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M. Ayako Loder

Rowan College of New Jersey

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A Comparison of the Rates of Progress Between Low
Achieving and High Achieving Fourth Grade
Children Using a Whole Language
Reading Program

By
M. Ayako Loder

A Thesis

Submitted in partial fulfillment of the requirement
of the Master of Arts Degree in the Graduate
Division of Rowan College
May 6, 1996

Approved by _____
Professor

Date Approved May 6, 1996

ABSTRACT

Author: M. Ayako Loder

Title: A comparison of the rates of progress between low achieving and high achieving fourth grade children using a whole language reading program.

Date: May 1, 1996

Advisor: Stanley Urban, Ed. D.

Program: Learning Disabilities, Track II

Purpose: To study the rates of progress between low achieving and high achieving fourth grade children using a whole language reading program.

Abstract: This study examined the rates of progress between low achieving and high achieving fourth grade children using a whole language reading program.

Subjects were fourth grade students at a Bridgeton Elementary School, and grouped into low and high ability groups each containing 7 students. Reading instruction was provided during 90 minute class periods 5 times each week for 24 weeks. Instruction centered on reading short stories and trade books considered appropriate for fourth graders. Subjects completed a pre and post-test using the Kaufman Test of Educational Achievement in reading and spelling. A holistically scored writing example was completed in the fall and spring. Findings suggest that the high ability group improved or maintained their rate of progress. The low ability

group progressed, but did not achieve an average standing in reading or writing, suggesting the need of a more integrated approach to reading incorporating a systematic phonics program.

ABSTRACT

Author: M. Ayako Loder

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Date: May 1, 1996

Advisor: Stanley Urban, Ed. D

Program: Learning Disabilities Track II

Abstract: A comparison of the rates of progress between low achieving and high achieving fourth grade children using a whole language reading program. Both groups did increase mean scores, but the low group did not meet average standards in two of three areas tested. The low achieving group also needs a systematic phonetic program.

Chapter One

Title: A Comparison of the Rates of Progress
Between Low Achieving and High Achieving Fourth Grade
Children Using a Whole Language Reading Program.

Introduction

There is an on-going debate about the most effective instructional approach in literacy instruction. The two perspectives at the center of the current debate derive from very different conceptions of knowledge and knowledge acquisition. First, the skills-oriented or code-oriented theorists contend that skilled reading in terms of facility in word identification is not primarily a context-driven process, but is a highly automatized modular process that need not impart any contextual information for its execution (Vellum, 1991). The second approach is referred to as whole language. The core of this method is the belief that teaching separable components of phonology, morphology, syntax and so on, does not lead to problem solving and critical thinking skills.

The theoretical basis of whole language had its origin in the 1900's and the influence of behaviorism. Behaviorists diminish the significance of fragmentation

methodology and interpret developmental research as an integrated whole (Brown & Bellugi, 1964; Brunner, 1960-1961; Vygotsky, 1962; Weir, 1962). This theoretical perspective provides an environment for the movement that we label "whole language". During the past 25 years, developmental researchers have provided learning theorists with dramatic insights into how children acquire language, both in spoken and written forms. Most of the behavioral beliefs and practices regarding how and what to teach children and adults were challenged. This resulted in a proliferation of studies, theories, and articles that transformed various educational and applied linguistic disciplines (Norris & Damico, 1990).

Theory

Nonfluent reading is common among low achievement children. They seem to read word-by-word in a halting, choppy, and stumbling manner. Many of these children will hesitate for several seconds when they encounter an unfamiliar word in the text. Even when they are encouraged to guess at the word and continue reading to the end of the sentence, many of these children will not continue reading until the word is pronounced for

them. This presents a problem for these low achieving students in that their processing of print is frequently so disconnected that construction of meaning is limited appreciably. These children frequently produce semantic or syntactic oral reading errors, resulting in reading that does not make sense.

Skillful readers visually process virtually each individual letter of every word they read, translating print to speech as they go. They do so whether they are reading isolated words or meaningful connected text. They do so regardless of the semantic, syntactic, or orthographic predictability of what they are reading (Just & Carpenter, 1986 and Patterson & Coltheart, 1987).

