

**Marshall University**  
**Marshall Digital Scholar**

---

Theses, Dissertations and Capstones

---

1-1-2008

The Relationship of Dynamic Indicators of Basic  
Early Literacy Skills (DIBELS) Oral Reading  
Fluency and the Terra Nova, 2nd Ed. Performance  
on Ohio Grade 3 Reading Achievement  
Assessment

Linda Adkins Ford

Follow this and additional works at: <http://mds.marshall.edu/etd>

 Part of the [School Psychology Commons](#)

---

**Recommended Citation**

Ford, Linda Adkins, "The Relationship of Dynamic Indicators of Basic Early Literacy Skills (DIBELS) Oral Reading Fluency and the Terra Nova, 2nd Ed. Performance on Ohio Grade 3 Reading Achievement Assessment" (2008). *Theses, Dissertations and Capstones*. Paper 589.

This Thesis is brought to you for free and open access by Marshall Digital Scholar. It has been accepted for inclusion in Theses, Dissertations and Capstones by an authorized administrator of Marshall Digital Scholar. For more information, please contact [zhangj@marshall.edu](mailto:zhangj@marshall.edu).

Running Head: THE RELATIONSHIP OF DIBELS

The Relationship of Dynamic Indicators of Basic Early Literacy Skills (DIBELS)  
Oral Reading Fluency and the Terra Nova, 2<sup>nd</sup> Ed. Performance on Ohio Grade 3  
Reading Achievement Assessment

Thesis submitted to  
the Graduate College of  
Marshall University

In partial fulfillment of  
The requirements for the degree of  
Educational Specialist of School Psychologist

By

Linda Adkins Ford

Sandra Stroebe, Ph.D., Committee Chairperson  
Stephen O'Keefe, Ph.D.  
Noel Bowling, Ph.D.

Marshall University Graduate College

June 2008

### Abstract

The purpose of this study was to investigate the correlation between performance on the DIBELS ORF Benchmark 2, the Terra Nova, 2<sup>nd</sup> Ed., and reading proficiency on the Ohio Grade 3 Reading Achievement Test. The research question examined the wisdom of using both the DIBELS ORF Benchmark 2 Indicator and the Terra Nova, as predictors for the Ohio Grade 3 Reading Achievement Test. After gathering archival data for the 136 students involved, a Pearson-Product Moment Correlation was used to determine this correlation. Data was additionally analyzed using a Hits and Misses Table. Results produced a significant, positive correlation between DIBELS ORF scores, the Terra Nova, and the Ohio Third Grade Reading Achievement Test. This study demonstrates, however, administering the Terra Nova as an additional assessment from March through May provides marginal student benefit. This study identifies the effectiveness of using early identification to predict reading mastery on high-stakes reading tests.

### Acknowledgements

I wish to express my deep appreciation to Dr. Sandra Stroebel and Dr. Stephen O'Keefe for their continuous, wonderful support, and positive guidance throughout my thesis completion, as well as, my graduate experiences. I would like to thank Dr. Noel Bowling for his reading expertise, guidance at different times throughout my graduate work, and participation on my thesis committee. In addition, I would like to express my sincere appreciation to Dr. Fred J. Krieg who always challenged each of us to be ethically and professionally responsible to the School Psychology profession and our future students. Finally, I would like to acknowledge my beautiful students at Wheelersburg Middle School for their continuous love, support, and encouragement. I thank each one of you for making this graduate experience possible!

TABLE OF CONTENTS

TITLE PAGE..... i

ABSTRACT..... ii

ACKNOWLEDGMENTS..... iii

LIST OF TABLES..... vi

LIST OF FIGURES..... vii

CHAPTER I

Introduction..... 1

CHAPTER II

Review of Literature..... 4

*National Assessment of Educational Process (NAEP)*  
    *(the Nation’s Report Card)*..... 5

*Effective Reading Instruction*..... 13

*Dynamic Indicators of Basic Early Literacy Skills*..... 19

*Outcomes Driven Model*..... 27

*Purpose of Study*..... 27

*Research Question*..... 28

*Prediction 1*..... 28

*Prediction 2*..... 28

*Prediction 3*..... 29

*Prediction 4*..... 29

CHAPTER III

Research Design & Methodology..... 30

*Methods*..... 30

*Subjects*..... 30

<i>Instruments</i> .....	30
<i>Procedure</i> .....	34
CHAPTER IV Results.....	37
CHAPTER V Discussion.....	39
Recommendation and Limitations.....	41
REFERENCES.....	46

List of Tables

Table One. Summary of Trends in Reading Average Scale Scores for Students Ages 9, 13, and 17: 1971-2004..... 7

Table Two. Summary of Trends in Reading Scale Score Percentiles for Students Ages 9, 13, and 17: 1971-2004..... 8

Table Three. Summary of Trends in Reading Percentages at or Above Performance Levels for Students Ages 9, 13, and 17: 1971-2004..... 9

Table Four. DIBELS Benchmark Goals and Indicators of Risk, Three Assessment Periods per Year..... 26

Table Five. Correlation among the Ohio Grade Three Reading Achievement Test, DIBELS, and the Terra Nova, 2<sup>nd</sup> Ed..... 41

Table Six. Hits and Misses table of DIBELS and Terra Nova, 2<sup>nd</sup> Ed. Predicting Failure on the Ohio Grade 3 Achievement Test..... 40

List of Figures

Figure One. Comparison of the Ohio Grade 3 Reading Achievement Test  
and DIBELS..... 43

Figure Two. Comparison of the Ohio Grade 3 Reading Achievement Test  
and the Terra Nova 2<sup>nd</sup> Ed..... 44



The Relationship of Dynamic Indicators of Basic Early Literacy Skills (DIBELS)  
Oral Reading Fluency and the Terra Nova, 2<sup>nd</sup> Ed. Performance on Ohio Grade 3  
Reading Achievement Assessment

Reading difficulties and early literacy deficits in children have far reaching implications for individual children, their families, and society. Reading difficulties are as virulent as any virus that courses throughout tissues and organs because this problem can infiltrate every aspect of a child's life. Educators have the opportunity through early assessment and identification of literacy skill deficits to provide needed interventions to children at risk for reading difficulties (Shaywitz, 2003). The earlier interventions can be implemented the greater is the chance that low reading trajectories can be modified to result in positive reading achievement (Good, Simmons, & Kame'enui, 2001; Good, Simmons, & Smith, 1998; Shaywitz, 2003).

Many struggling readers lack a skill that is absolutely necessary to the reading process, phonemic awareness. Phonemic awareness is the ability to hear the individual sounds in spoken words. If a child has failed to distinguish those sounds he or she would be unable to master the next hierarchical step – linking sounds to printed letters. Without these basic building blocks, the rest of the developed skills – decoding, word recognition, and reading comprehension – are all but impossible (Adams, 1990; National Reading Panel, 2000; Paglin, 2003; Shaywitz, 2003).

Shaywitz (2003), Adams (1990), and the National Reading Panel (2000) stated convincingly the need for early reading foundation instruction to be rich in lessons about sound-letter relationships. Converging evidence supported the conviction reading

competency is directly correlated to adeptness on foundational skills in beginning reading. The dominant developed skills included: (a) phonological awareness or the ability to hear and manipulate the sound structure of language, (b) alphabetic understanding or the mapping of print to speech and the phonological recording of letter combinations into corresponding sounds and blending stored sounds into words, and (c) accuracy and fluency with connected text and effortless recognition of words. These developmental skills and acquired strategies are a primary requirement for acquired reading proficiency. These crucial skills differentiated successful from less successful readers and are achievable by systematic, explicit instruction. The three developmental foundational skills represented valid indicator skills which developed in complexity toward word identification and text comprehension by the end of grade 3 and preempt early reading difficulty from becoming long term insufficient reading achievement (Adams, 1990; Good, Simmons & Kame'enui, 2001; Good, Simmons, & Smith, 1998; Kame'enui & Good, 1996; National Reading Panel, 2000; Shaywitz, 2003).

The use of early literacy skill identification and assessment measures provide educators the opportunity to determine which children may be at risk for future reading failure. Monitoring a student's progress through interventions allows for needed instructional modifications that positively impact and sustain student learning (Good, Simmons, & Kame'enui, 2001). Two school districts in Ohio were not achieving desired scores on the Ohio Grade 3 Reading Achievement Test. They implemented a model designed to prevent, diagnose, and treat reading problems. These two school districts desired to blend scrutiny of students and instruction. They interwove assessment and intervention, assessment and modification, and assessment and treatment (Good,

Gruba, & Kaminski, 2001; Good, Simmons, & Kame'enui, 2001). They desired student demonstrated proficiency on the Ohio Grade 3 Reading Achievement Test. This study shows the effectiveness of using early identification measures to predict reading success or failure on high-stakes reading achievement tests.

