

1968

A Three-Year Experimental Study of Two Methods of Teaching Reading in the Elementary School

Merle Eugene Davis
Central Washington University

Follow this and additional works at: <https://digitalcommons.cwu.edu/etd>



Part of the [Educational Assessment, Evaluation, and Research Commons](#), [Educational Methods Commons](#), and the [Elementary Education and Teaching Commons](#)

Recommended Citation

Davis, Merle Eugene, "A Three-Year Experimental Study of Two Methods of Teaching Reading in the Elementary School" (1968). *All Master's Theses*. 831.
<https://digitalcommons.cwu.edu/etd/831>

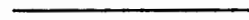
This Thesis is brought to you for free and open access by the Master's Theses at ScholarWorks@CWU. It has been accepted for inclusion in All Master's Theses by an authorized administrator of ScholarWorks@CWU. For more information, please contact scholarworks@cwu.edu.

224

A THREE-YEAR EXPERIMENTAL STUDY OF TWO METHODS OF
TEACHING READING IN THE ELEMENTARY SCHOOL



A Thesis
Presented to
the Graduate Faculty
Central Washington State College



In Partial Fulfillment
of the Requirements for the Degree
Master of Education



by
Merle Eugene Davis
August, 1968

LD
5771.3
D263t
SPECIAL
COLLECTION

170939

APPROVED FOR THE GRADUATE FACULTY

John E Davis, COMMITTEE CHAIRMAN

Alan R. Bergstrom

Darwin J. Goodey

TABLE OF CONTENTS

CHAPTER	PAGE
I. THE PROBLEM AND DEFINITION OF TERMS USED	1
The Problem	2
Statement of the problem	2
Statement of the hypothesis	2
Background of the study	2
Importance of the study	4
Plan for Studying the Problem , ,	4
Definition of Terms Used	5
Synthetic method	5
Analytic method	5
Phonics	5
Inductive Phonics	6
Deductive phonics	6
The Basal Reader Program	6
Phonic approach	6
Phonic analysis	6
Limitations of the Study	6
Organization of the Remainder of the Study	7
II. REVIEW OF THE LITERATURE	9

CHAPTER	PAGE
A Definition of Reading and Word Recognition	10
The Basal Reader Program	11
The Phonetic Method	16
Review of the Research	19
Summary	22
III. THE GROUPS STUDIED AND MATERIALS USED	23
The Sample Population and Matching Procedures	23
Instructional Materials Used	25
Control group	25
Experimental group	27
The Testing Program and Instruments Used	28
IV. EVALUATION OF THE STUDY	30
V. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS	37
Summary	37
Conclusions	38
Recommendations for Further Study	39
BIBLIOGRAPHY	41

LIST OF TABLES

TABLE		PAGE
I.	Comparative Data on Children in the Experimental and Control Groups	26
II.	Mean Metropolitan Achievement Scores, First Grade . . .	31
III.	Mean Metropolitan Achievement Scores, Second Grade . .	32
IV.	Mean Metropolitan Achievement Scores, Third Grade . . .	33
V.	Growth in Mean Grade Equivalent Scores for Experimental and Control Groups for Each Year	35

CHAPTER I

THE PROBLEM AND DEFINITION OF TERMS USED

In our modern, complex society with its ever-changing technology and way of life, it behooves the elementary school administrator to investigate different methods and techniques of learning. It is not sufficient to continue to use established procedures because they have worked in the past.

Rather, it is imperative that past research be investigated, new research innovated, and the findings used to improve all areas of the instructional program. Green has stated that it is impossible to plan effectively for improvement of instruction except when such plans are based on careful and exact studies of the present success and failure of instruction (3:1).

One of the most crucial problems facing the educator today is that of improving reading instruction. "The reading problem," contends Trace, "is rapidly emerging as the gravest of all the academic problems which our schools face at the present time" (37:12).

Because primary reading instruction is the foundation for all further reading in the academic areas, the degree of effectiveness of this instruction has tremendous importance in the eventual success or failure of the individual student in his further academic pursuits.

To help the individual student attain academic success, the elementary principal should aid his teachers in discovering the best method, or methods, of teaching beginning reading.

I. THE PROBLEM

Statement of the Problem

The purpose of this study was to compare the effect of a phonetic reading approach, namely that published by the Economy Company, with a traditional basal reading approach upon reading achievement in the primary grades of the Peter G. Schmidt Elementary School, in Tumwater, Washington. A secondary purpose of the study was to compare the effects of the two approaches on spelling achievement in the second and third grades in the Peter G. Schmidt Elementary School.

Statement of the Hypothesis

The null hypothesis to be tested was that, all variables being relatively controlled, there would be no statistically significant advantage gained in reading and spelling through the use of a phonetic method of teaching primary reading.

Background of the Study

A review of the reading achievement scores, based on the results of the Metropolitan Achievement Test file in the Peter G. Schmidt Elementary School, revealed that a significant number of students were reading at

or below the national grade equivalent norm for their grade level. This review covered test results for a two-year period, and for both years the number of pupils reading at or below the national norm was approximately forty per cent.

Individual and group conferences and meetings with the primary teachers indicated that teachers felt they were doing the best job possible with the reading program then in use. Some expressed doubt about the system of instruction in phonics being used.

The reading method used in the primary grades at the time of this investigation was the Scott, Foresman Basal Reading Program, which employs an analytic approach to the teaching of phonics. The teachers supplemented this method with additional phonics instruction as they saw fit or as was within their abilities. They all started the program with the learning of a basic sight vocabulary.