Since whole language is anchored on the premise that learning to read would be natural and simple if meaning and purpose were emphasized, it would be counterproductive to have the reader focus on individual letters and their sounds. Frank Smith (1973), claims that the alphabetic principle is irrelevant to the fluent reader. He also suggests, skillful readers typically rely on the context and their knowledge of the world so as to gloss over the words and guess the message. They do not visually

process every word and they may not fully process any word. Instead they pick up only enough detail to corroborate or correct their hypotheses about the meaning and message of the text.

The New Jersey Department of Education (G. Heald-Taylor, 1989) has shifted its instructional emphasis in reading from a skills oriented method to a method more compatible with the whole language program. The Department stresses the reading of engaging, well-written text versus reading of texts with controlled vocabulary materials and assuming that motivation is automatic. It also stresses making sense of print rather than pronouncing every word accurately and emphasizing the utility of phonic knowledge for writing and moving from letter/sound relationships in isolated exercises and/or abstract rules. It also suggests decreased emphasis on specific and isolated skills organized in hierarchical sequence. There are also notable shifts in instructional emphasis in writing such as decreased emphasis in skills before composing, teaching skills of spelling, teaching punctuation and usage separately, learning phonic rules, and learning grammar rules.

Purpose of Study

The purpose of this study is to compare the rates of progress in reading skill acquisition between low achievement readers and high achievement readers who are in the fourth grade and using a whole language reading program. The findings of this study will help to provide information regarding the most effective instructional reading program for fourth grade students.

Research Questions

To accomplish the general purpose of this study, the data obtained is used to answer the following research questions:

1. Do fourth grade students who have low achievement in reading make the expected gains using a whole language program?
2. Do fourth grade students who have high achievement in reading make the expected gains using a whole language reading program?

Limitations

This study is limited in that it involves fourteen students in one fourth grade class. However, the ethnicity of the high achievers and low achievers are representative of the school population. The children in this study, 14 fourth grade students, are from a low-socioeconomic community which is rural in nature. The school district qualifies as a special needs districts as determined by the State of New Jersey. Ten from the target group are minority children. Four children in the study are Caucasian. Students involved in the study were selected based on their California Achievement Test (CAT) from the 1994-1995 school year. All the children in the low group scored in the 49th percentile or lower on the CAT. The children in the high achievement group scored in the 71st percentile or higher on the CAT.

During the 1993-94 school year, the fourth grade reading program changed from basal text instruction to a whole language reading program. This study is a comparison of the rates of progress between low achievement and high achievement fourth grade children using the whole language reading program.

Definition of Terms

Whole language has been defined as the construction of meaning, wherein an emphasis is placed on comprehending what is read; functional language or language that has purpose and relevance to the learner; the use of literature in a variety of forms; the writing process through which learners write, revise, and edit their written works, cooperative student work; and emphasis on effective aspects of the students' learning experience, such as motivational enthusiasm, and interest (Bergeron, 1990, p. 319).

The Traditional Reading Program (Downing, 1979) suggests three phases in the acquisition of reading skill: a cognitive phase in which the child becomes aware of the tasks needed to become a skilled performer, a mastering phase in which the skill is practiced until mastery is achieved, and an automaticity phase in which the learner practices until the skill can be performed without conscious attention.

Chall (1983) has a similar stage model. In her initial stage, she suggests that prior to formal reading instruction, children need to develop skills prerequisite to learning to read. These skills and concepts include knowledge of their language, concepts

about print, expectations about the nature of reading,
and so forth.

Chapter Two

Review of Literature

In order to establish parameters around the construct of whole language, Bergeron (1990) attempted to extract a consensual definition from pooling journal articles published between 1979 and 1989 in which the term whole language appeared. Bergeron found that, although two-thirds of the 64 articles from which she worked did offer a definition, the differences between them were marked. Whole Language was variously defined as an approach, a philosophy, an orientation, a theory, a theoretical orientation, a program, a curriculum, a perspective on education, and an attitude of mind. Bergeron (1990) also found commonalties among interpretations of the term. Central to at least a third of the definitions offered were a view of reading as constructing meaning from text (59 percent), of pupil-centered classrooms, (44 percent), of empowerment (42 percent), of communication (38 percent), and of integrating the language arts (35 percent). She also found that 44 percent of the articles indicated that the acquisition of reading should be natural , much

like a process through which children learn to speak (Bergeron, 1990). Bergeron's definition of whole language is as follows:

The construction of meaning, wherein an emphasis is placed on comprehending what is read; functional language, or language that has purpose and relevance to the learner; the use of literature in a variety of forms; the writing process through which learners write, revise, and edit their written works, cooperative student work; and emphasis on affective aspects of the students' learning experience, such as motivational enthusiasm, and interest (Bergeron 1990, p. 319).

