data that will inform instructional needs to meet Annual Yearly Progress (AYP) goals, which are pre-determined student achievement percentages. Consequently, the results of this summative assessment (MCT 2) are used to make high-cost decisions such as staffing, funding, grade level promotions, response to interventions, etc.

The MCT 2 was standardized during the summer of 2008. Pilot tests were given during the spring of 2007 to randomly selected schools. The items were screened by Mississippi teachers as well as testing companies paid to construct the assessment for the state of Mississippi.

As mentioned previously, information gathered from the Mississippi Department of Education (MDE) ([www.mde.k12.ms.us](http://www.mde.k12.ms.us)) informs us that the test was piloted in 2007 for validity and not assessment purposes. The pilot assessment did not include all schools and schools that participated took either the Language Arts or Mathematics assessment (not both). The MCT 2 was initially administered beginning May 13, 2008 (three day process). Students in grades three through eight took a Language Arts Assessment and Mathematics assessment. The results of the study were reported for federal and state accountability purposes beginning August 2008. MDE provides an interpretive guide that gives cut scores for student placement in the different proficiency levels. The current Mississippi Curriculum Test (Second Edition) places students in one of four areas to include a) Advanced- above grade level b) Proficient- at grade level c) Basic- below grade level and d) Minimal- well below grade level. The 3<sup>rd</sup> Grade Mississippi Curriculum Test (2<sup>nd</sup> Edition) for Language Arts provides scale scores for the four proficiency levels.

The Mississippi Department of Education information is as follows:

Table 2

*MCT2 language arts Proficiency Levels and Scale Scores*

Grade	Proficiency Level	Scale Score
3 <sup>rd</sup>	Advanced	162 and above*
	Proficient	150- 161
	Basic	138- 149
	Minimal	137 and below*

*Note.* adapted from the Mississippi Department of Education MCT2 Interpretive Guide ([http://www.mde.k12.ms.us/acad/osa/mct2/MCT2\\_IG.pdf](http://www.mde.k12.ms.us/acad/osa/mct2/MCT2_IG.pdf))

\*The lowest and highest possible attainable scores will vary as new forms are developed

**Research Questions and Hypotheses**

*Research Question 1:*

Is there a significant relationship between third grade students' Oral Reading Fluency score on DIBELS and Reading Achievement level (language arts scale score) on the third grade Mississippi Curriculum Test, second edition (MCT2)?

*Research Hypothesis 1 (Null):*

There is no significant relationship between third grade students' Oral Reading Fluency score on DIBELS and Reading Achievement level (language arts scale score) on the third grade Mississippi Curriculum Test, second edition (MCT2)?

*Research Question 2:*

Is there a significant relationship between third grade students' obtained MCT2 proficiency levels of minimal, basic, proficient, and advanced and DIBELS Oral Reading Fluency performance levels?

*Research Hypothesis 2 (Null):*

There is no significant relationship between third grade students' obtained MCT2 proficiency levels of minimal, basic, proficient, and advanced and DIBELS Oral Reading Fluency performance levels.

*Research Question 3:*

Is there a significant relationship between third grade students' obtained MCT2 language arts scale score (student achievement) and other factors: gender, lunch status, and attendance.

*Research Hypothesis 3 (Null):*

There is no significant relationship between third grade students' obtained MCT2 language arts scale score (student achievement) and other factors: gender, lunch status, and attendance.

**Procedures**

Upon approval from the University Institutional Research Board (IRB), the collection of data began. The first step consisted of assessing a list of Reading First schools via the Mississippi Department of Education website. District representatives from the list were contacted via telephone, email, or letters to acquire permission for participation from the district superintendent and/or school board. The district/school representatives were asked to provide third grade student data for DIBELS and third grade student data for the MCT 2 as well as other factors. An excel spreadsheet was provided to school representatives. The requested data included third grade student cohorts for the 2007-2008 and 2008-2009 school years. Names were not used for collection purposes, but school representatives provided student numbers to ensure a match for student information in regard to DIBELS ORF and MCT2 language arts. After school representatives completed the excel spreadsheet, instructions to email the data to the researcher were provided and the data was received accordingly.

## Data Collection and Analyses

For the purpose of this study, the Pearson Correlation method was employed to explore the relationship between the MCT 2 language arts scale scores and the DIBELS ORF scores. The students' third grade MCT 2 language arts spring scale scores were compared to the DIBELS' ORF subtest scores from the student's third grade spring assessments. Secondly, a Two-Way Chi-Square was used to examine the MCT 2 language arts proficiency levels and DIBELS ORF risk categories to determine the relationship that existed. Thirdly, an Independent Samples t-test was used to determine the strength of the relationship between students' MCT 2 language arts scale scores and other factors: gender, lunch status and attendance rate.

