SYSTEMATIC PHONICS-SIGHT VOCABULARY BUILDING COMPARED WITH ADDITIONAL DIRECTED READING IN A BASAL READER: THE RELATIVE EFFECTIVENESS OF TWO METHODS OF TEACHING REMEDIAL READING CLASSES

Thesis for the Degree of Ed. D.

MICHIGAN STATE UNIVERSITY

James Augustus Gardner Lindner

1962

This is to certify that the

thesis entitled

SYSTEMATIC PHONICS-SIGHT VOCABULARY BUILDING
COMPARED WITH ADDITIONAL DIRECTED READING IN A BASAL READER:
THE RELATIVE EFFECTIVENESS OF TWO METHODS OF TEACHING
REMEDIAL READING CLASSES

presented by

JAMES AUGUSTUS GARDNER LINDNER

has been accepted towards fulfillment
of the requirements for

DOCTOR'S degree in EDUCATION

Charles A. Blackman
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Date November 21, 1962

O-169

ABSTRACT

SYSTEMATIC PHONICS-SIGHT VOCABULARY BUILDING
COMPARED WITH
ADDITIONAL DIRECTED READING IN A BASAL READER:
THE RELATIVE EFFECTIVENESS OF TWO
METHODS OF TEACHING REMEDIAL
READING CLASSES

by James A. G. Lindner

The Problem

Different methods for correcting reading difficulties are frequently proposed. When a method is proposed, it is important to evaluate its effectiveness experimentally. This study was the presentation of an original system compiled by the author, Systematic Phonics-Sight Vocabulary Building, and a comparison of this system with a commonly used procedure.

It was predicted under the null hypothesis that if sub-potential readers received, as a supplement to directed reading instruction in a basal reader, SP-SVB or additional directed reading in a basal reader, they would experience the same mean growths in word recognition, sentence comprehension, paragraph comprehension, and total reading achievement.

Design and Procedure

The study was conducted at the Belmont Elementary School in Philadelphia, Pennsylvania. Six remedial classes that met every day were used. One 30-minute and one 45-minute class were designated as

control classes. Three 30-minute and one 45-minute class were designated as experimental classes. The control group received additional directed reading instruction, and the experimental group received SP-SVB. All classes were taught by the same teacher.

The pupils participating were second and third-graders who were retarded in reading at least one year and had a mental age of at least six years and an IQ of at least eighty. Sixty-three children initially participated in the study, thirteen transferred from the school, and scores for the eight part-time pupils were not used in the results.

The reading book level was determined by an individual informal reading inventory. To determine the amount of growth, Form 1 of the Gates Primary Reading Tests was given in October and Form 3 was given in June. The difference between the scores was considered the amount of growth. Mental age and IQ were determined by using the California Short-Form Test of Mental Maturity.

Analyses of variance were carried out to determine if there was a significant interaction between the method used and the length of the reading period. In order to determine if the differences between the means of the 30-minute control group and the 30-minute experimental group were significant, t tests were carried out. A similar comparison was made between the 45-minute groups.

Findings

The 30-minute experimental group achieved higher means than the 30-minute control group. The 45-minute control group achieved higher means than the 45-minute experimental group. The 45-minute control group achieved higher means than the 30-minute control group. However, the 30-minute experimental group achieved higher means than the

45-minute experimental group.

The analyses of variance indicated significant interaction between time and method for sentence comprehension and total reading grade. The t tests indicated that the only differences that were significant at the 5% level were the differences, in favor of the experimental group, between the 30-minute control group and the 30-minute experimental group in sentence comprehension and total reading achievement.

Summary

Due to several factors present in the design and the nature of the test results, the following conclusion was drawn: There is not sufficient evidence provided by the present study to positively determine if Systematic Phonics-Sight Vocabulary Building or additional reading instruction will produce the greater growth in reading achievement when used as a remedial technique in addition to directed reading in a basal reader.

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By

JAMES AUGUSTUS GARDNER LINDNER

A THESIS

Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of

DOCTOR OF EDUCATION

College of Education

1962

ACKNOWLEDGMENTS

The writer is indebted to Miss Grace A. Taylor, who conducted the remedial reading classes, for her assistance throughout this study and to Mr. Bernard J. Keiser, principal of the school where the study was undertaken, for granting permission allowing the pupils to participate in the study.

The writer is grateful to Dr. Charles A. Blackman, Chairman of the Guidance Committee, and to Dr. William K. Durr, director of the dissertation, for their guidance and stimulation. He is also grateful to Dr. John D. Krumboltz, Dr. Gordon L. Gray, and Dr. David Krathwohl who served on the Guidance Committee.

The writer wishes to express thanks to Mr. Thurman Brown, Graduate Assistant, Department of Statistics, Michigan State University, for his assistance in the statistical analysis of the data.

BIOGRAPHICAL SUMMARY

I, James A. G. Lindner, was born July 19, 1933 in Philadelphia, Pennsylvania. I attended the public schools in Philadelphia and graduated from high school in 1951 after having completed a college preparatory curriculum.

As an undergraduate, I attended The Pennsylvania State University majoring in Elementary Education with a specialty in the teaching of the mentally advanced. I received a Bachelor of Science degree in 1955.

My master's program was also undertaken at The Pennsylvania State University. Some credits were transferred from Temple University. My major was Elementary Education, and my minor was Speech. During my first semester, I received an appointment as a graduate assistant. I received a Master of Education degree in 1956.

I was admitted to a doctoral program at Michigan State University at the beginning of the spring term in 1958 following my release from military service. Credits have been transferred for this program from Temple University and the University of Pennsylvania. The credits were taken during the regular school year while I was employed as a teacher.

I began teaching in Philadelphia in September of 1955. I taught for one year, was on military leave for two years, and returned to teaching for four more years. I have taught fourth, fifth, and sixth grades.

In September of 1962, I began serving an appointment as Assistant

Professor of Education at Morgan State College located in Baltimore, Maryland.

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CHAPTER I

THE PROBLEM

In many schools there is a great concern about the large number of children whose levels of reading achievement are below standardized norms. Different methods for correcting reading difficulties are frequently proposed. When a method is proposed, it is important to evaluate its effectiveness experimentally.

This study is the presentation of an original system compiled by the author, Systematic Phonics-Sight Vocabulary Building, and a comparison of this system with another commonly used procedure.

Purpose of the Study

In some schools remedial reading classes are conducted in order to give additional instruction to children whose levels of reading achievement are below their expected levels. This remedial instruction is given in addition to the reading the child receives in his regular classroom and is given with the intent of decreasing or eliminating the difference between the actual level of reading achievement and the expected level of reading achievement.

The purpose of this study was to determine if two different methods of remedial instruction given in addition to reading in basal readers in the regular classroom will produce the same amount of growth in reading achievement. Three areas of reading achievement were studied--word recognition, sentence comprehension, and paragraph comprehension. One

method is the Systematic Phonics-Sight Vocabulary Building method developed by the author, and the other instructs through the use of an additional basal reader program.

Importance of Study

Overview of the teaching of reading

Perhaps the most basic and important skill that formal education attempts to instill is reading. Not only is reading the key to the mastery of many other skills and forms of knowledge, but, without the ability to read, a person in our modern day society is seriously handicapped in pursuing the normal, everyday routine of life. Without some skill in reading, an adequate level of formal education is difficult, higher levels are improbable, and the highest levels are impossible.

An overview of the general area of reading will give a picture of the broad field in which remedial reading operates and plays a part.

Definitions of reading.--Of the many definitions offered, the following two seem to be the most comprehensive:

> Reading involves the recognition of printed or written symbols which serve as stimuli for the recall of meanings built up through the readers's past experience. New meanings are derived through manipulation of concepts already in his possession. The organization of these meanings is governed by the clearly defined purposes of the reader. In short, the reading process involves both the acquisition of the meanings intended by the writer and the reader's own contributions in the form of interpretation, evaluation, and reflections about these meanings.[1]

> That is, the child may be said to have learned to read when he makes the physical, mental, and emotional responses to the printed word that he would make upon hearing the word spoken in an oral

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[1]Guy L. Bond and Miles A. Tinker, Reading Difficulties: Their Diagnosis and Correction (New York: Appleton-Century-Crofts, Inc., 1957), 19.

context identical with the printed one.[1]

Abilities basic to reading.--Regardless of the approach to reading used, each may be considered successful if it can effectively and efficiently develop the following abilities that are basic to reading:[2]

Perceiving the sounds of our language
Associating meanings with words
Grasping clues to meaning from syntax
Identifying another's purpose or viewpoint
Identifying another's organization of ideas
Forming sensory images
Sensing emotions and moods
Perceiving relationships expressed and implied
Anticipating sequence of ideas, or outcome
Evaluating ideas and making judgments
Summarizing and organizing ideas
Linking old and new learnings
Adjusting to size and format of materials
Associating sounds with printed words and parts of words
Memory of word form
Left to right visual progression
Effective rhythm and rate
Sensitivity to the function of punctuation
Organizing ideas
Forming sensory images

Principles of teaching reading.--A successful reading program should be based on principles similar to those formulated by the schools of Columbia, Missouri:[3]

1. A child's progress in the mastery of reading has direct relation to his physical, mental and emotional maturity; to the richness or inadequacy of his background of experience; to his home influences and to the total learning situation at school.

2. An adequate program in reading takes into account all the

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[1]Irving Anderson and Walter Dearborn, The Psychology of Teaching Reading (New York: The Ronald Press Company, 1952), 138-39.

[2]Helen M. Robinson, Marion Monroe and A. Sterl Artley, Guidebook: Fun with Our Friends, The New Basic Readers, Curriculum Foundations Series, Sheldon Basic Reading Series (Chicago: Scott, Foresman and Company, 1962), 9-10.

[3]Adalene Drew Hoke, Reading Instruction in Columbia Elementary Schools: A Resource Bulletin for Teachers (Columbia, Missouri: Columbia Public Schools, 1959), 12.

above factors and adjusts its course of study to meet the needs of the pupils.

3. Children develop at varying rates and each child has his own particular pattern of growth which cannot be altered; therefore, all children cannot be taught the same thing at the same time. Instruction must be differentiated to meet individual differences.

4. Each room will have pupils at varying levels of development. No one course of study can be followed since some children are not capable of reading the prescribed work of the grade, while others will need an enriched program.

5. Reading instruction should permeate all subject matter with every teacher being a teacher of reading.

6. Since learning to read is a continuous process, a developmental plan of reading is followed in the Columbia Schools. It may be defined as a program that provides continuous progress in reading and is adjustable at all times to meet the needs of the individual. In order to ensure a continuity of materials and skills, the Individual Pupil Progress Record follows each child in Columbia Schools from kindergarten through grade six.

7. Reading readiness applies not only to the pre-reading period in kindergarten and first grade but as an approach to each unit of work in all grades.

8. The steps of the directed reading lesson should be known and followed by each teacher.

9. Every lesson should be a diagnostic lesson. The teacher should constantly be on the alert to discover difficulties and make provisions for re-teaching before these weaknesses become serious remedial problems. Prevention should be the keynote rather than remediation.

10. Individual progress in reading is conditioned by the carefully planned daily guidance of the teacher.

11. Since progress in reading depends to a large extent upon a well controlled growth in vocabulary and a sequence of reading skills, it is felt to be desirable that basic readers be used. Supplementary books must also be made available for each reading level. Individual differences can be well met with such a plan.

12. As children's needs differ so do their interests. Material that interests one child may have little appeal for another.

13. Since reading is a thoughtful process, emphasis should be upon meaning. Recognition of symbols should be a means to an end rather than an end in itself.

14. Periodic appraisal of growth by standardized and informal

tests is needed to measure growth, to determine strengths, to correct weaknesses and to stimulate additional growth.