The results of this initial inquiry were presented to the staff and it was unanimously agreed that an experimental program be set up to evaluate another method of teaching primary reading.

Since the method of phonics instruction was the major contention, it was decided that a phonics method be selected and compared to the current basal program. It was further decided that the experiment should be continued for three years to assess the effects on reading achievement in the three primary grades.

Importance of the Study

In attempting to make a decision about whether to promote the inductive or deductive teaching of phonics, a school administrator may find little help from the findings of research. For a variety of reasons the research in this area is faulty (10:73). Many of the studies have not been thoroughly documented; some show obvious bias on the part of the writer; others have not been statistically treated for significance; and finally, not enough studies have been conducted to decisively indicate which method would be best to use.

It is further stated by Hildreth (21:342) that comparative studies of the synthetic and analytic methods of learning sounding are virtually non-existent. The justification for following one method or the other rests principally upon theoretical grounds.

Since the proof of theory lies in its application, the conclusion may be drawn that a comparison of two opposing theoretical concepts of phonic instruction in teaching primary reading would prove of some importance.

II. PLAN FOR STUDYING THE PROBLEM

Each group was taught within the regularly scheduled time for teaching reading in the Peter G. Schmidt Elementary School, but was exposed to two different methods of teaching primary reading: the

traditional basal program and the phonetic approach. The materials used by each group is detailed in Chapter III.

The two groups were tested for reading and spelling achievement for a three-year period. At the end of three years, differences in achievement were calculated and treated statistically through application of the t test to determine any significance.

III. DEFINITION OF TERMS USED

Synthetic Method

The method of teaching phonics where certain letter-sound relationships and word elements are taught before the child learns to read. The child is then taught to synthesize word elements learned into whole words.

Analytic Method

The method of teaching phonics where the child is taught whole words and then through various analytic techniques, recognition of letters and the sounds they represent as applied to words the child already knows.

Phonics

Refers to speech sounds corresponding to letters, letter groups, and syllables in words.

Inductive Phonics

A synthetic system of phonics analysis where letters and sounds are learned before the whole word is learned.

Deductive Phonics

An analytic system of phonics analysis where the whole word is learned before the letters and sounds are learned.

The Basal Reader Program

A reading program where from fifty to one hundred sight words are learned before words are analyzed phonetically.

Phonic Approach

A reading program where the vowel sounds and consonant sounds are taught before the child learns to read.

Phonic Analysis

The process of identifying recurring sounds in words, of "reading through" the word, pronouncing the successive sounds aloud, or thinking the sounds subvocally for clues to the pronunciation of the word, hence its meaning.

IV. LIMITATIONS OF THE STUDY

The study was limited by the factors of sample size, teacher

competence, emotional and psychological characteristics, environmental influences, and range of intelligence of the sample.

The value of the study was seriously limited by the size of the groups involved. The fact that the study lasted three years would possibly tend to alleviate this limitation.

There was no attempt in the study to evaluate teacher competence or to control the Hawthorne effect.

No attempt was made to match the groups emotionally or psychologically as it was felt that the matching procedures used would tend to distribute these factors evenly.

Factors of home environment, attitudes toward the school, and general health were not considered in the study. It was assumed that these would tend to be approximately the same for both groups.

The below-average student was not considered in the study. Although below-average students were included in the original experimental group, all had moved away by the beginning of the second year of the study.

V. ORGANIZATION OF THE REMAINDER OF THE STUDY

Chapter II contains the survey of literature in the field of beginning reading instruction. It is divided into five sections: a definition of reading and word recognition, the traditional basal program, the phonetic method, review of the research, and a summary.

Chapter III deals with the groups studied and materials used. It is subdivided into the following sections: the sample population and matching procedures, the instructional materials used for the control and experimental groups, and the testing program and materials used.

Chapter IV contains an evaluation of the study and the treatment of the test results.

Chapter V states the summary, conclusions, and recommendations of the study.

CHAPTER II

REVIEW OF THE LITERATURE

In American education today, one finds evidence of disagreement over the many varied methods and techniques of teaching beginning reading. It was the intent of this writer to survey the literature pertaining to two of these approaches to beginning reading instruction. In the course of this study, reference is made to the opinions of some of the foremost acknowledged reading experts. References are also made to the opinions of some who are not considered experts; this is done to show comparison or to emphasize a point.

The area of greatest controversy is that mentioned by Spache (31:280-281) when he states:

Since about 1910, the word recognition program has been the subject of more heated debate than any other element of the entire reading program. Most of the arguments have centered around the question of the values of teaching phonic analysis Reading instruction gradually shifted from a system which stressed phonics as the chief method of word recognition to a method involving practically no phonics at all. By the late 1920's this trend was reversed and since then phonics has been presented in practically all American basal reading series as one of the significant word recognition skills.

Critics of current methods of teaching reading, e.g., Flesch, Trace, Terman, and Walcutt, contend that phonics is not being taught in modern basal programs. They advocate a return to basic phonics

instruction in beginning reading. Trace (37:77) facetiously labels the current method of word recognition as the "look and guess method."

Strang and Bracken (34:13) answer this criticism when they observe, "Frequently we hear the question, 'Do we teach phonics in the primary grades?' Yes, we do teach phonics; only 2 per cent of the teachers in one study said they did not teach phonics in some way."