The measures employed were the oral reading fluency (ORF) subtest of the DIBELS and the language arts portion of the MCT 2. The DIBELS ORF measurement was administered to third grade students three times each year (fall, winter, and spring), but because the language arts MCT 2 was administered in May, the spring DIBELS ORF was used as the predictor variable. The DIBELS ORF is a one-minute test and its score yields a risk level based on a score range as indicated in table 1 for spring administration: *at risk*-substantial interventions (below 80), *some risk*-additional interventions (80-109) and *low risk*-at grade level (110 and above)(benchmark). Language Arts MCT 2 scale scores were used to classify students into four performance levels: *minimal*-well below the standard, *basic*- below the standard, *proficient*-meeting the standard, and *advanced* -above the standard. The performance levels were used to determine whether the student met the standard or not and thus indicate student achievement levels. Since the goal of NCLB is for students to reach proficiency in reading by 2013, the proficient level was established as the indicator for meeting state standards.

The DIBELS established benchmark scores are indicated in Table 1. The established

benchmark scores were correlated to determine relationships with the MCT 2. Although there are three benchmark periods (fall, winter, and spring), only the spring benchmark scores were analyzed for third grade.

The MCT 2 Performance level cut-scores (scale scores) were acquired from the Mississippi Department of Education (Table 2). A correlation of the third grade DIBELS ORF scores was made to establish a relationship regarding the correlation of student success on the MCT 2 and DIBELS benchmarks for third grade students. Pearson product moment correlation coefficients were calculated to determine relationships that existed.

The Pearson product moment correlation was computed because both variables (for each hypothesis) were expressed as continuous scores. Pearson product moment correlation coefficients were calculated to determine the strength of the relationship between the designated DIBELS subtest (ORF) and the language arts component of the third Grade MCT 2. A Two Way Chi Square analysis was used to determine the relationship that exists among a student's obtained MCT2 language arts proficiency levels and DIBELS ORF risk categories (performance levels). An Independent Samples t-test was used to determine the strength of the relationship between students' MCT 2 language arts scale scores and other factors: gender, lunch status and attendance rate.

### **Summary**

To conclude, this study investigated the relationship between third grade students' obtained MCT 2 language arts scores (student achievement), DIBELS ORF and other factors. Additionally, the study investigated the relationship between third grade students' obtained MCT 2 language arts proficiency levels and DIBELS ORF risk categories (performance levels).

All data were collected from schools for which district representatives gave permission to participate.

Chapter Three presented a discussion of the population, the sample, and design of the study. Information was provided regarding the procedures for the study, the instrumentation, and data analysis. Chapter Four provides an analysis of the data and answers to the research questions posed for this study.

## CHAPTER IV

### Data Analysis

#### Introduction

This chapter discusses the results obtained after data analyses. To reiterate, the three research questions in this study were:

(1) Is there a significant relationship between third grade students' Oral Reading Fluency score on DIBELS and Reading Achievement level (language arts scale score) on the third grade Mississippi Curriculum Test, second edition (MCT2)?

(2) Is there a significant relationship between third grade students' obtained MCT2 proficiency levels of minimal, basic, proficient, and advanced and DIBELS Oral Reading Fluency performance levels?

(3) Is there a significant relationship between third grade students' obtained MCT2 language arts scale scores (student achievement) and other factors like: gender, lunch status, and attendance?

Additionally, this chapter presents quantitative evidence that supports or fails to support the research hypotheses. The researcher found evidence that the use of DIBELS ORF as a formative assessment tool, along with other variables, may provide useful data to educators to identify students at risk of reading failure on the third grade end-of-year MCT2. The information provided from this research supports the contention that DIBELS ORF data may be used to inform intervention decisions in order to prevent future reading failure.

The sample for this study was selected from three elementary schools from two rural school districts in the Mississippi delta region. These schools were selected because of their participation in the Reading First Initiative. Selection of these schools ensured that the DIBELS and MCT2 tests were given to all students and corresponding scores/data were available. The archived data was collected for a total of 128 third grade students from the 2007-2008 school year and 133 third grade students from the 2008-2009 school year.

All statistical analyses were conducted using SPSS (version 16.0)

### **Results of Question One**

Is there a significant relationship between third grade students' Oral Reading Fluency score on DIBELS and Reading Achievement level (language arts scale score) on the third grade Mississippi Curriculum Test, second edition (MCT2)? This question was tested using the null hypothesis: There is no significant relationship between third grade students' Oral Reading Fluency score on DIBELS and Reading Achievement level (language arts scale score) on the third grade Mississippi Curriculum Test, second edition (MCT2).