15. The reading program should have as its chief aim the whole development of the child.

Overview of reading difficulties and their remediation

When it is discovered that a child's progress in reading has not reached its expected level, then, it is the duty of the school to remedy the causes of slow progress and attempt to bring the child up to his expected level. The school must also attempt to prevent a re-occurrence of the causes of slow progress lest they hinder the progress of subsequent pupils. Without these attempts, the school may rightfully be judged irresponsible.

Extent of reading retardation.--According to one estimate, between ten to twenty-five per cent of the children completing elementary school are two or more grades retarded in reading achievement as measured by standardized tests.[1] The concern is for the child who, as far as it can be determined, has the ability to achieve higher than his actual level of achievement.

Causes of reading retardation.--Nila singles out five of the major causes of reading retardation:[2]

> ...a wrong start in grade one; advancement of the pupil from one reading level to the next higher level faster than his present ability and capacity permit; lack of adequate material; lack of systematic instruction throughout all grades; and last but not least, faulty teaching.

Additions to the above list include physical handicaps,

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[1]Maurice Woolf and Jeanne Woolf, Remedial Reading: Teaching and Treatment (New York: McGraw-Hill Book Company, Inc., 1957), 3.

[2]Sister Mary Nila, "Foundations of a Successful Reading Program," Education, LXXII (May, 1953), 545.

impoverished experiential backgrounds, intellectual deficiencies, emotional and social maladjustments, and prolonged or frequent absences from school.

In its most comprehensive sense, the correction of reading difficulties would include any or all measures taken to remediate any or all of the above mentioned causes. The present study, however, is concerned with instruction in reading per se to increase the reading ability of the sub-potential reader.

Classification of reading difficulties.--Reading difficulties may be manifested by the appearance of one or more of the traits listed in the following classification of reading difficulties:[1]

A. Deficiencies in basic comprehension abilities.
    1. Limited meaning vocabulary.
    2. Inability to read by thought units.
    3. Insufficient sentence sense.
    4. Lack of the sense of paragraph organization.
    5. Failure to appreciate the author's organization.
B. Faulty word identification and recognition.
    1. Failure to use context and other meaning clues.
    2. Ineffective visual analysis of words.
    3. Limited knowledge of visual, structural, and phonetic elements.
    4. Lack of ability in auditory blending or visual synthesis.
    5. Overanalytical.
        a. Analyzing known words.
        b. Breaking words into too many parts.
        c. Using letter by letter or spelling attack.
    6. Insufficient sight vocabulary.
    7. Excessive locational errors.
        a. Initial errors.
        b. Middle errors.
        c. Ending errors.
C. Inappropriate directional habits.
    1. Orientational confusions with words.
    2. Transpositions among words.
    3. Faulty eye movements.
D. Poor oral reading.
    1. Inappropriate eye-voice span.
    2. Lack of phrasing ability.
    3. Unfortunate rate and timing.

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[1]Bond and Tinker, 148.

4. Emotionally tense oral reader.

E. Limited in special comprehension abilities.
   1. Inability to isolate and retain factual information.
   2. Poor reading to organize.
   3. Ineffective reading to evaluate.
   4. Insufficient ability in reading to interpret.
   5. Limited proficiency in reading to appreciate.

F. Deficiencies in basic study skills.
   1. Inability to use aids in locating materials to be read.
   2. Lack of efficiency in using basic reference material.
   3. Inadequacies in using maps, graphs, tables, and other visual materials.
   4. Limitations in techniques of organizing material read.

G. Deficient in ability to adapt to needs of content field.
   1. Inappropriate application of comprehension abilities.
   2. Limited knowledge of specialized vocabulary.
   3. Insufficient concept development.
   4. Poor knowledge of symbols and abbreviations.
   5. Insufficient ability in the use of pictorial and tabular material.
   6. Difficulties with organization.
   7. Inability to adjust rate to suit the purposes and the difficulty of material.

H. Deficiencies in rate of comprehension.
   1. Inability to adjust rate.
   2. Insufficient sight vocabulary.
   3. Insufficient vocabulary knowledge and comprehension.
   4. Ineffectiveness in word recognition.
   5. Being an overanalytical reader.
   6. Insufficient use of context clues.
   7. Lack of phrasing.
   8. Using crutches.
   9. Unnecessary vocalization.
   10. Inappropriate purposes.

While each of these is important and merits thoughtful attention, the one skill basic to all reading is effective word identification. The SP-SVB system concentrates on this facet of the complex reading process.

Basic principles of a remedial reading program.--A remedial reading program should be based on the following principles:[1]

> Remedial work is most effective when given individually; however, it can be given effectively to small groups, if individual needs are not overlooked in the group.

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[1]Marion Monroe and Bertie Backus, Remedial Reading (Cambridge: Houghton Mifflin Company, 1937), 39-44.

Remedial work is most effective when given at a favorable time of day, at systematic, regular periods.
Remedial reading requires a supply of interesting and varied reading materials suitable to the child's needs and reading level.
Remedial reading requires the specific training of teachers for the work.
The remedial reading program may be carried out by a specially trained remedial teacher or by regular teachers working with their poor readers under supervision.

Arrangements for remedial reading instruction.--Remedial reading instruction is conducted under various arrangements. Sometimes the instruction is conducted in a reading clinic: "An institution operated primarily to provide careful diagnosis of reading difficulties and intensive individual or small group teaching."[1] Clinical treatment is usually recommended for severe sub-potential reading cases. At times, sub-potential readers are placed in small sized classes for a period of two to three hours a day and receive instruction not just in reading but in all phases of language arts. The pupils are all, approximately, on the same reading level. The pupils return to their regular classes for instruction in non-language arts subjects. In other instances, the sub-potential reader receives remedial reading instruction within a small class, located within his school, every day or several days each week. The periods are usually of a shorter duration than the periods mentioned above. Usually, in the case of the slightly sub-potential reader, the regular classroom teacher instructs him individually or in a small group within the classroom. Often, a sub-potential reader is retained in the same grade for another year so that he can "get what he missed".

Various emphases of remedial reading programs.--Partially reflected

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[1]William Kottmeyer, Teacher's Guide for Remedial Reading (St. Louis: Webster Publishing Company, 1959), 8.

in the above arrangements for instruction are the varying emphases of remedial instruction. An attempt may be made to enhance all language arts abilities in the belief that each strengthens the others and they can not be separated. The emphasis may be on the general area of reading alone because this is the area in which there are difficulties and the entire area must be treated since each phase supplements each other phase. The attempt may be to bolster a particular weak skill because progress cannot be made until the particular weakness is overcome, or to further develop a skill in which the child has facility in order to compensate for lack of facility in another skill.

Of the two methods compared in this study, the basal reader method attempts to strengthen the general area of reading; and the SP-SVB method attempts to bolster a particular weak skill. Each method, however, has the same goal, an increase in the sight vocabulary of the child and an increase in his ability to comprehend ideas contained within sentences and paragraphs.

Importance of study.--The importance of this study lies in determining which of two methods, each representing a different point of emphasis, can better achieve growth in reading when used as a remedial technique. Also, this study is important in that it tests the validity of a newly developed method--Systematic Phonics-Sight Vocabulary Building.

Rationale for SP-SVB.--On what grounds can a rationale for SP-SVB be built? In the following chapter, "Review of Research", it will be shown that, according to the findings of most research, both the teaching of phonics and vocabulary building have a positive effect on reading achievement and that a lack of skill in the use of phonics and

a low sight vocabulary are associated with poor readers. The SP-SVB method attempts to combine the effects of both phonics and vocabulary building in an effort to raise the level of reading achievement of the sub-potential reader.

In regard to theories of learning, SP-SVB is related to the associative school of learning:[1]

> Learning by association requires the presentation of the new stimulus simultaneously with the response to the old. In teaching reading, these conditions can be met by showing the word to the child and pronouncing it for him. After some repetition, the response to the sound of the word will become associated with the sight of it. The oral stimulus can then be omitted, and the sight of the word alone will carry the response or recognition.

How is associative learning manifested when teaching by the SP-SVB method? In accordance with the above quotation, drills on word lists are an important part of the method.

Other manifestations of associative learning are found in the SP-SVB method. One of these, the use of reviews throughout the method, has the purpose of aiding recall of the words which is essential to building a sight vocabulary. This is related to associative learning in that, according to this school of learning, "to make sure of recall, learning should include well-arranged reviews from time to time."[2]

Within the SP-SVB method, the structure of the words increase in length and complexity. Each step builds upon what was previously taught. These inherent aspects of the method are related to two main ideas of associative learning:[3]

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[1]Anderson and Dearborn, 139.

[2]Louis P. Thorpe and Allen M. Schmuller, Contemporary Theories of Learning: With Applications to Education and Psychology (New York: The Ronald Press Company, 1954), 160.

[3]Ibid., 137.

> .... (1) The emphasis upon a hierarchy of habits and (2) The concept of compound responses. Viewed in this light, instruction can be broadened so as to accomodate many habits. However, since different situations can be used to bring out these habits, instruction should be logically arranged.

Also related to associative learning is the presentation of words grouped according to similar letters or combinations of letters with the intent of teaching the sounds that the similar letters or similar combinations of letters represent. This practice is related to the associative belief that generalization aids transfer of learning and generalization is facilitated by having a large number of examples containing common elements which are recognized as following the same pattern or rule.

If the comprehension of ideas is the goal of reading, what reasoning can be given for placing an emphasis on learning words? How can one expect to enhance a child's ability to comprehend ideas in reading by teaching a child to recognize in print words that already have meaning to him, to add these words to his sight vocabulary, to give meanings to new words, and to add these new words to his sight vocabulary? In answer to these questions, the words of Bond and Tinker are very appropriate:[1]

> The acquisition of word meanings is fundamental to all comprehension in reading. When word meanings are ample, precise, and rich, and when semantic variations are understood, adequate concepts are available for the pupil to draw upon in the thinking he must do in effective reading. Without satisfactory word meanings, comprehension of either spoken or printed language is impossible. Comprehension of sentences and paragraphs naturally require an understanding of the words in them.

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[1]Bond and Tinker, 234.

Statement of Hypotheses

Assumptions

All important, controlable variables affecting growth in reading achievement are held constant except the method of instruction in the remedial classes.

The measurements used are valid and reliable.

The prescribed procedure for each method is followed.

The prescribed methods are basically different.

Hypotheses

As a supplement to directed reading instruction in a basal reader, if the Systematic Phonics-Sight Vocabulary Building method is used to instruct sub-potential readers, there will be no difference between their mean growth in total reading achievement and the mean growth in total reading achievement of sub-potential readers who receive additional directed reading instruction in a basal reader.

As a supplement to directed reading instruction in a basal reader, if the Systematic Phonics-Sight Vocabulary Building method is used to instruct sub-potential readers, there will be no difference between their mean growth in word recognition and the mean growth in word recognition of sub-potential readers who receive additional directed reading instruction in a basal reader.

As a supplement to directed reading instruction in a basal reader, if the Systematic Phonics-Sight Vocabulary Building method is used to instruct sub-potential readers, there will be no difference between their mean growth in sentence comprehension and the mean growth in sentence comprehension of sub-potential readers who receive additional

directed reading instruction in a basal reader.

As a supplement to directed reading instruction in a basal reader, if the Systematic Phonics-Sight Vocabulary Building method is used to instruct sub-potential readers, there will be no difference between their mean growth in paragraph comprehension and the mean growth in paragraph comprehension of sub-potential readers who receive additional directed reading instruction in a basal reader.

Definition of Terms

Phonics

A method of teaching reading by relating speech sounds to their letter representatives.

Sight vocabulary

The words an individual can recognize immediately when presented with their printed forms.

Growth

The difference between the score of a test administered at the beginning of the study and the score of a comparable test administered at the end of the study.

Basal reader

One of a series of books increasing in difficulty designed to increase reading ability primarily through the use of sentences and stories.