## CHAPTER II

*Literature Review*

Learning to read is an essential fundamental skill necessary for a student's success both in school and throughout life. Reading mastery is continuously acquired hierarchical skill. Reading skill attainment contributes to academic success in each different content discipline. Literacy is personal. Competency and confidence are projected by students who demonstrate individual mastery in reading proficiency in multiple situations. Students with weak literacy skills or literacy skills suited to less challenging reading tasks may feel limited in their performance abilities. Ohio's classrooms and the nation's classrooms must develop motivational learning environments where all students are academically engaged in reading for authentic purposes and are the recipients of optimal prevention-oriented reading instruction (Ohio Resource Center for Mathematics, Science & Reading Office, 2007).

Ohio's students, as all of our nation's students must be afforded a comprehensive and supportive education to provide him or her optimal reading mastery and educational competency. Quality reading educational opportunities must be the cornerstone on which Ohio's students and the nation's children's educational programs are established. State and Federal legislative, executive, and judicial governmental branches must formulate and implement policies and procedures that guarantee educational opportunities for all students.

Child development theorists elaborated on the importance of intellectual, social, mental, and emotional support for each developing child. The complex intertwine of

biology, environment, stimulation, and the unique development of each individual child must be the foundation for Ohio and our nation's reading educational system (Trawick-Smith, 2003). The fourteenth Amendment to the United States Constitution required states provide the fundamental right of equal protection and due process to every citizen. Children must be provided a thorough and efficient reading education. Reading education must not exhibit discriminating hopelessness and failure, but instead be example of empathy, compassion, hope, and success for all students (Perie, Moran, & Lutkus, 2005).

*National Assessment of Educational Process (NAEP) (the Nation's Report Card)*

Are American students performing better on reading now than in the past? The National Center for Educational Statistics (NCES) is the congressionally mandated primary federal entity charged with the responsibility for collecting, analyzing, and reporting educational data related to the United States and other nations (Perie, Moran, & Lutkus, 2005). This task is accomplished by the NCES's implementation of the National Assessment of Educational Progress (NAEP) (the Nation's Report Card™). The National Assessment of Educational Progress is one of the primary resources for monitoring and documenting. The NAEP has measured the national educational progress by regular administration of reading assessments to 9, 13, and 17 year old nationally representative samples of students. The NAEP is charged to track and report long-term reading student performance trends. The 35 year history since 1971 has used the same assessment instrument for decades in order to measure student reading progress and provide valuable data for evaluation change longitudinally (Perie, Moran,

& Lutkus, 2005). The Long Term Trend Assessments NAEP compared student performance in 2004 to the most recent assessment in 1999, back to 1971. Reading student performance is described as follows: Average scale score, which summarized student performance in one measure; selected scale score percentiles at the 10<sup>th</sup>, 25<sup>th</sup>, 50<sup>th</sup>, 75<sup>th</sup>, and 90<sup>th</sup> point; and percentage of students who attained each criterion measured performance level. Below is a quote from the NAEP Long Term Assessment Report:

Overall, the national trend in reading showed improvement across most reporting metrics at age 9 between 1999 and 2004 as well as between 1971 and 2004. Students at age 13 have shown no significant improvement in recent years; however, most reporting metrics indicate performance in 2004 was higher than in 1971. At age 17, no measurable differences in performance were found between 1971 and 2004 for any reporting metric (U.S. Department of Education National Center for Education Statistics, 2006).

Table 1 to Table 3 replicated the information graphically. This provided an overview of the major findings of the NAEP 2004 Long Term Trend Reading Report, 1971-2004. The tables compared students' performance in 2004 to children in the first year of data collection. In addition, 2004 and 1999 results are compared, providing a summary of reading improvement over the last five years.

**TABLE 1**

*Summary of trends in reading average scale scores for students ages 9, 13, and 17: 1971 - 2004*

---

Reading
↑ 9-year-olds' average scale scores since 1971 (↑ since 1999)
↑ 13-year-olds' average scale scores since 1971 (→ since 1999)
→ 17-year-olds' average scale scores since 1971 (→ since 1999)

---

↑ Significantly higher in 2004.

→ Indicates no significant difference between earlier year and 2004. SOURCE: U. S.

Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), selected years, 1971-2004 Long-Term Trend Reading Assessments.

TABLE 2

*Summary of trends in reading scale score percentiles for students ages 9, 13, and 17: 1971-2004*

---

**Reading**

## 9-year-olds

- ↑ 10<sup>th</sup> percentile since 1971 (↑ since 1999)
- ↑ 25<sup>th</sup> percentile since 1971 (↑ since 1999)
- ↑ 50<sup>th</sup> percentile since 1971 (↑ since 1999)
- ↑ 75<sup>th</sup> percentile since 1971 (↑ since 1999)
- 90<sup>th</sup> percentile since 1971 (→ since 1999)

## 13-year-olds

- 10<sup>th</sup> percentile since 1971 (→ since 1999)
- 25<sup>th</sup> percentile since 1971 (→ since 1999)
- 50<sup>th</sup> percentile since 1971 (→ since 1999)
- ↑ 75<sup>th</sup> percentile since 1971 (→ since 1999)
- ↑ 90<sup>th</sup> percentile since 1971 (→ since 1999)

## 17-year-olds

- 10<sup>th</sup> percentile since 1971 (→ since 1999)
- 25<sup>th</sup> percentile since 1971 (→ since 1999)
- 50<sup>th</sup> percentile since 1971 (→ since 1999)
- 75<sup>th</sup> percentile since 1971 (→ since 1999)
- 90<sup>th</sup> percentile since 1971 (→ since 1999)

↑ Significantly higher in 2004.

→ Indicates no significant difference between earlier year and 2004.

SOURCE: U. S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), selected years, 1971-2004 Long-Term Trend Reading Assessments.



**TABLE 3**

*Summary of trends in reading percentages at or above performance levels for students ages 9, 13, and 17: 1971-2004*

---

Reading		
9-year-olds		
↑	Level 150 (simple, discrete reading tasks) since 1971	(↑ since 1999)
↑	Level 200 (partially developed skills and understanding) since 1971	(↑ since 1999)
↑	Level 250 (interrelate ideas and make generalizations) since 1971	(↑ since 1999)
13-year-olds		
→	Level 200 (partially developed skills and understanding) since 1971	(→ since 1999)
→	Level 250 (interrelate ideas and make generalizations) since 1971	(→ since 1999)
↑	Level 300 (understand complicated information) since 1971	(→ since 1999)
17-year-olds		
→	Level 250 ((interrelate ideas and make generalizations) since 1971	(→ since 1999)
→	Level 300 (understand complicated information) since 1971	(→ since 1999)
→	Level 350 (learn from specialized reading materials) since 1971	(→ since 1999)

---

↑ Significantly higher in 2004.

→ Indicates no significant difference between earlier year and 2004.

SOURCE: U. S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), selected years, 1971-2004 Long-Term Trend Reading Assessments.

The National Assessment of Educational Progress (NAEP) has an additional component to provide valid data for individuals requiring evidence pertinent to contemporary reading curricula policies, and national reading curricula. This report revealed the following information: (a) in 2000, more than one third (37%) of all fourth graders in the United States were not capable of reading at a basic level; (b) African-American students performed 63% below basic proficiency; (c) Hispanic students were 58% below basic proficiency; (d) Native American students were 57% below basic proficiency; and (e) free and reduced lunch students were 60% below desired competency. Impoverished and minority student populations bore the weighted deviation of low reading skill acquisition. Students with lower reading skills (poor readers) experienced more pronounced difficulty than a decade ago, students with middle established reading proficiency remained approximately the same, and advanced readers increased their reading mastery (Perie, Moran, & Lutkus, 2005).

The American populous and American governmental leaders have respected education as an indispensable basis for democratic ideology, a preferred resource for economic prosperity, and a facilitator for the recognition of individual goals and enhanced potential. Historical significance has been attributed to the dedication to educate children. This resolve has grown stronger, more comprehensive, and desirous of answerability shared by federal and state governmental leaders, state and local educational policy makers, administrative staff personnel, instructional facilitators, and parents. In 2001, the reauthorization of the Elementary and Secondary Act – additionally recognized as the No Child Left Behind (NCLB) Act – further strengthened this governmental obligation and nationwide expectation (Perie, Moran, & Lutkus,

2005). This Congressionally approved landmark law, The No Child Left Behind legislation demanded all students be tested for *adequate yearly progress* to determine attained mastery toward each state's recognized academic proficiency levels. The *all means all* has been strengthened by this national policy which required every school district to devote intensified attention and serious intervention toward the academic necessities of the multiple types of students at risk for reading failure (U.S. Department of Education (n.d.); No Child Left Behind Act of 2001). McGill-Franzen (1987) stated, "to say that not learning to read limits life's possibilities both personally and professionally, is to understate the problem". Low reading achievement has been a major contributing factor for such social problems as high school dropout rates, teenage pregnancies, delinquent behavior, unemployment and homelessness (Good, Simmons, Smith, 1998; Lyon & Chhabra, 2004).