Kenneth Goodman (1967) defined Whole Language as a term that refers to a philosophy regarding how people learn language. The term originated in opposition to teaching practices that fragment reading, writing, and spelling into hierarchies of discrete skills, and teaching each content area in isolation. A major objective of reading instruction is to teach children to conceive of reading as a "psycholinguistic guessing game" (Goodman, 1967), making maximum use of contextual information to facilitate word identification and sparing use of graphophonic information. Thus, words are never to be presented out of context, fluency in identifying words out of context is not a legitimate objective, and analysis of a word's internal structure

("sounding words out") is to be assiduously avoided. Reading is a context-driven process and skilled readers use semantic and syntactic constraints in full measure to generate predictions as to the words that are likely to appear in given texts (Goodman, 1965).

The Whole Language concept involves the use of students' language and experiences to increase their reading and writing abilities. Reading is taught as a holistic, meaning-oriented activity and is treated as an integrated behavior rather than being broken into a collection of separate skills (Goodman, 1986). The Whole Language theorists (Goodman, 1965, 1967, 1986; Smith, 1971), support methods of teaching reading in which context is strongly encouraged. Thus when children encounter a difficult word, they are encouraged to guess what the word might be, to look at the first letter and guess, or to read through the end of a sentence and find other context clues to help them guess the word. In short, children are expected to use context clues as a major strategy in identifying words and to give only secondary attention to letter-sound analysis.

With the expanding influence of the Whole Language movement is an emerging criticism. Some critics argue

that whole language advocates have failed to support their position with research (McKenna, Robinson, & Miller, 1990); others argue that the current research clearly contradicts the whole language position (Adams, 1990). Whole language advocates counter that the research base does exist (K.S. Goodman, 1989), and that perhaps their critics suffer from a research "paradigm blindness" that keeps them from understanding fundamental changes in attitudes and classroom environments (Edelsky, 1990).

The value of phonics instruction has been demonstrated in hundreds of studies. When developed as part of a larger program of reading and writing, phonic instruction has been shown to lead to higher achievement at least in word recognition, spelling, and vocabulary, in the primary grades, and especially for economically disadvantaged and slower students. Young readers must develop a basic appreciation of the alphabet principle; they must develop a deep and ready knowledge of spellings and spelling sound correspondences; the capacity to read with fluency and reflective comprehension depends on it (Adams, 1990).

Contrary to whole language mentors, skilled readers rely little on contextual cues to assist word

identification. Rather, contextual cues contribute significantly to the speed and accuracy of word recognition only for those whose word identification skills are poor (Bruck 1990; Nicholson 1991; Perfetti, Goldman & Hogaboam 1979; Schwantes 1991; Stanovich 1981). This empirical finding is in direct opposition to Smith and Goodman who claim that skilled readers rely on contextual cues rather than knowledge of the letter-sound associations.

A study by Tom Nicholson, (1991) reevaluated the research conducted by Goodman (1965), in which it was found that children made 60-80% fewer errors when reading words in context, as compared with reading words in an isolated list. This study has been cited 85 times in literature and has been reprinted in *Theoretical Models and Processes of Reading* (Singer & Ruddell, 1985), a standard reference in the field of reading.

There are practical reasons for revisiting Goodman's 1965 study. The dramatic findings of the study suggested that context cues were an important part of the reading process. However, there is quite a bit of evidence to suggest that the study may have overestimated the effect of context cues in reading.

If this is the case, then educators may need to reassess the evidence in favor of context as a strategy for reading words.

In Goodman's (1965) classic study, 100 children from Grades 1 to 3 in an inner city school were given increasingly difficult lists of words to read until a level of difficulty was reached at which the lists were neither too easy nor too hard. The students were then given text material to read, which was taken from a graded reading series that included the same words the students read in both lists. Children's reading errors, or miscues, were noted in both lists and context versions and relative improvement in context was calculated (Nicholson, 1991).