Reading achievement

The progress achieved in mastering reading skills and materials.

Expected level of reading achievement

The level of reading achievement comensurate with the potential of an individual.

Sub-potential reader

An individual whose level of reading achievement is below his expected level of reading achievement.

Remedial reading instruction

Instruction given to sub-potential readers with the intent of decreasing or eliminating the difference between the actual level of reading achievement and the expected level of reading achievement.

Systematic Phonics-Sight Vocabulary Building

A method of increasing reading achievement by orally introducing and drilling on vocabulary lists that are arranged in a phonetic manner. The purpose of the method is to increase an individual's sight vocabulary and his ability to use phonics.

Directed reading

A method of teaching reading that employs basal readers and the following procedure for reading each story:

Preparation of the pupils for reading the story.

Silent reading of the story.

Phonics needed for mastering new word-learning skills.

Rereading--silent and/or oral.

Directed study.

CHAPTER II

REVIEW OF RELATED RESEARCH

The review presented here has been arranged to answer the following questions which are related to the problem and indicate the rationale for the principles behind the Systematic Phonics-Sight Vocabulary Building method and its use as a remedial technique:

What relationship exists between a knowledge of phonics and reading achievement?

What effects does the teaching of phonics in various forms have upon reading achievement?

Can the direct teaching of vocabulary increase the size of a child's vocabulary?

Can phonic lessons be used as a remedial technique?

Phonics and Reading Achievement

Research has been conducted throughout the elementary school grades to determine what, if any, relationship exists between knowledge of phonics and reading achievement. The following report relationships found from kindergarten through eighth grade with poor as well as accelerated readers.

Wilson and others found that in kindergarten and primary grades the children who knew the most letter forms and sounds were among the

first to learn to read and tended to be the best readers.[1] Lichtenstein's study found evidence that the difficulty of associating the sounds of certain letters with their names was associated with poor reading. He found this to be especially true of consonants whose sounds are not similar to their names.[2] Wilson and Burke, in reporting correlations between scores on subtests of reading-readiness tests and reading achievement, reported that certain abilities with letter forms are highly related to reading progress.[3] These abilities include naming letters, giving phonic combinations, giving letter sounds, and writing words. In Grades V to VII, Tiffin and McKinnis found indications that the functional mastery of the principles of phonics was significantly related to reading ability.[4]

Harrington and Durrell, in an extensive experiment, tested five-hundred children at the end of the second grade and found that phonic ability had a higher correlation to reading achievement than mental maturity.[5] Rudisill, testing children at the end of the third grade

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[1]Frank Wilson et al., "Reading Progress in Kindergarten and Primary Grades," Elementary School Journal, XXXVII (February, 1938), 442-49.

[2]Arthur Lichtenstein, "The Letter Sounds: A Reading Problem," Elementary English Review, XVII (January, 1940), 23-24, 27.

[3]Frank T. Wilson and Agnes Burke, "Reading Readiness in a Progressive School," Teachers College Record, XXXVIII (April, 1937), 565-80.

[4]Joseph Tiffin and Mary McKinnis, "Phonic Ability: Its Measurement and Relation to Reading Ability," School and Society, LI (February, 1940), 190-92.

[5]Sister Mary J. Harrington and Donald D. Durrell, "Mental Maturity Versus Perception Abilities in Primary Reading," Journal of Educational Psychology, XLVI (October, 1955), 375-80.

arrived at a similar conclusion.[1] The children were tested in their ability to pronounce unfamilar nonsense words in conformance with phonic principles.

Templin studied fourth graders by matching groups from the lowest and the highest thirds on the basis of reading and spelling achievement and found the better readers scoring higher on all phonic tests.[2] The tests included one recall and three recognition tests given to determine the ability to associate sounds with written symbols used to represent them. Also at the fourth grade level, Mulder and Curtin observed poor readers lacking the skill of synthesizing phonic elements of words into meaningful word patterns.[3] They also concluded that skill in auditory discrimination was needed.

Odland's comparative study of good or poor third grade readers revealed that good readers are superior to poor readers in word recognition abilities, and the superiority does not cover just one area of word recognition.[4] At the fifth grade level, Dodd also compared good and poor readers and noted a difference in favor of good readers in

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[1]Mabel Rudisill, "Interrelations of Functional Phonic Knowledge, Reading, Spelling, and Mental Age," Elementary School Journal, LVII (February, 1957), 264-67.

[2]Mildred C. Templin, "Phonic Knowledge and Its Relation to the Spelling and Reading Achievement of Fourth Grade Pupils," Journal of Educational Research, XLVII (February, 1954), 441-54.

[3]Robert L. Mulder and James Curtin, "Vocal Phonic Ability and Silent-Reading Achievement: A First Report," Elementary School Journal, LVI (November, 1955), 121-23.

[4]Ruby N. Odland, "A Comparative Study of the Word Recognition Abilities of Good and Poor Readers in the Third Grade," Dissertation Abstracts, XIX (April, 1959), 2515.

many phonic skills.[1] Aaron, in comparing good and poor readers in fourth and eighth grades, found good readers to be more highly skilled in the use of phonics than poor readers at both levels.[2]

When twenty poor readers whose disabilities appeared to be related to physiological or psychological factors were tested by Lichtenstein, the greatest deficiency was found in phonic ability.[3] The average chronological age of the children was 12-3. Many of them were in special classes. Hester considered 194 children whose ages ranged from six to seventeen and had been identified as having reading problems.[4] The results seemed to show that new words are not attacked successfully if phonic knowledge is not acquired. The blending of sounds proved to be very difficult.

In contrast to studies of poor readers, Woestehoff investigated children with normal and accelerated reading growths and discovered a positive relationship between general reading level and knowledge of phonic elements.[5]

Morrone made a critical analysis of research in phonics.[6] Out

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[1]John M. Dodd, "A Comparative Study of Fifth Grade Children Who Are Successful and Unsuccessful in Reading," Dissertation Abstracts, XXI (November, 1960), 1136-37.

[2]Ira E. Aaron, "Comparisons of Good and Poor Readers in Fourth and Eighth Grades," Journal of Educational Research, LIV (September, 1960), 34-37.

[3]Arthur Lichenstein, "An Investigation of Reading Retardation," Pedagogical Seminary and Journal of Genetic Psychology, LII (June, 1938), 407-23.

[4]Kathleen B. Hester, "A Study of Phonetic Difficulties in Reading," Elementary School Journal, XLIII (November, 1942), 171-73.

[5]Ellsworth S. Woestehoff, "The Specific Reading Proficiencies of Pupils Having Normal and Accelerated Reading Growth," Dissertation Abstracts, XIX (April, 1959), 2553.

[6]Victor E. Morrone, "A Critical Analysis of Scientific Research in Phonics," Dissertation Abstracts, XIX (February, 1959), 2030-31.

of 198 references, only 33 studies met a set standard of requirements for a valid experiment. The thirty-three studies indicated a significant positive correlation between ability to use phonics and reading achievement. In all of the studies mentioned above, the conclusions have been similar to those found by Morrone.

Effects of Teaching Phonics

The following studies are grouped according to similar comparisons being made--total nonuse of phonics and incidental phonics, basal readers and phonics oriented reading systems, phonics integrated with basal readers and supplemental isolated phonics lessons, and small amounts of phonics and large amounts of phonics. Also included are special phonic methods and systems.

Three experiments were reported that tested the difference between the total nonuse of phonics in reading and some phonics taught incidentally along with the reading program. The results of Tate's study indicate that the incidental method is superior in developing the ability to recognize words and to comprehend sentences and paragraphs.[1] Sexton and Herron followed nearly 1,000 children through Grades I and II.[2] Although there was a difference in favor of incidental phonics, there was a greater difference between groups having different teachers. Garrison and Heard's experiment in Grades I through III resulted in the conclusions that phonics made the children more independent in the pronunciation of words and was more effective in the latter part of the

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[1]Harry L. Tate et al., "Nonphonic Primary Reading," Elementary School Journal, XL (March, 1940), 529-37.

[2]Elmer K. Sexton and John S. Herron, "The Newark Phonics Experiment," Elementary School Journal, XXVIII (May, 1928), 690-701.

primary grades.[1] However, children with no phonic training were smoother and better oral readers in the lower grades and seemed to loose less during the summer. The author claimed that he used children with no knowledge whatever of reading. For normal children, this seems highly improbable.

Four studies compared the effects of teaching with basal readers that include some phonics with reading systems that are definitely phonics oriented. Each of the studies involved the use of Phonetic Keys to Reading. Sparks and Fay observed that at the end of Grade I the Phonetic Keys to Reading group was superior in comprehension and vocabulary.[2] At the end of Grade II there was still a superiority in comprehension but no significant difference in vocabulary. At the ends of Grades III and IV there were no significant differences in any area. It was concluded that the conventional method gave enough phonic training to cope with word attack. Henderson found that at the end of Grade III the pupils using P-K-R were significantly higher in reading achievement and concluded that primary children can profit from phonics.[3]

The following studies were designed to compare the effects of teaching phonics integrated in a basal reader with special lessons in phonics in addition to the use of basal readers: Gates' comparison at

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[1]S. C. Garrison and Minnie Taylor Heard, "An Experimental Study of the Value of Phonetics," Peabody Journal of Education, IX (July, 1931), 9-14.

[2]Paul E. Sparks and Leo C. Fay, "An Evaluation of Two Methods of Teaching Reading," Elementary School Journal, LVII (April, 1957), 386-90.

[3]Margaret G. Henderson, "A New Phonics Approach to Primary Reading Instruction," Chicago Schools Journal, XXXVII (January-February, 1956), 141-47.

the primary level,[1] his study with beginning readers,[2] and McDowell's report of the effects of three years of teaching by these methods conclude that integrated phonics is best.[3]

At the second grade level Nicholas conducted an experiment for ten weeks using the Phonovisual Method in one group, Phonetic Keys to Reading in another group, and just the basal reader in the third group although all three groups used the same basal reader.[4] The experiment lasted ten weeks. The different methods were ranked in the order just given. Kelly, in a paired experiment comparing the use of Phonetic Keys to Reading with a basal reader, found that the higher scores made by the one hundred pupils using the Phonetic Keys to Reading were statistically significant.[5]

Other studies favored special lessons for at least one aspect of reading: In Grade I, Tate ran an experiment for eight weeks in which two groups were given a fifteen-minute period each morning that was devoted to instruction and drill in phonics only.[6] The control group

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[1]Arthur I. Gates, New Methods in Primary Reading (New York: Teachers College, Columbia University, 1928)

[2]Arthur I. Gates and David H. Russel, "Types of Materials, Vocabulary Burden, Word Analysis, and other Factors in Beginning Reading," Elementary School Journal XXXIX (October, 1938), 119-28.

[3]John B. McDowell, "Report on the Phonetic Method of Teaching Children to Read," Catholic Educational Review, LI (October, 1953), 506-19.

[4]Goldie F. Nicholas, "The Relative Effectiveness of Two Types of Phonetic Materials on the Reading Achievement of Second Grade Pupils," Dissertation Abstracts, XVII (December, 1957), 2940-41.

[5]Barbara C. Kelly, "The Economy Method Versus the Scott Foresman Method in Teaching Second Grade Reading in the Murphysboro Schools," Journal of Educational Research, LI (February, 1958), 465-69.