A Pearson product moment correlation was used to analyze the data to answer the question. Data from two consecutive school years (2007-2008 and 2008-2009) was analyzed for the three elementary schools involved in the study. Overall, the results indicated that the DIBELS ORF scores and MCT2 scores were moderately related. For school years 2007-2008 and 2008-2009, the correlation coefficients were  $r = 0.634$  ( $p < 0.05$ ) and  $r = 0.509$  ( $p < 0.05$ ) respectively. This suggests that the achievement level acquired by students on the MCT2 will be similar to the student's achievement level acquired on DIBELS ORF.

Table 3 presents the correlation between the DIBELS ORF and MCT2 scores.

Table 3

*MCT2 language arts and DIBELS ORF Correlation*

Year	2007-2008		2008-2009	
	N	r	N	r
DIBELS ORF	128	0.634*	133	0.509*
MCT2 language arts				

*Note.* \*Significant at the 0.05 level (2-tailed)

**Results of Question Two**

Is there a significant relationship between third grade students' obtained MCT2 proficiency levels of minimal, basic, proficient, and advanced and DIBELS Oral Reading Fluency performance levels? This question was tested using the null hypothesis: There is no significant relationship between third grade students' obtained MCT2 proficiency levels of minimal, basic, proficient, and advanced and DIBELS Oral Reading Fluency performance levels.

A Two Way Chi-Square test was used to answer this question. Table 4 presents the results of the Cross Tabulation data for the MCT2 and DIBELS ORF for the 2007-2008 third grade cohorts from the three schools. The table cells represent the number of students in each group.

Table 4

*2007-2008 MCT2 Proficiency Levels and DIBELS Performance Levels*

MCT2 Proficiency Level	ORF Performance Levels			Total
	Low Risk	Some Risk	At Risk	
Proficient and Above	32	4	1	37
Basic	30	24	5	59
Minimal	7	11	14	32
Total	69	39	20	128

*Note.* Chi square = 42.435, df=4,  $p < 0.05$

As shown above, the Pearson Chi Square value of 42.435 is significant at the 95% confidence level. Since the *p value* is less than 0.05, a significant relationship exists between DIBELS ORF risk categories and MCT2 proficiency levels. The results, for students scoring in the proficient and above range on the MCT2 Language Arts (LA) test, show that 32 students scored in the DIBELS ORF low risk category, 4 at some risk and 1 in the at risk category.

For the second group of students, those scoring at the basic level on the MCT2 LA test, 30 students scored in the DIBELS ORF low risk category, 24 in some risk and 5 in at risk. The results of the last group of students, those scoring in the minimal level on the MCT2 LA test, show that 7 scored in the low risk category, 11 in some risk, and 14 in at risk.

In summary, the largest number ( $n = 32$ ) of students that scored at the proficient and above level on the MCT2 LA test had a low risk score on the DIBELS ORF test. The second largest group ( $n = 30$ ) of students scoring at the basic level on the MCT2 also had a low risk score on the DIBELS ORF test. The third largest group was the group ( $n=24$ ) of students

scoring at the basic level on the MCT2 and some risk on DIBELS ORF. The smallest group (n=1) of students was the group scoring proficient and above on the MCT2 and at risk on DIBELS ORF.

A Two Way Chi-Square test was used to answer question 2 for the 2008-2009 third grade cohorts as well. Table 5 presents the results of the Cross Tabulation data for the MCT2 and DIBELS ORF for the 2008-2009 third grade cohorts from the three schools. The table cells represent the number of students in each group.

Table 5

*2008-2009 MCT2 Proficiency Levels and DIBELS Performance Levels*

MCT2 Proficiency Level	ORF Performance Levels			Total
	Low Risk	Some Risk	At Risk	
Proficient and Above	30	8	4	42
Basic	32	19	5	56
Minimal	6	9	20	35
Total	68	36	29	133

*Note.* Chi square = 40.892, df = 4, p < 0.05

As stated above, the Pearson Chi Square value of 40.892 is significant at the 95% confidence level. Since the *p value* is less than 0.05, a significant relationship exists between DIBELS ORF risk categories and MCT2 proficiency levels. The results, for students scoring in the proficient and above range on the MCT2 Language Arts (LA) test, show that 30 students scored in the DIBELS ORF low risk category, 8 at some risk and 4 in the at risk category.