The results showed a dramatic reduction in the number of errors made in the condition in which children read the words in context. Specifically, first-grade children averaged 9.5 errors in lists but only 3.4 errors in context, a gain of more than 60%. Second graders averaged 20.1 errors in lists but only 5.1 errors in context, a gain of 75%. Third graders averaged 18.8 errors in lists but only 3.4 errors in context, a gain of slightly more than 89% (Goodman, 1965).

Nicholson (1991) believes the findings of the study may have given a misleading impression for two reasons. First, there was not a comparison of individual differences between good and poor readers. Second, there was not allowance for the effect of order; thus it could not be determined whether the results were due to content or to the effect of having had a second opportunity to read the words. The latter effect often occurs in everyday reading, in which children make initial errors but correct them on a second attempt.

Allington (1978) found that when he gave the same task as in Goodman's (1965) classic study but in counterbalanced order, context benefited poor readers but made no difference for good readers. Stanovich (1980, 1986) and Nicholson (1986) have summarized many other studies that have found similar individual differences in which poor readers gained more from context than did good readers. Rayner and Pollatsek (1989) summarized a number of studies that indicate that context is not a significant factor in normal word identification.

Nicholson (1991) attempted to replicate Goodman's 1965 study. He conducted two experiments. In the first, he evaluated the effects of reversing the

original order of testing as used in Goodman's (1965) classic study. The children were given words in a context passage first, then in a list form. Experiment 2 was a straight replication of the classic testing procedure, in which children read the list first, then the context passage. The second experiment proved a check on the first experiment to see whether the order of testing had an effect on the number of errors children made in context, as compared with the number of errors they made in lists.

The results of Experiment 1 showed the poor readers at all age levels and the 6 and 7 year old average readers generally showed significant gains with context. There was not a significant percent gain for the 8 year old poor readers. The 6 and 7 year old good readers and the 8 year old average readers showed no reliable gains, and the 8 year old good readers actually gained significantly with words in list. This finding is not the same as that reported in the classic study by Goodman (1965) in which "The children in this study found it harder to recognize simple words than to read them in stories" (p. 134).

Experiment 2 showed that most groups showed significant gains in context. This result was similar

to that of Goodman's (1965) study, although the significant gains were only by the poor and average readers and by the 6 year old good readers. The 7 and 8 year old good readers did not show significant gains. The results of this second experiment showed a pattern similar to that of Goodman's (1965) classic study, however, the results also showed that when children were given materials of comparable difficulty, the benefits of context went to the poor and average readers and to the 6 year old good readers rather than to the 7 and 8 year old good readers.

If context actually helped children to read better, then they would have read better in context, regardless of whether they read the words in list form first or in context form first. The experiment did show that the results of Goodman's (1965) study held up consistently only for poor readers at each age level and for the 6 and 7 year old average readers, who read better with context, regardless of whether they read they words in context first or in list first. In contrast, the 6 year old good readers and the 8 year old average readers improved with context only when they read the words in list form first. Finally, the 7 and 8 year old good readers did not improve with context, whether

they read the list first or the context passage first, When given the context passage first, the 8 year old good readers did better with the list. If good readers really were able to read better in context, then this should not have occurred.

The result of the present replication study provides a substantial amount of evidence to suggest that Goodman's study may have overemphasized the positive effects of context. Stanovich's (1980) interactive-compensatory model of reading may be a more appropriate explanation of what happens when children read in context. The model claims that poor readers rely on context to compensate for their poor decoding skills, whereas good readers, who are good at decoding have less need to do so. This does not rule out the possibility that good readers use context cues to help them become good readers, that is, by using such cues to acquire decoding skills (Tunmer, 1990). But, as Tunmer pointed out, this is not the same as a "psycholinguistic guessing game":

It is important to distinguish this type of contextual facilitation from those associated with the views of Goodman and Smith. Goodman and Smith argue that the use of context to predict words is a major feature of ongoing sentence

processing, whereas the view proposed here is that the ability to reflect on sentence structures (i.e. syntactic awareness) in combination with emerging phonological decoding skills is essential for acquiring word recognition skills (Turner, 1990, p. 101).