[6]Harry L. Tate, "The Influence of Phonics on Silent Reading in Grade 1," Elementary School Journal, XXXVII (June, 1937), 752-63.

had special periods when they were taught other word recognition skills. Tate concluded that the phonic instruction and drill was superior in developing the ability to recognize words, slightly inferior in comprehending sentences, and conclusively inferior in comprehending paragraphs of directions. The author further stated that the results were not known with certainty. Beltramo also conducted a study in Grade I. During the first semester there were daily twenty-minute periods of phonic drill. During the second semester twenty-five-minute periods were held three times a week. The results favored special lessons.[1] Durrell and others conducted an extensive experiment involving 2,000 first-grade children.[2] Systematic presentation of letter knowledge and phonic development proved superior. Similar studies by Luser and others in Grades II and IV,[3] House in Grade IV,[4] and Bedell and Nelson in all grades of an elementary school,[5] all favored special lessons. However, Ibeling found in his study of Grades II, IV, and VI that involved 600 children and lasted seven months that neither method was superior to

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[1]Louise Beltramo, "An Alphabetical Approach to the Teaching of Reading in Grade One," Dissertation Abstracts, XIV (June, 1954), 2290.

[2]Donald D. Durrell et al., "Success in First Grade Reading," Journal of Education, CXL (February, 1958), 1-8.

[3]Carolyn Luser, Eileen Stanton and Charles E. Doyle, "Effects of an Audio-Visual Phonics Aid in the Intermediate Grades," Journal of Educational Psychology, XLIX (February, 1958), 28-20.

[4]Ralph House, "The Effect of a Program of Initial Instruction on the Pronunciation Skills at the Fourth Grade Level as Evidenced in Skills Growth," Journal of Experimental Education, X (September, 1941), 54-56.

[5]Ralph Bedell and Eloise Nelson, "Word Attack as a Factor in Reading Achievement in the Elementary School," Educational and Psychological Measurement, XIV (Spring, 1954), 168-75.

the other.[1]

Russell compared two first grades that were using a little phonics with two first grades using a lot of phonics.[2] He found that considerable phonic instruction in the first grade influenced reading achievement favorably. Agnew also found classes using a little phonics or a lot of phonics and made two comparisons.[3] One of the comparisons found no difference in reading achievement between the two groups. The other comparison showed that the group having large amounts of phonics was superior in reading achievement but slower in oral reading. There is some doubt about the validity of Agnew's study due to his method of collecting information concerning previous phonics teaching. The children were tested at the end of the third grade; and to determine how much phonics a child had received during the previous three years, questionnaires were sent to all previous teachers asking how much phonics was taught.

Bloomer tried two plans of teaching phonics in Grade I.[4] One group was taught a sight vocabulary and then instructed in phonics. In the other group, the order was reversed. After twenty-four weeks, the second group surpassed the first group in word recognition and sentence reading, but there was no significant difference in paragraph reading.

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[1]Frederick Ibeling, "Supplementary Phonics Instruction and Reading and Spelling Ability," Elementary School Journal, LXII (December, 1961), 152-56.

[2]David H. Russell, "A Diagnostic Study of Spelling Readiness," Journal of Educational Research, XXXVII (December, 1943), 276-83.

[3]Donald C. Agnew, "The Effect of Varied Amounts of Phonetic Training on Primary Reading," Duke University Research Studies in Education, 1939, No. 5. Durham, N.C.: Duke University Press, 1939.

[4]Richard Bloomer, "An Investigation of an Experimental First Grade Phonics Program," Journal of Educational Research, LIII (November, 1960), 188-93.

Bear also tested two plans of teaching phonics in the first grade.[1] Each group used the same basal reader. One group used the synthetic approach which stresses isolated parts of words, and the other group used the whole-word approach to phonics which was integrated with the basal reader material. The synthetic group scored higher. However, a similar study conducted in England by Daniels favored a whole-word approach.[2]

Mills evaluated the effects of four fifteen-minute word recognition lessons with each stressing a different method--visual, phonetic, kinesthetic, and a combination of the three.[3] The children were in Grades II to IV. For seven-year olds, the visual was best. For eight-year olds, the kinesthetic was superior. None was outstandingly effective or ineffective with the nine-year olds. Phonics was less effective with children of low intelligence, and the kinesthetic was the best.

Gates reports on the use of the Garden system, an isolated phonic approach, that was used from the beginning of Grade I with a group of children.[4] The children were tested in Grades III, IV, and V. Although the children were ahead in relation to grade placement, they were behind in relation to what was expected of them according to their mental ages.

Several reviews of research on phonics were compiled. Burrows

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[1]David E. Bear, "Phonics for First Grade: A Comparison of Two Methods," Elementary School Journal, LIX (April, 1959), 394-402.

[2]J. C. Daniels and Hunter Deack, "The Phonic Word Method," Reading Teacher, XII (October, 1959), 14-21.

[3]Robert E. Mills, "An Evaluation of Techniques for Teaching Word Recognition," Elementary School Journal, LVI (January, 1956), 221-25.

[4]Arthur I. Gates, "Results of Teaching a System of Phonics," Reading Teacher, XIV (March, 1961), 248-52.

concluded that phonic instruction does not seem effective in isolation or as an only approach to beginning reading.[1] Smith concluded that research tends to show that phonics is most effective when taught related to children's specific reading needs and is of most value in Grades II and III.[2] Witty and Sizemore summarized that the method and amount of phonics to be given has not been determined, there should be a readiness for phonics, overemphasis on phonics causes slower reading, and phonics should be used as part of a reading program.[3] Figurel concluded that phonics should not be used as a beginning method, should wait until a mental age of seven has been reached, and words should be sounded as wholes first.[4]

Although it is impossible to tell from the above studies exactly how and when phonics can best be taught, there is no question that they indicate that the teaching of phonics has a positive effect on reading achievement. It appears that one fault of many of the experiments is that they were conducted over too short a period of time.

Vocabulary Building

Research has also been conducted to determine the effects of the direct teaching of vocabulary. All the studies located indicate that

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[1]Alvina F. Burrows, "The Conflict over Phonics Is Still Raging," Reading Teacher, VI (May, 1953), 12-17.

[2]Nila B. Smith, "What Research Tells Us About Word Recognition," Elementary School Journal, LV (April, 1955), 440-46.

[3]Paul A. Witty and Robert A. Sizemore, "Phonics in the Reading Program: A Review and an Evaluation," Elementary English, XXXII (October, 1955), 355-71.

[4]J. Allen Figurel, "What Research Says About Phonics," A Report of the Twelfth Annual Conference and Course on Reading, University of Pittsburgh, (June 18-29), 106-24.

direct teaching produces desirable results. In Grade III, Sutton found a mean growth greater than the normal rate expected.[1] Included in the vocabulary building method were games, use of contextual clues, and the building of individual word lists. Gray, using fourth graders in a history class, found the direct teaching of vocabulary superior to the incidental approach.[2] Sanderson also noted a rise in vocabulary power when fifth graders were given direct vocabulary building.[3] The devices used were dictation of words in a sentence, pupil use of words in a sentence, and pupil use of the dictionary for additional meanings. Similar results were obtained by Bradley and Cahill in Grades V and VIII.[4] In this study a technique of classifying the meanings of words and using the words in oral work was used.

A study by Gates and Boeker considered some factors that can be taken into consideration when preparing a vocabulary for the lower levels of reading.[5] They concluded that the length of the word is related to its difficulty, the names of objects adults think interest children are not always easier to learn, and the words of irregular

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[1]Rachel S. Sutton, "The Effect of Vocabulary-Building on Reading Skills," Elementary School Journal, LIV (October, 1953), 94-97.

[2]William S. Holmes and Eleanor Holmes, The Development of Meaning Vocabularies in Reading: An Experimental Study. Publications of the Laboratory Schools of the University of Chicago, No. 6. Chicago: Department of Education, University of Chicago, 1938.

[3]Marion Sanderson, "An Experiment in the Development of Meaning Vocabularies," Studies and Summaries, Manitowac, Wisconsin: Manitowac Public Schools, Prepared by Hugh S. Bonar, 1941.

[4]Martha H. Bradley, Loretta A. Cahill, and Harry L. Tate, "Acquisition of a Reading Vocabulary," Elementary English Review, XVIII (January, 1941), 19-21, 32.

[5]Arthur I. Gates and E. Boeker, "A Study of Initial States in Reading by Pre-School Children," Teachers College Record, XXIV (November, 1923), 469-88.

profile are not always easier to learn.

Remediation Through Phonics

Two studies were undertaken for the purpose of studying the effects of using special lessons in phonics as a remedial technique.

An experiment by Browne was conducted to determine if improvement in reading could be caused by remediating a child's deficiency in phonic ability.[1] The experiment continued for approximately one school year with sixth-grade children who were given a ten-minute daily lesson in the use of phonics. Their improvement was compared with that of children of equal ability not subject to such lessons. There was a final total of 320 children for whom there were complete data. The children were enrolled in six parochial schools located in Chicago, Detroit, and the District of Columbia. The phonic lessons used by the experimental group were based mainly on Cordts' Word Method of Teaching Phonics. This is a method in which the phonetic elements are studied in words, phrases, and sentences.

When both groups were tested at the conclusion of the experiment, there was a difference in average gain favoring the experimental group, but the difference was not statistically significant. There are several things to be questioned in this experiment. First of all, the author assumed that the children were deficient in phonic ability because in the past decade phonics was not emphasized. She assumed that early phonic training was both inconsistent and inadequate. The control group was not given a test to determine its phonic ability. The

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[1]Dorothy M. Browne, "Phonics as a Basis for Improvement in Reading," The Catholic University of America Educational Research Monographs, XI, No. 3 (December 15, 1938).

experimental group was given a phonic test, constructed for use in this study, to determine which areas of phonics were weakest in order to guide the planning of the lessons. Also, no mention was made of the reading procedures used for the control group or for the additional reading that the experimental group received in its regular classes. The classes were regular classes and not remedial classes. No indication is given of the extent of reading retardation in the classes.

Ace reports on an experiment designed to test the effects of two methods of teaching reading to children who were retarded in reading, on the average, about two years.[1] The average age of the children was eight. Sixty-five children took part in the experiment. Half of the children were in the experimental group, and the other half were in the control group. All children were given remedial instruction by the same teacher. The remedial instruction was given each day of the week for fifteen minutes from January to July.

The control classes used the mixed method:[2]

> The mixed method combined "look and say"; sentence, and phonic approaches. The child first had to learn words connected with a topic of interest, going on to the reading of new material by preparatory study of difficult words through tracing, writing and memorising [sic], as described by Schonell. Later stages were concerned with simple sentence method texts with pictorial help, simple phonic method texts, concentration on diagraphs, the final "e", etc., leading up to comprehension studies.

The Moxon method was used by the experimental classes. Ace stated that the Moxon method is difficult to describe adequately, but essentially it is a visual phonic approach. It is an active method wherein

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[1]P. W. Ace, "A Remedial Teaching Scheme: Introducing a New Reading Method," British Journal of Educational Psychology, XXVI (November, 1956), 191-93.

[2]Ibid., 192.

the child must do many things for himself. A certain approach is emphasized. This approach teaches the child to begin with the vowel, build up the rest of the word to its right, and then add the initial sound. The method also makes use of competitive word games. This method produced results that were greater than the results of the other group. The difference was statistically significant.

Due to several questions noted in the first experiment and the fact that the differences were not statistically significant, it would be difficult to draw any conclusions and/or implications from it. The experiment reported by Ace displays a better design and carries the implication that phonics taught by a specific method, the Moxon method, is more valuable as a remedial technique than the reported "mixed method" or a similar method. Since there are many phonic systems and some are very different from the Moxon method, it is hard to generalize that all phonic systems are useful as remedial techniques. Also, since this is the only report of a phonic system that was used as a remedial technique, further investigation is needed before conclusions can be more definitely stated.

Summary

At the beginning of this chapter several questions were raised: (1) What relationship exists between a knowledge of phonics and reading achievement? (2) What effects does the teaching of phonics in various forms have upon reading achievement? (3) Can the direct teaching of vocabulary increase the size of a child's vocabulary? (4) Can phonic lessons be used as a remedial technique?

