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ABSTRACT

This study investigated the difference in effectiveness in increasing first-grade reading achievement of a traditional reading program in which no words were taught and a program that began with formal reading instruction in preprimers and no reading readiness. The subjects were 137 pupils in six first-grade classes in a middle-class suburban community in central New Jersey. Pretests of readiness and intelligence indicated no significant differences between groups before training. One group received 6 weeks of readiness training and 10 weeks of reading instruction; the other group received 16 weeks of reading instruction in basal readers and no readiness training. The students were given as post-tests the reading subtests of the Stanford Achievement Tests and the Metropolitan Readiness Tests. It was concluded that omitting traditional reading readiness materials from the first-grade instructional program did not decrease reading achievement and may, in fact, have increased reading achievement. Therefore, it was suggested that first-grade reading instruction begin with formal reading lessons. A bibliography is included. (Author/NH)

THE DIFFERENCE IN EFFECTIVENESS OF READINESS AND NON-READINESS TRAINING IN INCREASING FIRST-GRADE READING ACHIEVEMENT

AN ABSTRACT OF A THESIS

SUBMITTED TO THE FACULTY

OF THE GRADUATE SCHOOL OF EDUCATION

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ABSTRACT

The present study was designed to investigate the difference in effectiveness in increasing first-grade reading achievement of a traditional reading readiness program in which no words were taught (readiness training) and a program that began with formal reading instruction in preprimers and no reading readiness (non-readiness training).

The general plan was to provide the readiness trained group with 6 weeks of readiness training and 10 weeks of reading instruction and to compare the reading achievement of this group with that of the non-readiness trained group, whose instructional program consisted of 16 weeks of reading instruction in basal readers and no reading readiness.

The subjects were 137 pupils in six first-grade classes in a middle-class suburban community in central New Jersey. There were three classes in each treatment group.

Pretests of readiness and intelligence indicated no significant differences between groups before training.

The reading subtests of the Stanford Achievement Test were the posttest measures of reading achievement. Mean differences between treatment groups consistently favored the non-readiness trained group, as did the

statistically significant differences. Differences between the treatment groups on the Word Reading subtest were statistically significant at the .05 level; differences in Paragraph Meaning were nonsignificant statistically; and differences in Word Study Skills were statistically significant at the .01 level.

When the reading achievement of high, average, and low scorers on the Metropolitan Readiness Test was analyzed, no statistically significant differences were found in Word Reading or Paragraph Meaning, but on the Word Study Skills subtest statistically significant differences favored high and average readiness scorers in the non-readiness trained group.

Intelligence, age, and sex groupings indicated no significant differences between treatments on the Word Reading and Paragraph Meaning subtests. However, on the Word Study Skills subtest statistically significant differences were found in favor of higher and lower intelligence children in the non-readiness trained group, younger children in the non-readiness training situation, and boys who were non-readiness trained.

It was concluded on the basis of the research results that omitting traditional reading readiness materials from the first-grade instructional program did not decrease reading achievement and may, in fact, have

increased reading achievement. Therefore, it is suggested that first-grade reading instruction begin with formal reading lessons.

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TABLE OF CONTENTS

TABLE OF CONTENTS (continued)

TABLE OF CONTENTS (continued)

LIST OF TABLES

CHAPTER I

INTRODUCTION

During the last 40 years a great deal of reading research has been concerned with reading readiness. The purpose of most of this research has been the identification of those factors that seem to be essential for early success in learning to read. Additional studies have been conducted for the purpose of measuring the relationship between these factors and progress in beginning reading. However, relatively little research has been directly concerned with the comparative value of formal reading instruction and readiness training as means of increasing first-grade reading achievement. Some studies that deal with this problem (Durrell, 1958; Haynes, 1959; Fry, 1965) have questioned the effectiveness of traditional reading readiness materials that do not use words or alphabet symbols and that are frequently exemplified by workbooks accompanying basal reading series.

The general plan of the present study was to investigate the difference in effectiveness of readiness and non-readiness training by providing Experimental Group 1 with 6 weeks of readiness training and 10 weeks of

reading instruction and comparing the reading achievement of this group with that of Experimental Group 2, whose instructional program consisted of 16 weeks of reading instruction in basal readers and no readiness training. Readiness training was defined as instruction that was based upon the use of traditional basal series reading readiness workbooks in which no words were taught; that is, reading instruction was withheld for the period of readiness training.

Statement of the Problem

The purpose of this study was to investigate the effectiveness of the traditional basal series reading readiness materials in increasing the reading achievement of first-grade students. The results of the study answered the following questions:

1. Did readiness or non-readiness trained children read better at the end of 5 months in first grade?

2. How did the traditional reading readiness program followed by formal reading instruction affect the reading achievement of students who scored high, average, and low on the Metropolitan Readiness Test?

3. How did a formal reading program without readiness instruction affect the reading achievement of students who scored high, average, and low on the Metropolitan Readiness Test?

4. How did reading achievement scores of students who scored high, average, and low on the Metropolitan Readiness Test compare in readiness and non-readiness trained groups?

5. Was there a difference in reading achievement scores of readiness and non-readiness trained children when they were grouped according to intelligence?

6. Was there a difference in reading achievement scores of readiness and non-readiness trained children when they were grouped according to chronological age?

7. Was there a difference in reading achievement scores of readiness and non-readiness trained children when they were grouped according to sex?

Importance of the Study

Morphett and Washburne (1931), in a study of the relationship between mental age and success in first-grade reading, reported that a mental age of 6½ years was the optimum time to begin reading instruction. That study has greatly influenced educational practice and continues to do so. But the world of today is vastly different from that of the 1930's, and conclusions based on that investigation are not applicable to today's children.

Throughout the country, in states where the teaching of reading is permitted in the kindergarten, children have been learning to read before first grade. Recent

studies of the achievement of early readers (Brzeinski, 1964, 1967; Durkin, 1964) have indicated the value of pre-first-grade instruction. In New Jersey, where children had been prevented from learning to read in the kindergarten because of an archaic state law that was in effect until the beginning of the 1969-1970 school year, many have been further held back by a first-grade program that began with readiness training rather than reading instruction.

The teacher's edition for the basic book of one widely-used readiness program states:

> The use of Before We Read facilitates learning to read by laying the foundation for fundamental skills and abilities needed to interpret the printed page. Children who acquire this foundation learn to read better and faster, with less waste of time and effort (theirs and teacher's), and with more joy than youngsters who have no planned program in reading readiness. The use of Before We Read prevents many failures in beginning reading [Robinson, Monroe & Artley, 1962, p. 7].

However, research (Gavel, 1958; Nicholson, 1958; Ploghoft, 1959; Docter, 1963) has not substantiated these claims. Most studies have shown that the children who used traditional reading readiness materials did not read better than those who did not use them. In light of this evidence, how can educators justify the expenditure of valuable first-grade time and rather large amounts of money for materials that produce questionable results?

CHAPTER II

SURVEY OF THE LITERATURE

Much reading research has been concerned with reading readiness, but only those studies that bear a relatively close relationship to the problem under investigation will be reported here.

The Readiness Concept

The term "reading readiness" appears to have been first used in the Report of the National Committee on Reading (National Society for the Study of Education, 1925), and it quickly came into common usage (Gray, 1950). Readiness refers to "the idea that attained capacity limits and influences an individual's ability to profit from current experience or practice [Ausubel, 1959, p. 247]." However, Anderson and Dearborn (1952) have pointed out that there has been an element of circular reasoning in the way that the readiness concept has been used in regard to reading; that is, "If the children learn to read, they were ready; if they do not learn, they were not ready [p. 50]."