Despite the spread of whole language instruction, research and experience not only fails to demonstrate its superiority, but paradoxically make a persuasive case for the importance of phonics.

Chapter Three

Design of the Study

This study is a comparison of the rates of progress between low achieving and high achieving fourth grade children using a whole language reading program.

Subjects of the Study

The subjects of the study were selected because of their accessibility to the researcher; therefore, the results obtained in this study may not generalize to all fourth graders in similar districts. Fourteen fourth grade students were selected from one suburban school in the city of Bridgeton. The school population reflects the socioeconomic status of the community. Approximately 85% of the students in the district receive free lunches, 3% receive reduced lunches, and 12% are required to pay for their lunches. There are approximately 23,000 people in the city according to the latest census data. The State of New Jersey, Department of Education, has determined that Bridgeton qualifies as a "Special Needs District" due to its low tax base in relation to the number of school age children and high unemployment rate.

The subjects consist of 11 children 9 years of age (mean age 9 years 5 months), 2 children 10 years of age (mean age 10 years 2 months), and 1 child age 11 years 1 month old. There are 5 girls and 9 boys in the study. The students are ability grouped into either a high or low group, as determined by their 1995 California Achievement Test scores in reading.

Research Strategy

Both groups of students were administered the Kaufman Test of Education Achievement in Spelling and Reading Decoding, and completed a Writing Sample in the fall of 1995. The students then took the same subtests of the Kaufman Test of Education Achievement and completed a writing sample in the spring of 1996. The results from the pre and post tests were compared. The purpose of this project is to determine whether the whole language reading program results in different rates of gain between the high achievement readers and low achievement readers.

Whole Language Reading instruction is provided during 90 minute class periods five times each week. Instruction occurs at the same time each morning and centers on reading short stories in the students'

anthology. The selections are based on stories considered to be "good children's literature", on topics of interest to students, and with readability levels appropriate for fourth graders.

Paperback books are available as "core texts"; that is the entire class or a group of students read the same book at the same time. The class read their first core book as a whole group. The high group chose one of two options for the remaining core books and read in pairs or groups of three. The low achieving students continue to read as a whole group with teacher direction throughout the year.

Class sessions are used for reading, discussing and answering comprehensive questions about each core text. The teacher uses teacher-produced or commercial worksheets based on these books as sources of vocabulary and comprehension exercises for students.

Sustained silent reading is scheduled every day for fifteen minutes. Students complete projects (e.g., design a poster, write and publish a book, write book reports) for some of the short stories and core texts.

Treatment of Data

In order to test each of the questions stated in Chapter I of this project, the interval estimation

procedure described by Glass and Stanley will be employed. This formula employed is as follows:

$$\bar{X} \pm 1.64 \frac{SD}{\sqrt{n}}$$

The hypothesis will be tested at the .10 level of Type I error and computations will be completed using manual arithmetic procedures.

Chapter Four

The results of the pre and post-tests were analyzed and tabulated to answer questions posed in Chapter 1:

1. Do fourth grade students who have low achievement in reading make the expected gains using a whole language program?
2. Do fourth grade students who have high achievement in reading make the expected gains using a whole language reading program?

Results of the Pre-Test Administration of the KTEA

Table I

Spelling SubtestHigh Achievement Group

Spelling	Standard Score	Percentile	Grade Equiv.	Age Equiv.
Student 1	134	99	8.9	14-3
Student 2	120	91	5.8	11-3
Student 3	108	70	4.6	10-0
Student 4	110	75	5.6	11-0
Student 5	115	84	5.3	10-9
Student 6	92	30	3.9	9-3
Student 7	120	91	7.1	12-6
Student 8	106	66	5.3	10-9

Mean = 113.13

Standard Deviation based on Standard Scores = 11.55

Low Achievement Group

Student 1	90	25	3.5	9-0
Student 2	98	45	3.7	9-0
Student 3	88	21	2.9	8-6
Student 4	78	7	2.9	8-3
Student 5	94	34	3.3	8-9
Student 6	90	25	3.3	8-9
Student 7	84	14	2.7	8-3
Student 8	87	19	3.7	9-0