Reading difficulties are not confined or defined by an individual's intelligence level, race, or ethnicity. Children with reading problems will experience problems in his or her life. Optimal literacy acquisition is not just an educational issue, but a public health issue, as there are many adverse factors associated with reading problems in an individual's life (Lyon & Chhabra, 2004). Academic standards and rigid assessments requiring each child become proficient readers by the end of his or her third grade year, irrespective of their previous background knowledge upon kindergarten entry, demanded every student learned to read at least to adequate levels of achievement (Bishop, 2003).

### *Effective Reading Instruction*

In 1997, Congress asked the “Director of the National Institute of Child Health and Human Development (NICHD), in consultation with the Secretary of Education, to convene a national panel to assess the status of research-based knowledge, including the effectiveness of various approaches to teaching children to read” (National Reading Panel, 2000). This National Reading Panel adopted a set of precise research standards on their mission to discover research documenting the efficiency of reading instructional methods and approaches. Their published report was titled *Report of the National Reading Panel Teaching Children to Read: An Evidence-Based Assessment of the Scientific Research Literature on Reading and Its Implications for Reading Instruction, Reports of the Subgroups*. The National Reading Panel Report described and analyzed the five critical areas of reading instruction: phonemic awareness, phonics, fluency, vocabulary, and text comprehension (National Reading Panel, 2000). Below is quoted information from *Put Reading First, The Research Building Blocks for Teaching Children to Read*, as it described the accumulated reading research of the National Reading Panel Report .

### *Phonemic Awareness*

Phonemic Awareness is the ability to hear, identify and manipulate individual sounds – phonemes – in spoken words. It is important because it improves children’s word reading, fluency, and reading comprehension. It also helps students learn to spell.

Phonemic awareness can be developed through a number of activities, including asking children to: (a) identify phonemes, (b) categorize phonemes, (c) blend phonemes to form words, (d) segment words into phonemes, (e) delete or add phonemes to form new words, and (g) substitute phonemes to make new words. Phonemic Awareness instruction is most effective when children are taught to manipulate phonemes by using the letters of the alphabet and when instruction focuses on only one or two rather than several types of phoneme manipulation.

### *Phonics*

Phonics, learning and using the alphabetic principle, is the understanding there are systematic and predictable relationships between written letters and spoken sounds. Phonics Instruction helps children learn the relationships between the letters of the written language and the sounds of spoken language. It is important because it leads to an understanding of the alphabetic principle – the systematic and predictable relationship between written letters and spoken sounds.

Programs of phonics instruction are effective when they are systematic and explicit. The plan of instruction includes a carefully selected set of letter-sound relationships organized into a logical sequence and provide teachers with precise directions for the

teaching of these relationships. Effective phonics programs provide ample opportunities for children to apply what they are learning about letters and sounds to the reading of words, sentences, and stories. Systematic and explicit phonics instruction significantly improves children's word recognition, spelling, and reading comprehension and are most effective when it begins in kindergarten or first grade.

### *Fluency*

Fluency is: (a) the bridge between word recognition and comprehension, (b) the ability to read a text accurately and quickly, and (c) and is important because it frees students to understand what they read. Reading fluency can be developed by both modeling fluent reading and having students engage in repeated oral reading. Monitoring student progress in reading fluency is useful in evaluating instruction and setting instructional goals and can be motivating to students.

### *Vocabulary*

Vocabulary refers to the words we must know to communicate effectively. Oral vocabulary refers to words we use in speaking or recognize in listening. Reading vocabulary refers to words we recognize or use in print. Vocabulary is important

because beginning readers use their oral vocabulary to make sense of the words they see in print. Additionally, readers must know what most of the words mean before they can understand what they are reading. Vocabulary can be developed: (a) indirectly, when students engage daily in oral language, listen to adults read to them, and read extensively on their own; and (b) directly, when students are explicitly taught both individual words and word learning strategies.

### *Text Comprehension*

Text Comprehension is important because comprehension is the reason for reading. Text Comprehension can be developed through teaching explicit comprehension strategies and student cooperative learning. (Armbruster, Lehr, & Osborne, 2001)

Educational experts recognized reading is developmental and acquired over a period of time. Longitudinal reading studies have examined a child's reading attainment by the dimension of reading skill achievement at isolated points in his or her school career. It is a replicated, upsetting conclusion from research studies, students indicating early trouble with skill achievement are likely to have weak reading skill achievement and literacy mastery afterward. Stable reading trajectories can be inferred from the high correlation between reading presentation in the initial primary years and reading

mastery in elevated grade levels (Juel, 1988; Good, Simmons & Kame'enui, 2001; Good, Simmons, & Smith, 1998; National Reading Panel, 2000).

Juel (1988) revealed a .88 probability of a child who is a weak reader in first grade remaining a meager reader in fourth grade. Stanovich (1986) explained the differences in developmental reading trajectories by identification of unsurprising significant reading interrelated factors which happen with trouble in foundational reading skills, progressed to less encounters and exposure to reading materials, and culminated in a child less motivated to read. Stanovich discussed the *Matthew Effects*, the rich get richer and the poor get poorer as it applied to reading skill acquisition. The simple – and sad words of a tearful nine year old, already falling behind his peers in reading progress stated, “reading affects everything you do” (Adams, 1990).

Preliminary skill accomplishment fostered acquisition of successive skills for children possessing elevated skills and sluggish achievement for students with inferior initial skills. This difficulty of increasingly narrowed reading skills for students on a low developmental reading trajectory is compounded by two factors: they began with lower scores, and they increased their skills at a slower pace. Low original skill growth and low slope (skill acquisition) unite to make *catching up* particularly complicated for students on a low developmental reading trajectory. An optimal solution is early intervention to facilitate both sufficient primary skills, and the essential preskills to accomplish adequate reading growth (Shaywitz, 2003). Children behind at the end of first grade and the start of second grade face nearly insurmountable obstacles to catch up with their peers. A potent answer lies in the early identification of children with defects in critical early literacy skills and enhanced attainment of these important skills.



Thus there is a need to, “catch them before they fall” (Adams, 1990; Baker, Kame’enui, Simmons, & Stahl, 1994; Good, Simmons, & Kame’enui, 2001; Juel, 1998; Kaminski & Good, 1996; Good Simmons, & Smith, 1998; Torgensen, 1998).

Remedial reading is less effectual and the most prudent strategy to improve remedial reading is to prevent reading problems from occurrence in the life of our children. Early identification provided the greatest opportunity to develop proactive, meaningful, interventions to focus on avoidance of reading problems and strive to ensure success in reading text and literacy acquisition in the future (Adams, 1990; Good, Simmons, Kame’enui, 2001; Shaywitz, 2003).

Reading difficulty must be prohibited to guarantee all children are reading early in their educational career. Studies have confirmed competence in early reading skills is favorably prognostic of future reading achievement (National Reading Panel, 2000).

Reading proficiency for our nation’s students is achievable when it is systematically developed by the expert and integrated teaching of the previously listed skills so the young child learns to accurately, fluently access print and relate knowledge to guarantee desired comprehension. The development of literacy’s precursor skills substantially increased the chances children will become competent readers, capable of deriving meaning from fiction and non-fiction text. The majority of children can achieve reading competencies at average or above average levels with early identification and systematic, intensive instruction in the phonemic awareness, phonics, fluency, vocabulary, and reading comprehension strategies. Without this intensive systematic approach to early identification and intervention the majority of students experiencing reading difficulties by the chronological age of nine projected a dismal life time of

literacy for at least 70 percent of struggling readers (Adams, 1990; Lyon & Chhabra, 2004; Shaywitz, 2003).

On the other hand, the identification of children at risk for reading failure joined with the provision of systematic, comprehensive, and evidence based reading intervention can decrease the number of students reading below basic levels to under 6% (Shaywitz, 2003). Therefore, the focus on early reading instruction has become a prevention-oriented assessment and intervention system. Foundational skills must be assessed early (fall of kindergarten) and frequently monitored to guide instructional objectives as children's reading skills develop expansively and comprehensively. This interrelationship is paramount to future reading and literacy mastery. The central goal of all reading instruction must be comprehension and the afore mentioned are critical to achieve this goal (Adams, 1990; Good, Simmons, Kame'enui, 2001; Shaywitz, 2003).