Basically, this controversy is centered around two different philosophies of methods and approaches to the teaching of phonics in beginning reading instruction. One approach, the analytic, advocates the whole word to sound approach. On the other hand, the synthetic recommends a sound to whole word approach to teaching phonics.

Some comparative research has been done on the analytic and synthetic methods of teaching phonics. Those that involve the instructional series used in this study are reported as well as others that involve similar methods.

Since word recognition is one phase of the total reading program, it was determined that this review begin with a definition of reading and word recognition.

I. A DEFINITION OF READING AND WORD RECOGNITION

"Reading," says Hildreth (21:2), "is a mental process involving the interpretation of signs perceived through the sense organs." The late

William S. Gray (13:35) further enlarged this basic premise by defining reading as a four-step process: (1) word perception, (2) comprehension, (3) reaction, and (4) integration. Many reading experts define reading, at least basically, along the same lines cited by Gray. However, Spache (31:5) contends that since the reading process is so complex and has many stages of development, one simple definition will not suffice.

Because this study did not investigate the broad field of reading, for its purposes the definition stated by Harris (16:13), that reading is the meaningful interpretation of printed or written verbal symbols, was considered inclusive.

The aspect of reading with which this study was mainly concerned was that of word recognition, particularly phonics. Spache (31:12) defines word recognition as word perception and noted that it included the stimulus of the printed word, the processes of recognizing the word, and attributing meaning to it. This is all based on the reader's previous experiences.

Tinker and McCullough (36:139) simplified the definition of word recognition when they declared that "Basically, word recognition involves matching the visual symbol with the sound and meaning represented by the symbol."

II. THE BASAL READER PROGRAM

The basal reading program emerged as a reaction against the word

guessing methods used in the 1920's and 1930's (the word guessing method meant simply that the student looked at a word and either recognized it by sight or guessed at it). Emphasis on visual word perception, whether by sight or phonetic analysis, was considered almost disreputable among many school authorities (13:26). The results of this word guessing method were seen in large groups of young people who were disinterested and inefficient in reading, who although intelligent were functionally illiterate, and who increasingly crowded remedial reading classes in the high schools (13:27).

This reaction to the lack of proficiency in reading brought about the introduction of the basal reading program. The use of the basal reading program was emphasized by Spache (31:58) when he noted that a recent survey of 1,300 teachers sampled throughout the country showed that 95 to 98 per cent of primary teachers used basal readers every school day.

Yoakam (39:8) contended that the basic problems of teaching the child to read were: (1) vocabulary selection and control, (2) meaningful and interesting content, (3) systematic building of reading skills in order of their natural development, (4) continuity in experience, (5) distribution of the vocabulary in such a way as to secure natural repetition, (6) style attractive to children, and (7) help for the teacher in the development of fundamental reading skills. According to Yoakam (39:79), the answer to

these basic problems of teaching the child to read were exemplified in the advantages of the basic reader approach.

Various authorities pointed out the characteristics of a basal reading series. One of these characteristics, controlled vocabulary, was questioned by Spache (31:60), when he mentioned that vocabulary control has shown a constant trend toward greater repetition and smaller vocabularies in all levels of primary readers for the past thirty or more years. This was justified by Harris (16:150), in the explanation that although a child has a large meaning vocabulary when he enters school, he must learn to recognize the printed symbols for these words and establish techniques of word identification.


In regards to a second characteristic of a basal reading series, basic sight vocabulary, it was maintained by Austin and Morrison (1:30), that generally, most basal reading programs have minimized formal instruction in phonics until a child has acquired a sight recognition vocabulary of between fifty and seventy-five words so that he can use these as clues in unlocking many others.

Strang and Bracken (34:16), reported that today children are taught these sight words first by the sentence-story method, then by the word-phrase method. These authors contended that these methods were based on the theory that it was best to begin with the large meaningful whole and proceed from there to the smaller parts which make up the whole.

They referred to the word method and the phrase method as the "look-say" methods since the procedure was simply one of looking at a word or phrase and saying it.

Strang and Bracken (34:30) simplified a third common aspect of basal programs, procedures used in recognizing unfamiliar words, when they stated them as five ways to recognize unfamiliar words: (1) use context clues, (2) get help from the word form or configuration, (3) use structural analysis, (4) use phonic analysis, and (5) use the dictionary.

These procedures were further developed by Russell (29:204), when he proposed eight methods of recognizing words:

1. The general pattern or configuration of the word; for example, the word "dog" might look like  .
2. Special features of a word, such as a double t or the tail on the end of the word monkey.
3. Recognition of known parts in words--in compound words such as mailman, or seeing small words in large words, as fast in faster. (This should be more appropriately referred to as look for the root-word.)
4. The use of context clues--an intelligent guess at the words from the meaning of the rest of the sentence.
5. The use of pictures as clues, somewhat similar to the context or meaning clues.
6. Some phonetic analysis of the word--knowing sounds of letters or combinations of letters and blending them into a word.
7. Structural analysis of a word--recognizing the stem and affixes such as re and ing.

8. A combination of methods such as using the sounds of m and j and seeing the common phonograms for ai in going from the known word mail to the new word jail.

Another characteristic of a basal reading series, different procedures followed in learning word discrimination and sounding, was based on a 1937 study by Dolch and Bloomster (8:201-206), in which it was stated that children below a mental age of seven years may not be successful in applying phonic principles.