For the second group of students, those scoring at the basic level on the MCT2 LA test, 32 students scored in the DIBELS ORF low risk category, 19 in some risk and 5 in at risk. The results of the last group of students, those scoring in the minimal level on the MCT2 LA test,

show that 6 students scored in the low risk category, 9 in some risk, and 20 in at risk.

In summary, the largest number ( $n = 32$ ) of students that scored at the basic level on the MCT2 LA test had low risk on the DIBELS ORF test. The second largest group ( $n=30$ ) of students scoring at the proficient and above level on the MCT2 also had a low risk score on the DIBELS ORF test. The third largest group was the group ( $n=20$ ) of students scoring at the minimal level on the MCT2 and at risk on DIBELS ORF. The smallest group ( $n = 4$ ) of students was the group scoring proficient and above on the MCT2 and at risk on DIBELS ORF.

### **Results of Question Three**

Is there a significant relationship between third grade students' obtained MCT2 language arts scale scores and other factors: gender, lunch status, and attendance. This question was tested using the null hypothesis: There is no significant relationship between third grade students' obtained MCT2 language arts scale scores and other factors: gender, lunch status, and attendance.

*2007-2008 MCT2 Language Arts Scale Scores and other factors (Gender, Lunch Status, and Attendance)* (See Tables 6-8)

This question was analyzed using an Independent Samples T-test. Results indicated that MCT2 language arts scale scores were not statistically different for females ( $N = 65$ ,  $M = 143.20$ ,  $SD = 9.441$ ) and males ( $N = 63$ ,  $M = 144.25$ ,  $SD = 10.496$ ); ( $t = -0.598$ ,  $p = 0.551$ ). This suggests that being male or female did not significantly change the mean scale score received on the MCT2 language arts test as evidenced by the p value of 0.551 which is greater than 0.05.

When the lunch status of students was considered, the results indicated that there was a mean scale score difference of 4.6 points on the MCT2 language arts test as students who

received reduced lunch scored higher than those who did not. Although the mean scale scores were not statistically different for students who received free lunch (N = 119, M = 143.39, SD = 9.942) and reduced lunch (N = 9, M = 148, SD = 9.552); (t = -1.343, p = .182), the difference in mean scale scores was noted. Nevertheless, lunch status did not have a significant effect on the mean scale score of students as evidenced by the p value of 0.182 which is greater than 0.05.

Lastly, when considering attendance, a mean scale score difference of 1.8 points was noted, however not significant. The data indicated, overall, that there was not a significant difference in scale scores evident for students who were absent less than or equal to 10 days (N = 116, M = 143.89, SD = 9.878) and students who were absent 11 or more days (N = 12, M = 142.08, SD = 10.925); (t = 0.597, p = .552).

*2008-2009 MCT2 Language Arts Scale Scores and other factors (Gender, Lunch Status, and Attendance)* (See Tables 6-8)

Question 3 was also analyzed using an Independent Samples T-test for the 2008-2009 school year. The results indicated that MCT2 language arts scale scores were not statistically different for females (N = 73, M = 145.16, SD = 9.670) and males (N = 60, M = 142.98, SD = 10.673); (t = 1.235, p = 0.219). This suggests being male or female did not significantly change the mean scale score received on the MCT2 language arts test as evidenced by the p value of 0.219, which is greater than 0.05.

However, the researcher did note that the mean scale score difference was 2.2 points higher for female students.

However, when the lunch status of students was considered, the results indicated that MCT2 language arts scale scores were statistically different for students who received free lunch

( $N = 128$ ,  $M = 143.84$ ,  $SD = 10.157$ ) and reduced lunch ( $N = 5$ ,  $M = 153$ ,  $SD = 5.099$ ); ( $t = -2.002$ ,  $p = 0.047$ ). The data indicates that lunch status for this cohort of third grade students actually showed that the MCT2 language arts mean scale score for students who received reduced lunch was greater (9.2 points) than the students who received free lunch. Based on the p value of 0.047, which is less than 0.05, research suggests that there are statistical differences in the MCT2 language arts mean scale scores for this group of students.

Lastly, when considering attendance, a mean scale score difference of 6.7 points was noted, however not significant. The data provided showed scale score data for students who were absent less than or equal to 10 days ( $N = 127$ ,  $M = 144.48$ ,  $SD = 10.182$ ) and students who were absent 11 or more days ( $N = 6$ ,  $M = 137.83$ ,  $SD = 7.653$ ); ( $t = 1.576$ ,  $p = 0.118$ ).