While many issues relating to reading readiness have been studied since the publication of the Report, the

early investigations were mainly concerned with better preparation for beginning reading because of the large percentage of first-grade non-promotions due to lack of progress in reading (Gray, 1950). During the 1930's the Morphett-Washburne (1931) study focused attention on the optimum time to begin to teach reading, and this subject has continued until today to be a source of educational controversy. However, only 6 years after this influential study Gates (1937) concluded that

> . . . statements concerning the necessary mental age at which a pupil can be intrusted to learn to read are essentially meaningless. The age for learning to read under one program or with the method employed by one teacher may be entirely different from that required under other circumstances [p. 506].

The findings of Gates (1937) were supported by those of Betts (1943), who found from analyzing 80 scientific studies that the problem was to differentiate instruction in terms of the capabilities, interests, and needs of students. Additional support for this point of view came from Witty (1946), who stated that the minimal mental age required for successful reading varied with the complexity of the reading program and with the nature of each child. He repeatedly found that delaying reading instruction until the child's mental age was 6 years and 6 months did not insure successful reading.

According to Bond and Wagner (1950), the view that there was a critical level below which children would be

severely handicapped in learning to read and above which children would be fairly certain of success was based on the assumption that the reading program and materials were fixed and that there was no possibility of altering the materials or the methods of teaching. Ausubel (1959) found that the age of reading readiness was always influenced by cultural, subcultural, and individual differences in background of experience, and in any case would vary with the method of instruction and the child's intelligence. However, it was his opinion that postponement of learning experience beyond the age of optimal readiness would waste valuable learning opportunities and would reduce the amount and complexity of subject matter content that could be mastered in a designated period of schooling. Finally, Harris (1961) concluded that much of the recent criticism of the readiness idea has been due to unnecessary delays in the beginning of systematic instruction.

Reading Instruction Versus Readiness Training

> Reading is a skill which occurs only in an advanced culture in an environment which demands it. Adequate biological development may well be necessary before a child can learn to read but there is thereafter nothing biologically inevitable about the acquisition of reading skills themselves. Reading skill can develop only if opportunity is present, if the environment encourages and demands it [Sanderson, 1963, p. 8].

Relatively few studies in the literature were concerned with whether children learned to read better with a

first-grade program that began with formal reading instruction or with readiness training. Of the studies that have been concerned with this question, some have favored the early introduction of formal reading instruction while other investigations have found no significant differences between the two approaches. There was very little in the research to indicate that a delay in reading instruction would be helpful. Table 1 summarizes the studies that deal with this question.

One study that did favor the use of reading readiness materials was that of Sister Mary Nila (1953). She selected two groups of 33 pupils with equal mean predicted reading grade scores to participate in the experiment. All of these pupils tested 1.9 or less on the readiness test and were considered not ready to begin instruction. The control group had 8 months of formal reading instruction, while the experimental group was given 3 months of readiness activities and 5 months of formal reading instruction. The mean achievement score of the control group on the Metropolitan Reading Test administered in May was 1.9, while that of the experimental group was 2.1; the readiness group was two-tenths of a year ahead of the non-readiness group. The superiority of the experimental group was also noted in a comparison of range of reading scores for the two groups. There were eight low achievers

TABLE 1

STUDIES OF READING ACHIEVEMENT COMPARING READINESS AND NON-READINESS TRAINING

Date	Investigator	Number of subjects	Grade level	Duration of study	Experimental group instruction	Control group instruction	Difference between groups
1953	Sister Mary Nila	66	First	8 mos.	3 mos. readiness, 5 mos. reading	8 mos. reading	Experimental group .2 yr. ahead of control group
1956	Bradley	62	First	1 yr. with testing in Nov. & June of 2nd & 3rd grades	Group 1, 5 mos. readiness; Group 2, 8 mos. readiness; Group 3, 10 mos. readiness	10 mos. reading instruction	N.S. at end of 2nd & 3rd grades
1958	Durrell	2000+	First	1 yr.	Delay in intro. of basal reader until letter names	Immediate intro. to basal reader	Children with high learning rates made greater progress

(continued)

TABLE 1 (continued)

Date	Investigator	Number of subjects	Grade level	Duration of study	Experimental group instruction	Control group instruction	Difference between groups
					were mastered		when rdg. rdns. materials were omitted
1959	Haynes	120	First	1 yr.	Activities that would give concrete learning experiences; no reading readiness materials	Reading readiness exercises and drills in published reading readiness books of basal series	N.S.
1959	Ploghoft	55	Kdg.	Last 9 wks. of kdg.	Informal kdg. program plus 9 wks. reading readiness workbooks	Informal kdg. program	N.S.

(continued)

TABLE 1 (continued)

Date	Investi-gator	Number of subjects	Grade level	Duration of study	Experimental group instruction	Control group instruction	Difference between groups
1961	Blakely and Shadle	56	Kdg.	Last 5 mos. of kdg.	Activity program of experience	5 mos. instruction in readi-ness work-book	N.S.
1961	Mann	103	First	8 mos.	5 mos. readiness, 3 mos. reading	2 mos. readiness, 6 mos. reading	Significant difference in sentence reading & paragraph reading in favor of control group
1964	Miller	102	First	1 yr.	1-3 wks. readiness using readiness workbooks	7-11 wks. readiness using readiness workbooks	N.S.
1965	Fry	153	First	3 mos.	3 mos. reading and no	Readiness until teacher	Statisti-cally sig-nificant

(continued)

TABLE 1 (continued)

Date	Investi-gator	Number of subjects	Grade level	Duration of study	Experimental group instruction	Control group instruction	Difference between groups
					readiness	judged children ready to begin reading instruction	difference in reading achievement on Instant Word Recognition Test in favor of non-readiness group
1966	Spache	64 classes	First	1 yr.	Beginning formal reading instruction based on readiness scores Top ¼--Sept. 2nd ¼--Nov. 3rd ¼--Jan. 4th ¼--Mar.	Basal reading program	Experimental readiness program of significant value to Negro pupils. Achievement in both groups quite similar

with scores of 1.1 to 1.4 in the control group as compared with two in the experimental group, while high achievement scores of 2.3 to 3.4 were attained by eight of the control pupils and fifteen of the experimental group.

In a further study by Sister Nila (1953), 211 first-grade entrants were paired on the basis of predicted reading grade scores on the Reading Readiness Test with another 211 first-grade entrants. All had predicted grade scores that indicated that they were not ready for reading instruction. The control group began reading instruction with the Direct Approach to reading while the experimental group followed the Reading Readiness Program before beginning formal reading instruction. At the end of the year, the Metropolitan Reading Achievement Test was administered and the achievement of the two groups was compared. It was found that although the average predicted scores were equal there was a statistically significant difference between average reading achievement scores in June in favor of the experimental group that had followed the readiness program. Sister Nila concluded that the evidence indicated the great value of the readiness program for both those children who were not ready and those who seemed to be ready to read.

A 3-year follow-up study by Sister Nila (1953) found that not only does the greater progress in reading

continue but also that pupils who had readiness activities made more desirable adjustments to school work and were more secure and happier than those who did not follow a readiness program.

A study by Spache and others (1966) found that an experimental readiness program was of significant value to Negro pupils and that, despite a delay in introduction to formal reading of the majority of experimental children, the achievement in experimental and control groups was similar. However, Spache's readiness program was not the traditional basal reader workbook approach but consisted of materials that would theoretically contribute to the development of auditory discrimination, visual discrimination, and auditory language ability.