#### *Dynamic Indicators of Basic Early Literacy Skills*

Early identification and appropriate interventions of basic early literacy skill deficits is mandatory as educators strive to deliver proactive and preventive reading education to American children at risk for reading failure. Educational accountability and high-stakes assessment are paramount in this era of standards based reform (Good, Simmons, Kame'enui, 2001). Nationally there is intensified awareness of the dividends of a student's early reading success and the dismal consequences of early reading failure. The National Center of Educational Statistics identified reading proficiency levels failed to satisfy today's social and aggressive economic environments (Good, Simmons, Kame'enui, 2001). Drucker (1993) stated elevation of the literacy bar for students has

forced schools to respond in kind to this heightened expectation. A promising strategy to address this monumental goal is the prevention of reading difficulties and reassurance all children become readers early in his or her academic career (National Reading Panel, 2000). States customarily have utilized the standardized achievement test as the primary tool to appraise a student's acquired knowledge and cognition of content standards. States used normative referenced tests, criterion referenced measures, and a combination of both forms of standardized testing to determine student knowledge and mastery of state content standards. These standardized achievement tests have provided annual information gauging district or school wide progress and provide yearly information pertaining to a student's global standing; however, specific features of these instruments rendered them inappropriate for early identification of *at risk* children for reading difficulties. The aforementioned tests are lengthy, are expensive to administer and score, and provide few, if any alternative forms. These factors made them unsuitable for recurrent classroom administration, which is mandatory for early identification and guiding instruction. These tests provided instructors with incomplete diagnostic information because of the broad sampling of reading skills across numerous years of curricula. Dependable tools for tracking student progress throughout a school year on the indicators, benchmarks, and content standards must be implemented to guarantee quality intervention begins promptly. Early intervention is critical to prevent long term harmful student consequences (Adams, 1990; Fuchs & Fuchs, 1999; Good, Simmons & Kame'enui, 2001).

What is needed for prevention of reading failure is to *Begin Early and Assess Dynamically*. The critical premise is effectual academic intervention mandated precise

identification of children at risk for reading failure. The answer has been early identification of children with crucial early literacy skills deficits and augmentation to gain mastery of these skills (Adams, 1990; Good, Gruba, & Kaminski, 2001; Good, Simmons, & Kame'enui, 2001; Good, Simmons, & Smith, 1998; Shaywitz, 2003).

The likelihood of reading success is profoundly contingent on the early literacy skills children have developed prior to formal reading instruction. Adams (1990) proclaimed children obtain knowledge pertaining to the world of language, reading, and writing before formal school instruction. Adams, in addition, acknowledged: (a) phonological awareness skills, (b) language skills, and (c) awareness of print concepts as the three significant areas of early literacy skills. As students gained desired phonological awareness and understood the sound structure of language, they began to demonstrate developed knowledge of the alphabetical principle in decoding tasks. Skills in phonological awareness and development of the alphabetic principle appeared to influence a student's ability to read connected text (Adams, 1990; Good, Simmons, & Smith, 1998).

The research stated simply preparing children for kindergarten is not adequate. McKey (1985) discussed the report titled *"Head Start Evaluation, Synthesis and Utilization Project,"* which stated the direct constructive effects of Head Start can be negated by family and environmental risk factors which tended to remain comparatively stable during the preschool and early elementary school years. A dynamic, prevention-oriented, school based assessment and intervention system intended to monitor the growth and development of children on a continuum of foundational reading skills is necessary to prevent reading failure and ensure academic success for all students.

Maintenance of earlier acquired learning experiences must be stabilized concurrent with a reliable, prevention-oriented, school based assessment and intervention system to prevent early reading problems. This interrelated comprehensive system can prevent early academic and social complicatedness and indicate reading trouble early and prevent reading risk from becoming entrenched reading failure (Good, Simmons, Kame'enui, 2001; Hintze, Ryan & Stoner, 2003).

A prevention-oriented, school based system of assessment is effective as it demonstrated the criteria of reliability by adherence to the following: (a) measurement of growth or foundational reading skills on a frequent and ongoing basis; (b) prediction of success or failure on criterion measures of performance (high-stakes tests); and (c) provision of an instructional goal when attained, will prevent reading failure and promote reading success (Good, Simmons & Kame'enui, 2001; Good, Simmons, & Smith, 1998; Kaminski & Good, 1996). One early identification assessment tool, Dynamic Indicators of Basic Early Literacy Skills (DIBELS) has been developed at the University of Oregon and has demonstrated reliable measurement of early literacy skill deficits (Good, Simmons, & Kame'enui, 2001; Good, Simmons, Kame'enui, Kaminski, & Wallin, 2002; Good, Wallin, Simmons, Kame'enui & Kaminski, 2002).

These individually identified deficits provided invaluable information to school personnel in providing instruction to students in aggressive attempts to increase the potential of fluent reading skill acquisition and desired reading success. DIBELS has been developed to identify students who are not attaining progress in the acquisition of critical early literacy skills. In addition, DIBELS measures can be administered frequently to monitor and evaluate intervention efficiency and student development in

early literacy skill acquisition. DIBELS was developed to provide assistance in formulating educational decisions in a Problem Solving model of assessment to determine: (a) which students required early literacy skills interventions beyond that offered in the general curriculum, (b) which interventions effectively resolved early literacy skill deficits for each child, and (c) when interventions have proven successful in remediating early literacy skill deficits to reduce the risk of reading failure. DIBELS are capable of assessing student skills on an ongoing basis in critical foundational literacy skills (Good, Simmons, Kame'enui, Kaminski & Wallin, 2002; Good, Simmons, & Smith, 1998; Good, Wallin, Simmons, Kame'enui & Kaminski, 2002).

The rationale for the development of DIBELS is similar to the concepts used in developing Curriculum Based Measurement. DIBELS included the capability of measures to be dynamic and serve as indicators of early literacy skill deficits. DIBELS measures are responsive to a student's growth in a skill area. DIBELS measures correlated with principal skill areas which lead to reading skill acquisition and reading mastery (Good & Kaminski, 2002).

DIBELS are a set of standardized, individually administered measures of early literacy, developmentally designed to assess a student's progress kindergarten through grade six. These short (one minute) fluency measures assess each child at designated grade levels on phonological awareness, alphabetic principle, or accurate and fluent word identification with connected text. Early literacy development is assessed in a standardized, efficient manner, and monitors the development of pre-reading, early reading skills, and accrued reading mastery. (Good, Simmons, Kame'enui, Kaminski & Wallin, 2002; National Reading Panel, 2000). These measures can be administered

frequently by instructors to repeatedly assess student's growth, pinpoint deficient skill areas, and plan interventions to increase the likelihood students will realize performance of complex skills and the higher level processes of fluent word recognition and reading comprehension. The model was designed to explicitly link earlier and later skills at different points in time. The University of Oregon provided a recommended assessment schedule and advised assessing students at the beginning, middle, and end of an academic year to allow for timely instructional feedback (Good, Simmons, Kame'enui, Kaminski & Wallin, 2002; Kaminski & Good, 1996). The present study used the Third Grade DIBELS Oral Reading Fluency Assessment Schedule.

DIBELS measures are brief, efficient, economical, and relatively simple to administer and score. Subtests include Initial Sounds Fluency (ISF), Phoneme Segmentation Fluency (PSF), Nonsense Word Fluency (NWF), Letter Naming Fluency (LNF), Retell Fluency (RTF), Word Use Fluency (WUF), and DIBELS Oral Reading Fluency (DORF). DIBELS Oral Reading Fluency (DORF) a standardized, individually administered test of accuracy and fluency with connected text was used in this study.

Good et al. (2002) provided a compilation of the DIBELS decision rules for intensive, strategic, and benchmark instructional recommendations. The University of Oregon authors provided summarized evidence on the predictive values of the DIBELS cutoffs as both indicators of risk and as instructional goals. The present study used the descriptive levels of performance in the middle of third grade as follows:

<u>Performance</u>	<u>Description</u>	<u>Instructional Recommendation</u>
DORF < 67	At Risk	Intensive-Needs Substantial Intervention
67 < = DORF < 92	Some Risk	Strategic – Additional Intervention
DORF > = 92	Low Risk	Benchmark – At Grade Level

At any specific point in time, children who are *at risk* at that point in time have serious odds against achievement of subsequent early literacy goals, unless substantial, sustained, intensive intervention support is provided. More importantly, for students prior to that identified point in time, the benchmark goal represented instructional targets which established the likelihood of achieving subsequent early literacy goals (Good, Simmons, Kame'enui, Kaminski & Wallin, 2002).