In summary, the data indicates that the factors of gender and attendance did not significantly predict the average scale score of third grade students with regard to the MCT2 language arts test. As it relates to lunch status, data for the 2007-2008 cohorts indicated no statistical difference. However, data for the 2008-2009 cohorts indicated a statistical difference in MCT2 language arts mean scale scores as a p value of 0.047 supported this finding.

Table 6

*MCT2 language arts scores and Gender*

Year	Female		Male		t	p
	N	M (SD)	N	M (SD)		
2007-2008	65	143.20(9.441)	63	144.25(10.496)	-0.598	0.551
2008-2009	73	145.16(9.670)	60	142.98(10.673)	1.235	0.219

Table 7

*MCT2 language arts scores and Lunch Status*

Year	Free Lunch		Reduced Lunch		t	p
	N	M (SD)	N	M (SD)		
2007-2008	119	143.39(9.942)	9	148.00(9.552)	-1.343	0.182
2008-2009	128	143.84(10.157)	5	153.00(5.099)	-2.002	<b>0.047</b>

Table 8

*MCT2 language arts scores and Attendance*

Year	≤ 10 days		≥ 11 days		t	p
	N	M (SD)	N	M (SD)		
2007-2008	116	143.89(9.878)	12	142.08(10.925)	0.597	0.552
2008-2009	127	144.48(10.182)	6	137.83(7.653)	1.576	0.118

### **Analysis of Findings/Summary**

The analysis revealed a significant relationship between third grade students' MCT2 language arts scale scores and DIBELS ORF scores for the 2007-2008 and 2008-2009 school years. There was also a significant relationship among student scores as it relates to group membership in the MCT2 proficiency levels and DIBELS ORF risk categories. Students who scored at the proficient or above MCT2 proficiency levels tended to score in the low risk category for DIBELS ORF. However, analysis of the MCT2 language arts scale scores as they relate to other factors (gender, lunch status, and attendance) indicated no significant difference in student scores based on group membership in all areas with the exception of the 2008-2009 cohorts with regard to lunch status. Additional discussion of these findings will be presented in Chapter Five.

## CHAPTER V

### **Summary, Conclusions and Recommendations**

Chapter Five provides a summary of the study and recommendations based on the relationships of the MCT2 language arts test and DIBELS data for third grade students in Mississippi delta schools. Secondly, conclusions regarding further analysis of the study and recommendations for future studies are presented.

#### **Summary**

The purpose of the study was to examine the predictive strength and decision-making utility of the Dynamic Indicators of Basic Early Literacy Skills (DIBELS), (Good & Kaminski, 2002), a curriculum based measurement for reading achievement used in Mississippi Reading First schools.

The current study consisted of an analysis of archived MCT2 language arts and DIBELS data from three schools in the Mississippi delta region. The schools were either current or previous Reading First schools and thus were able to furnish the requested data. Student data from two years (2007-2008 and 2008-2009) was used. There were a total of 128 and 133 students respectively for which data was retrieved.

#### **Statistical Results and Conclusions**

**Hypothesis one.** According to the Center for the Improvement of Early Reading Achievement (CIERA, 2001) fluency is vital because it provides a connection between phonemic awareness, alphabetic principles, and comprehension, which are all necessary to support the end goal of proficient reading skills. Comprehension, according to Harris and Hodges (1995), is the

intentional thinking during which meaning is constructed via interactions between text and the readers. In this study, fluency was determined by the DIBELS ORF scores and comprehension was based on student success on the MCT2 language arts tests. Based on this study, correlations of  $r=0.634$  and  $r=0.590$  indicated a significant correlation between spring DIBELS ORF scores and the third grade Mississippi Curriculum Test 2 (MCT2) for 2007-2008 and 2008-2009 student cohorts respectively.

Consequently, the more fluent the student read (DIBELS ORF), the better the performance was on the MCT2 language arts test (scale score of proficient or above). The score for DIBELS ORF subtest is determined by the number of words a student reads correctly from a grade level passage in one minute. The concept of comprehension is measured based on students' results on the third grade language arts MCT2, the state assessment for Mississippi public schools. The correlation data for the MCT2 and DIBELS ORF indicates that the predictive strength of DIBELS ORF as an indicator of student success on the MCT2 language arts test is meaningful for educators in Mississippi. Null hypothesis one states that there is no significant relationship between third grade students' obtained DIBELS ORF (Oral Reading Fluency) Scores and MCT 2 language arts scale scores (High Stakes Testing). The data provided indicates that the researcher should reject the null hypothesis for question one as there is a significant relationship between third grade students' DIBELS ORF scores and MCT2 language arts scores.