In contrast to these investigations, Durrell (1958), in a study of more than 2,000 first-grade children, found that children with high learning rates and superior background skills make greater progress when traditional reading readiness materials are eliminated from their reading programs. The large percentage of first-grade children in Gavel's (1958) study who were reading above 3.0 at the end of first grade indicated the merit of omitting reading readiness exercises. Nicholson (1958) concluded on the basis of her findings in a study of background abilities related to first-grade reading success

that many children are ready to read from the first day of school, and for these children instruction in reading readiness programs is entirely unnecessary. As a result of his experiment to discover whether omission of workbook-type experiences as part of a reading readiness program had any significant effect on reading achievement in first grade, Haynes (1959) found that children will not achieve less in reading if they do not take part in a formal program of developing reading readiness through the use of reading readiness workbooks. Fry (1965) found that first-grade children who received reading instruction instead of readiness instruction scored significantly better on the Instant Word Recognition Test in December. From these findings he concluded that reading readiness workbooks are unnecessary in first grade.

Most studies that compared readiness and non-readiness classes were concerned only with achievement at the end of first grade. One investigator apparently believed that delayed measurement would be more meaningful because after longer periods of instruction the benefits of additional readiness training would be evident. Bradley (1956) compared the reading achievement of readiness and non-readiness classes at the end of the second grade and at the end of the third grade. The children in the readiness classes did not begin formal reading instruction

until the teacher judged them to be ready, while the non-readiness classes began reading instruction almost immediately upon entering the first grade. Bradley found no significant differences in achievement of readiness and non-readiness classes at the end of the second and third grades.

Docter (1963) measured the relative effectiveness of workbook and non-workbook methods and found significant differences in gains in both vocabulary and comprehension in favor of the non-workbook group in first grade. He concluded that children in the early stages of reading benefit more from a non-workbook approach.

A study by Ploghoft (1959), concerned with the use of readiness workbooks during the last 9 weeks of kindergarten, indicated that those children who used readiness workbooks did not profit from their use to the extent that they were any more ready to read than the children who had not used such materials. Blakely and Shadle (1961), in a study designed to ascertain whether a kindergarten child showed more readiness and potential for reading after he had completed the readiness books of a basal reader program or after he had had an activity program of experiences, found no significant differences in Metropolitan Readiness Test scores of total groups when the readiness workbook group was compared with the non-workbook group.

It has often been assumed that for children who score low on a readiness test, readiness training would be more helpful than reading instruction. However, a study by Mann (1961) compared the achievement of immature pupils in a conventional first-grade program (2 months of reading readiness and 6 months of reading instruction) with the achievement of immature pupils in an extended readiness program (5 months of reading readiness and 3 months of reading instruction). She found that the immature pupils in the conventional reading program were significantly superior in sentence reading and paragraph reading. Edmiston and Peyton (1950) also found little value in an extended readiness program. In contrast to these studies, Miller (1964) studied the effect of shortening the first-grade reading readiness period from a conventional period of 7 to 11 weeks to an experimental period of 1 to 3 weeks. Both groups used reading readiness workbooks. No significant differences in achievement were found when testing took place during the first week of the second grade.

Hildreth (1950) has suggested that the prereading program range from a few weeks to a year but that it would be better for the typical pupil to have no reading lessons for at least the first 6 weeks of first grade. Stock (1955) concluded from observations of reading instruction

over a period of years that prolonged use of traditional reading readiness materials did not result in additional readiness but rather that the unnecessary use of readiness materials was often the first step in reading retardation. According to Durkin (1968), some first-grade students might not be ready to begin reading, but the solution for these children is not to postpone instruction but to look for ways of teaching reading that will match their particular skills and interests.

Dykstra (1967) has summarized the research in this area with the statement that:

> . . . there is no clear-cut evidence that the use of readiness workbooks and readiness materials improves a child's readiness for reading beyond what could be expected from an informal kindergarten program [p. 46]

In the absence of evidence that children who have had a readiness program do better than those who have not had such a program, Dykstra concluded that it might be just as well for first-grade children to begin formal reading instruction.

Reading Readiness Materials

Content. The traditional basal series reading readiness materials provide instruction in such skills as describing pictures, using language, following directions, and discriminating forms and shapes of objects. The value of such exercises for increasing first-grade reading

achievement has been questioned.

Allen, Gilfax, Halleran, and others (1959) analyzed reading readiness workbooks from nine commonly used basal reading series for frequency of types of exercises. Language development through pictures appeared 367 times, visual discrimination of pictures and nonword forms 179 times, exercises in motor skills 98 times, and identification of nonword sounds 52 times. Practice in letter word forms and word sounds was less frequent. There were 11 exercises in letter matching, 5 exercises in word outlines, 23 exercises in word matching, and 62 exercises in identification of initial consonants.

Limitations. Research has indicated the limitations of basal series reading readiness materials. In an early study of visual perception of various materials, Gates (1922) found that the ability to detect small differences between pairs of visual objects seemed to have no association with reading or spelling, but the ability to detect small differences in words showed a fairly high correlation. In a later study, Gates (1926) reported that:

> . . . a person who perceives poorly (or well) nonverbal items will not necessarily perceive words poorly (or well); nor will the person who perceives poorly (or well) in reading surely perceive similarly other data. Perception, as it functions with words as data, then, is rather a special kind of perception and in the majority of cases it cannot be predicted

at all accurately from knowledge of other types of perception [pp. 436-437].

Goins (1959) found that much of the gross discrimination required by many of the exercises in reading readiness workbooks is only "busy" work for children with average or above average maturation in visual perception. Many investigators (McKee, 1948; Hildreth, 1950; Vernon, 1959; Dechant, 1964; Wheelock & Silvaroli, 1967) have questioned the transfer of training from general form discrimination to discrimination between the forms of printed words.

Mosbo (1955), in comparing the effectiveness of two types of reading readiness materials, found that pupils who received reading readiness instruction in visual discrimination of letter and word forms had a greater achievement in reading at the end of first grade than those pupils who received reading readiness visual discrimination training in pictures and pictured geometric forms. In a study previously cited (Allen et al., 1959), reading achievement in January in grade one was found to be more closely related to knowledge of letter names and sounds than to abilities taught in the readiness workbooks of basal series.

Durrell and Nicholson (1961) have stated that although readiness workbooks may be of value in developing such abilities as language fluency, motor skills, and attention to nonword forms and sounds, their contribution

to reading readiness is doubtful. Since the speaking vocabularies of first-grade entrants are usually much larger than would be required for reading, it is unlikely that additional language development would improve the child's chances for success in reading. Visual discrimination of pictures and objects and auditory discrimination of nonword sounds may improve attention and may serve as preparatory training for word forms and sounds, but these exercises have appeared to fail to develop the perceptual type and level that is required for reading.

Predictive Validity of Readiness Tests

The two main purposes of reading readiness tests are the identification of those children who are ready to read and the diagnosis of each child's ability in those skills that are considered necessary for success in reading. In many cases the decision to begin reading instruction or to withhold it has been based on the results of these tests, although research has questioned their predictive validity.

Weintraub (1967) reported that the most commonly used predictors of success in learning to read, readiness and intelligence tests, have been far from perfect predictive instruments. Readiness tests tend to correlate somewhere between .4 and .6 with later measures of reading achievement, while intelligence tests generally show a

lower relationship at the early reading levels. The readiness tests do an adequate job of identifying the extremes on the normal curve, those who will probably succeed and those who will probably fail. However, the large group of children in the middle may go in either direction when they are placed in a reading program.

Many studies concerned with the predictive ability of reading readiness tests have been published. These studies have in common the administration of a reading readiness test during the first weeks of first grade and a reading achievement test at the end of first grade. The relationship between pupils' performances on these two measures is then evaluated by means of a correlation analysis. Despite the fact that these studies are based on a variety of readiness tests and use a variety of sample sizes and a number of different reading achievement measures, the predictive validity correlation coefficients are in general quite consistent in the range from .40 to .60 (Dykstra, 1967).