Student indicators are labeled *low risk* if the odds are in favor of achieving subsequent outcomes if administered prior to the benchmark goal, and referred to as *established* if the measure was administered at the time, or after the benchmark goal. Patterns of student performance received a recommendation of *Benchmark – At Grade Level* with demonstrated odds in favor of achieving subsequent goals. A secondary goal was the identification of students with the odds against achieving subsequent early literacy goals for whom intervention is indicated. This level of performance is referred to as *at risk* if the measure was administered prior to the benchmark goal, and classified as *deficient* if the measure was administered at, or later than the benchmark goal. *Intensive – Needs Substantial Intervention* was the instruction recommendation if so indicated by analysis of all the DIBELS Benchmark Assessment measures. A third level of student performance established when a clear prediction was not possible. This



middle category was referred to as *some risk* prior to the benchmark goal, and was labeled *emerging* at the benchmark goal or later. In addition, the instructional recommendation was *Strategic – Additional Intervention* if the student's pattern of performance did not yield a clear prediction, i.e. 50-50 odds. The authors proclaimed multiple factors were considered with the establishment of cutoff points and emphasized the primary consideration was the odds of achieving subsequent literacy goals (Good, Simmons, Kame'enui, Kaminski & Wallin, 2002).

A powerful component in using DIBELS measures was the recognition DIBELS measures were developed as *indicators*, *indicators* which primarily surrounded the identification of basic early literacy skill deficits and focused on the prevention of future reading failure through early identification and intervention practices. DIBELS has not been intended to be an exhaustive evaluation of all important reading skill areas for developing readers, but a fast and efficient indication of the acquired proficiencies of students with respect to important developmental skills. Low performance demonstrated a concern pertinent to the child's progress (Kaminski & Good, 1996).

Specific DIBELS Benchmark goals and Indicators of Risk for third grade are provided. These include the following:

*Table 4**DIBELS Third Grade Goals and Indicators of Risk, Three Assessment Periods per year*

DIBELS Measure	Beginning of Year Month 1 - 3		Middle of Year Month 4 - 6		End of Year Month 7 - 10	
	Scores	Status	Scores	Status	Scores	Status
DIBELS Oral Reading Fluency	ORF < 53	At risk	ORF < 67	At risk	ORF < 80	At risk
	53 <= ORF < 77	Some risk	67 <= ORF < 92	Some risk	80 <= ORF < 110	Some risk
	ORF >= 77	Low risk	ORF >= 92	Low risk	ORF >= 110	Low risk

*Outcomes-Driven Model*

This Outcomes-Driven Model was developed as a prevention-oriented assessment and intervention decision making system formulated to pre-empt early skill deficiencies and intensify sequential progression toward indicators and benchmarks leading to established, proficient reading mastery. The Outcomes-Driven Model accomplished steps to outcomes through a set of five educational decisions: (a) identified need for support, (b) validated need for support, (c) planned support, (d) evaluated and modified support, and (e) reviewed outcomes. DIBELS assessment system may be a viable component of an Outcomes-Driven Model System (Good, Gruba, & Kaminski, 2001).

*Purpose*

The purpose of this study was designed to investigate the correlation between performance on the DIBELS Oral Reading Fluency Benchmark 2, the Terra Nova 2<sup>nd</sup> Ed., and reading proficiency as measured by the Ohio Grade 3 Reading Achievement

Test. The purpose was to determine the utility of DIBELS as a prevention-oriented diagnostic assessment system and the Terra Nova 2<sup>nd</sup> Ed., a nationally normed reference test as they predict a placement level on the Ohio Grade 3 Reading Achievement Test. The Ohio Grade 3 Reading Achievement test is a standard-based reading comprehension assessment administered statewide each academic year in the State of Ohio. The results of this study will help determine the effectiveness of using DIBELS and the Terra Nova 2<sup>nd</sup> Ed. as classroom diagnostic tools to identify student's early reading skill mastery and help prevent established insufficient reading achievement.

#### *Research Question*

The following research question will be examined in this study: Do the Dynamic Indicators of Basic Reading Skills (DIBELS) Oral Reading Fluency Benchmark 2 Indicators and the Terra Nova 2<sup>nd</sup> Ed., a nationally normed reference test predict student performance on the Ohio Grade 3 Reading Achievement Test? The research predictions are as follows:

*Prediction 1.* There is a significant positive relationship between the scores on DIBELS Oral Reading Fluency Benchmark 2 Indicator and student performance on the Ohio Grade 3 Reading Achievement Test.

*Prediction 2.* There is a significant positive relationship between the scores on the Terra Nova, 2<sup>nd</sup> Ed. referenced test and student performance on the Ohio Grade 3 Reading Achievement Test.

*Prediction 3.* Using the archival (DIBELS) score will identify more than 90%

of the students who are likely to fail the Ohio test.

*Prediction 4.* Using the Terra Nova 2<sup>nd</sup> Ed. in addition to DIBELS does not significantly improve the Hit and Miss Rate of students likely to not be proficient on the Ohio Grade 3 Reading Achievement Test.

## CHAPTER III

*Research Design and Methodology**Methods**Subjects*

The subjects were 136 students, 64 female and 72 male selected from third grade classrooms at one urban elementary school located in Southeastern Ohio, and an elementary school located in a rural area in Central Ohio. Demographic identifiers for ethnicity, gender, and eligibility for free or reduced lunches were available. All of the subjects were Caucasian. The student participants originated from low to middle socioeconomic backgrounds. Eighty-five of the student participants receive free or reduced lunch. The student participants demonstrated a total number of 111 without an Individualized Educational Plan and a total number of 25 with an Individualized Educational Plan. Archival data was collected for the 2005-2006 academic school year. The building administrators granted permission to use their student test data.

*Instruments*

Three instruments were used in this study. They included the Dynamic Indicators of Basic Early Literacy Skills (DIBELS), the Ohio Grade 3 Reading Achievement Test, and the Terra Nova, 2<sup>nd</sup> Ed..

*Dynamic Indicators of Basic Early Literacy Skills (DIBELS)*. DIBELS are a set of standardized, individually administered measures of early literacy, developmentally designed to assess all students' progress kindergarten through grade six. Subtests on this instrument measure Initial Sound Fluency (Kindergarten level), Phonemic Segmentation Fluency (Kindergarten, Grade 1), Nonsense Word Fluency (Kindergarten,

Grades 1 and 2), Letter Naming Fluency (Kindergarten, Grade 1), Word Use Fluency (Kindergarten, Grades 1, 2, and 3), and Oral Reading Fluency (ORF). ORF is assessed in grades one through six. (Good, Simmons, Kame'enui, Kaminski & Wallin, 2002; National Reading Panel, 2000). The DIBELS Oral Reading Fluency subtest (DORF) was used in this study. The present study used the middle of the year DIBELS Third Grade Oral Fluency goal of 92. This was necessary because of the March, 2006 date for the Ohio Grade 3 Reading Achievement Test.

*Ohio Grade 3 Reading Achievement Test.* Ohio Academic Content standards are used as guidelines to develop the Ohio Grade 3 Reading Achievement Test. The Ohio Academic Content standards adopted by the Ohio State Board of Education represent fundamental knowledge and skill expectations for children at the primary grade levels. The third grade Ohio Academic Content standards are composed of specific grade level benchmarks and indicators which hierarchically develop. These content standards are listed by the Office of Assessment, Ohio Department of Education (2006): (a) phonemic awareness, word recognition, and fluency standard; (b) acquisition of vocabulary standard; (c) reading process: concepts of print, comprehension strategies, and self-monitoring strategies standard; (d) reading applications: informational, technical, and persuasive text standard; (e) reading applications, literary text standard: Literary texts that represent a variety of authors, cultures and eras help students to understand the human story.

The Ohio Achievement Tests, Grade 3 are designed to assess student performance relative to the Ohio Academic Content Standards. The performance levels

descriptors (PLD's) represent specific statements pertinent to Ohio's Achievement tests. The Ohio performance level descriptors for the third grade test accomplish the following: (a) summarize displayed learned reading objectives each student will display (limited, basic, proficient, accelerated, or advanced); (b) describe a range of content based displayed reading behaviors of students within each performance level; (c) link Ohio Academic Content Standards and individual student achievement of those standards; and (d) are the content-referenced criteria to which student performance is compared (Office of Assessment Ohio Department of Education, 2006)

The PLD's are an important reference for judging the continuity between Ohio's Academic Content Standards, classroom instruction, and Ohio's student achievement tests. Performance level descriptors for the Grade 3 Reading Achievement Test were adopted by the State Board of Education in 2003. They are quoted as follows:

Limited	Students performing at the limited level do not yet have the skills identified at the basic level.
Basic	Students performing at the Basic Level make limited use of reading comprehension strategies, such as inferencing, predicting, comparing and contrasting and summarizing, to build meaning from text.
Proficient	Students performing at the Proficient Level usually apply reading comprehension strategies to construct meaning.
Accelerated	Students performing at the Accelerated Level consistently apply comprehension strategies to develop a thorough understanding of what they read.
Advanced	Students performing at the Advanced Level apply comprehension strategies to develop a thorough and cohesive understanding of what they read. These students demonstrate an ability to use text structures to interpret, evaluate and extend what they read (Office of Assessment, Ohio Department of Education, October 2006).