Yoakam (39:37) confirmed this concept with the observation:

For instance, it is now generally conceded that a mental age of seven is essential in the child if he is to cope successfully with phonics. A child with a lesser mental age cannot make heads or tails out of the idea that words are often composed of elements that represent the symbols for certain familiar sounds and that by identifying these symbols one may learn how to work out the pronunciation of words which are not familiar at sight.

This theory was further supported by Hildreth (21:242) when she cited two studies, one by Sexton and Herron that found phonics to be of little use in the first grade, the other by Garrison and Heard who concluded that the second and third grades were the best periods for focusing on teaching phonics for reading.

This view of the principle levels at which phonic and structural analysis were emphasized in basal series was summarized by Austin and Morrison (1:31) when they declared, "On the whole, however, the major stress on phonic and structural analysis appeared at the second and third grade levels."

As stated by Austin and Morrison (1:30),

On the one hand there are the basal reading series which emphasize phonics as one of the several techniques to be used in word identification and, on the other, the sounding systems which support the theory that phonics is the most effective way to attack a word.

III. THE PHONETIC METHOD

The position of the advocates of a phonetic method of teaching beginning reading was explained by Gurren and Hughes (14:344). In their review they concluded that early and intensive phonics instruction tends to produce superior reading achievement. They recommended that vowel sounds as well as consonant sounds be taught intensively from the start of reading instruction.

The renewed emphasis concerning the importance of phonetic instruction was emphasized by Cordts (6:vii) when she held:

With the upsurge of interest in the teaching of reading in the nation's schools, "phonetic" instruction has come into prominence. After having so long been held in ill-repute, phonics has regained respectability.

Harris (16:205) noted that there are three types of phonics materials available: (1) supplementary phonic programs, (2) phonic accessories, and (3) basal phonic systems. He dismissed the first two as being only incidental to a reading program and warned that the teacher should not expect that phonic accessories would teach phonetic principles (16:207).

Basal phonic systems were identified by Harris (16:207) as those phonic systems that are intended to be used with beginning readers in place of the usual first grade materials or are to be used before the regular readers. One recent basal phonic system (Basic Reading, published by the J. B. Lippincott Company) has a complete basal program with textbooks and other materials.

The basal phonic system, Phonetic Keys to Reading, was influenced by three basic assumptions: (1) early independence and self-confidence are essential in learning to read, (2) certain basic understandings and skills are necessary before the child learns to read, and (3) a balance of instructional time and emphasis must be maintained between meaning and discrimination skills (18:6).

Noftzinger (24:506) explained that instruction in "Phonetic Keys" began with the long and short sounds of the vowels. This was in contradiction to the concept that a mental age of seven years was essential before phonics instruction had much value (39:37). In a study conducted in 1960, Anderson (22:5) found that a group of kindergartners with mental ages ranging from fifty-two to sixty-five months benefitted equally well from phonics instruction as a group with mental ages of seventy-nine to ninety-one months.

It was also mentioned by Noftzinger (24:506) that in "Phonetic Keys" the sounds of the consonants are learned following the learning of

the sounds of the vowels. She contended that this brought about word analysis before word vocabulary development. The authors of "Phonetic Keys" (18:6) further developed this assertion by stating that the students were taught to put these sounds together (or synthesize them) to form a meaningful unit--a word. Terman and Walcutt (35:72) claimed that the idea of teaching the letters first interfered with learning to read was an erroneous inference based on discoveries about eye movements and was not a proven fact. Trace (37:68) dismissed the whole-word approach when he wrote:

As for the principle of Gestalt psychology which maintains that we perceive wholes before we perceive parts, all that apparently needs to be said is that the principle does not appear to apply to learning words because we don't learn new words very well without examining their parts first

The procedure used in "Phonetic Keys" was based on the assumption that word-analysis skills should be developed in conjunction with a vocabulary that can be identified by analysis (18:7). When speaking of this procedure in the teacher's manual for "Phonetic Keys" (18:7), the authors stated:

It discounts the assumption on the part of some reading specialists that the mastery of a sight vocabulary must precede the development of word analysis skills.

There were words, however, that could not be taught by the use of phonics. Hildreth (21:154) noted that 80 to 85 per cent of English words contained consistently sounded elements. This left

approximately 15 to 20 per cent that were non-phonetic and could not be sounded. The teacher's manual for "Phonetic Keys" (16:8) instructed the teacher to teach these words as sight words.

Henderson (20:4) declared that the synthetic program, Phonetic Keys to Reading, included all the word perception and comprehension skills used in an analytical program; the only variation was in method of approach, timing, and in emphasis. Harris (16:24) observed that Phonetic Keys to Reading taught as much phonics in the first grade as most basal series taught in the first three grades.

IV. REVIEW OF THE RESEARCH

Ketcham (24:514-515), attempting to analyze the underlying factors contained in the research involving the basal and phonetic methods, emphasized the question:

Shall we teach the child the letters and sounds that go with those letters first and in a systematic way? or Shall we teach him 50 or 100 sights (sic) words and then incidentally and over a period of two years teach him the letters and the sounds?

She pursued this further when she stated that what is involved is not research into two specific types of reading texts but research into two entirely different methods of teaching reading (24:514).

One of the earliest studies involving these two approaches to reading was that of Sexton and Herron (30:701). The findings of this study were that the teaching of phonics functions very little, or not at

all, with beginners in reading during the first five months of the first grade. Gurren and Hughes (14:343) in a recent review contended that this study was not valid because I.Q. tests were not administered and the study failed to include tests of significance.