In a study of the predictive validity of the Metropolitan Readiness Test, Karlin (1957) administered the instrument to first-grade children before they were given any reading instruction. At the end of the year, when reading achievement was measured, he found a very small relationship between the two variables; the correlation

was .36. Karlin concluded that it was impossible to predict reading achievement from reading readiness test scores.

In a similar study, Bremer (1959) compared Metropolitan Readiness Test scores during the first month of first grade with achievement test scores at the beginning of second grade. This study showed only a slight relationship, a correlation of .40, between the scores on the readiness test and those on the later achievement tests. Among his findings it was reported that approximately one-third of the low readiness group scored in the lowest level of reading achievement, while another one-third of this same low readiness group scored above average in the reading achievement test at the end of first grade. Bremer concluded that readiness tests cannot be used to predict success in reading with any degree of accuracy.

A study by Kingston (1962) that correlated Metropolitan Readiness Test scores with third- and fourth-grade achievement indicated that prediction of achievement for individual pupils based upon their first-grade readiness test scores is not feasible. As opposed to Kingston's findings, Bagford (1968), in a study to determine the relationship between reading readiness test scores and measures of later success in reading, found that students who score well on reading readiness tests in kindergarten

and first grade tend to score well on reading achievement tests in grades four, five, and six. His data further suggested that the relationship between readiness test scores and measures of early success in reading do not decrease significantly as children progress through school.

As a result of the uncertainty regarding the value of readiness test scores as predictors of success in reading, Durkin (1967) suggested that the readiness of children to read be assessed by giving them opportunities to begin reading instruction. For her the traditional separation of readiness and reading programs both in time and in the minds of teachers is no longer defensible. However, she cautioned that in any situation in which readiness is being assessed in relation to a response to learning opportunity, careful attention must be given to the quality of these opportunities or it would be impossible to judge whether the shortcomings lay with the child or with the instruction. Standish (1959), having found that word perception rather than perception of geometric forms correlated most highly with reading attainment in the early stages, concluded that the most effective type of reading readiness test would be a test of reading achievement.

Research has indicated that considerable caution must be used in the interpretation of the results of the

various reading readiness tests and that the use of these measures for prediction of an individual's reading achievement at the end of first grade is extremely difficult. These findings have strongly suggested that no child be denied reading instruction on the basis of a readiness test score.

Summary

The Morphett-Washburne (1931) study focused the attention of educators throughout the country on the best time to begin reading instruction, and that investigation resulted in the widespread practice of withholding reading instruction from beginning first-grade students. Almost 40 years later the influence of that study is still apparent in first-grade classes in which reading instruction is delayed for a reading readiness program despite recent evidence of the value of pre-first-grade reading instruction. The Summary Report of the Effectiveness of Teaching Reading in Kindergarten (Brzeinski, 1967) stated:

> The achievement of the children who were taught the skills basic to beginning reading in kindergarten, when those skills were built upon in succeeding grades, was significantly higher than that of their peers whose introduction to reading was delayed until first grade. They were further ahead after six years than they would have been had reading been introduced to them at the later traditional age [p. 9].

Most studies that have investigated the comparative value of reading instruction and reading readiness for beginning

first-grade students have found that children who used traditional basal series reading readiness materials did not read better than those who had had an instructional program that omitted such materials. In a recent journal article, MacGinitie (1969) wrote what other prominent people in the field of reading (Gates, 1937; Betts, 1943; Bond & Wagner, 1950; Harris, 1961) had often written in the past; that is, nearly every 6-year-old is ready to learn something about reading if what he is taught is carefully chosen in accordance with his abilities and if he receives the guidance of a compassionate teacher.

In light of the research findings and the knowledge that reading readiness materials are still commonly used, the writer formulated a research study whose purpose was to investigate the difference in effectiveness in increasing first-grade reading achievement of a traditional reading readiness program (readiness training) and a first-grade program that began with formal reading instruction and no reading readiness (non-readiness training).

CHAPTER III

METHOD

In order to find out whether or not the reading achievement of first-grade students increases when the instructional program consists of readiness training, that is, uses traditional reading readiness materials and withholds reading instruction, Experimental Group 1 was given readiness training for 6 weeks and reading instruction for 10 weeks. The reading achievement of this group of first-grade students was compared with that of Experimental Group 2, whose instructional program consisted of 16 weeks of reading lessons and no readiness training.

This chapter describes the population used in the study, the training and testing procedures that were followed, and the way in which the collected data were statistically analyzed.

Questionnaire

In May, 1969, before the study began, a questionnaire to determine existing beginning reading practices was submitted to all 30 first-grade teachers in the same school district. More specifically, the purpose of the questionnaire was to find out when the use of preprimers

usually begins and what type of reading readiness materials and activities are usually used until instruction in the preprimer begins. A copy of the questionnaire is found in Appendix IV.

Originally, the questionnaire was to be used to aid in the selection of classrooms for the study, but this plan was abandoned because certain school principals refused to participate in a research project.

The Population

Selection procedure. Each of the three school principals who agreed to participate selected two teachers to take part in the experimental study, with the understanding that the teacher would accept the training method that would be assigned to her based upon the flip of a coin. Four of the teachers had used traditional reading readiness materials in previous years; two were new teachers. Training method was assigned by stratified randomization; one of the teachers in each school was assigned readiness training, the other non-readiness training. The children who were randomly assigned to the classes of these teachers became the experimental subjects.

Subjects. The population consisted of the students in six first-grade classrooms in three public elementary schools in a middle-class, suburban community in central New Jersey. Originally there were 153 subjects.

Of these, one child proved to be incapable of receiving testing, four students moved, and eleven children were absent from the posttest sessions. These 16 lost cases reduced the size of the population to 137 subjects, 70 boys and 67 girls.

Table 2 presents a summary of the school experience of children in both treatment groups prior to September, 1969. Before entering first grade, 90.5% of the subjects had 10 months in kindergarten, while only 5% had less than 10 months of kindergarten training. In addition to 10 months of kindergarten experience, 3% were in the pre-first-grade class for a full school year and 1.5% had had one year of first grade but were retained at the end of the year.

Teachers. The six teachers who participated in the study held Bachelor's degrees but none had any graduate training. This was the first year of teaching for two of the teachers, while the experience of the others was 2 years, 3 years, 5 years, and 27 years. All of the experienced teachers had taught first grade in the same school district in previous years.

Training Procedures

Readiness trained classes. The children in these classes were given 6 weeks of readiness instruction in the Allyn and Bacon readiness workbooks, Picture Stories and

TABLE 2

COMPARISON OF SCHOOL EXPERIENCE PRIOR TO SEPTEMBER, 1969, OF READINESS AND NON-READINESS TRAINED GROUPS

Teacher	Less than 10 months kinder-garten	10 months kinder-garten	10 months kinder-garten and 10 months pre-first grade	10 months kinder-garten and 10 months first grade
		Readiness Trained Group (N = 68)		
P		23	1	1
F	1	19		
K		21	1	1
		Non-Readiness Trained Group (N = 69)		
W	2	22	1	
A	4	18		
T		21	1	

More Picture Stories. The teachers followed the instructional procedures outlined in the teacher's manuals that accompany the readiness workbooks. There was no reading instruction of any kind in these classes for the first 6 weeks of the experimental program; that is, no words or sound-symbol relationships were taught. However, the children were taught to write their names and the letters of the alphabet. In the seventh week of the study all children in the readiness trained classes began reading lessons in the first preprimer of the Allyn and Bacon series.