The Ohio Grade 3 Reading Achievement tests provided raw scores associated with scaled scores for the five different performance levels. This Ohio Department of Education information is as follows:

<b>Level</b>	<b>Scales Scores</b>	<b>Raw Scores</b>
Advanced	432 and above	42-49
Accelerated	415-431	37-41
Proficient	400-414	31-36
Basic	385-399	24-30
Limited	384 and below	0-23

The minimum possible scaled score on this administration was 264 and the maximum possible scaled score was 505 (Office of Assessment, Ohio Department of Education, 2006).

*Terra Nova, 2<sup>nd</sup> Edition.* The Terra Nova, 2<sup>nd</sup> Ed. additionally called the California Achievement Test is a nationally normed reference test. The Terra Nova, 2<sup>nd</sup> Ed. was designed to provide norm-referenced and criterion-referenced student data on concepts, processes, and skills instructionally presented throughout the United States. The test consisted of selected-response and constructed-response items.

The Basic Multiple Assessments version administered consisted of Reading, Language Arts, and Mathematics test items for Grades 1 – 12. The Reading subtest was used for this study with time required for the Reading and Language Arts ranging from 100 – 120 minutes. Scores are reported as: (a) raw scores; (b) national percentile ranks; (c) grade equivalent scores; (d) normal curve equivalents; (e) developmental



scale scores, which range from approximately 100 – 900; (f) Objective Performance Index (OPI); (g) Lexile score; and (h) performance levels consisting of levels similar to the Basic, Proficient, and Advanced levels used on the NAEP.

Norms data were gathered during the 1999 – 2000 school year. The norming sample consisted of approximately 280,000 students. The sampling strategy was based on the type of school, region of the nation, community type, and socioeconomic status. Sampling ensured students with special needs and students requiring testing accommodations were included. Bias associated with ethnicity, race, gender, and age were considered. Validity and reliability evidence supported its use as one measure of student achievement (Buros: Test Reviews Online).

### *Procedure*

One hundred and thirty-six third grade students from one urban elementary school in Southeastern Ohio and an elementary school located in a rural area in Central Ohio were given the DIBELS Oral Reading Fluency Benchmark 2 Indicator. Certified instructors administered the test in the first week of February, 2005. Student performance was measured by having each student read each of three passages aloud for one minute. Words omitted, substituted, and hesitations of more than three seconds were scored as errors. Words self-corrected within three seconds were scored as accurate. Standardized procedures were followed. The median number of words the student accurately read in one minute across three grade level passages was the score used to represent level of fluency. Students were classified into three performance

categories using criteria established by DIBELS creators. The present study used the descriptive levels of performance in the middle of third grade as follows:

<i>Performance</i>	<i>Description</i>
DORF < 67	At Risk
67 <= DORF < 92	Some Risk
DORF >= 92	Low Risk

This was necessary because of the March, 2006 date for the Ohio Grade 3 Reading Achievement Test. Further scoring information along with reliability and validity information about DIBELS ORF can be found at <http://dibels.uoregon.edu>.

The same 136 students were given the Ohio Grade 3 Reading Achievement Test March 6, 2006 by certified teachers. Administration was according to the test standardization. The test consisted of multiple choice, short answer, and extended response questions, and students had a total of 150 minutes to complete the test. There is one ten minute stretch break during the test. (Make up testing for absent students was completed within the ten day period required by state standardization). The test used a four level grade scale of limited, basic, proficient, and advanced. Students must achieve a score of 400 to be considered at grade level. (A student not achieving a score of at least proficient during the test schedule may participate in a summer administration.)

The Terra Nova, 2<sup>nd</sup> Ed., was administered by certified instructors to each third grade child from the urban and rural schools. The standardized administration occurred during the first of May, 2005-2006 school year. The 100 – 120 minute test consisted of selected-response and constructed-response items. Student breaks were permitted

according to test standardization specifications. Archival data from all three tests were used for this study.

## Chapter IV

### *Results*

The objective of this study is to examine a correlation between DIBELS ORF Fluency Benchmark 2 Indicator, the Terra Nova, 2<sup>nd</sup> Ed., and the Ohio Grade 3 Reading Achievement Test. Can DIBELS ORF Fluency Benchmark 2 Indicator and the Terra Nova, 2<sup>nd</sup> Ed. predict students who will meet the proficiency standard on the Ohio Grade 3 Reading Achievement Test and conversely, will students with poorly developed reading fluency fail to meet the Ohio standard? After gathering archival data from the two schools involved, a Pearson-Product Moment Correlation was used to determine this possible correlation.

#### *Prediction 1.*

The correlation between the DIBELS 2 Indicators and the Ohio Grade 3 Reading Achievement Test was high  $r = 0.620$ , and  $p = < .01$ . Correlation was significant at the Alpha level of 0.01 (1 tailed). This study indicates a significant, positive, strong predictive relationship between DIBELS 2 Indicator and the Ohio Grade 3 Reading Achievement Test (see Table 5).

#### *Prediction 2.*

The correlation between Terra Nova, 2<sup>nd</sup> Ed. and the Ohio Grade 3 Reading Achievement Test was high  $r = 0.703$  and  $p = < .01$ . Correlation was significant at the Alpha level of 0.01 (1 tailed). There is a significant, positive, strong relationship. This study identifies the Terra Nova, 2<sup>nd</sup> Ed. as a strong predictor of student performance on the Ohio Grade 3 Reading Achievement Test (See Table 5).

*Prediction 3.*

Archival DIBELS and Terra Nova, 2<sup>nd</sup> Ed. scores were analyzed using a Hits and Misses Table (See Table 6). Results indicate the odds of DIBELS predicting failure is 78 % (40 students) and missed identification is 22 % (11 students). The Terra Nova, 2<sup>nd</sup> Ed. predicts failure for 76 % (34 students) and misses identification for 24 % (11 students).

*Prediction 4.*

The combined use of Terra Nova, 2<sup>nd</sup> Ed. and DIBELS test data does not significantly improve the Hit and Miss Rate of students who fail to meet the standard of proficiency on the Ohio Grade 3 Reading Achievement Test (See Table 6).

## Chapter V

### *Discussion*

Schools have experienced the reality of high-stakes assessments. Assessment instruments must assess all students' level of achievement with respect to high-stakes reading outcomes. The previously existing standardized assessment measures were ill-prepared to meet the critical purpose of assessment. Assessment instruments must forecast attainment of high-stakes reading proficiency early enough to inform instruction and alter learning trajectories. A measurement system has utility to the extent the assessment system informs instruction and contributes to reading success. The purpose of this study is to investigate the utility of a prevention-oriented assessment system to predict a student's reading achievement. Strong consistency supports the use of early measures to predict the relationship of fluency on foundational skills to a student's reading mastery on third grade high-stakes tests. This interrelationship is mandatory for future reading and literary mastery (Adams, 1990; Good, Simmons, & Kame'enui, 2001; Shaywitz, 2003).

The research question explores the educational wisdom of using DIBELS ORF Benchmark 2 Indicator and the Terra Nova, 2<sup>nd</sup> Ed. as predictors for the high-stakes Grade 3 Reading Achievement Test. The present study produced a significant, positive correlation between DIBELS ORF scores and the Ohio state required third grade reading achievement test as did research conducted by others (Barger, 2003; Good, Simmons & Kame'enui, 2001; Shaw & Shaw, 2002; and Wilson, 2005). DIBELS was developed to provide assistance in educational decisions in a problem solving model

capable of the identification of students requiring early literacy skills, intervention, the proper intervention implementation, and success of early skill instructors to reduce the risk of reading failure (Good, Simmons, Kame'enui, Kaminski, and Wallin, 2002; Good, Wallin, Simmons, Kame'enui, & Kaminski, 2002). A measurement system has utility as the measures inform instruction and contribute to reading proficiency for all of our nation's children. DIBELS is an assessment system that can be used with research-based instruction to prevent pervasive, long-term reading difficulty.

The present study demonstrates a significant, positive correlation between the Terra Nova, 2<sup>nd</sup> Ed. and the state required third grade reading achievement test. This study demonstrated; however, administering the Terra Nova, 2<sup>nd</sup> Ed. as an additional assessment in May provides no instructional benefit. Test administration in March provides marginal student benefit. Administration of the Terra Nova, 2<sup>nd</sup> Ed. consumes 70 – 90 minutes instructional time for each of the seven teachers and the 136 students involved in this study. Fiscal responsibility can be better demonstrated by using both the cost of the test and test administration time to provide additional instruction for the students who demonstrate near passage on the Grade 3 Ohio Reading Achievement Instrument. Additionally, the usage of the Terra Nova, 2<sup>nd</sup> Ed. and DIBELS combined test data does not significantly improve the identification of students who fail to meet the standard of proficiency on the Ohio Grade 3 Reading Achievement Test. The best solution to eradicate reading failure is the allocation of resources for early identification and prevention of literacy skills deficits by the implementation of prevention-oriented assessment measures in today's classrooms. Children deficient in critical word fluency and reading comprehension lose valuable amounts of reading practice each school day

that they remain poor readers (Torgensen, 1998)! Student failure is never an option. Students must be provided the necessary instructional support to ensure progressive skill acquisition before a pattern of reading difficulty and failure solidifies. Educators must provide proactive and preventive instruction to children at risk for reading failure. The optimal goal is reading mastery for all of our nation's children. Reading is an essential life skill.