Mean = 88.50

Standard Deviation based on Standard Scores = 5.68

Result of the Pre-Test Administration of the KTEA

Table II

Reading Decoding SubtestHigh Achievement Group

Reading Decoding	Standard Score	Percentile	Grade Equiv.	Age Equiv.
Student 1	116	86	6.2	11-6
Student 2	126	96	6.8	12-3
Student 3	100	50	3.8	10-6
Student 4	114	82	5.9	11-3
Student 5	118	88	5.6	11-0
Student 6	93	32	4.0	9-6
Student 7	128	97	10.8	14-3
Student 8	92	30	3.6	9-0

Mean = 110.88

Standard Deviation based on Standard Scores = 13.41

Low Achievement Group

Student 1	84	14	2.8	8-3
Student 2	102	55	4.0	9-6
Student 3	88	21	2.8	8-3
Student 4	75	5	2.4	7-9
Student 5	89	23	2.7	8-3
Student 6	90	25	3.2	8-9
Student 7	79	8	2.2	7-6
Student 8	78	5	2.4	7-9

Mean = 85.63

Standard Deviation based on Standard Scores = 8.08

The Fall and Spring Writing Samples were scored holistically by two teachers. The identities of the students were not known to the scorers. Each scorer gave the writing sample a score of 0 to 6, with 0 the lowest and 6 the highest. The scores were then added together. A score of 0 represents a writing sample that is unscorable due to lack of adherence to the topic or unintelligible handwriting. A score of 12 represents a paper that is grammatically correct, spelling is correct, a well defined adherence to the topic, and the paper is appropriately elaborated.

Results of the Pre-Test Administration

Table III

Fall Writing sample

High Achievement Group

Student 1	6
Student 2	5
Student 3	4
Student 4	5
Student 5	5
Student 6	4
Student 7	5
Student 8	4

Mean = 7.6

Standard Deviation Based on Holistic Scores = 2.93

Low Achievement Group

Student 1	2
Student 2	3
Student 3	3
Student 4	0
Student 5	2
Student 6	2
Student 7	2
Student 8	2

Mean = 2

Standard Deviation based on Holistic Scores = .87

Holistically Scored Writing Sample
Results of Post Test Administration

Table IV

Spring Writing sample

High Achievement Group

Student 1	11
Student 2	9
Student 3	10
Student 4	9
Student 5	8
Student 6	8
Student 7	9
Student 8	7

Mean = 8.88

Standard Deviation based Holistic Scores = 1.35

Low Achievement

Student 1	3
Student 2	5
Student 3	6
Student 4	2
Student 5	5
Student 6	4
Student 7	2
Student 8	2

Mean = 3.63

Standard Deviation Based on Holistic Scores = 1.50

Results of the Post-Test Administration of the KTEA

Table V

Spelling SubtestHigh Achievement Group

Spelling	Standard Score	Percentile	Grade Equiv.	Age Equiv.
Student 1	132	98	9.9	15-0
Student 2	130	98	7.5	13-0
Student 3	125	95	7.5	13-0
Student 4	110	75	6.4	12-0
Student 5	126	96	7.5	13-0
Student 6	105	63	5.8	11-3
Student 7	131	99	9.8	15-0
Student 8	100	50	5.1	10-6

Mean = 119.88

Standard Deviation based on Standard Scores = 11.99

Low Achievement Group

Student 1	94	34	3.7	9-0
Student 2	91	27	3.9	9-3
Student 3	76	5	2.3	7-6
Student 4	75	5	2.1	7-6
Student 5	96	39	3.9	9-3
Student 6	113	81	5.1	10-6
Student 7	113	81	5.1	10-6
Student 8	91	27	4.6	10-0

Mean = 93.63

Standard Deviation Based on Standard Scores = 13.41

Results of the Post-Test Administration of the KTEA

Table VI

Reading Decoding SubtestHigh Achievement Group

Reading Equiv.	Standard Scores	Percentile	Grade Equiv.	Age Equiv.
Student 1	119	90	6.5	12-0
Student 2	138	99	6.5	12-0
Student 3	114	82	5.6	11-0
Student 4	106	66	5.9	11-3
Student 5	125	95	7.5	13-0
Student 6	102	55	5.3	10-9
Student 7	133	99	7.2	12-6
Student 8	93	32	4.0	9.6

Mean = 116.3

Standard Deviation based on Standard Scores = 14.54

Low Achievement Group

Student 1	94	34	3.6	9-0
Student 2	83	13	3.0	8-6
Student 3	90	25	3.4	8.9
Student 4	78	7	2.7	8-3
Student 5	92	30	3.4	8-9
Student 6	98	45	3.6	9-0
Student 7	87	19	2.6	8-0
Student 8	77	6	2.7	8-3

Mean = 87.38

Standard Deviation Based on Standard Scores = 7.07

Table VII

The Interval Estimation Procedure was used for testing the hypothesis using standard scores for reading.