Non-readiness trained classes. The children in these classes began reading lessons in the first preprimer of the Allyn and Bacon series as soon as the pretesting was completed during the second week of school in September. Initially there were three randomly assigned reading groups in each class. After approximately 2 weeks of instruction, the teachers regrouped the children according to their actual classroom performance. No published reading readiness materials or activities were used in these classes, although teacher-made materials that some might construe as readiness were permitted.

Duration of training. The experimental program was in progress for 16 weeks. Readiness trained classes were given 15 hours of readiness instruction during the first 6 weeks and 25 hours of reading instruction during

the final 10 weeks of the study, while non-readiness trained classes were given 40 hours of reading instruction and no readiness training.

All classes had equal supervision time. The investigator visited each classroom once a week during the first 7 weeks of the study and once each month thereafter.

Testing Procedures

Pretests. In early September the Metropolitan Readiness Test, Form B, and in early October the Test of General Ability, Form A, Grades K-2, were administered to both treatment groups. Copies of these tests will be found in Appendix I and Appendix II. These tests were given and scored by the investigator, who did not reveal the test results to the teachers.

An informal oral reading test of 10 preprimer words was individually administered by each classroom teacher to all students in her class during the first week of school in September. The words were printed on flash cards and were presented one at a time to each child while the teacher recorded correct responses. The words were randomly selected from the first and second preprimers in the Allyn and Bacon series and included the following words: see, here, to, Daddy, at, the, up, is, my, near.

Posttests. At the end of January, the Word

Reading, Paragraph Meaning, and Word Study Skills subtests of the Stanford Achievement Test, Primary I, Form W, a sample of which can be seen in Appendix III, were administered by the investigator to both treatment groups to determine reading achievement at the end of 5 months in the experimental program. The tests were scored by the investigator.

The same informal oral reading test of 10 pre-primer words that was used as a pretest was given by the investigator to a subsample of 29 students at the end of January.

Analysis of Data

Experimental design. The experimental design was the pretest-posttest control group design (Campbell & Stanley, 1963) that can be illustrated as follows:

$$\begin{array}{cccc} R & O_1 & X_1 & O_2 \\ R & O_3 & X_2 & O_4 \end{array}$$

The comparisons were between Experimental Group 1, the readiness trained group, and Experimental Group 2, the non-readiness trained group. No comparisons were made between teachers, classes, or schools.

Statistical analysis. The main statistical analysis was concerned with comparisons of mean scores between treatment groups. Statistical significance was evaluated

by the t test and, in the case of small and unequal N's, by the Mann-Whitney U test. The .05 level was established as the acceptable level of statistical significance when comparisons involved total N's. However, when N was reduced to look at the reading achievement of high, average, and low scorers on the Metropolitan Readiness Test as well as the reading achievement of intelligence, age, and sex groupings within each training method, the .01 level was required for statistical significance.

Mean scores on the Metropolitan Readiness Test, the Test of General Ability, and the Stanford Achievement Test were calculated for both treatment groups, and the significance of the difference between means was computed to determine if the groups differed significantly.

The same procedure was followed in analyzing the reading achievement of the three groups who scored high, average, and low on the Metropolitan Readiness Test. The interesting factor here was to see if those students who scored low on the readiness test did in fact gain more by being placed into a readiness training situation. However, it was also interesting to note what happened to those children who scored high on the readiness test.

As a minor point, mean scores were calculated for intelligence, chronological age, and sex groupings of pre- and posttests within each training method and

the significance of the difference between means was computed.

Limitations of the Study

Reading achievement was measured at the end of January. Measurement of reading achievement after a longer period of time might have produced greater differences between groups.

The size of the sample did not provide sufficient low scorers on the Metropolitan Readiness Test to answer the question that was concerned with whether low readiness scorers profit more from placement in a readiness training or a non-readiness training situation.

The findings of this study will apply mostly to middle-class children and those who tend to score in the average or above average range on the Metropolitan Readiness Test.

CHAPTER IV

RESULTS

This chapter presents an analysis of the data in light of the questions raised in Chapter I.

Pretests

Table 3 indicates the results of the pretraining tests of reading readiness and intelligence that showed that there were no statistically significant differences between groups at the beginning of the study. Also, groups were essentially equal in the ability to read words. On an informal oral reading test of 10 preprimer words that was administered before training began, the readiness trained group correctly read a mean of 1.0 words as compared with a mean of 1.1 words for the students in the non-readiness trained group.

Posttests

Comparisons of total groups. The main question was concerned with which treatment, readiness training or non-readiness training, produced greater reading achievement in first grade. At the end of January, the reading subtests of the Stanford Achievement Test were administered

TABLE 3

PRETEST MEAN SCORES OF READINESS AND NON-READINESS TRAINED GROUPS

Test	Readiness trained group			Non-readiness trained group			Mean difference	t	Significance
	N	Mean	S.D.	N	Mean	S.D.			
Metropolitan Readiness Test	68	61.2	15.68	69	62.8	12.29	1.6	.66	N.S.
Test of General Ability	68	101.55	15.17	69	101.52	13.38	.03	.01	N.S.
Informal oral reading test of 10 preprimer words	68	1.0		69	1.1		.1		

to all pupils in both groups. As noted in Table 4, mean differences consistently favored the non-readiness trained group, as did the statistically significant differences.

Further examination of Table 4 indicates that on the Word Reading subtest pupils in the readiness trained group achieved a mean score of 11.8 as compared with 14.0 for the non-readiness trained group. These mean scores were tested for significance with the t test and were found to be statistically significant at the .05 level. Paragraph Meaning scores revealed that the non-readiness trained classes had a small and nonsignificant lead over the readiness trained classes. Mean scores in Word Study Skills of 27.1 for the readiness trained group and 32.2 for the non-readiness trained group, with a mean difference of 5.1, favored the non-readiness trained group with statistical significance at the .01 level.

On an individually administered test of oral reading of 10 preprimer words, a random sample from the non-readiness trained group scored better than a random sample drawn from the readiness trained group. Readiness trained children correctly read a mean of 7.56 words, while non-readiness trained students were able to read correctly 9.15 words; 1.5 more words were correctly read by the non-readiness trained subsample than by the readiness trained subsample. These mean scores were not tested for

TABLE 4

POSTTEST MEAN SCORES OF READINESS AND NON-READINESS TRAINED GROUPS

Test	Readiness trained group			Non-readiness trained group			Mean difference	t	Significance
	N	Mean	S.D.	N	Mean	S.D.			
Stanford Achievement Test: Word Reading	68	11.8	4.99	69	14.0	6.63	2.2	2.18	*
Stanford Achievement Test: Paragraph Meaning	68	9.5	5.10	69	10.8	7.42	1.3	1.18	N.S.
Stanford Achievement Test: Word Study Skills	68	27.1	6.48	69	32.2	9.17	5.1	3.74	**
Informal oral reading test of 10 preprimer words	16	7.56		13	9.15		1.59		

*Statistically significant at the .05 level.

**Statistically significant at the .01 level.

significance due to the informal nature of the test.

Comparisons by reading readiness test score. It was interesting to see how the children in both treatment groups who scored high, average, and low on the Metropolitan Readiness Test scored on the measures of reading achievement. The investigator was especially interested in determining whether children who scored low on the readiness test did indeed gain more by being placed in a readiness training situation. The few statistically significant differences that were found to exist favored the non-readiness trained group, as can be seen by an examination of Tables 5, 6, and 7.

Tables 5 and 6 indicate that in the subtests of Word Reading and Paragraph Meaning high and average readiness scorers in the non-readiness trained group had the advantage, although it was nonsignificant statistically. On the same subtests low readiness scorers in the readiness trained group had a small lead, but it, too, was nonsignificant statistically.