### *Recommendations and Limitations*

This study may serve a purpose in the demonstration of the significant, positive correlation between DIBELS Benchmark 2 Indicator, the Grade 3 Ohio Reading Achievement Test, and student competency. The administration of the Terra Nova, 2<sup>nd</sup> Ed. does not significantly improve the identification of children at risk for reading failure over and above the DIBELS instrument and should be discontinued.

Limitations of this study include the small sample size, homogeneity of the student population in regards to racial and ethnic minorities, socioeconomic status, and geographical location of the two schools. Further, future exploration of these variables may provide additional data for this study, future studies, and therefore lead to the increased predictive validity for DIBELS Oral Reading Fluency and the Grade 3 Ohio Reading Achievement Test. The opportunity to replicate this study with larger student samples is relevant and holds promise as we continue to identify assessment and intervention systems to improve reading outcomes for all of our students.



Table 5

*Correlation among the Ohio Grade 3 Reading Achievement Test, DIBELS, and the Terra Nova, 2<sup>nd</sup> Ed.*

Assessment Instruments	Ohio Achievement Test	DIBELS Benchmark 2 Indicator	Terra Nova 2 <sup>nd</sup> Edition
Ohio Achievement Test		.620(**) P = < .01	.703 (**)
<i>N</i>	135	134	120
DIBELS Benchmark 2	.620(**) P = < .01		P = < .01
<i>N</i>	134	134	
	Ohio Achievement Test	Terra Nova, 2 <sup>nd</sup> Edition	
Ohio Achievement Test		.703 (**)	
<i>N</i>	135	120	
Terra Nova, 2 <sup>nd</sup> Edition	.703 (**)		
<i>N</i>	120	120	

\*\* Correlation is significant at the 0.01 level

*Table 6*

*Hits and Misses Table of DIBELS and Terra Nova, 2<sup>nd</sup> Ed. predicting failures on the Ohio Grade 3 Reading Achievement Test*

ASSESSMENT INSTRUMENTS	HITS	MISSES
DIBELS (n = 51)	40 (78%)	11 (22%)
Terra Nova, 2 <sup>nd</sup> Ed. (n = 45)	34 (76%)	11 (24%)
Both DIBELS & the Terra Nova, 2 <sup>nd</sup> Ed.	29 (56%)	5 (10%)

Figure 1. Comparison of the Ohio Grade 3 Reading Achievement Test and DIBELS

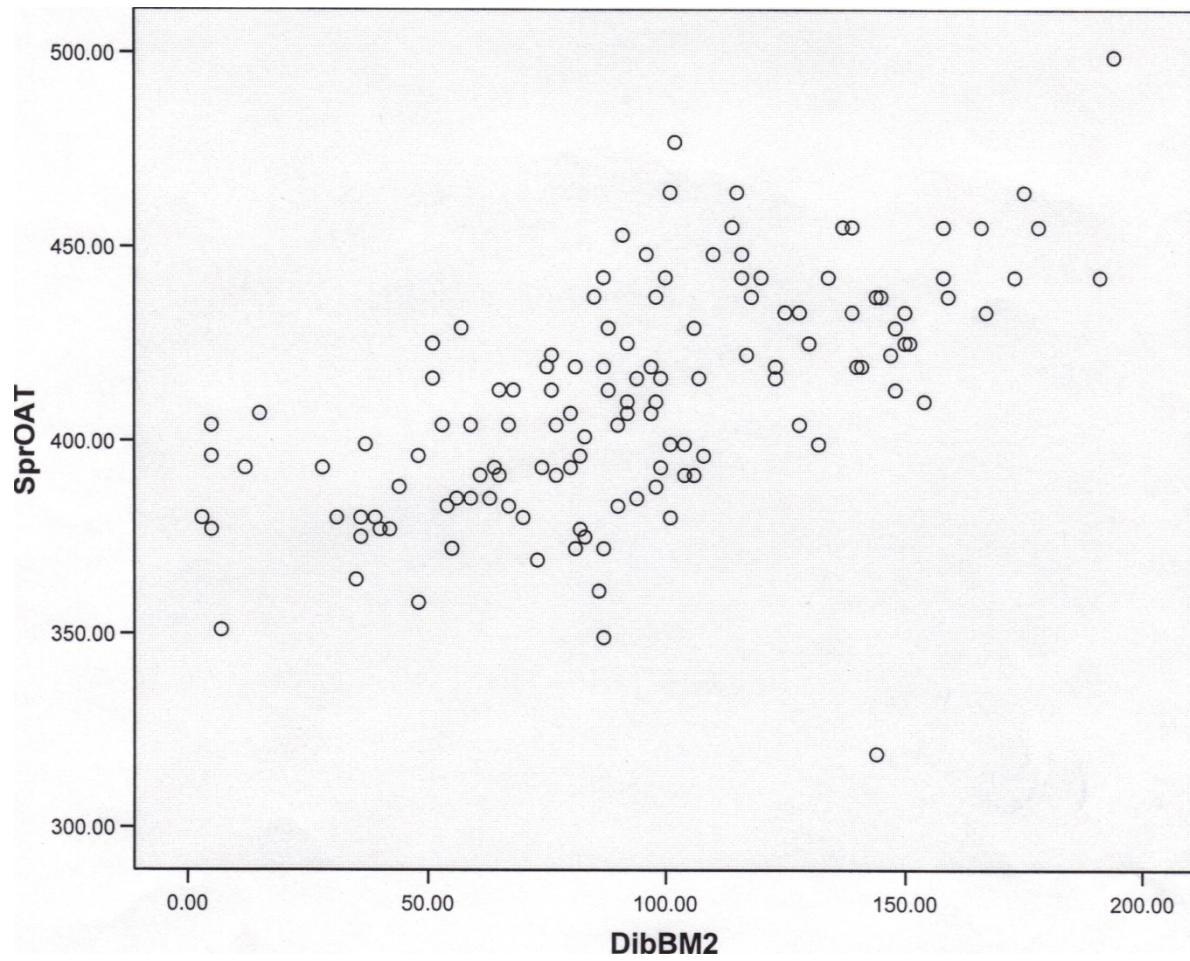
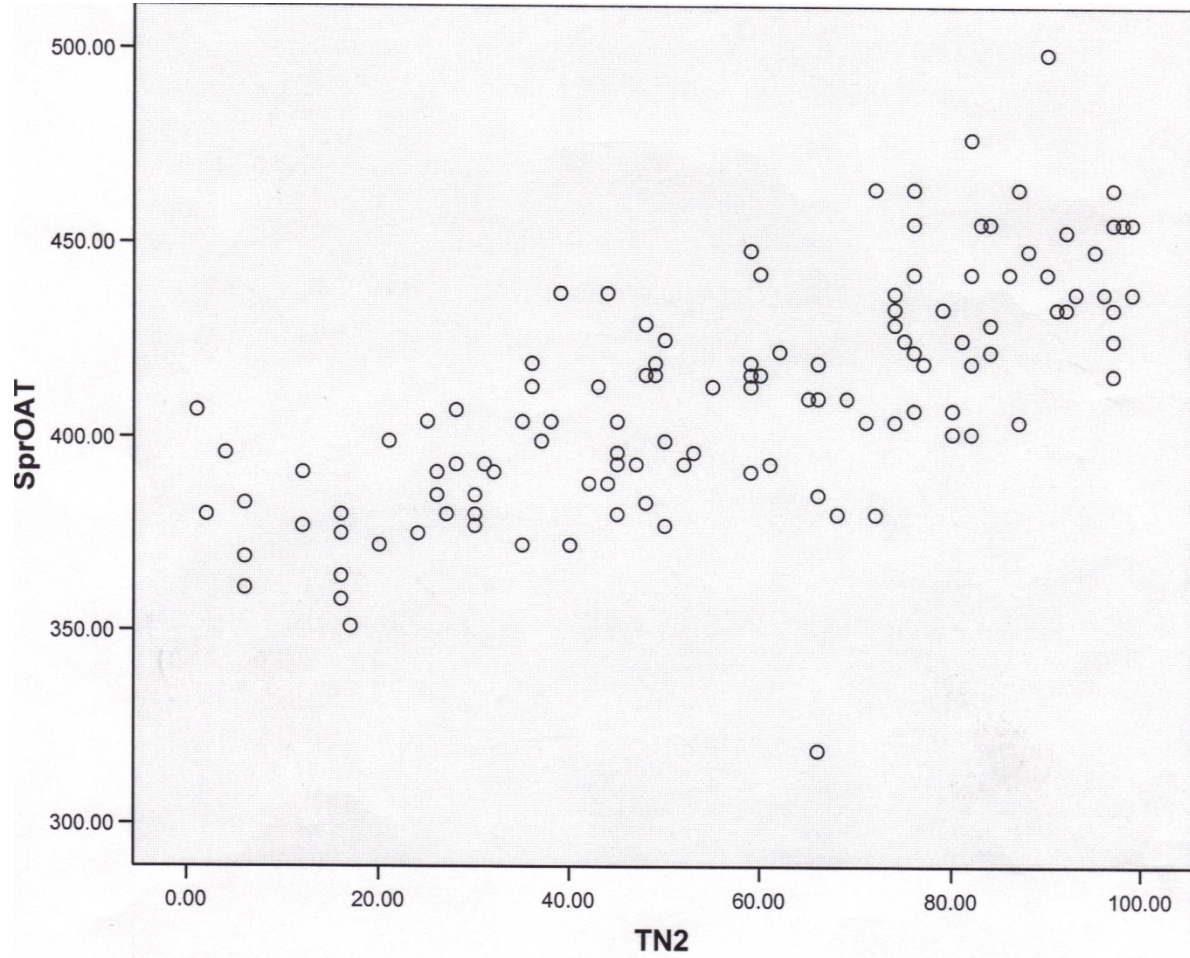