**Hypothesis two.** Null hypothesis two states that there is no significant relationship between third grade students' obtained proficiency levels of minimal, basic, proficient, and advanced and DIBELS Oral Reading Fluency performance levels. This hypothesis was rejected such that a significant relationship between third grade students' obtained MCT2 proficiency

levels of minimal, basic, proficient, and advanced and DIBELS performance levels existed based on Two Way Chi-Square data. Chi square values of 42.435 and 40.892 for the 2007-2008 and 2008-2009 cohorts respectively indicated the significance of this data. Thirty-two of the 128 students from the 2007-2008 cohorts scored in the proficient and above range on the MCT2 and were considered low risk on the DIBELS ORF measures. The at low risk category is defined by the DIBELS technical manual as the performance level at which an individual's score indicates the "odds are in favor of achieving subsequent outcomes" on later subtests (Good & Kaminski, 2002). Proficient and advanced ranges on the MCT2 test indicate that a student performs in a manner at or above that which is required to be successful in the grade or course in the content area respectively ([http://www.mde.k12.ms.us/acad/osa/mct2/MCT2\\_IG.pdf](http://www.mde.k12.ms.us/acad/osa/mct2/MCT2_IG.pdf)).

Thirty of the 128 students from the 2007-2008 cohorts scored in the basic range on the MCT2 and were considered at low risk on the DIBELS ORF measures. The at low risk level is defined by the DIBELS technical manual as the performance level at which an individual's score indicates the "odds are in favor of achieving subsequent outcomes" on later subtests (Good & Kaminski, 2002). The basic range on the MCT2 test indicates that a student performs in a manner below grade level to be successful in the grade or course in the content area. Although the basic range is not proficient, it is slightly below proficient and thus the data provides educators with information useful in making future decisions about those students.

An analysis of the 2008-2009 cohort data showed that thirty of the 133 students scored in the proficient and above range on the MCT2 and were considered low risk on the DIBELS ORF measures. Additionally, thirty-two of the 133 students from the 2008-2009 cohorts scored in the basic range on the MCT2 and were considered low risk on the DIBELS ORF measures.

As the results indicate for hypothesis two, a large number of students who scored in the

some risk and at risk categories on the DIBELS assessment also scored in basic and minimal on the MCT2. Based on the 2007-2008 data, of the students who scored in the some risk category on DIBELS ORF, a total of 35 students scored in basic and minimal on the MCT2 and of the students who scored in the at risk category on DIBELS ORF, a total of 19 students scored in basic and minimal on the MCT2. Regarding the 2008-2009 data, of the students who scored in the some risk category on DIBELS ORF, a total of 28 students scored in basic and minimal on the MCT2 and of the students who scored in the at risk category on DIBELS ORF, a total of 19 students scored in basic and minimal on the MCT2.

The information gathered in regard to hypothesis two provides a basis for educators to work diligently to ensure that students who are tested with measurements such as DIBELS are provided with interventions and instructional strategies to assist with helping them to reach the low risk category prior to the end of third grade spring MCT2 language arts test.

**Hypothesis three.** Null hypothesis three stated that there is no significant relationship between third grade students' obtained MCT2 language arts scale scores and other factors: gender, lunch status, and attendance. Results for the independent samples t-test indicated some differences, although not significant, in language arts MCT2 scores in relationship to the other factors of gender, lunch status, and attendance. The data indicated that the average scale scores on the MCT2 language arts tests were not significantly different for students based on the factors of gender and attendance. However, a significant difference in mean scale scores was identified based on the lunch status of third grade students in the 2008-2009 cohorts. Perhaps the fact that significant differences were not prevalent could be due to the number of students included in the sample population used for the study as well as the number of students assigned to the different categories. The population for this study consisted of 128 students for the 2007-2008 cohort and

133 students for the 2008-2009 cohort.

As the data indicates for gender (Table 6), there were 65 females and 63 males (2007-2008) and 73 females and 60 males (2008-2009). These numbers were indeed very similar and indicated average scale scores on the MCT2 language arts test that were similar as well (Table 6). Although not significant, the researcher must indicate that a 2.2 mean scale score difference existed as female students scored higher than male students. Perhaps with a larger population, the significance may be more noticeable.