A later study, Morgan and Light (25:100), found no evidence that the synthetic program (Phonetic Keys to Reading) would produce superior readers by the end of the third grade. They mentioned that the reading mean scores of all four schools involved in the study were significantly above the national norms and that this might affect the findings of the study.

In another study involving a synthetic and analytic method, Cleland and Miller found that the analytic method proved superior. Gurren and Hughes (15:90), using the test results of this study, applied different statistical methods and found the synthetic method to be significantly superior.

Four studies (2, 4, 7, 18) found the synthetic method to be superior in teaching beginning reading. One of these, Bliesmer and Yarborough (4:500), tested five analytic and five synthetic methods with first graders and found all scores were statistically favorable to the five synthetic methods. Two other of these four studies, Bear (2) and Duncan (7) were of one year's duration while that of Henderson (18) covered a three-year period.

Henderson's study was extended for a three-year period through the sixth grade. The findings reported at the end of this study were that the pupils in the experimental group had maintained the reading proficiency they had shown at the end of the third grade (19:13).

Mason (11:28) proposed a possible explanation of why programs emphasizing drills on phonetic analysis, sounding of letters and words in isolation, and synthetic blending of sounds into words have yielded test results at the end of the first grade which are as good or better than those from a look-say method. He stated three possible reasons:

1. The words may have been learned as sight words because of repetitive drill.
2. The children may have perceived the parts, but kept the whole in mind.
3. Primary level measuring instruments tend to mainly measure word recognition.

Sheldon (24:45) summarized the influence of research on reading methods when he wrote:

The influence of research is slighter than it should be. Our field needs more rigorous investigation, more analytical reviews of research findings, more attention paid to fruitful research, not only by the publishers and product-makers, but also by teachers and other researchers. The chief deficiency in reading research is the lack of synthesis.

V. SUMMARY

Throughout the survey of literature, one fact was very evident; this was the inconclusiveness of the research and evidence on both sides of the controversy of whether the synthetic or analytic approach is more effective. It was sometimes impossible to ascertain from the findings of the various studies whether they were based on empirical evidence or on the personal bias of the authors.

The opinion of the experts was even more contradictory than the findings of the research. The views of the experts seemed to depend almost entirely upon their own personal philosophy in most cases rather than being based on facts and evidence.

Spache concluded from the evidence available concerning methods of teaching beginning reading that "Despite the best efforts, the available research does not prove any particular system superior to all others" (31:306).

CHAPTER III

THE GROUPS STUDIED AND MATERIALS USED

The purpose of this study was to compare two different reading approaches in the primary grades of the Peter G. Schmidt Elementary School.

The two groups in the study were matched as evenly as possible to lessen the chance of faulty conclusions from the comparison. The factors of sex, intelligence quotient, and reading readiness scores were used as variables in the matching procedure.

The study was conducted over a period of three years and the two groups were tested each year. This was done to facilitate long-range as well as short-range comparisons. Both groups were tested for reading achievement for three years of the study and for spelling achievement the second and third years. The same testing procedure was followed for each group. Tests were given to each group at the same time and were administered in an identical manner.

I. THE SAMPLE POPULATION AND MATCHING PROCEDURES

The original population involved in the study was all of the students entering the first grade at the Peter G. Schmidt Elementary School in September, 1963. These children were assigned to rooms on the basis of reading readiness scores. The rooms were equated as much as possible

using readiness scores as the variable. Also, the children who had not attended kindergarten were distributed equally among the rooms.

One room containing twenty-eight students was designated as the experimental room. Three other rooms were designated as control rooms and contained twenty-six, twenty-four, and twenty-one students respectively.

No attempt was made to equate the rooms on a socio-economic basis because it was felt after investigating that the difference in socio-economic level in the community were not significant.

In September, 1964, it was found that six members of the experimental room had left the district. These six members had the lowest reading readiness scores of the experimental group. Due to this, it was decided to carry on the study using the remaining students as the experimental group and not assess any results the study might indicate for below-average students.

At the completion of third grade, the twenty-two members from the original experimental group were matched with twenty-two members from the original control group on the basis of sex, intelligence quotients, and reading readiness scores. The variable of sex was weighted more than that of the intelligence quotient in the matching procedure. This was done because of research reported by Hughes (27:103) and Waetjen (38:13), that sex has a significant effect upon reading achievement, especially in the primary grades.

Table I compares the number of children in each group, their chronological age, mental age, intelligence quotient, reading readiness scores, and sex.

II. INSTRUCTIONAL MATERIALS USED

Control Group

The control group used materials included in the Scott, Foresman Basal Reading Program, 1960 edition. This consisted of three pre-primers and a workbook, one first reader and workbook, two second grade readers, and two third grade readers. The teacher's guidebooks were used with all texts.

In addition to these materials, co-basal readers published by Row, Peterson Company were introduced in grades two and three. Two workbooks from this series were also used in these two grades in place of Scott, Foresman workbooks.

The only non-basal material introduced in the basic design of the study was a phonics-type workbook that was used in the second semester of third grade. It was felt that any work with phonics included in this workbook would not affect the basic design of the study because the workbook was introduced after most of the phonetic principles had been set forth in the basal reading program.