High and average readiness scorers in the non-readiness trained group earned significantly higher scores in Word Study Skills, as noted in Table 7. High scorers in the non-readiness trained group achieved a mean score of 35.3 as compared with 29.7 for the readiness trained group, while average scorers in the non-readiness trained

TABLE 5

WORD READING POSTTEST SCORES BY HIGH, AVERAGE, AND LOW READINESS SCORES

Metropolitan Readiness Test scores	Readiness trained group			Non-readiness trained group			Mean difference	t	Significance
	N	Mean	S.D.	N	Mean	S.D.			
High scorers[a]	40	13.1	5.39	36	16.2	6.33	3.1	2.26	N.S.
Average scorers[b]	16	9.6	2.24	26	12.9	5.77	3.3	2.50	N.S.
								U	
Low scorers[c]	12	10.3	4.93	7	8.3	1.76	2.0	29.5	N.S.

[a]Test manual designation for top 31% of standardization group.

[b]Test manual designation for middle 38% of standardization group.

[c]Test manual designation for bottom 31% of standardization group.

TABLE 6

PARAGRAPH MEANING POSTTEST SCORES BY HIGH, AVERAGE, AND LOW READINESS SCORES

Metropolitan Readiness Test scores	Readiness trained group			Non-readiness trained group			Mean difference	t	Significance
	N	Mean	S.D.	N	Mean	S.D.			
High scorers[a]	40	10.4	5.91	36	13.1	7.40	2.7	1.72	N.S.
Average scorers[b]	16	9.1	2.37	26	9.2	6.99	.1	.06	N.S.
								U	
Low scorers[c]	12	7.4	2.85	7	4.9	3.74	2.5	23.0	N.S.

[a]Test manual designation for top 31% of standardization group.

[b]Test manual designation for middle 38% of standardization group.

[c]Test manual designation for bottom 31% of standardization group.

TABLE 7

WORD STUDY SKILLS POSTTEST SCORES BY HIGH, AVERAGE, AND LOW READINESS SCORES

Metropolitan Readiness Test scores	Readiness trained group			Non-readiness trained group			Mean difference	t	Significance
	N	Mean	S.D.	N	Mean	S.D.			
High scorers[a]	40	29.7	6.40	36	35.3	8.94	5.6	3.07	**
Average scorers[b]	16	24.6	3.92	26	30.0	7.88	5.4	2.88	**
								U	
Low scorers[c]	12	22.0	3.44	7	24.9	6.18	2.9	31.5	N.S.

[a]Test manual designation for top 31% of standardization group.

[b]Test manual designation for middle 38% of standardization group.

[c]Test manual designation for botton 31% of standardization group.

**Statistically significant at the .01 level.

group earned a mean score of 30.0 as compared with 24.6 for the readiness trained group; the mean differences of 5.6 and 5.4 were statistically significant at the .01 level. Although low readiness scorers in the non-readiness trained group also showed superiority on this subtest, the difference was not large enough to reach statistical significance.

Comparisons by intelligence, by chronological age, and by sex. As a minor point, it was interesting to learn whether one training method would in fact produce greater reading achievement for all children or for various classes of children, such as the more or less intelligent, the older or younger, or boys or girls.

Table 8 presents a comparison of reading achievement scores according to intelligence groupings. The total non-readiness trained population earned higher mean scores than did the readiness trained population on all three measures of reading achievement when the groups were divided into higher and lower intelligence subgroups. In other words, mean scores of lower intelligence children in the non-readiness trained group were superior to those of higher intelligence children in the readiness trained group.

Although mean differences on the Word Reading and Paragraph Meaning subtests favored both intelligence

TABLE 8

READING ACHIEVEMENT SCORES OF READINESS AND NON-READINESS TRAINED GROUPS ACCORDING TO INTELLIGENCE

Test	Intelligence group	Readiness trained group N	Mean	S.D.	Non-readiness trained group N	Mean	S.D.	Mean difference	t	Significance
Pretest										
Metropolitan Readiness Test	Higher[a]	34	68.8	10.0	31	68.1	12.1	.7	.25	N.S.
	Lower[b]	34	53.5	16.9	38	58.5	10.5	5.0	1.56	N.S.
Posttests										
Stanford Achievement Test: Word Reading	Higher	34	12.5	5.4	31	15.7	6.7	3.2	2.13	N.S.
	Lower	34	11.0	4.6	38	12.8	5.9	1.8	1.50	N.S.
Stanford Achievement Test: Paragraph Meaning	Higher	34	9.5	5.3	31	12.1	7.9	2.6	1.62	N.S.
	Lower	34	9.5	4.9	38	9.7	6.8	.2	.14	N.S.
Stanford Achievement Test: Word Study Skills	Higher	34	29.4	6.9	31	34.8	9.3	5.4	2.70	**
	Lower	34	24.8	5.1	38	30.1	8.4	5.3	3.31	**

[a]I.Q. on Test of General Ability 102 and higher.

[b]I.Q. on Test of General Ability less than 102.

**Statistically significant at the .01 level.

groupings in the non-readiness trained group, the differences were not large enough to reach statistical significance. On the Word Study Skills subtest, higher intelligence children in the non-readiness trained group achieved a mean score of 34.8 as compared with a mean score of 29.4 for the higher intelligence children in the readiness trained group. On this same subtest lower intelligence children in the non-readiness trained group earned a mean score of 30.1, as compared with 24.8 for lower intelligence children in the readiness trained group. The mean differences in Word Study Skills of 5.4 and 5.3 were statistically significant at the .01 level.

Table 9 indicates reading achievement scores according to chronological age groupings. When the scores of older and younger children were inspected for differences in reading achievement between the training methods, the mean differences consistently favored the non-readiness trained group.

No statistically significant differences were found on any subtest for older children and on the Word Reading and Paragraph Meaning subtests for younger children. However, on the Word Study Skills subtest younger children who were given non-readiness training had a mean score of 32.3 that was significantly better than the mean score of 25.9 that was achieved by younger children with

TABLE 9

READING ACHIEVEMENT SCORES OF READINESS AND NON-READINESS TRAINED GROUPS ACCORDING TO CHRONOLOGICAL AGE

Test	Age group	Readiness trained group N	Mean	S.D.	Non-readiness trained group N	Mean	S.D.	Mean difference	t	Significance
Pretest										
Metropolitan Readiness Test	Older[a]	26	64.38	13.2	27	67.44	10.9	3.06	.78	N.S.
	Younger[b]	42	59.21	16.8	42	59.80	12.4	.59	.18	N.S.
Posttests										
Stanford Achievement Test: Word Reading	Older	26	12.3	5.1	27	14.0	5.4	1.7	1.21	N.S.
	Younger	42	11.5	4.8	42	14.2	6.9	2.7	2.07	N.S.
Stanford Achievement Test: Paragraph Meaning	Older	26	9.7	5.6	27	10.5	4.6	.8	.53	N.S.
	Younger	42	9.4	4.7	42	10.9	8.7	1.5	.98	N.S.
Stanford Achievement Test: Word Study Skills	Older	26	28.8	8.8	27	32.1	8.7	3.3	1.37	N.S.
	Younger	42	25.9	5.0	42	32.3	9.3	6.4	4.0	**

[a]6 years 6 months and older.

[b]Less than 6 years 6 months.

**Statistically significant at the .01 level.

readiness training; the mean difference of 6.4 was statistically significant at the .01 level.

Table 10 presents a comparison of reading achievement scores according to sex groupings. On all reading subtests, boys and girls who were given non-readiness training earned higher mean scores than did boys and girls who were given readiness training.