When considering the lunch status, student data (Table 7) in the 2007-2008 third grade cohorts showed a mean scale score difference of 4.6 points as students who received reduced lunch scored higher than those who did not. Although this difference does not seem significant, the information lends itself to garner more research in this area with a larger population. Student data in the 2008-2009 third grade cohorts showed a mean scale score of 9.2 points higher for students who received reduced lunch than students who received free lunch (Table 7). Additionally, the p value of 0.047 indicates a statistical significance as it relates to MCT2 language arts scale scores for students based on their group membership regarding lunch status. This higher difference in scale scores indicates that the lunch status of students may be an indicator of the typical mean scale scores of students in Mississippi delta schools based on lunch status. Consequently, the increased implementation of strategies to support student learning as it relates to reading may prove to be beneficial for students in the free lunch category to ensure success on the end-of-year third grade MCT2 language arts test.

Based on the data analyzed for attendance (Table 8), the scores of students who missed 10 or fewer days and students who missed 11 or more days were not significantly different for the 2007-2008 cohort with a difference of only 1.8 points where students who missed 10 or

fewer days scored higher on the MCT2 language arts test. However, data for the 2008-2009 cohort indicated a much larger mean scale score difference of 6.7 points. The mean scale score for students who missed 10 or fewer days scored higher on the MCT2 language arts test.

### **Related Studies**

In alignment with the current study, research by LaBerge and Samuels (1974) found that fluency and comprehension were clearly related. Their research hinged around the notion that fluency is critical to comprehension because students can focus on understanding rather than decoding if they are fluent readers. Consequently, as a child's reading fluency improves, the reader's focus shifts from reading words to reading sentences. This research was the basis of the Theory of Automaticity. This theory suggests that automaticity is important when students read because children are able to focus on what they are reading rather than decoding words. As such, third grade students in the Mississippi schools received MCT2 language arts scale scores that indicated a significant relationship in the performance on the MCT2 and DIBELS ORF assessments. This significance suggests that the more fluent students are, the better the performance on the MCT2 language arts assessment.

Other studies in alignment with the current study also indicate the significant correlation among DIBELS ORF and various state assessments. However, according to Gibson and Levin (1975), fluency was viewed as having little importance in the process of learning to read. Nonetheless, as more research is conducted, reading fluency is being recognized as an important factor in student reading success. Torgesen and Buck (2004) conducted a study that concluded that DIBELS ORF was a predictor of reading comprehension. In this study, ORF scores were obtained from 1,102 third grade students in May 2002 and the FCAT was administered in April 2002. There was a significant correlation between ORF scores and FCAT reading scores

( $r = 0.70$ ). Additionally, a correlation was found from a study which examined DIBELS ORF scores and the end of third grade/beginning of fourth grade Ohio Proficiency Test (Vander Meer, Lentz, & Stollar, 2005).

Another study (Sibley, Biwer, & Hesch, 2001) was very similar to the current study as the basis was to examine the predictive validity of ORF measures as it related to student performance on the Illinois state assessment test. The results indicated a linkage between fourth grade ORF and fifth grade students' performance on the state achievement test. The data from the current study indicate predictive validity for third grade MCT2 language arts scores and DIBELS ORF. With this information, educators can feel confident that the extra support provided to students targeted for interventions prior to and during the third grade will assist in ensuring that students are successful on the end of course third grade MCT2 language arts test.

Lastly, Alsup (2007) conducted a study to determine the relationship between oral reading fluency and reading comprehension via the correlation that existed between high stakes reading assessment (comprehension) and DIBELS (oral reading fluency). The results indicated a high correlation between high stakes reading tests such as the TCAP (Tennessee Comprehensive Assessment Program) and DIBELS. Consequently, replicating studies similar to those provided may prove beneficial to Mississippi educators in determining if strategies to ensure that students are on target for DIBELS ORF will guarantee success on the third grade MCT2 test.

### **Limitations**

The information gathered from this study was mainly confined to schools in the Mississippi delta region. Consequently, the data may only be generalized to schools having students with similar demographics. Additionally, the researcher acknowledges that purposive sampling occurred as Reading First Schools were identified because the schools were required to

administer both the DIBELS and MCT2 assessments and therefore remains aware of the possible bias that may occur (Gay, 1996). Not only was the sampling purposive, but also convenient as the researcher was not able to acquire data from all schools that were solicited to participate in the study. In order to be eligible for Reading First funding, a school must be both high poverty and low performing and thus the results of this study will not be generalized to non-Reading First schools but should still provide insight regarding DIBELS as a formative assessment.

The results of this research study may only be generalized to Mississippi as the data was correlated between DIBELS and the Mississippi Curriculum Test 2 (MCT 2), which is specific to Mississippi public schools. Additionally, further limitations include a small number of students (N= 128 and N=133) from the Mississippi delta region. Not only were the populations for each year small, but group membership was also small and thus may have made a difference between significant and non-significant data. Therefore, a larger population sample might prove more significant in a study comparing oral reading fluency measures and MCT2 language arts; especially in understanding the relationship between gender, lunch status, and level of absenteeism.