Group	N	Mean	$\bar{X} \pm 1.64 \frac{sd}{\sqrt{n}}$	
			Lower Limit	Upper Limit

Reading-High Group

Pretest	8	110.88	103.11	118.65
Post-test	8	116.30	101.76	130.84

Reading-Low Group

Pretest	8	85.63	80.95	90.31
Post-test	8	87.38	83.28	91.48

Table VIII

The Interval Estimation Procedure was used for testing the hypothesis using standard scores for Spelling and Writing.

Group	N	Mean	Lower Limit	Upper Limit
<u>Writing-High Group</u>				
Pretest	8	7.60	5.90	9.30
Post-test	8	8.88	8.10	9.66
<u>Writing-Low Group</u>				
Pretest	8	2.00	1.50	2.50
Post-test	8	3.63	2.76	4.50
<u>Spelling-High Group</u>				
Pretest	8	113.13	106.44	119.82
Post-test	8	119.88	112.93	126.83
<u>Spelling-Low Group</u>				
Pretest	8	88.50	85.21	91.79
Post-test	8	93.63	85.86	101.40

Analysis of Data

Two procedures were used to evaluate the study. First, using the standard scores of both the reading and spelling subtests, means and standard deviations were calculated. The writing sample was calculated similarly, using the holistic scores of 0-12, finding the mean and calculating the standard deviation. Second, the interval estimation was calculated using standard scores.

The standard deviation for the spelling pretest for the high group was 11.55. When the interval estimation procedure was applied, the result showed an upper limit of 119.82 and a lower limit of 106.44. The standard deviation for the spelling post-test for the high group was 11.99. When the interval estimation procedure was applied, the result showed an upper limit of 126.83 and a lower limit of 112.93. The high group's mean scores fell within these spans and the gain was not significant. The group did make a mean gain of 6.75.

The standard deviation for the spelling pretest for the low group was 5.68 and for the post-test, 13.41. When the interval estimation procedure was applied to the pretest, the result showed an upper limit of 91.79 and a lower limit of 85.21. The post-test showed an

upper limit of 101.40 and a lower limit of 85.86. The low group's mean scores fell within these spans and the gain was not significant. The group did make a mean gain of 5.13.

The standard deviation for the reading pretest for the high group was 13.41, and the post-test standard deviation was 14.54. When the interval estimation procedure was applied to the pretest, the result showed an upper limit of 118.65 and a lower limit of 103.11. The post-test's upper limit was 130.84 and a lower limit of 101.76. The high group's mean scores fell within these spans and the gain was not significant. The group did make a mean gain of 5.42.

The standard deviation for the low group's subtest for reading was 8.08 for the pretest and 7.07 for the post-test. When the interval estimation procedure was applied the result showed an upper limit of 90.31 and a lower limit of 80.95 for the pretest and an upper limit of 91.48 and a lower limit of 83.28 for the post-test. Both the pretest and post-test of the low group's mean scores fell within these spans and the gain was not significant. The lower group did make a mean gain of 1.75.

The standard deviation for the high group's writing

sample for the fall was 2.93 and 1.35 for the spring. When the interval estimation procedure was applied the results of the fall sample showed an upper limit of 9.3 and a lower limit of 5.9, and an upper limit of 9.66 and a lower limit of 8.1 for the spring sample. Both the fall and spring writing samples mean scores fell within these spans and the gain was not significant. This group did make a mean gain of 1.28.

The standard deviation for the low group's fall writing sample was 0.87, and the spring sample deviation was 1.50. When the interval estimation procedure was applied the results of the fall writing sample showed an upper limit of 2.5 and a lower limit of 1.5. The spring sample showed an upper limit of 4.5 and a lower limit of 2.76. These scores reflect a significant difference at the .10 level.