The research strongly supports definitive answers to the first and third questions: A positive relationship exists between a knowledge

of phonics and reading achievement, and the direct teaching of vocabulary can significantly increase the size of a child's vocabulary. Research evidence offers no conclusive answer to the second question. Although many studies have dealt with this problem, the designs have varied markedly and the results have been inconsistent. The fourth question is difficult to answer primarily because of the small number of experiments.

The present study contributes to the area in which the research is sparse, "Can phonics be used as a remedial technique?" It also contributes additional information to the question, "What effects does the teaching of phonics have upon reading achievement?"

CHAPTER III

DESIGN AND PROCEDURE

Location of Study

The study was conducted at the Belmont Elementary School located at Forty-First and Brown Streets in Philadelphia, Pennsylvania. The school was built in 1927 and at the beginning of the study had a pupil population of 1,468. Due to an overcrowded condition, all of the first and some of the second grade pupils came to school on a part-time basis. Children who came to school part-time came either from 8:45 to 12:00 in the morning or from 12:15 to 3:30 in the afternoon. There were forty-four teachers on the staff. The average IQ and academic achievement of the pupils were below the averages established among the Philadelphia schools. The socio-economic backgrounds of the children were also considered to be below average.

Formation of Classes

The study was conducted within the already established framework that had been set up for remedial reading classes at Belmont. It included two forty-five-minute classes and four thirty-minute classes. The longer time periods were used by those with the lowest levels of reading achievement.

Since the experimental method was new and additional information regarding its effectiveness was not available, it was decided to have as many classes as possible serve as experimental classes. Because

thirty-minute and forty-five-minute periods were used, it was felt that it was necessary to have a thirty-minute class and a forty-five-minute class serve as control classes. The remaining four classes served as experimental classes.

The pupils selected to participate in the study were second and third-grade pupils whose reading book levels were at least one year below the levels of their normal school grade placements according to their chronological ages. In addition to being retarded in reading, each child had to have a mental age of at least six years and an IQ of at least eighty.

Ninety-one pupils were recommended for the remedial reading classes by their classroom teachers. All testing was done by the remedial reading teacher. Of the ninety-one children recommended and tested, sixty-four met the above requirements for selection. One of the sixty-four children was eliminated for disciplinary reasons, and the remaining sixty-three were accepted.

The children were ranked according to their book levels as determined by the reading inventory. Within each book level they were ranked according to their Gates reading scores. Starting with the first group to meet during the day, Group One, the groups were numbered succeedingly as they came during the day and had children assigned to them starting at the lowest end of the ranked order until each class had its quota. This procedure was used so that the children in each class were reading at about the same book level since this was one of the purposes for establishing these remedial classes--to instruct a child at his level in a situation where there is little difference in reading achievement among the members of the class.

When the study began, the classes with the longer time blocks had eleven children. One thirty-minute class had eleven children, and the remaining three classes had ten children each. Due to scheduling difficulties, the children who were on part-time had to be placed in an experimental class that was meeting during an hour in which they were in school.

To determine which thirty-minute class was to have eleven pupils and which classes were to be control classes the number of each class involved was written on a separate piece of paper, the papers were mixed, and a number was drawn.

During the study, thirteen of the children transferred from the school leaving a total of fifty children who remained throughout the experiment. Eight part-time children were among the fifty children who remained. Because the part-time children received only half the amount of total school instruction that the full-time children received, their data are not included in this study. It was felt that the total amount of schooling might affect reading. The part-time children also received less reading in their regular classrooms than the other children. Therefore, the total number of cases used to compute the data was forty-two. Sixteen children were in the control group, and twenty-six were in the experimental group.

Located in Appendix A are complete scores of all tests given to the children. Also included is information concerning sex, chronological age at the beginning of the study when the mental maturity test was given, grade placement, days absent, and daily number of minutes of reading in regular classrooms.

Measurements

Reading book level

In order to determine if a child's reading book level was at least one year below the level of his normal school grade placement according to his chronological age, an individual informal reading inventory was given to each child by the remedial reading teacher.[1]

The inventory consists of a word recognition test, an oral reading and comprehension test, a silent reading and comprehension test, and a hearing capacity test. The hearing capacity test gives an indication of the level at which the child should be reading. All of the above tests are available for all book levels from pre-primer three through book eight. The words and selections of each test were taken from a story located approximately in the middle of one of the Ginn Basic Readers. Located in Appendix B are the directions for administering the inventory and a sample of the tests for book level one.

Growth in reading achievement

Growth in reading achievement was determined by using the Gates Primary Reading Tests.[2] In October, Form 1 was used. In June, Form 3 was given. The difference between scores on the two tests was considered the amount of growth in reading achievement.

The Gates Primary Reading Tests are of three types--Word Recognition, Sentence Reading, and Paragraph Reading. There are three equivalent forms

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[1]Katherine F. Jackson and Ida Kravitz, "An Informal Reading Inventory from the Ginn Basic Reading Series." Philadelphia: School District of Philadelphia, 1959. (Mimeographed).

[2]Arthur I. Gates, Gates Primary Reading Tests (New York: Bureau of Publications, Teachers College, Columbia University, 1958).

for each type. Each type increases in difficulty as the test progresses.

The Word Recognition test consists of forty-eight exercises. The task is to encircle one of four printed words that tells the most about an accompanying picture. Time: fifteen minutes.

Fifteen exercises, each containing three sentences, comprise the Sentence Reading test. The task is to relate correctly each sentence to one of six illustrations by placing the appropriate mark on the illustration. Time: fifteen minutes.

The Paragraph Reading test consists of twenty-six paragraphs, each accompanied by illustrations. The pupil is to read the paragraph and mark the illustrations in a manner specified in the paragraph. Time: twenty minutes.

The tests are hand-scored. Raw scores may be converted into reading grades, reading ages, or percentiles. Details concerning the development, standardization, and reliability of the Gates tests are given in a manual, Supplement to the Manuals for the Gates Reading Tests, which is available on request.

Mental age and I.Q.

Mental age and I.Q. were determined by using the California Short-Form Test of Mental Maturity which consists of seven tests designed to sample various kinds of mental processes.[1] The seven tests contribute to scores in four factors:

Spatial relationships factor

Sensing right and left--Test 1

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[1]Elizabeth T. Sullivan, Willis W. Clark, and Ernest W. Tiegs, California Short-Form Test of Mental Maturity, Primary (Monterey: California Test Bureau, 1957).

Manipulation of areas--Test 2

Logical reason factor

Similarities--Test 3

Inference--Test 4

Numerical reasoning factor

Number concepts--Test 5

Numerical Quantity--Test 6

Verbal concepts factor

Verbal concepts--Test 7

The tests are hand-scored. Raw scores are converted to a language or non-language mental age, I.Q., or grade placement. Language and non-language scores are averaged to get a total mental age, I.Q., or grade placement. The test is a power rather than a speed test. Although time limits are used, enough time is given for the pupil to reach the effective limits of his ability. The time allotment for actual testing is forty-two minutes.

Additional technical information concerning this test is given in a report, Technical Report on the California Test of Mental Maturity, which is available on request from the publisher of the test.

Factors and Procedures Held Constant

All classes were taught by the same teacher.

All classes were conducted in the same room.

All classes received the same tests.

All classes were tested on the same days.

All classes had boys and girls in them.

Both the experimental and control classes each had:

second and third-graders.

children drawn from the same regular classrooms.

approximately the same mean

C.A.

M.A.

I.Q.

grade level.

daily additional reading in regular classrooms.

daily remedial instruction.

yearly attendance.

Instructional Procedure of Control Classes

The control classes used the Betts readers and the directed reading approach which included the following steps:[1]

Preparation

1. Interest readiness

   Stimulate pupils' interests through discussion of topic or situation similar to that found in the story.

2. Word learning readiness

   Words used for the first time in the series are studied to insure pupils have the correct pronunciation and concepts of the words. Pictures and/or discussions may be used.

3. Thinking readiness

   Without giving away the story, the pupils discuss and consider the title and the illustrations.

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[1]Emmett A. Betts and Carolyn N. Welch, Teachers Guide: Around Green Hills, Betts Basic Readers (2nd ed.; (New York: American Book Company, 1958), 14.

Silent Reading

Children are given questions to which the answers may be found in the story. After the story is read, comprehension is checked by asking questions that are of different types--factual, vocabulary, inferential, and experience background.

Phonics

Charts in the back of the book are used. The charts are listed according to page number and contain words found on a particular page. Work in phonics is also given in the workbooks. Phonics is always centered around the words in the story.

Rereading

Pupils reread to develop independence--reading rhythmically, interpreting punctuations, using new skills, identifying plot, and identifying speakers in a conversation. Rereading is done orally or silently, depending upon the purpose. Oral reading promotes good speech and reveals needs and skills that need to be developed. Silent rereading is intended to help increase the rate of reading and is also used in skimming to locate a key word or a main idea.

Directed Study

Use of workbooks. Included are tests. Some pages can be done independently because help is given at the beginning of the lesson or a skill is being reviewed or practiced. Other pages teach skills.

Instructional Procedure of Experimental Classes

The purpose of SP-SVB is to increase an individual's sight vocabulary and his ability to use phonics. The SP-SVB system first teaches the names and formations of the letters in the alphabet. Next, it

builds vocabulary through word study and by drilling on word lists. The words in the lists are grouped according to similar letters or groups of letters.

Reading, spelling, handwriting, and speech become highly integrated in this system. Correct pronunciation is stressed during the word drills. The pupils use the word lists as their spelling lists concurrently, and they practice their handwriting with the same words.

The initial vocabulary consists entirely of one syllable words which increase in length and complexity until compound words are introduced near the end of the program. Most of the words are common; however, some less common words are used to teach sounds needed in later sections of the system or sounds that are commonly found in words of more than one syllable. Each section builds upon what was taught in previous sections.

Sections and number of words contained therein

Following are the sections of the SP-SVB system with the number of words in each section listed in parentheses:

Section

I. Letter Building
II. One and Two-Letter Words (29)
III. Three-Letter Words (Consonant-Vowel-Consonant) (226)
IV. Ending Consonant Blends (209)
V. Double Consonant and ck Endings (89)
VI. Long Vowels with Silent e Endings (150)
VII. Consonant Digraph, ng, and nk Endings (88)
VIII. Vowel Digraphs and Diphthongs (313)
IX. Soft c and g (41)

X. Silent Consonants (73)

XI. Beginning Consonant Digraphs (100)

XII. Beginning Consonant Blends (590)

XIII. Special Cases (193)

XIV. Compound Words (391)

XV. Terminations (403)

General directions for letter building

The purpose of letter building is to teach the pupils how to recognize the forms of the letters in the alphabet by name and how to write the letters. No attempt is made at this time to teach the sounds that the letters represent. Each child is given a letter-building kit consisting of the following shapes: four straights, a short straight, two curves, a short curve, and a dot. (See Example 1.)[1]

First, the capital letters are taught beginning with the letters that can be made with one straight, then two straights, then three straights, and then four straights. Next, the pupils learn the capital letters that can be made with combinations of the different shapes. The pupils then learn the lower case letters in a similar manner.

The teacher introduces each letter in a specific manner given in the instructions. (See Example 2.) The teacher builds the letter being studied on a felt board using pieces of felt that are the exact forms of the pieces of the letter-building kits used by the pupils. The pieces used by the pupils are made of cardboard. The teacher repeats the name of the letter several times and then has the class repeat the name of the letter several times. The class then traces the letter in

[1]Examples are located in Appendix C.

the air several times while repeating its name each time that it is traced. Tracing is to be done with a pencil held in the hand as if the pupils were writing.

The teacher again shows how the letter is built. Each pupil now builds the letter on his desk. The pupils trace over the letter several times with pencils in their hands, without actually writing on the letter, while repeating its name each time. The teacher writes the letter on the chalkboard and then has the pupils write the letter once on a piece of paper. The class now writes a row of the letter while calling its name each time.