No statistically significant differences between training methods were found for girls on the three reading subtests of the Stanford Achievement Test and for boys on the Word Reading and Paragraph Meaning subtests. However, boys in the non-readiness trained group, with a mean of 33.0, scored significantly better than did boys in the readiness trained group, with a mean of 26.4 on the Word Study Skills subtest. The mean difference of 6.6 was statistically significant at the .01 level.

Progress Through Basal Readers

From an inspection of Table 11 it can be seen that upon completion of the study the non-readiness trained classes were ahead of the readiness trained classes in their progress through the readers. Three reading groups were used in all classes. In the readiness trained classes three groups were reading in the primer, two groups were in the third preprimer, and four groups were having lessons in the second preprimer. In the non-readiness trained

TABLE 10

READING ACHIEVEMENT SCORES OF READINESS AND NON-READINESS TRAINED GROUPS ACCORDING TO SEX

Test	Sex group	Readiness trained group N	Mean	S.D.	Non-readiness trained group N	Mean	S.D.	Mean difference	t	Significance
Pretest										
Metropolitan Readiness Test	Boys	34	60.55	14.34	36	60.91	14.18	.36	.10	N.S.
	Girls	34	61.82	16.30	33	64.84	9.56	3.02	.91	N.S.
Posttests										
Stanford Achievement Test: Word Reading	Boys	34	12.0	5.56	36	14.2	7.15	2.2	1.46	N.S.
	Girls	34	11.6	4.19	33	14.0	5.59	2.4	2.0	N.S.
Stanford Achievement Test: Paragraph Meaning	Boys	34	9.4	4.75	36	11.1	7.78	1.7	1.13	N.S.
	Girls	34	9.7	5.27	33	10.5	6.90	.8	.61	N.S.
Stanford Achievement Test: Word Study Skills	Boys	34	26.4	6.91	36	33.0	9.05	6.6	3.47	**
	Girls	34	27.8	5.94	33	31.5	8.64	3.7	2.55	N.S.

**Statistically significant at the .01 level.

TABLE 11

PROGRESS THROUGH BASAL READERS OF READINESS AND NON-READINESS TRAINED GROUPS AT END OF JANUARY

Teacher	Accelerated group	Average group	Developmental group
	Readiness Trained Group		
P	2nd preprimer, p. 45	2nd preprimer, p. 30	2nd preprimer, p. 14
F	Primer, p. 32	Primer, p. 9	3rd preprimer, p. 18
K	Primer, p. 77	3rd preprimer, p. 30	2nd preprimer, p. 34
	Non-Readiness Trained Group		
W	3rd preprimer, p. 66	3rd preprimer, p. 50	3rd preprimer, p. 18
A	Primer, completed	Primer, p. 77	Primer, p. 17
T	Primer, p. 60	Primer, p. 38	Primer, p. 38

classes one group had just completed the primer, five groups were in the primer, and three groups were reading in the third preprimer.

Questionnaire

Before beginning the study a questionnaire was circulated to determine current beginning reading practices in first-grade classrooms. Twenty-five teachers, two of whom taught programmed reading, returned the questionnaire. All 23 teachers who taught a basal reading program reported the specific kinds of reading readiness materials that they used, but only 21 of these teachers stated the period of time during which they used such materials.

The time at which teachers began instruction in the preprimers varied with the teacher and with the reading group. Although reading instruction was delayed for all children, teachers generally delayed instruction the longest for those children who they believed were "not ready to read." The survey, with data for 482 first-grade students, revealed that 35% of the children began reading lessons in preprimers 2 to 3 weeks after school started in September, while 28% began at some time during the month of October. The remaining 37% began reading lessons in preprimers as follows: November, 13%; December, 5%; January, 10%; February, 5%; March or April, 4%.

None of the teachers who used basal series began preprimers for any child without an initial program of reading readiness. The traditional reading readiness workbooks that accompany the basal series were used alone by 26% of the teachers, while 30.5% used these same materials in combination with a readiness program that teaches sounds but not words. That is, a total of 56.5% of the teachers used traditional reading readiness workbooks either alone or in conjunction with other readiness materials. The remaining 43.5% did not use any traditional basal series reading readiness materials; instead they used only the reading readiness workbooks that teach sounds but do not teach words.

CHAPTER V

DISCUSSION

A discussion of the results of the present study, including a comparison of these results with the findings of similar studies, will be given in this chapter.

Questionnaire

The responses to the questionnaire concerning beginning reading practices revealed that published reading readiness materials are commonly used prior to beginning reading instruction in first grade for periods as short as 2 to 3 weeks for some children and as long as 8 months for others. It was interesting to note that all teachers who responded to the questionnaire used a readiness program for all children before beginning reading lessons in preprimers.

Readiness Training Versus Non-Readiness Training

The current study found that reading achievement mean scores generally favored the non-readiness trained group, although the differences were not always large enough to reach statistical significance. It did not matter whether the first-grade students were more or

less intelligent, older or younger, or boys or girls; non-readiness training was the treatment that yielded higher reading achievement. It is noteworthy that all of the statistically significant differences that were found favored the non-readiness trained group.

The present study showed that the children who used traditional reading readiness workbooks did not read better than the children who did not use such materials but instead began reading lessons early in September of first grade. There was nothing in the findings to indicate that a delay in the start of reading instruction would be helpful to any child.

Comparison with Similar Studies

In general, the findings of the current study support those of earlier studies in which first-grade students who used readiness materials did not earn higher reading achievement scores than children who did not use these materials. The writer found, as did Haynes (1959), that children did not achieve less in reading if they did not participate in a program of developing reading readiness through the use of reading readiness workbooks.

The only study that the writer could find in favor of readiness training was that of Sister Mary Nila (1953), who reported that after 8 months of reading instruction for the control group and 3 months of reading readiness

and 5 months of reading instruction for the experimental group, the experimental group was two-tenths of a year ahead of the control group in reading achievement. These results contrasted with the findings of the present study, in which the non-readiness trained group was one-tenth of a year ahead in Word Reading, two-tenths of a year ahead in Word Study Skills, and where the two groups had equivalent grade scores in Paragraph Meaning at the end of 5 months in the experimental program. The writer would expect the differences in favor of the non-readiness trained group to be even greater at the end of the year. Advocates of readiness training would disagree, believing that delayed measurement would enable the benefits of the readiness training to become apparent. However, a study by Bradley (1956) does not give much hope for the eventual superiority of the readiness trained group. Bradley's study found that no significant differences existed between readiness and non-readiness groups when reading achievement was measured at the end of second and third grades.

The findings of the present study are in agreement with those of Durrell (1958), who found that children with high learning rates make greater progress when traditional reading readiness materials are eliminated from their reading programs. In the current study, high scorers on the Metropolitan Readiness Test in the non-readiness training

situation scored better on all three reading subtests of the Stanford Achievement Test than did high readiness scorers who were given readiness training.

In a study by Fry (1965), first-grade children who were given reading instruction instead of readiness training scored significantly better on the Instant Word Recognition Test in December, as did non-readiness trained children in the present study whose superiority over readiness trained children in Word Reading was statistically significant at the .05 level.

Mann's (1961) study compared reading achievement of immature pupils in an extended readiness program (5 months of reading readiness and 3 months of reading instruction) with that of immature pupils in a conventional first-grade program (2 months of reading readiness and 6 months of reading instruction) and found that pupils in the conventional program were significantly superior in sentence reading and paragraph reading. These findings contrasted with the results of the present study, in which there were no significant differences between the reading achievement scores of low readiness scorers in both treatment groups. The writer attributes her findings to the small N's in these groups and believes that larger groups of low readiness scorers would have yielded greater differences between groups, with the differences favoring

the non-readiness trained group.