TABLE I
COMPARATIVE DATA ON CHILDREN IN THE
EXPERIMENTAL AND CONTROL GROUPS

Data	Experimental Group N-22	Control Group N-22
Mean C.A. in months	91.04	89.95
Range in C.A.	7-1 to 8-0	7-2 to 8-0
Mean I.Q.	112.227	112.272
Range in I.Q.	93-139	94-129
Mean M.A. in months	102.09	100.72
Range in M.A.	7-0 to 10-5	7-3 to 10-1
Mean Readiness Score	59.45	59.40
Number of boys	9	9
Number of girls	13	13

NOTE: The chronological age, mental age, and intelligence quotients were all computed for the second year of the study or the second grade. The readiness scores were computed from scores obtained when the children were in kindergarten.

During the three-year period, the students read as many other basal texts as time and their abilities allowed. All supplementary basal texts used were of a traditional orientation.

Experimental Group

Instructional materials used by the experimental group were those contained in the Economy Company's reading series, Phonetic Keys to Reading. These materials were all disposable paperback texts and were designated by readiness level as in traditional basal series. They included one audio-readiness book and pre-primer, one primer, one first reader, one second grade orientation reader, one second reader, one third grade orientation reader, and one third reader. The teacher's manual was used on each grade level.

As was suggested in the time plan in the teacher's manual (18:3-4), texts from traditional basal series were used periodically. These were used on each grade level to the extent that time and the abilities of the children allowed.

Because the Economy Company offered no separate workbooks in conjunction with their readers, one workbook was used each year from another series. The workbook chosen was from the Basic Reading Series published by the J. B. Lippincott Company. This series was chosen because it was felt that its strong phonics orientation would more closely parallel that of Phonetic Keys to Reading.

III. THE TESTING PROGRAM AND INSTRUMENTS USED

It was decided that the study should be constructed within the framework of the regular school district testing program. This was done so there would be no irregular testing procedures that might tend to influence the performance of the children.

The Metropolitan Reading Readiness Test was administered to the children in kindergarten in March, 1963. Four of the children included in the final study group did not attend kindergarten and did not take this test.

In compliance with the regular district testing program, the Kuhlman-Anderson Intelligence Test (7th edition) was administered to all the children in November, 1964. This test was given in the second grade because the district philosophy was that more valid results were obtained by administering the test during the second grade rather than during the first grade.

Each year, in the spring of the year, the Metropolitan Achievement Battery was administered to all children in the school. Each member of the control and experimental groups was tested three times over the three-year period of the study. Although the classroom teachers administered this test, no child was tested by their home-room teacher. All teachers rotated rooms in order that no incidental or unintentional help be given

to any child. It was felt that the results of the test were more valid using this procedure.

CHAPTER IV

EVALUATION OF THE STUDY

The purpose of this study was to compare two different reading programs in the primary grades of the Peter G. Schmidt Elementary School.

The study tested the hypothesis that, other variables being relatively controlled, there would be no difference in mean reading achievement scores of two matched groups of children when each group had been introduced to reading instruction by a different approach.

To test the hypothesis and evaluate the program, test scores were obtained from the Metropolitan Achievement Tests. The tests used consisted of the Primary K Battery, the Primary II Battery, and the Elementary Battery. The subtest scores recorded were those of word knowledge, word discrimination, reading, and spelling.

The raw scores of the subtests were converted to grade equivalent scores and the mean grade equivalent computed for the experimental and control group for each subtest. The mean grade equivalent scores were rounded off to the nearest hundredth for purposes of comparison.

The results of the mean grade equivalent scores of the subtests are shown for the first, second, and third grade years of the study.

The results of the mean grade equivalent scores of the three subtests for the experimental and control groups at the first grade level are presented in Table II.

TABLE II
 MEAN METROPOLITAN ACHIEVEMENT SCORES
 First Grade

	Experimental	Control	Difference
Word Knowledge	2.70	2.40	.30
Word Discrimination	2.94	2.49	.45
Reading	2.84	2.45	.39

It should be noted that in all subtests the mean score of the experimental group exceeded that of the control group for the first grade level. However, the application of the matched pairs t test revealed no statistically significant difference between the means at the .05 level.

Through examination of Table II, it may be seen that the differences between the mean scores range from a .30 to a .45. The greatest difference was in the subtest of word discrimination (.45), while the least difference was in the subtest of word knowledge (.30). This would tend to indicate that the children in the experimental group were more proficient in choosing a word by its printed form rather than associating a word with its picture. This could have been caused by the stronger word-part and sounding orientation of the phonetic program.

Table III includes the results of the mean grade equivalents for four subtests for the second grade level of the study.

TABLE III
MEAN METROPOLITAN ACHIEVEMENT SCORES
Second Grade

	Experimental	Control	Difference
Word Knowledge	3.79	3.62	.17
Word Discrimination	4.07	3.97	.10
Reading	3.88	3.87	.01
Spelling	4.30	3.83	.47

As was the case in the first year of the study when the t test was applied, there was no statistical significance in the mean difference of any subtests.

The contents of Table III reveal that the range of difference between the mean scores is from .01 in the reading subtest to .47 in the spelling subtest. The differences in the subtests of word knowledge and word discrimination are less for the second year of the study than for the first year of the study as shown in Table II, page 31. The wide difference in the spelling subtest could have been caused by the more complete letter sounds and word-part study phase of the phonetic program. This was the first year that either the experimental or control group had been exposed to a formal spelling program.

There seems to be no valid reason for the very slight difference of .01 in the subtest of reading which essentially measures reading comprehension. This could have been caused by the teachers of the control group concentrating more on ways of improving comprehension than was done by the teacher of the experimental group who followed the somewhat more rigid phonetic program.