When the letters are built, sometimes they will not have their exact forms; but the true forms are to be taught when writing the letters. The pupils are given only those forms that are to be used during the lesson.

In brief, these are the steps for letter building:

Teacher introduces letter.

Pupils trace letter formed by teacher.

Teacher rebuilds letter.

Pupils build letter.

Pupils trace letter just built.

Teacher writes letter on chalkboard.

Pupils write letter at their desks.

General directions for vocabulary building

The word lists are presented on charts in the manner given in the instructions for each section. The charts are placed and constructed so that the words are legible to the entire class.

First, each word in a group is introduced. The word is used in

a sentence by the teacher, and sentences are contributed by the class. All sentences are done orally. The pupils are encouraged and constantly reminded to ask the teacher to explain a word if the meaning of the word is not known. If a word appears that the teacher believes is not familiar, he explains the word even if no pupil asks for an explanation. A pupil may not know the meaning of a word but may, for many reasons, not ask for an explanation.

After each word in a group is introduced, the similar letters or groups of letters and the sound or sounds they represent are noted to the pupils and the pupils repeat the sound or sounds. Until a later stage when the long vowel sounds are introduced, no attempt is made to teach or isolate the vowel sounds. The sounds represented by vowels combined with a consonant or consonants are taught as a unit.

Whenever possible, each new word or group of words is introduced by building on a previously taught word. For example, a new word, brat, is introduced in the following format:

at

rat

brat

Both at and rat were previously taught. If a new word contains parts that have been previously taught, the teacher asks the pupils to determine what the word is. If the word contains a new letter or combination of letters, the teacher tells the class the word. Wild guessing is discouraged at all times. When analyzing a word, the pupils are taught, when possible, to determine the sound made by the vowel or vowels combined with the consonant or consonants to the right of the vowel or vowels. Then, the child adds the sound represented by the consonant or

consonants before the vowel or vowels.

After each group has been analyzed for the sound or sounds represented by the similar letters or groups of letters, the class practices handwriting using each group and learns to spell each group. If the groups are small, more than one group is covered at a time. The amount covered during each lesson will depend upon the ability of the class.

Contents of each section

Letter building

The letters are taught in the following order:

I T X L V Y K F A H N Z E

M W S O Q C G D U J P B R

x v z w s o c l i y k p q

d b h j t f r n u m e a g

One and two-letter words

After the letters have been taught, one-letter words are introduced. There are only two--I and a. Then, two letter words containing the same vowel are presented in groups. (See Example 3.) Next, the same two-letter words are presented in groups that have a similar consonant.

Three-letter words (consonant-vowel-consonant)

Three-letter words consisting of a consonant, vowel, and consonant are now introduced in groups where the vowel and final consonant are the same. (See Example 4.) The same words are regrouped so that groups consist of words that have the same first consonant. (See Example 5.)

The following phonograms are used in the three-letter words

ab	eb	ib	ob	ub
ad	ed	id	od	ud
ag	eg	ig	og	ug
al	em	im	on	um
am	en	in	op	un
an	er	ip	or	up
ap	es	ir	ot	ur
ar	et	is	ow	us
as	ex	it	ox	ut
at		ix		
ax				

Ending consonant blends

Introduced next are four and five-letter words in groups that have the same vowel and final consonants. Some of the words have two consonants on the end and some have three. (See Example 6.) Each consonant after the vowel represents an individual sound.

ct	ft	lb	mp	nd	pt	rb	sk	wl	xt
		ld		nt		rc	sp	wn	
		lf				rd	st		
		lk				rf			
		lm				rl			
		lp				rm			
		lt				rn			
						rp			
						rt			
						rst			

Double consonant and ck endings

Next are presented words with a double consonant or ck ending. (See Example 7.) These words are presented together because each letter of the double consonant or ck ending has represented the same sound so far, and the words are pronounced as if only one were present.

dd	rr
ff	ss
gg	tt
ll	zz
nn	ck

Long vowels with silent e endings

Next are taught the four-letter words that have a final silent e and a long vowel. (See Example 8.) They are introduced in groups similar to the manner in which the three letter words are introduced. The following phonograms are used:

ade	ide	obe	ube
afe	ife	ode	ude
ake	ike	oke	ule
ale	ile	ole	ume
ame	ime	ome	une
ane	ine	one	ure
ape	ipe	ope	ute
ase	ire	ose	
ate	ise	ote	
ave	ite	ove	
aze	ive	owe	
	ize	oze	

Consonant digraph, ng, and nk endings

(See Example 9.)

ch

ng

nk

sh

th

Vowel digraphs and dipthongs

(See Example 10.)

ai	ea	ie	oa	us	ye
au	ee		oe	uy	
ay	ei		oi		
			oo		
			ou		
			oy		

Soft c and g

(See Example 11.)

ce

ci

ge

gi

Silent consonants

Consonant groups in which one or two of the consonants are silent are taken next. Now is the first time that a word is begun with more than one consonant. (See Example 12.)

dge

gh

kn

mb

tch

wr

Beginning consonant digraphs

Previously, sh, th, and ch were used at the ends of words. They are now used at the beginnings of words along with wh. (See Example 13.)

ch

sh

th

wh

Beginning consonant blends

Beginning consonant blends are now introduced. Qu and squ are included in this section because qu represents a sound similar to kw. (See Example 14.)

bl	sc
br	scr
	shr
cl	
	sk
cr	
	sl
dr	sm
	sn
fl	
	sp
fr	
	spr
gl	squ
gr	st
	str

pl
sw
pr
thr
qu
tr
tw

Special cases

In the next section, the remainder of the one-syllable words that are used in this system is presented. All of the words in this section are special cases in that the letters or groups of letters represent a sound or sounds different from the sound or sounds they represented when previously introduced. (See Example 15.)

1. Y sounding like i
2. aw and ew
3. are, ere, and ore
4. wor and war
5. we
6. se and ve
7. ow

Compound words

As an introduction to two-syllable words, compound words are used. All of the compound words used consist of words previously introduced in the system. (See Example 16.)

Terminations

In the final section of the vocabulary, the common terminations are introduced. (See Example 17.)

ing
ed

s

es

y

ly

er

ful

est

Review, key-word, and comparison lists

After each section and/or sub-section, except Section XIV, there are review lists. The review lists contain all the letters or words taught in the section or sub-section. The letters or words in the review lists are not grouped according to similar letters or groups of letters or in the manner that they were introduced. (See Example 18.) The purpose of the review lists is to determine if the letters or words can be recognized without clues being given by previous letters or words. The review lists are also diagnostic: A pupil may miss all words containing a certain combination of letters thereby indicating that he needs additional instruction with the group of words containing the combination of letters missed. Each pupil has an individual copy of the review lists and is tested individually on each review list. In order to give practice in recognizing the various forms of the letters, the lists are sometimes presented with lower case letters, sometimes with all capital letters, and sometimes with only the initial letters of the words capitalized.

Key-word lists are placed in most sections. These lists are made up of words that contain samples of the sounds taught in the section. These words serve as guides for determining the sounds of words with

similar groups of letters. (See Example 19.) The key-word lists are to be reviewed frequently.

Comparison lists appear in most sections. In these lists, the words in each group are similar except for one or two letters. Due to their similarities, the words in each group, when seen alone, may be mistaken for each other. The comparison lists group the similar words together and are used to teach the child how to differentiate one from the other. The comparison lists can be used for remediating specific difficulties in phonic analysis: A pupil experiencing difficulty in determining whether or not to sound a long vowel sound can practice with the comparison list that compares similar words with and without the silent e. (See Example 20.)

Because most of the children knew all of the letters in the alphabet by name, the section on letter building was skipped. All experimental classes started with the next section and proceeded at various rates.

Method Control

To insure that the correct methods were being employed, the writer instructed the teacher in the use of the experimental method, checked the lesson plans of the teacher, reviewed the written work given to the children, furnished some of the teaching aids, and visited the classes. The principal of the school was informed of the methods to be employed by the experimental and control classes, was given the times that the different classes met, and was asked to insure that the control and experimental classes followed their prescribed procedures. He observed the classes several times each week at different hours and discussed the situation with the teacher.

Comparison of Experimental and Control Procedures

The most obvious difference in the two procedures was the use of readers in the control classes and the absence of their use in the experimental classes. Also obvious was the employment of a broad reading program as contrasted with a limited program. Earlier it was pointed out that the major emphasis of remedial reading instruction varies in different remedial reading programs. The two remedial procedures of concern here demonstrate the manifestations of one program that emphasizes building up the entire area of reading and one program that emphasizes bolstering a particular skill.

The two different methods have their roots established within two different theories of the nature of remedial reading instruction. The control classes using basal readers can be associated with the theory that postulates the following:[1]

> The writer holds the view that remedial instruction in reading is essentially the same as good classroom teaching that is individualized. The teacher works with the specific case, employing regular teaching methods but concentrating more intensely upon the skill wherein the child is deficient. . . .

The experimental classes using SP-SVB adhere to the theory that asserts the following:

> There is no justification for remedial reading activities if they are not controlled by a methodology essentially different from that of other reading instruction.[2]

> We read words independently by recognizing them by their configuration, by inferring them from context, by phonetic helps, and by structural analysis. Basal reading instruction makes use of all four of these aids to word perception, but gives particular attention to configuration and context. Remedial reading instruction, although it continues to make use of these two aids, places much

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[1]Bond and Tinker, 13.

[2]Kottmeyer, 6.

Differences in Methodology

	Control	Experimental
Primary instructional material	Readers and workbooks	Charts
New word meanings advanced by	Printed context	Oral Context
Sight vocabulary induced by	Repetition in context	Repetition in isolation
Word attack skills taught	Configuration, inference from context, phonic analysis, structural analysis.	Phonic analysis
Emphasis on manner of reading	Silent	Oral
Comprehension emphasis	Ideas	Words.

Likeness in Methodology

1. Oral introduction of new words
2. Review vocabulary
3. Phonic drill
4. Short review of previous lesson as lead-on for the lesson for the day.

Figure 1.--Comparison of experimental and control procedures.

greater stress upon phonics and structural analysis. The remedial teacher presents these two sequences of skills much more rapidly and depends more heavily upon drill to secure mastery than does the classroom teacher.[1]

Plan for Treatment of Data

As was previously mentioned, the scores for the eight part-time pupils will not be included in the data for statistical treatment.

1. Compute control and experimental group means for both forms in all areas.
2. Compute differences between scores made on Form 1 and Form 3 in Word Recognition, Sentence Reading, Paragraph Reading, and Total Reading Grade for each child. The differences will be the amounts of growth experienced in each of the above four areas.
3. Compute means of the differences in each of the four areas for each class.
4. Carry out an analysis of variance to determine if there is a significant interaction, at the five per cent level, between the method used and the length of the reading period.
5. If there is no significant interaction between the method used and the length of the reading period, t tests will be carried out to determine if the difference between the mean of all pupils receiving instruction in a control class and the mean of all pupils receiving instruction in an experimental class is statistically significant for all four areas at the five per cent level.

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[1] Kottmeyer, 8.

6. If there is a significant interaction between the method used and the length of the reading period, t tests will be carried out at the five per cent level of significance to determine the following:
   a. Is the difference between the mean of all pupils receiving thirty minutes of instruction in a control class and the mean of all pupils receiving thirty minutes of instruction in an experimental class statistically significant for all four areas?
   b. Is the difference between the mean of all pupils receiving forty-five minutes of instruction in a control class and the mean of all pupils receiving forty-five minutes of instruction in an experimental class statistically significant for all four areas?