The writer is in agreement with Dykstra (1967), who concluded that the lack of evidence that children who have had a readiness program read better than those who have not had such a program suggests that it would be just as well to begin first-grade children with formal reading instruction.

Comments by Teachers

The investigator is including, as an indication of teacher attitude toward the issue of readiness training versus non-readiness training, some representative comments by teachers that were made during visits to the schools.

One teacher of a readiness trained class commented that the eight children in the developmental group would not have begun reading lessons until January if she had not participated in the study. Because all children in the readiness trained classes began reading instruction after 6 weeks of readiness training, these eight children were started in the preprimer. To the teacher's surprise, six of these children were successful readers while the other two were slowly learning to recognize words.

Another readiness teacher found that children in all three reading groups seemed to lose interest after 2 to 3 weeks of readiness training, at which point she

believed that the whole class would have been receptive to reading instruction.

A teacher of a non-readiness trained class found that the children had greater interest in learning to read than in previous years, when she began instruction with readiness workbooks. In the past, when the accelerated group began reading in preprimers and the other groups were still using readiness materials, many children who remained in readiness workbooks lost interest in learning to read.

Another non-readiness teacher attributed the enthusiasm for reading in all three reading groups to the early introduction of reading lessons. She commented that even the slowest children were reading and enjoying it.

CHAPTER VI

SUMMARY AND CONCLUSIONS

This chapter summarizes the present study, draws conclusions from the research results, and suggests areas for further study.

Summary

This study was concerned with the comparative value of readiness training and non-readiness training in increasing the reading achievement of first-grade students. The general plan was to provide Experimental Group 1 with 6 weeks of readiness training and 10 weeks of reading instruction and to compare the reading achievement of this group with that of Experimental Group 2, whose instructional program consisted of 16 weeks of reading instruction in basal readers and no readiness training. Readiness training was defined as instruction that was based upon the use of traditional basal series reading readiness workbooks in which no words were taught; that is, reading instruction was withheld for the period of readiness training.

The subjects were 137 pupils in six first-grade classes in a middle-class, suburban community of central

New Jersey.

Three classes were readiness trained and three classes were non-readiness trained. The readiness trained group was given instruction in Allyn and Bacon readiness workbooks with no reading instruction of any kind for the first 6 weeks of the study; reading lessons began in the seventh week. The non-readiness trained group was given reading instruction and no readiness training for the entire 16-week period that the study was in progress.

Pretest instruments were the Metropolitan Readiness Test and the Test of General Ability. The Word Reading, Paragraph Meaning, and Word Study Skills subtests of the Stanford Achievement Test were the posttest measures of reading achievement.

The main statistical analysis concerned comparisons of mean scores on all measures between treatment groups. Statistical significance was evaluated by the t test or by the Mann-Whitney U test. Also analyzed were the reading achievement scores of the three groups who scored high, average, and low on the Metropolitan Readiness Test, and intelligence, chronological age, and sex groupings within each training method.

Mean differences between treatment groups consistently favored the non-readiness trained group, as did the statistically significant differences. Differences

between the treatment groups on the Word Reading subtest were statistically significant at the .05 level; differences in Paragraph Meaning were nonsignificant statistically; and differences in Word Study Skills were statistically significant at the .01 level.

When the reading achievement of high, average, and low scorers on the Metropolitan Readiness Test was analyzed, no statistically significant differences were found in Word Reading or Paragraph Meaning, but on the Word Study Skills subtest, in which the scores of high and average readiness scorers in the non-readiness trained group were significantly higher than the scores of high and average readiness scorers in the readiness trained group, statistical significance reached the .01 level.

Intelligence, age, and sex groupings indicated no significant differences between treatments on the Word Reading and Paragraph Meaning subtests. However, on the Word Study Skills subtest, intelligence groupings revealed that both higher and lower intelligence children in the non-readiness trained group scored significantly better than did higher and lower intelligence children in the readiness trained group. Age groupings showed a statistically significant difference in favor of younger children in the non-readiness trained group who scored significantly better in Word Study Skills than did younger children in

the readiness trained group. Sex groupings indicated no significant differences between girls in the two treatment groups, but boys who were non-readiness trained scored significantly better in Word Study Skills than did boys who were readiness trained.

Conclusions

Based on the findings of this study, and subject to the limitations that the population used was middle class and that there were relatively few students who scored low on the Metropolitan Readiness Test, the following conclusions may be drawn:

1. Omitting traditional reading readiness materials from the first-grade instructional program does not decrease reading achievement and may, in fact, increase reading achievement. This implies that first-grade reading instruction should begin with formal reading lessons.

2. Intelligence, age, and sex did not influence reading achievement; training method was the important factor.

3. Offering reading instruction to all children at the beginning of first grade gave the teachers the opportunity to judge readiness for reading on the basis of the child's actual success in reading lessons, and no child was denied reading instruction on the basis of a readiness test whose accuracy in the prediction of reading success

is questionable.

4. There is virtually no justification for the expense involved in the purchase of traditional reading readiness materials.

5. The time spent in the use of reading readiness materials could be more efficiently used for reading instruction.

6. Children learn to read when they are taught to read.

Areas for Further Study

1. It would be desirable to conduct a follow-up study at the end of first grade, second grade, and third grade to determine the differences between treatments after a longer period of time. A longitudinal investigation would add depth to the findings of the current study.

2. It is suggested that a similar study be conducted, using a much larger population, so that a greater number of low readiness scorers would be obtained. This would enable the investigator to determine whether a child who scores low on a readiness test profits more from readiness or non-readiness training.

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APPENDIX IV

QUESTIONNAIRE

RUTGERS READING CENTER SURVEY

Name_____ School_____

Principal_____ School Phone_____

In first grades the start of reading lessons using a preprimer begins at various times. Some teachers may begin some children with preprimers in the first week of school. while others have delays for readiness activities. If there are delays for readiness activities, these delays may vary with the children. We are not implying that there is a right or wrong way; we only want to know the existing practice.

Question 1

Please tell us when you begin using preprimers in either weeks after school begins or approximate month name. Your report should look something like Example 1 or Example 2.

Example 1

10 children begin 2 weeks after school starts.

8 " " 6 " " " "

5 " " 12 " " " "

2 " haven't started by April.

Example 2

Out of a class of 26 about 2/3rds began using preprimers on November 1st and the remainder started using preprimers in January.

Response to question 1

Question 2

If you don't begin using preprimers with all children, what type of reading or reading readiness activities and materials do you use until you start using preprimers? We realize that some so called "readiness" activities may continue after you have started using preprimers but we are not concerned with this.

DESCRIPTION OF READING OR READINESS TEACHING BEFORE PREPRIMERS: (If it varies with groups, please explain.)

Response to question 2

Please return within 3 days in district mail to Mrs. Cecelia Winfield.

If you have any questions about filling this out, please phone Sara Limmer at 201-388-7635.

VITA

Name: Karen E. Carlson Dakin

Address: 201 Lawrence Apartments, Princeton, New Jersey 08540

Telephone: 609-924-7417

Educational Background:

High School:	Union High School Union, New Jersey 1957-61
College:	Upsala College East Orange, New Jersey A.B. (History and Elementary Education)

Professional Experience:

1965-67	Third Grade Teacher Washington School Union, New Jersey
1967-68	Supplemental Teacher Crossroads School South Brunswick, New Jersey
1968-69	Social Studies Teacher Crossroads School South Brunswick, New Jersey
1969-70	Reading Teacher Princeton Day School Princeton, New Jersey