The details of the mean grade equivalent scores for both the experimental and control groups for the third grade level of the study are shown in Table IV.

TABLE IV
MEAN METROPOLITAN ACHIEVEMENT SCORES
Third Grade

	Experimental	Control	Difference
Word Knowledge	5.08	4.79	.29
Word Discrimination	4.85	4.70	.15
Reading	5.01	4.71	.30
Spelling	5.19	4.98	.21

As was the case for the two previous years, the mean scores of the experimental group were greater in all subtests than those of the control group. When the mean differences were treated statistically, no significant differences were found.

The range of difference shown in Table IV is from a low of .15 for word discrimination to a high of .30 for reading.

The difference in the reading subtest of .30 is very close to the difference of .39 that was recorded for the first grade level in the same subtest. The closeness of these scores would tend to indicate that the first and third grade subtests of reading were more valid, at least for these groups, than was the same subtest for the second grade.

Table V further illustrates the study by depicting the growth in grade equivalent scores from year to year for both the experimental and control groups. It is interesting to note that the growth is approximately the same for both groups when the overall pattern is observed. The growth is greater for the control group in all subtests from the first to the second grade. However, the growth is greater for the experimental group from the second to the third grade, except in the subtest of spelling.

The parallel growth of the experimental and control groups indicates that they were both exposed to the same environmental and academic atmosphere and the only difference in level of scoring was due to the program to which they were exposed.

The significance of the test results of the study was tested through the use of the t test. The difference in mean achievement scores between the experimental and control groups was not large enough to be statistically significant at the .05 level of confidence. Therefore, it was assumed that

TABLE V
GROWTH IN MEAN GRADE EQUIVALENT SCORES FOR EXPERIMENTAL
AND CONTROL GROUPS FOR EACH YEAR

	Experimental	Growth	Control	Growth
<u>Word Knowledge</u>				
First Grade	2.70		2.40	
Second Grade	3.79	1.09	3.62	1.22
Third Grade	5.08	1.29	4.79	1.17
<u>Word Discrimination</u>				
First Grade	2.94		2.49	
Second Grade	4.07	1.13	3.97	1.48
Third Grade	4.85	.78	4.70	.73
<u>Reading</u>				
First Grade	2.84		2.45	
Second Grade	3.88	1.04	3.87	1.42
Third Grade	5.01	1.13	4.71	.84
<u>Spelling</u>				
Second Grade	4.30		3.83	
Third Grade	5.19	.89	4.98	1.15

the difference in achievement scores was due mainly to chance and that the phonetic reading program proved statistically neither superior nor inferior to the traditional reading program as far as the test results were concerned.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

The study was conducted in a typical classroom atmosphere using no special teachers or devices. As little attention as possible was focused on the study and the children involved were not aware they were taking part in a study. All of this was done to make the study more valid and the setting as natural as possible.

I. SUMMARY

The study was conducted in the primary grades of the Peter G. Schmidt Elementary School. Forty-four students were involved in the study, twenty-two in the experimental group and twenty-two in the control group. The experimental and control groups were made up of matched pairs. These pairs were matched, using the variables of sex, reading readiness scores, and intelligence quotients.

The study was conducted for three years. During this time test scores from the Metropolitan Achievement Tests were recorded. At the end of this three-year period, group means were computed for both the experimental and control groups.

The obtained means were compared and tested for statistical significance through the use of the t test. When this test was applied, it was found that the differences in means between the experimental and

control groups were not statistically significant at the .05 per cent level of confidence. Because of this, the null hypothesis was accepted. This study has indicated no statistical advantage was gained by the subjects in this study through the use of a phonetic method of teaching primary reading.

II. CONCLUSIONS

Through observation and perusal of the results of the study, the following conclusions were drawn:

1. That the introduction of phonics instruction early in the first grade may have been of benefit to the children in the experimental group. This may account for the higher mean scores in the three subtests used in the first grade. However, lack of statistically significant t scores could also indicate that the difference in the mean scores of the two groups was due to chance.
2. That early phonics instruction did not tend to develop word callers and slow readers. The reading subtest consisted of sentences and paragraphs that had to be read within time limits. The experimental group had no difficulty in finishing the test.
3. That reading comprehension was equally as good or better for the group using the phonetic program. The subtest of reading was

essentially a measure of reading comprehension.

4. That although the test results did not show a statistically significant difference, the experimental group achieved higher average means in every category tested for each of the three years. This might indicate that the phonetic program may have been of some benefit to the experimental group.
5. That the results tended to indicate that the phonetic group was superior in spelling ability as tested.

III. RECOMMENDATIONS FOR FURTHER STUDY

The data collected in this study pertained to only a small segment of the total school population of one school in the State of Washington. Bearing this in mind, the following recommendations are made:

1. That a similar study be conducted using two schools, one an experimental school and the other a control school. These schools should be in similar socio-economic areas and also have as many environmental similarities as possible within each school. This would make possible larger experimental and control groups which would tend to add validity to the study.
2. That a similar study be conducted using slow learners as well as average or better students.

3. That a study using larger experimental and control groups be continued into the intermediate grades to ascertain if any long-range results would be in evidence.
4. That an investigation be made into the possibility of combining both methods tested in this study.