Figure 2. Comparison of the Ohio Grade 3 Reading Achievement Test and the Terra Nova, 2<sup>nd</sup> Edition



## References

- Adams, M.J. (1990). *Beginning to Read: thinking and learning about print*. Cambridge, MA: MIT Press.
- Armbruster, B.B., Lehr, F., & Osborn, J. (2001). *Put reading first: the research building blocks for teaching children to read*. Center for the improvement of early reading achievement (CIERA): National Institute for Literacy and the Partnership for Reading.
- Baker, S.K., Kame'enui, E.J., Simmons, D.C., & Stahl, S.A., (1994). Beginning reading: educational tools for diverse learners. *School Psychology Review*, 23 (3), 372-391.
- Barger, J. (2003). *Comparing the DIBELS Oral Reading Fluency Indicator and the North Carolina end of grade 3 reading assessment* (Technical Report). NC: North Carolina Teacher Academy.
- Bishop, A.G. (2003). Prediction of first-grade reading achievement: a comparison of fall and winter kindergarten screenings. *Learning Disability Quarterly*, 26 (3), 189-200.
- Buros: Test Reviews Online*. Retrieved March 18, 2007, from <http://buros.unl.edu/cgi-bin/BUROS/buros>
- Drucker, P.F. (1993). The rise of the knowledge society. *The Wilson Quarterly*, 17, 52-72.

- Fuchs, L.S., & Fuchs, D. (1999). Monitoring student progress toward the development of reading competence: a review of three forms of classroom-based assessment. *School Psychology Review, 28* (4), Retrieved March 24, 2007, from <http://ezproxy.marshall.edu:2536/ehost/detail?vid=6&hid=22&sid=2d9baefa-oc2d-4e45-b...>
- Good, R.H., Gruba, J., & Kaminski, R.H. (2001). Best practices in using Dynamic Indicators of Basic Early Literacy Skills (DIBELS) in an outcomes-driven model. In A. Thomas & Grimes (Eds.) *Best Practices in School Psychology IV*, 699-720.
- Good, R.H. & Kaminski, R.A. (Eds). 2002. Dynamic Indicators of Basic Early Literacy Skills (6<sup>th</sup> ed.). Administration and scoring guide. Eugene, OR: Institute for the Development of Educational Achievement. Retrieved from <http://dibels.uoregon.edu/>.
- Good, R.H., Simmons, D.C., & Kame'enui, E.J., (2001). The importance and decision making utility of a continuum of fluency-based indicators of foundational reading skills for third grade outcomes. *Scientific Studies of Reading, 5* (3), 257-288.
- Good, R.H. Simmons, D., Kame'enui, E., Kaminski, & Wallin, J. (2002). *Summary of decision rules for intensive, strategic, and benchmark instructional recommendations in kindergarten through third grade* (Technical Report No. 11). Eugene, OR: University of Oregon.
- Good, R.H. Simmons, D.C., & Smith, S.B. (1998). Effective academic interventions in the United States: Evaluating and enhancing the acquisition of early reading skills. *School Psychology Review, 27* (1), Retrieved March 24, 2007, from

<http://ezproxy.marshall.edu:2536/ehost/detail?vid=3.&hid=19&sid=e3ca029c-54c7-4986-8>.

- Good, R.H., Wallin, J., Simmons, D.C., Kame'enui, E.J., & Kaminski, R.A. (2002). *System-wide percentile ranks for DIBELS Benchmark Assessment* (Technical Report 9). Eugene, OR: University of Oregon.
- Hintze, J.M., Ryan, A., & Stoner, G. (2003). Concurrent validity and diagnostic accuracy of the Dynamic Indicators of Basic Early Literacy Skills and the Comprehensive Test of Phonological Processing. *School Psychology Review, 32* (4), 541-556.
- Juel, C (1988). Learning to read and write: A longitudinal study of 54 children from first through fourth grades. *Journal of Educational Psychology, 80*, 437-447.
- Kaminski, R.A., & Good, R.H., (1996). Toward a technology for assessing basic early literacy skills. *School Psychology Review, 25* (2), 215-228.
- Lyon, G.R., & Chhabra, V., (2004). The science of reading research. *Educational Leadership, 61* (6), 12-17.
- McGill-Franzen, A. (1987). Failure to read: Formulating a policy problem. *Reading Research Quarterly, 22* (4), 475-490.
- McKey, R.H., Condelli, L., Ganson, H., Barrett, B. McConkey, C., & Plantz, M. (1985). *The impact of Head Start on children, families, and communities: Final report of the Head Start Evaluation, Synthesis and Utilization project* (DHHS Publication No OHDS 85-31193). Washington, DC: U.S. Government Printing Office.

National Reading Panel.(2000). *Teaching children to read: An evidence-based assessment of the scientific research literature on reading and its implications for reading instruction: Reports of the subgroups*. Bethesda, MD: National Institute of Child Health and Human Development. Available: <http://www.nationalreadingpanel.org/>.

Office of Assessment, Ohio Department of Education, October, 2006. Ohio Achievement Tests Grades 3-8 Performance Level Descriptors.

Ohio Resource Center for Mathematics, Science & Reading Office (2007). Office of Assessment, Ohio Department of Education.

Paglin, C. (2003). Why can't I read. Learning Disabilities. *Northwest Education Magazine*. Retrieved April 12, 2007, from <http://www.nwrel.org/nwedu/08-03/Read.asp>.

Perie, M., Moran, R. and Lutkus, A.D (2005). *NAEP 2004 Trends in Academic Progress: Three Decades of Student Performance in Reading and Mathematics (NCES)*, U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. Washington, DC: Government Printing Office.

Shaw, R. & Shaw, D. (2002). DIBELS Oral Reading Fluency-Based Indicators of Third Grade Reading Skills for Colorado State Assessment Program. (Technical Report) OR: University of Oregon.

Shaywitz, S. (2003). *Overcoming Dyslexia: a new and complete science-based program for reading problems at any level*. New York: Alfred A. Knopf, Random House, Inc.



Stanovich, K. E. (1986). Matthew Effects in reading: some consequences of individual differences in the acquisition of literacy. *Reading Research Quarterly*, 21, 360-406.

Torgesen, J.K. (1998). Catch them before they fall: identification and assessment to prevent reading failure in young children. *American Educator*, 22 (1), 32-39.

Traywick-Smith, J. (2003). *Early Childhood Development, a multicultural perspective*. NJ: Merrill Prentice Hall.

U.S. Department of Education, Institute of Education Science, National Center for Educational Statistics, National Assessment of Educational Progress (NAEP) selected years, 1971-2004. Long-Term Trend Reading and Mathematics Assessments.

U.S. Department of Education (n.d.). No Child Left Behind Act of 2001: reauthorization Of the elementary and secondary education act legislation and policies. Retrieved April 1, 2007, from <http://www.ed.gov/offices/OESE/esea/>.

Wilson, J. (2005). *The Relationship of Dynamic Indicators of Basic Early Literacy Oral Reading Fluency to Performance on Arizona Instrument to Measure Standards (AIMS)*. Technical Report. Tempe School District No. 3, Tempe, AZ.