An Analysis of *Rx for Discovery Reading*® for Elementary Students Below Grade Level in Reading

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"*Reading is the fundamental skill upon which all formal education depends. Research now shows that a child who does [not] learn the reading basics early is unlikely to learn them at all. Any child who does [not] learn to read early and well will not easily master other skills and knowledge, and is unlikely to ever flourish in school or in life*" (Moats, 1999, p. 5).

Approximately twenty percent of students in elementary schools nationwide have significant struggles in learning to read; another twenty percent lack the ability to read fluently enough to be able to engage in reading independently; twenty-five percent of the adult population in America lack the basic literacy skills that are required to succeed in a typical job (Moats, 1999). The question becomes: "What is the best way to teach this ability to construct meaning from the written text?"

In the history of American education, reading instruction has varied. With the pendulum swinging between these methods, there are millions of children who traversed through their academic careers continuing to struggle with the acquisition of efficient reading ability (Cowen, 2003, p. vii).

In 1997, Congress instructed the National Institute of Child Health and Human Development to convene a national panel of reading experts (National Institute of Child Health and Human Development [NICHHD], 2000). Their task was to "assess the status of research-based knowledge, including the effectiveness of various approaches to teaching children to read" (NICHHD, 2000, p. 1-1).

The National Reading Panel (NRP) showed that there are five specific areas of reading instruction that impact teaching children to read. Instruction in phonemic awareness, phonics, fluency, vocabulary and comprehension was shown to be the most effective and complete program of reading instruction (NICHHD, 2000).

Background of the Study

Rx for Discovery Reading® is a program developed by NILD that includes each specific area of reading instruction delineated by the NRP. The program was initiated as a stream-lined intervention for small group implementation for students below grade level in reading. For the study, the focus was on the areas of phonemic awareness, phonics, and fluency, impacting the student's reading deficits. The program includes *The Blue Book Method*, *Sounds of Speech,* and *Sounds of Reading*.

Problem Statement

Because this is a new intervention that has not been studied previously, this research project sought to answer the following question:

What is the effect of the *Rx for Discovery Reading*® program on the reading abilities of second, third, fourth, and fifth graders who were below grade level in reading?

Professional Significance of the Study

When the NRP was initially established, the task was to find why so many students' "educational careers are imperiled because they do not read well enough to insure understanding" (Snow, Burns, & Griffin, 1998, p. 1). When reading instruction is effective, it is built on a foundation of many factors. Although reading's main purpose is obtaining meaning from print, understanding the alphabetic code is foundational. Students must develop an understanding of the sound/symbol concept as well as have practice with a variety of texts to develop fluency. Background knowledge, including vocabulary acquisition, helps form meaning and interest in written text. (Snow, et al., 1998; NICHHD, 2000).

Phonological Processing:

Phonological awareness is the broad area of understanding the sound/symbol relationships of the alphabetic code. Phonological awareness is the ability to generate rhymes, identify and work with syllables, and identify and work with onsets and rimes in syllables (Armbruster & Osborn, 2001).

Phonemic awareness is the more specific end of the phonological awareness spectrum. Phonemic awareness provides a foundation for learning to read and spell (Gillingham & Stillman, 1997). At this level, the student is able to focus on and manipulate individual sounds involving identification, isolation, segmentation, deletion, addition, substitution, categorization, and blending to create new words. (Armbruster et al., 2001). "Phonemic awareness can be developed through systematic practice in categorizing words on the basis of common beginning, middle, and end sounds" (Pressley, 1998, p. 98). The NRP found that phonemic awareness can be taught and learned in a relatively short amount of time (NICHHD, 2000; International Reading Association [IRA], 2002). After participating in a program of intense phonemic awareness instruction that is purposeful and deliberate for eleven to fifteen hours, a student may have significant gains in phonological processing (Barbour, et al., 2003; IRA, 2002; Yopp & Yopp, 2000).

Phonemic awareness instruction is more effective when it focuses on one to two types of phoneme manipulation. It is also more beneficial when used in a small group setting in which children benefit from listening to others in the group and receiving feedback from the instructor (Armbruster,

et al., 2001; NICHHD, 2000; Mathes, Denton, Fletcher, Anthony, Francis, & Shatschneider, 2005).

Fluency:

A fluent reader is one who reads with prosody, focusing on the meaning of the language and has developed automaticity in processing the form of the language (Snow, et al., 1998; IRA, 2002). These are considered the central elements of reading fluency (Kuhn & Stahl, 2000). When a student continues to struggle with decoding the language, the student exhibits slow, choppy reading, depending on decoding skills to decipher words. Most of the student's cognitive abilities are spent processing the form of the language. Consequently, fluency cannot be established and comprehension of the material is inhibited (Snow, et al., 1998; NICHHD, 2000; Armbruster, et al., 2001; Samuels, 2002; Pikulski & Chard, 2005).