### **Educational Implications**

Students are expected to demonstrate understanding of the standards and be fluent readers by the end of third grade. The ability of Mississippi educators and others to identify students who may be at-risk for reading difficulty and thus implement strategies to steer them on the path to proficiency by the end of third grade will definitely prove beneficial in supporting academic achievement. The spring DIBELS ORF data was significant in predicting student success on the spring MCT2 language tests. However, should educators use the fall or winter DIBELS ORF scores, more time for interventions could prove even more beneficial in linking assessment and

instructional practices.

Furthermore, administrators can analyze DIBELS ORF scores by class, school, or district level to make instructional decisions and gauge the overall effectiveness of the reading program being implemented. Since DIBELS ORF only requires one minute to assess students, the quick snapshot can be used to determine if students are indeed on the path to being successful at their grade level as determined by end of course assessments.

Educational accountability is alive and well as determined by the continued expectations of the NCLB Act of 2001. This is all too true in Mississippi as not only are schools measured by their success as it relates to meeting AYP, but acquiring a successful Quality Distribution Index (QDI) score per the ratings for Mississippi schools and districts is a goal as well. The Quality Distribution Index score is calculated based on student placement in the areas of advanced, proficient, basic, and minimal. Upon student placement in those categories, the QDI is calculated and schools and districts are assigned an accountability level that informs the public regarding the success of the school or district. Consequently, educators are seeking ways to ensure that a large percentage of students score in the proficient and above ranges to help place the schools in successful ranges as determined by their QDI.

All stakeholders are being held accountable for student learning and targets must be met at both the state and national levels. This study provides an avenue for beginning to use short, quick assessments such as DIBELS ORF to make instructional decisions regarding student learning and teaching strategies. Educators may ultimately be able to change a student's path from one of failure to one of success with the mere use of data from assessments such as DIBELS ORF.

The empirical data provided in this study can be reliably used by educators to make

instructional decisions confidently with the use of tools such as DIBELS ORF as they work with students to prepare them to be readers by the end of third grade. Administrators are challenged each and every day with making decisions to support student achievement of students in Mississippi, especially in the delta region. Resources that are easily attainable can be beneficial and useful to educators because of the accessibility. The mere fact that DIBELS ORF can be downloaded free by administrators and scored quickly is important. DIBELS ORF data can be used to assist educators with making decisions quickly and cheaply ([dibels.uoregon.edu](http://dibels.uoregon.edu)) in an attempt to find solutions and meet accountability challenges.

### **Recommendations for Further Study**

To provide a basis for determining if the results of this study can be generalized in different states and prove more beneficial at different grade levels, the following recommendations are suggested:

1. Replicate a similar study with a significantly larger population to determine if findings are consistent.
2. Replicate a similar study in the state of Mississippi among Reading First and Non-Reading first schools to determine if results can be generalized.
3. Replicate a similar study in other states to determine if findings continue to be consistent.
4. Replicate this study with other state tests such as the Mississippi Subject Area Tests.
5. Determine the relationship and/or predictive validity of 1<sup>st</sup> – 2<sup>nd</sup> grade student DIBELS ORF scores and third grade MCT2 language arts scores.

6. Further investigate lunch status using a greater sample population to determine if a significant difference exists among students.

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VITA

## VITA

Debra Dace is the daughter of John Williams and Jessie McClure, both of Greenville, Mississippi. Debra's parents taught her to always strive for success and never give up on her dreams. She is married to Derrick Dace, also an educator, and has one daughter, Jessica Dace. The family currently resides in Robinsonville, Mississippi.

Debra was born in Hollandale, Mississippi and grew up in Greenville, Mississippi as the fifth child of six children. Throughout her schooling, Debra was very successful academically and graduated as valedictorian of her senior class at Riverside High School in Avon, Mississippi. Debra attended Delta State University in Cleveland, Mississippi where she received a Bachelor of Science in Education (Mathematics) degree in 1992. She then attended the University of Mississippi where she received a Masters of Education degree (2001) and Education Specialist (2004) degree in the field of Educational Leadership (K-12).

Debra began her educational career as a high school math teacher in Sunflower and Drew Counties for six years. From there she worked as a math/science specialist at the University of Mississippi via the Delta Rural Systemic Initiative for six years. After leaving the University of Mississippi, Debra worked as an elementary principal in Coahoma County for three years before going to Tunica County where she initially served as an elementary principal for two years and then in her current position as the curriculum and testing coordinator.