The difference between the high group's spelling pretest mean and the lower group's mean is 24.63, in favor of the high group. The difference between the post-test means was 26.25, again in favor of the high group. While the high group showed a mean difference gain of 6.75, the lower group showed a mean difference gain of 5.13. The high group gained a mean difference of 1.62 over the low group.

The difference between the high group's reading pretest mean and the lower group's mean is 25.25, in favor of the high group. The difference between the post-test means was 28.92, again in favor of the high group. The high group showed a mean gain of 5.42, while the lower group showed a mean gain of 1.75. The high group showed a mean gain of 3.67 over the low group.

In the fall writing sample, the high group had a mean of 7.6 while the low group had a mean of 2, a difference of 5.6. In the spring writing sample, the high group had a mean of 8.88, and the low group had a mean of 3.63, a difference of 5.25. The high group gained a mean of 1.28, while the low group showed a mean gain of 1.63.

Overall, the low achieving students failed to maintain their relative position according to national norms in reading. This group did improve from the low average range to within the normal range in spelling. Although the group did improve in writing, the mean score of 3.63 is in the low average range.

The high group maintained their relative national norm of above average in spelling and reading. The writing mean, 8.88, is within the high average range.

When contrasting post-test to pretest results, both groups showed gains in all three areas tested. The high group obtained a higher mean gain in two areas, spelling and math, while the lower group showed a higher mean gain in writing.

Chapter Five

Summary

This study examined the rates of progress between low achieving and high achieving fourth grade children using a whole language reading program. Subjects were fourth grade students at a Bridgeton Elementary School, and grouped into low and high ability groups each containing 7 students. Reading instruction was provided during 90 minute class periods 5 times each week for 24 weeks. Instruction centered on reading short stories and trade books considered appropriate for fourth graders. Subjects completed pre and post-tests using the Kaufman Test of Educational Achievement in reading and spelling. A holistically scored writing example was completed in the fall and spring. Findings suggest that the high ability group improved or maintained their rate of progress. The low ability group progressed, but did not achieve an average standing in reading or writing, suggesting the need of a more integrated approach to reading incorporating a systematic phonics program.

Conclusion

In regards to question number 1, the low ability

students do progress using the whole language reading program, but they did not meet an average standing in reading or writing.

In regards to question number 2, the high ability group either maintained or improved their rate or progress.

Discussion and Implications

This study examined the rates of progress between low achieving and high achieving fourth grade children using a whole language reading program. The subjects, fourth grade students at a Bridgeton Elementary School, were grouped into low and high ability groups containing 7 students respectively. Reading instruction was provided during 90 minute class periods 5 times each week. Instruction centered on stories considered appropriate for fourth graders. The students completed a pre and post-test in spelling and reading decoding from the Kaufman Test of Educational Achievement, and a holistically scored fall and spring writing sample.

The results indicate that while both groups did make gains in all three tested areas, only the high group was in an acceptable range in all areas. The low group did make gains, but in reading and writing, the scores

were below average. The spelling subtest did improve to the average range.

Findings suggest that the high ability group did increase their mean scores and did maintain their relative standing in the above average range. The low ability group did make gains in all three areas, but they remained in the low average range in reading decoding and writing.

Recommendations

The results of the spelling, reading decoding, and writing sample appear to suggest that the whole language approach does improve skills for the high and low ability groups. This was found on both standardized and nonstandardized measures of achievement.

An important area for attention is the reading instructional program provided for the low group of students. These students need to develop strategies used by the proficient readers. The combination of low reading scores and poor writing skills strongly suggest that this program does not fully meet the needs of the low group. The data from this project and substantial research on appropriate instruction of low achieving students all lead to a specific recommendation: An

integration of whole language and an explicit, systematic form of early phonics instruction that's most effective for most children. The mistake that many advocates of whole language instruction make is believing that every piece of reading has to be meaningful, interesting, relevant, and authentic. They fail to see that there's a time and place for text that has as its modest but crucial function the teaching of certain decoding skills. These low achieving children are forever in a catch up game. Many of these students are not going to catch up, and likely to read below grade level throughout his/her academic career.

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