CHAPTER IV

ANALYSIS OF RESULTS

Control and experimental group means were computed for both forms of the test in all areas. The forty-five-minute groups were treated separately from the thirty-minute groups. The thirty-minute experimental group was composed of all pupils in the three thirty-minute experimental classes who were attending school on a full-time basis. The results are reported in Table 1. Complete scores for all children are found in Tables 8-11 located in Appendix A.

Table 2 reports the mean growths achieved by the groups in the various areas. The mean growth for each group in an area was obtained by computing the difference between Form 1 and Form 3 of the test in that area for all pupils in the group and then computing the mean of the differences.

If the length of the reading period had the same effect on both methods, then the difference between the mean growth of the forty-five-minute control class and the mean growth of the thirty-minute control class should have been equal to the difference between the mean growth of the forty-five-minute experimental class and the mean growth of the thirty-minute experimental class thereby indicating that both methods were affected equally. In Table 2 it can be noted that for the control groups the mean growth for the forty-five-minute group was greater than the mean growth of the thirty-minute group. However, for the experimental groups the mean growth for the forty-five-minute group was less than the

TABLE 1

CONTROL AND EXPERIMENTAL GROUP MEANS

Area	Control (N=16)				Experimental (N=26)			
	30' (N=7)		45' (N=9)		30' (N=16)		45' (N=10)	
	$\bar{X}$	S.D.	$\bar{X}$	S.D.	$\bar{X}$	S.D.	$\bar{X}$	S.D.
Word Recognition								
Form 1	2.04	.38	1.56	.65	2.10	.40	1.75	.22
Form 3	2.48	.37	2.12	.84	2.83	.49	2.28	.25
Sentence Reading								
Form 1	2.43	.18	1.96	.41	2.33	.37	2.15	.29
Form 3	2.78	.35	2.52	.28	3.03	.47	2.44	.36
Paragraph Reading								
Form 1	2.21	.30	1.82	.70	2.17	.41	1.93	.45
Form 3	2.52	.22	2.36	.37	2.71	.37	2.39	.13
Total Reading Grade								
Form 1	2.23	.25	1.78	.41	2.20	.35	1.95	.24
Form 3	2.60	.29	2.33	.30	2.86	.42	2.37	.18

TABLE 2

MEANS OF THE DIFFERENCES BETWEEN
FORM 1 AND FORM 3 SCORES

Area	Control (N=16)				Experimental (N=26)			
	30' (N=7)		45' (N=9)		30' (N=16)		45' (N=10)	
	$\bar{d}$	S.D.	$\bar{d}$	S.D.	$\bar{d}$	S.D.	$\bar{d}$	S.D.
Word Recognition	.446	.268	.556	.152	.726	.292	.524	.241
Sentence Reading	.367	.259	.553	.255	.698	.422	.293	.300
Paragraph Reading	.311	.333	.623	.268	.544	.367	.456	.387
Total Reading	.370	.170	.558	.303	.657	.817	.420	.192

mean growth of the thirty-minute group. These results indicated that there was an interaction between the method used and the length of the reading period. In other words, more time with the control method did not appear to have the same influence as more time with the experimental method.

In order to determine if this interaction between the method used and the length of the reading period was significant, an analysis of variance was carried out for each of the four areas. The results are summarized in Tables 3-6.

The analysis of variance used is a design for analysis of multiple classification data with unequal numbers and interaction.[1] The level of significance was set at five per cent. At this level, a computed F ratio was considered significant if its value was greater than 4.10. In Tables 3-6, (S) indicates a significant ratio and (NS) indicates a ratio that is not significant. The following were used to compute the fittings:

$$R(\mu, \gamma_i, \rho_j, I) = \sum_i \sum_j \frac{Y_{ij}^2}{p_{ij}}$$

$$R(\mu, \gamma_i, \rho_j) = \hat{\mu} Y_{...} + \sum_i \gamma_i Y_{i..} + \sum_j \hat{\rho}_j Y_{.j.}$$

μ --mean

γ_i --effect due to method

ρ_j --effect due to time

I--interaction component

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[1]Oscar Kempthorne, The Design and Analysis of Experiments (New York: John Wiley and Sons, Inc., 1952), 90.

TABLE 3

ANALYSIS OF VARIANCE--SIGNIFICANCE OF INTERACTION
BETWEEN METHOD AND LENGTH OF READING PERIOD
AS REFLECTED IN WORD RECOGNITION TESTS

	df	SS	MS	F Ratio
Fitting (μ, α_i, β_j)	3	15.128		
Difference	1	.225	.225	2.087 (NS) $F_{.95}(1,38)=4.10$
Fitting $(\mu, \alpha_i, \beta_j, I)$	4	15.353		
Within Cells	38	4.098	.108	
Total	42	19.451		

TABLE 4

ANALYSIS OF VARIANCE--SIGNIFICANCE OF INTERACTION
BETWEEN METHOD AND LENGTH OF READING PERIOD
AS REFLECTED IN SENTENCE READING TESTS

	df	SS	MS	F Ratio
Fitting (μ, α_i, β_j)	3	11.504		
Difference	1	.838	.838	7.22 (S) $F_{.95}(1,38)=4.10$
Fitting $(\mu, \alpha_i, \beta_j, I)$	4	12.342		
Within Cells	38	4.410	.116	
Total	42	16.752		

TABLE 5

ANALYSIS OF VARIANCE--SIGNIFICANCE OF INTERACTION
BETWEEN METHOD AND LENGTH OF READING PERIOD
AS REFLECTED IN PARAGRAPH READING TESTS

	df	SS	MS	F Ratio
Fitting (μ, α_i, β_j)	3	10.602		
Difference	1	.384	.384	3.167 (NS) $F_{.95}(1,38)=4.10$
Fitting $(\mu, \alpha_i, \beta_j, I)$	4	10.986		
Within Cells	38	4.605	.121	
Total	42	15.591		

TABLE 6

ANALYSIS OF VARIANCE--SIGNIFICANCE OF INTERACTION
BETWEEN METHOD AND LENGTH OF READING PERIOD
AS REFLECTED IN TOTAL READING GRADES

	df	SS	MS	F Ratio
Fitting (μ, α_i, β_j)	3	11.993		
Difference	1	.433	.433	7.258 (S) $F_{.95}(1,38)=4.10$
Fitting $(\mu, \alpha_i, \beta_j, I)$	4	12.426		
Within Cells	38	2.267	.060	
Total	42	14.693		

The analysis of variance tests indicated significant interaction between time and method for Sentence Reading and for Total Reading Grade. These results indicated that Sentence Reading and Total Reading Grade for the control groups and for the experimental groups were not equally influenced by differences in time.

The additional time spent with the experimental group apparently was not beneficial. One possible explanation was suggested by the remedial reading teacher's comments. She indicated that the experimental method became boring to the children who had to use it for the longer period of time. The attitude of the forty-five-minute experimental group toward the method used may have negatively influenced its effectiveness.

As previously stated, the children were ranked according to their book levels. Group One was composed of the children with the lowest initial reading achievement, Group Two next to the lowest, and so on. Group Six had the highest initial reading achievement. Because all of the children were retarded in reading according to the test, they were all considered as being below the mean for the total school population. Due to random error in testing, it would have been expected that if these groups were tested again there would have been a regression toward the mean of the total school population that was not due to the effect of the methods. This regression would appear as a gain or growth. The scores farthest away from the mean would be expected to show a greater regression toward the mean than the scores closest to the mean. Therefore, it would have been expected that the post-test score for Group One would indicate a greater growth than the others and that the groups would be ranked according to the amount of growth in the

following ascending order:

6 5 4 3 2 1

The following was observed:

Word Recognition:	5	2	1	3	6	4
Sentence Reading:	2	5	1	3	6	4
Paragraph Reading:	5	6	2	4	1	3
Total Reading Grade:	5	2	6	1	3	4

Group One, the forty-five-minute control class, and Group Two, the forty-five-minute experimental class maintained their relative positions in the order as would be expected due to regression. This could indicate that the differences in growth may have been due to the expected regression and not the method used or that the methods produced different growths but the differences were not great enough to overcome the regression effect. Because the other groups, all thirty-minute groups, did not maintain their relative positions in the order as would be expected due to regression, it is possible that the growths were not mainly due to the expected regression and could possibly have been caused by the differences in treatments.

A t test was carried out in each area to determine if the differences between the mean growth of the forty-five-minute experimental and the forty-five-minute control groups and the differences between the mean growths of the thirty-minute experimental and the thirty-minute control groups were significant. The following statistic was used:

$$t = \frac{\bar{Y}_c - \bar{Y}_e}{\sqrt{(\text{Within cells M.S.})\left(\frac{1}{N_c} + \frac{1}{N_e}\right)}}$$

The within cells mean square was used because it is the best unbiased estimate of the variance since it utilizes the most degrees of freedom; therefore, it is the most powerful estimate of the variance.

Because the experimental method centered around word drill, it was expected that greater differences would show up between the two groups on the word recognition test. The words in the drills were chosen to illustrate the sounds of certain letter combinations rather than because they are commonly used. However, since the test was comprised of words commonly found in basal readers, the chance that the children in the control classes were taught the words used in the test was greater than the chance for the children in the experimental classes. Therefore, the test would require more recall on the part of the control group and more transfer of learning on the part of the experimental group. Since transfer is generally a more difficult task than straight recall, one would expect that the experimental group might find the test more difficult than the control group. It would therefore be a conservative measure of experimental effect. Since the control group received direct practice in sentence and paragraph reading which the experimental group did not, again these tests are conservative tests of experimental effect.

It was also expected that word recognition would have been influenced more than sentence reading and sentence reading more than paragraph reading because word recognition is a part of sentence reading and sentence reading is a part of paragraph reading.

The only results that were significant were those in favor of the thirty-minute experimental class for Sentence Reading and Total Reading Grade. These results indicate that the differences in these two areas

could have occurred by chance fewer than five times out of a hundred. The other differences that were not significant is an indication that they could have arisen by chance more than five times out of a hundred.

TABLE 7

SIGNIFICANCE OF THE DIFFERENCES BETWEEN MEANS OF THE DIFFERENCES BETWEEN FORM 1 AND FORM 3 SCORES

Area	30-Minute Classes		45-Minute Classes	
	Diff.	t	Diff.	t
Word Recognition	-.280	-1.888 (NS)	+.032	+0.209 (NS)
Sentence Reading	-.330	-2.141 (S)	+.260	+1.663 (NS)
Paragraph Reading	-.232	-1.472 (NS)	+.167	+1.047 (NS)
Total Reading Grade	-.287	-2.594 (S)	+.138	+1.227 (NS)

t significant at 5% level if less than -2.025 or greater than +2.025
(-) --In favor of experimental group
(+) --In favor of control group
(NS)--Not significant
(S) --Significant

No plausible reason could be given for obtaining a significantly greater growth in Sentence Reading than in Word Recognition by the experimental group other than the possibility that by chance a true estimate was not obtained. However, since the Sentence Reading score is a part of the Total Reading Grade, it is expected that the former would have influenced the latter.

However, there are also some general considerations to be taken into account. Although the t tests indicated only certain significant differences in favor of the thirty-minute experimental group for Sentence Reading and Total Reading Grade, the null hypotheses that there

were no differences can not be positively rejected or accepted due to several factors. Although the groups were randomly assigned as experimental or control groups, the individuals were not randomly assigned thereby making it possible that the differences were due to the nature of the pupils within the groups and not the nature of the teaching method. In addition, it is to be noted that the means for the groups that were compared to each other were not equal at the start of the experiment and that the groups with the lower means, in seven out of eight cases, obtained the greater growths. Even if there were no differences in treatment this would have been expected due to the regression effect discussed previously.

A final caution in terms of rejection or acceptance of the method is that the sample was too small for the study to be definitive.