Fluency instruction for struggling readers needs to include a variety of strategies. These strategies include repeated and monitored oral reading, which improves fluency and overall reading achievement (Armbruster, et al., 2001, p. 24; NICHHD, 2000; Pikulski & Chard, 2005). Assisted reading (Neurological Impress Method) or reading while listening allows students to hear and practice fluent reading, practicing until they can read the text fluently with prosody (Rasinski, 2006; Pikulski & Chard, 2005; Osborn & Lehr, 2003). Increased amount of reading is important because as words are encountered repeatedly, improvement in word recognition, speed, ease of reading and comprehension is developed (Samuels, 2002, p. 174; Pikulski & Chard, 2005). Continued practice reading "sight words" so that automaticity is developed is also an important strategy. The "sight word" variable is strongly related to text reading rate (Torgesen, et al., 2006; Pikulski & Chard, 2005).

Repeated Oral Reading:

Repeated oral reading is a strategy in which students read and reread a selection of text many times to improve reading fluency. Improvement is developed in prosody, word recognition accuracy and reading speed (Samuels, 2002). "Through repeated readings, even dysfluent readers are more able to capture the prosodic and syntactic essence of the text, thus improving the surface-level processing of the passage as well as text comprehension" (Rasinski, 2006, p. 14). "The greater support given to readers through repeated readings of instructional text in various venues and with various procedures, children are able to learn from material that they initially read with significant difficulty" (Stahl & Heubach, 2005).

Significant growth in reading level and reading rate has been found when students read repeated readings of phonics, sight phrases, and oral reading of text selections for as little as five minutes at a time (Mercer, Campbell, Miller, Mercer, & Lane, 2000; Dowhower, 1987). It is more

effective when the succession of readings have overlapping words, developing reading speed as students gain recognition and automaticity decoding familiar words (Rashotte & Torgesen, 1985). "Each passage is read only four times, because research by O'Shea, Sindelar, & O'Shea (1985) has shown that most of the gains in reading speed, word recognition, error reduction, and expression in oral reading are acquired by the fourth reading" (Samuels, 2002, p. 178).

Neurological Impress Method:

The neurological impress method is used to improve prosody. The instructor reads aloud in unison with the student (Heckelman, 1969). It is one of the easiest and most cost-effective methods of developing fluency. The teacher positively reinforces the student's reading throughout the exercise. Students participating in this method for as few as three to seven hours over a few weeks made significant gains in reading fluency (Flood, Lapp, & Fisher, 2005; Rasinski & Hoffman, 2003; McAllister, 1989).

Sight Words:

Direct instruction of sight words can impact student reading rate and fluency. Using a list of the most used sight words, the student develops automaticity. Automatically recognizing sight words helps a student read more fluently (Tucker, 1989; Singh & Singh, 1988; Frantantoni, 1999).

Small Group Instruction:

Small group instruction is an effective model in learning to read. Children benefit from being able to listen to the other students' responses with feedback from the teacher (Armbruster & Osborn, 2001). "Struggling readers need more time in small groups in which instruction is targeted to their level of competence" (Walpole, Justice, & Invernizzi, 2004, p. 279). By making task demands match with student competence, small group instruction promotes more effective student engagement, affording more student success (Walpole, et al., p. 279).

Overview of Methodology

Subjects:

The twenty-nine subjects in this field test, from grades two through five, attended private parochial schools in a variety of areas in the United States and Canada. They represented Caucasian, African-American and Latin ethnicity. The criterion for placement was achievement below grade level in reading, based on the current annual achievement reading test scores. Each educational therapist worked with a small group of three to four students.

Instruments:

The field test was an experimental study using pre- and post-test standard scores. The *Kaufman Test of Educational Achievement, Second Edition (KTEA-II)* standard reading battery and supplemental reading subtests ascertained the current levels in letter/word recognition, nonsense

word decoding, phonological awareness, word recognition fluency, and decoding fluency.