BIBLIOGRAPHY

BIBLIOGRAPHY

1. Austin, Mary C. and Coleman Morrison. The First R: The Harvard Report on Reading. New York: The Macmillan Company, 1963.
2. Bear, David E. "Phonics for First Grade: A Comparison of Two Methods," The Elementary School Journal, 59:394-402, April, 1959.
3. Bergstrom, Alan R. "Two Methods of Teaching Reading," Unpublished Master's Thesis, Central Washington State College, Ellensburg, Washington, 1961.
4. Bliesmer, Emery P. and Betty H. Yarborough. "A Comparison of Ten Different Beginning Reading Programs in First Grade," Phi Delta Kappan, 46:500-504, June, 1965.
5. Bond, Guy L. and Eva Bond Wagner. Teaching the Child to Read. New York: The Macmillan Company, 1960.
6. Cordts, Anna D. Phonics for the Reading Teacher. New York: Holt, Rinehart and Winston, Inc., 1965.
7. Dawson, Mildred A. and Henry A. Bammon. Fundamentals of Basic Reading Instruction. New York: David McKay Company, 1963.
8. Dolch, E. W. and Maurine Bloomster. "Phonic Readiness," The Elementary School Journal, 38:201-206, November, 1937.
9. Duncan, Roger L. "What's the Best Way to Teach Reading," School Management, 8:46-47, December, 1964.
10. Durkin, Dolores. "What Schoolman Should Know About Phonics," Nations Schools, 73:72-74, April, 1964.
11. Figurel, J. Allen (ed.). "Challenge and Experiment in Reading," International Reading Conference Proceedings. New York: Scholastic Magazines, 1962.
12. Gates, Arthur I. "Results of Teaching a System of Phonics," Reading Teacher, 14:248-52, March, 1961.

13. Gray, William S. On Their Own in Reading. Chicago: Scott Foresman and Company, 1948.
14. Gurren, Louise and Ann Hughes. "Intensive Phonics vs. Gradual Phonics in Beginning Reading: A Review," The Journal of Educational Research, 8:339-46, April, 1965.
15. _____ and _____. "The Cleland-Millen Study on Phonics," The Elementary School Journal, 66:87-91, November, 1965.
16. Harris, Albert J. Effective Teaching of Reading. New York: David McKay Company, Inc., 1962.
17. Harris, Theodore L. "Summary of Investigations Relating to Reading: July 1, 1961, to June 30, 1962," The Journal of Educational Research, 56:287, February, 1963.
18. _____, Mildred Creekmore, and Margaret Greenman. Teacher's Manual for the First Grade. Oklahoma City: The Economy Company, 1964.
19. Henderson, Margaret G. "A Six-year Experimental Study of Two Methods of Teaching Reading in the Elementary School." (Additional material to supplement a paper submitted to the Annual Meeting of American Educational Research Association.) February 17, 1959. (Mimeographed.)
20. _____. Progress Report of a Reading Study. Champaign, Illinois: Board of Education, 1955.
21. Hildreth, Gertrude. Teaching Reading. New York: Henry Holt and Company, 1958.
22. Hillerich, Robert L. "Dare We Evaluate Paradise," New Directions in Kindergarten. Proceedings of the New England Kindergarten Conference, Lesley College, Cambridge, Mass., 1963.
23. Lindquist, E. F. A First Book in Statistics. Boston: Houghton Mifflin Company, 1942, p. 138.
24. Mazurkiewicz, Albert J. (ed.) New Perspectives in Reading Instruction. New York: Pitman Publishing Corporation, 1964.

25. Morgan, Elmer F. and Morton Light. "A Statistical Evaluation of Two Programs of Reading Instruction," The Journal of Educational Research, 57:99-101, October, 1963.
26. Reading Reform Foundation. The Second Annual Conference. Hotel Astor, College Hall, New York, N. Y., August 7, 1963.
27. Robinson, Helen M. (ed.) Clinical Studies in Reading II. Chicago: The University of Chicago Press, January, 1953.
28. Robinson, Helen M., Marion Monroe, and A. Sterl Artly. Guidebook for Second and Third Pre-primers. Chicago: Scott-Foresman and Company, 1962.
29. Russell, David H. Children Learn to Read. Boston: Ginn and Company, 1961.
30. Sexton, Elmer and John Herron. "The Newark Phonics Experiment," The Elementary School Journal, 59:670-701, May, 1928.
31. Spache, George D. Reading in the Elementary School. Boston: Allyn and Bacon, 1964.
32. Sparks, Paul E. and Leo C. Fay. "An Evaluation of Two Methods of Teaching Reading," The Elementary School Journal, 57:389-390, April, 1957.
33. Stone, Clarence R. "Questionable Trends in Beginning Reading," The Elementary School Journal, 66:214-222, January, 1966.
34. Strang, Ruth and Dorothy Kendall Bracken. Making Better Readers. Boston: D. C. Heath and Company, 1957.
35. Terman, Sibyl and Charles C. Walcutt. Reading Chaos and Cure. New York: McGraw-Hill Book Company, 1958.
36. Tinker, Miles A. and Constance M. McCullough. Teaching Elementary Reading. New York: Appleton-Century Crofts, 1962.
37. Trace, Arthur S. Reading Without Dick and Jane. Chicago: Henry Regnery Company, 1965.

38. Waetjen, Walter B. "Is Learning Sexless?" The NEA Journal, 51:13-14, May, 1962.
39. Yoakam, Gerald A. Basal Reading Instruction. New York: McGraw-Hill Book Company, 1955.