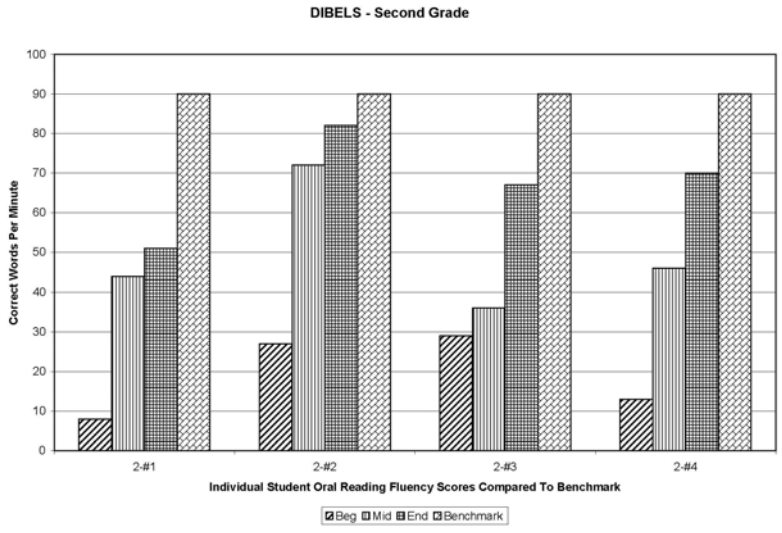
Also included was the *Gray Oral Reading Test (GORT)* to ascertain oral reading proficiency. The *Dynamic Indicators of Basic Early Literacy Skill* (*DIBELS),* curriculum-based measures, was administered three separate times. *DIBELS* includes a set of measures that are standardized and individually administered for assessing early literacy development.

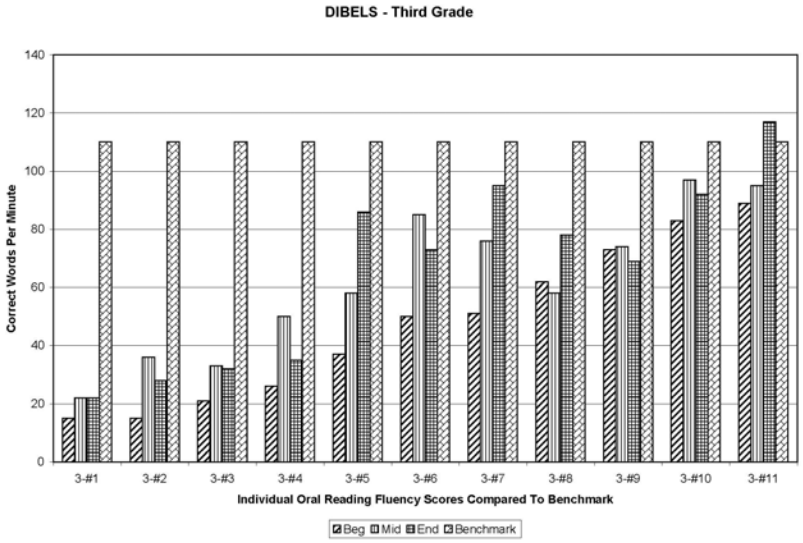
Procedures:

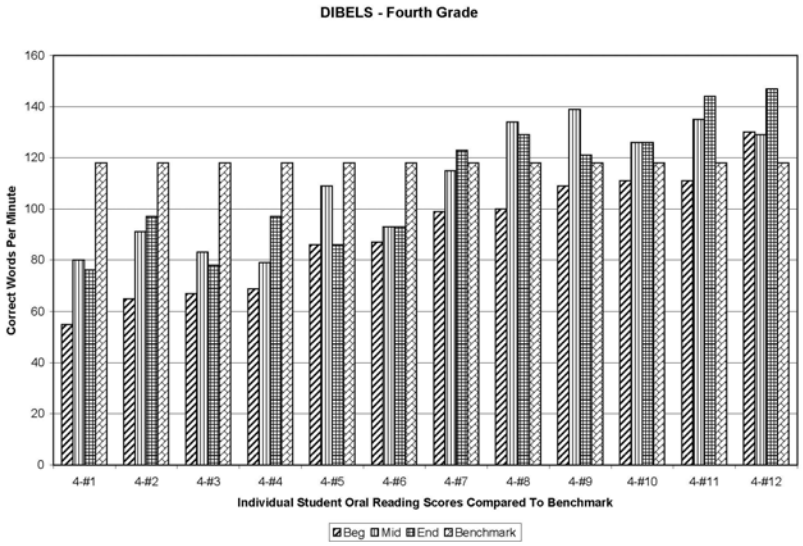
Prior to the beginning of the new school year, the educational therapists screened subjects for participation. The program was implemented throughout the school year. The subjects met for two forty-five minute sessions weekly for a total of fifty sessions. The *DIBELS* was administered during pre-testing, after the twentieth session and after the last session. The post-testing was completed following the fiftieth session.

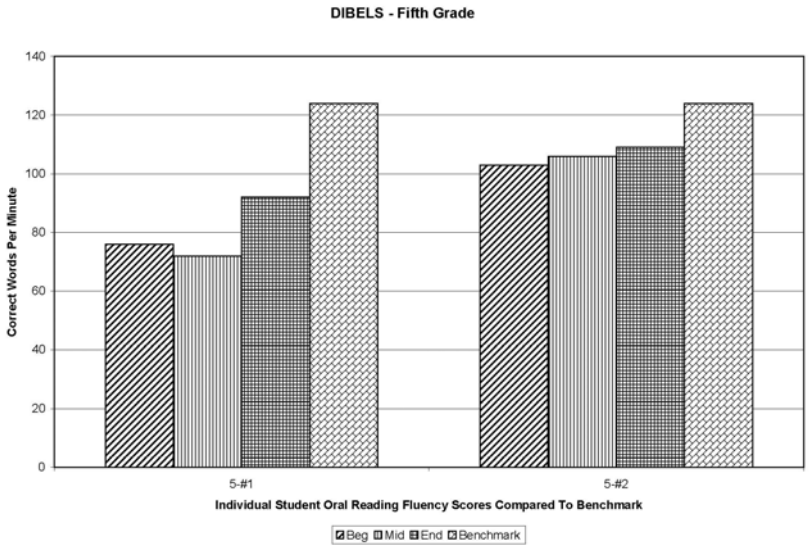
The Results of the Study

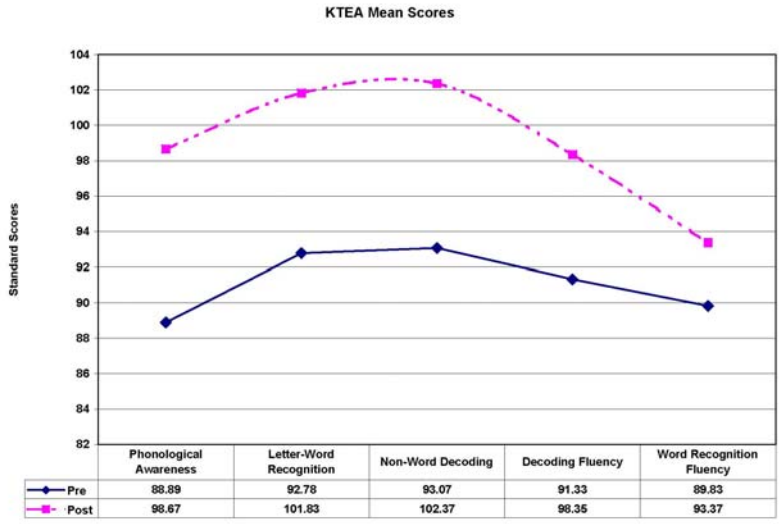
In determining the correlation between the means of the pre- and post-testing standard scores of the assessments, use of the paired samples *t* tests determined if the means of the two sample distributions differed significantly from one another. In the areas of phonological processing, phonics, and fluency, the *t* tests indicated a statistically significant difference between the pre-test standard scores and the post-test standard scores.




DIBELS - Third Grade
Correct Words Per Minute
0
20
40
60
80
100
120
140
3-#1
3-#2
3-#3
3-#4
3-#5
3-#6
3-#7
3-#8
3-#9
3-#10
3-#11
Individual Oral Reading Fluency Scores Compared To Benchmark
Beg
Mid
End
Benchmark


DIBELS - Fourth Grade
Correct Words Per Minute
0
20
40
60
80
100
120
140
160
4-#1
4-#2
4-#3
4-#4
4-#5
4-#6
4-#7
4-#8
4-#9
4-#10
4-#11
4-#12
Individual Student Oral Reading Scores Compared To Benchmark
Beg
Mid
End
Benchmark





	Phonological Awareness	Letter-Word Recognition	Non-Word Decoding	Decoding Fluency	Word Recognition Fluency
Pre	88.89	92.78	93.07	91.33	89.83
Post	98.67	101.83	102.37	98.35	93.37

Conclusions

In today's educational environments, educators are faced with an incredible number of students struggling with the inability to acquire proficient reading abilities. Because of a growing amount of research in the field of reading, there are unprecedented opportunities for educators to help students become better readers. *Rx for Discovery Reading*® provides a research-supported intervention. It is hoped that more educators will become involved in providing this intervention to impact the lives of children.

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