CHAPTER V

CONCLUSIONS, IMPLICATIONS FOR FURTHER STUDY, AND SUMMARY

Conclusions

Due to factors outlined in Chapter IV that made it impossible to positively accept or reject the hypotheses, it was concluded that there was not sufficient evidence provided by the present study to determine if Systematic Phonics-Sight Vocabulary Building or additional directed reading instruction will produce the greater growth in reading achievement when used as a remedial technique in addition to directed reading in a basal reader.

Because some differences were found that could possibly have been due to differences in methods, this study indicates that perhaps further study should be undertaken to determine with more certainty the relative effectiveness of the two methods.

Implications for Further Study

The experiment should be replicated under the following conditions:

Only thirty-minute classes should be used so that the possible negative effect of boredom is eliminated.

The total number of cases should be increased in order to increase the precision of the conclusions.

The study should be conducted at schools located in different socio-economic areas to determine if either method is more beneficial for a particular socio-economic class.

In each school, the same teacher should instruct the experimental and control classes in order to control the quality-of-teacher variable.

It should be determined if there is an interaction between sex and the method used. One method may produce greater growth among boys, and the other method may produce greater growth among girls.

Pupils with a greater range in mental age should be included, and the interaction between mental age and the method used should be determined. It may be possible that a certain mental age must be achieved in order to benefit from one or both of the methods.

The pupils should be randomly assigned to the experimental and control classes.

Pupils with a greater range in level of reading achievement should be included, and the interaction between level of reading achievement and method used should be determined. Pupils in the beginning stages of reading may benefit more from one method, and pupils in later stages of reading may benefit more from the other method.

The experiment should be conducted over a two-year period so that the entire SP-SVB system may be completed.

An experiment should be undertaken to determine the effectiveness of Systematic Phonics-Sight Vocabulary Building as a supplement to directed reading in the regular reading program.

Tests should be used which permit direct measurement of recall and transfer learning appropriate to both experimental and control groups.

Follow-up tests should be administered to determine the extent of growth in sentence and paragraph comprehension after practice in word recognition has had time to affect these skills.

Summary

In summary, a conservative test of the experimental method was conducted for the forty-five minute period because of regression effect. The finding of no significant differences may have been due to the weakness of experimental effect or the strength of the regression effect.

The thirty-minute test results showed some significant results in Sentence Reading and Total Reading Grade scores. It is difficult to figure what effect regression effect would have on these results, whether conservative or not. However, an examination of subgroups of the experimental group did not show consistent ordering over the tests. This suggests regression may not have been the dominant factor and other effects, possibly experimental effects may have been present.

Finally, the smallness of the sample suggests that the study is suggestive rather than definitive.

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APPENDIX A

TOTAL INFORMATION AND RAW SCORES

No.--number of the pupil

CA--chronological age

MA--mental age

IQ--intelligence quotient

Gr.--school grade placement

Abs.--days absent from school out of 187-day school year

DAR--daily additional reading in regular classroom (minutes)

S--sex

B--boy

G--girl

WR-1--Word Recognition Test, Form 1

WR-3--Word Recognition Test, Form 3

WRG--word recognition growth

SR-1--Sentence Reading Test, Form 1

SR-3--Sentence Reading Test, Form 3

SRG--sentence reading growth

PR-1--Paragraph Reading Test, Form 1

PR-3--Paragraph Reading Test, Form 3

PRG--paragraph reading growth

RG-1--total reading grade, October

RG-3--total reading grade, June

RGG--total reading grade growth

BL-1--reading book level, October

BL-2--reading book level, June

Figure 2.--Key to Tables 8, 9, 10, and 11. Reading test scores are reported in grade equivalents. CA, MA, IQ, and Gr. are values for October, 1961.

TABLE 8

TOTAL INFORMATION AND RAW SCORES 30-MINUTE CONTROL

No.	CA	MA	IQ	Gr.	Abs.	DAR	S	WR-1	WR-3	WRG	SR-1	SR-3	SRG	PR-1	PR-3	PRG	RG-1	RG-3	RGG	BL-1	BL-2
1.	8.25	7.04	86	3	.0	30	B	2.23	2.78	.55	2.60	3.10	.50	2.60	2.50	-.10	2.48	2.79	.31	1-1	1-2
2.	9.25	8.88	96	3	37.0	60	B	1.55	2.33	.78	2.19	2.37	.18	2.30	2.33	.03	2.01	2.34	.33	1-2	2-1
3.	7.58	7.21	95	2	18.5	50	B	1.55	2.23	.68	2.27	2.62	.35	1.60	2.33	.73	1.81	2.39	.58	1-2	1-2
4.	7.75	7.00	91	3	5.0	30	B	2.60	3.05	.45	2.64	3.40	.84	2.30	2.83	.53	2.51	3.09	.58	1-1	2-1
5.	7.92	6.42	81	3	14.5	30	G	2.19	2.40	.21	2.30	2.75	.45	2.27	2.35	.08	2.25	2.50	.25	1-1	1-2
6.	8.50	7.88	93	3	.0	30	B	1.95	1.95	.00	2.40	2.50	.10	2.27	2.50	.23	2.21	2.32	.11	1-1	1-1
7.	8.67	7.04	82	3	3.5	30	G	2.19	2.64	.45	2.60	2.75	.15	2.15	2.83	.68	2.31	2.74	.43	1-1	1-2
$\bar{X}$	8.27	7.35	89	2.9	15.7	37		2.04	2.48	.45	2.43	2.78	.37	2.21	2.52	.31	2.23	2.60	.37		

TABLE 9

TOTAL INFORMATION AND RAW SCORES 45-MINUTE CONTROL

No.	CA	MA	IQ	Gr.	Abs.	DAR	S	WR-1	WR-3	WRG	SR-1	SR-3	SRG	PR-1	PR-3	PRG	RG-1	RG-3	RGG	BL-1	BL-2
1.	7.50	6.38	85	3	12.5	40	G	2.15	2.80	.65	2.33	3.05	.72	2.20	2.83	.63	2.23	2.89	.66	PP-2	P
2.	7.83	6.59	84	2	13.0	30	B	1.70	1.70	.00	1.70	2.45	.75	1.40	2.30	.90	1.60	2.15	.55	PP-2	P
3.	6.75	6.08	90	2	24.0	30	G	2.03	2.23	.20	2.19	2.45	.26	2.10	1.70	.40	2.11	2.13	.02	PP-2	P
4.	6.58	6.58	100	2	12.5	30	G	1.30	2.33	1.03	2.00	2.67	.67	1.90	2.78	.88	1.70	2.59	.89	PP-3	P
5.	8.08	6.50	81	3	24.5	60	B	.00	1.55	1.55	1.65	2.33	.68	1.60	2.20	.60	1.08	2.03	.95	PP-3	PP-3
6.	7.67	6.96	91	3	10.0	30	B	1.55	2.03	.48	2.10	2.37	.27	2.10	2.15	.05	1.92	2.18	.26	PP-2	PP-3
7.	7.67	7.13	93	3	.0	40	G	2.15	2.45	.30	2.70	2.83	.13	2.20	2.78	.58	2.35	2.69	.34	PP-2	P
8.	9.08	7.46	82	3	13.5	50	B	1.60	2.19	.59	1.50	2.30	.80	1.50	2.27	.77	1.50	2.25	.75	PP-2	PP-3
9.	6.92	6.92	100	2	42.0	30	B	1.60	1.80	.20	1.50	2.20	.70	1.40	2.20	.80	1.50	2.10	.60	PP-2	PP-3
$\bar{X}$	7.56	6.73	90	2.6	16.9	38		1.56	2.12	.56	1.96	2.52	.55	1.82	2.36	.62	1.78	2.33	.56		

TABLE 10

TOTAL INFORMATION AND RAW SCORES 30-MINUTE EXPERIMENTAL

No.	CA	MA	IQ	Gr.	Abs.	DAR	S	WR-1	WR-3	WRG	SR-1	SR-3	SRG	PR-1	PR-3	PRG	RG-1	RG-3	RGG	BL-1	BL-2
1.	7.00	6.42	92	2	10.5	30	G	1.55	2.80	1.25	2.19	2.83	.64	1.60	2.60	1.00	1.78	2.74	.96	1-1	1-2
2.	8.25	6.63	81	3	14.5	30	B	1.80	2.19	.39	2.14	2.73	.33	1.65	2.40	.75	1.95	2.44	.49	1-1	1-2
3.	9.42	8.33	89	3	39.5	30	B	1.80	2.60	.80	2.20	2.80	.60	2.15	2.40	.25	2.05	2.60	.55	1-1	1-2
4.	7.25	6.59	91	2	9.5	30	G	2.00	2.50	.50	1.60	2.55	.95	1.60	2.70	1.10	1.70	2.58	.88	1-1	1-2
5.	8.25	6.88	84	3	1.5	30	B	1.85	2.03	.18	2.10	2.62	.52	1.65	2.50	.85	1.87	2.38	.51	1-1	1-1
6.	7.08	7.30	103	2	5.5	30	B	2.30	3.30	1.00	2.17	3.80	1.63	2.10	3.20	1.10	2.19	3.43	1.24	1-1	2-1
7.	6.83	6.58	97	2	27.0	30	G	1.55	2.35	.80	2.30	2.70	.40	2.15	2.50	.35	2.00	2.52	.52	1-1	1-2
8.	6.92	8.34	121	2	7.0	30	B	1.60	2.64	1.04	2.30	2.50	.20	2.10	2.30	.20	2.00	2.48	.48	1-1	1-1
9.	6.92	6.79	98	2	1.0	30	B	2.13	3.05	.92	1.70	3.20	1.50	2.10	2.78	.68	1.98	3.01	1.03	1-1	1-2
10.	8.25	9.29	113	3	5.5	50	G	2.78	3.40	.62	3.05	3.80	.75	2.90	3.80	.90	2.91	3.70	.79	2-1	2-1
11.	8.17	6.79	83	3	4.5	25	B	2.70	3.70	1.00	2.80	3.60	.80	2.70	2.90	.20	2.70	3.40	.70	1-2	2-1
12.	8.25	6.54	80	3	4.0	25	G	2.10	2.60	.50	2.17	2.64	.47	2.33	2.50	.17	2.20	2.58	.38	1-2	1-2
13.	8.50	7.21	85	3	2.0	25	B	2.23	2.64	.41	2.50	2.77	.27	2.33	2.50	.17	2.35	2.64	.29	1-2	1-2
14.	8.58	7.00	82	3	17.5	50	G	2.10	2.80	.70	2.60	2.83	.23	2.10	2.60	.50	2.30	2.74	.44	1-2	2-1
15.	8.08	6.71	83	3	6.0	60	B	2.50	3.05	.55	2.50	3.40	.90	2.40	2.83	.43	2.50	3.09	.59	1-2	2-1
16.	7.92	7.50	95	3	3.5	60	G	2.64	3.60	.96	2.73	3.70	.97	2.78	2.83	.05	2.72	3.38	.66	1-2	2-1
$\bar{X}$	7.85	7.18	92	2.6	9.9	35		2.10	2.83	.73	2.33	3.03	.70	2.17	2.71	.54	2.20	2.86	.66		

TABLE 11

TOTAL INFORMATION AND RAW SCORES 45-MINUTE EXPERIMENTAL

No.	CA	MA	IQ	Gr.	Abs.	DAR	S	WR-1	WR-3	WRG	SR-1	SR-3	SRG	PR-1	PR-3	PRG	RG-1	RG-3	RGG	BL-1	BL-2
1.	7.50	6.00	81	2	35.5	30	B	1.70	2.06	.36	2.19	2.78	.59	1.65	2.40	.75	1.85	2.41	.56	PP-3	P
2.	7.75	6.33	82	2	7.0	30	B	1.40	2.03	.63	1.55	2.40	.85	1.70	2.27	.57	1.55	2.23	.68	PP-3	P
3.	8.08	7.29	90	3	5.5	50	B	2.10	2.35	.25	2.50	2.64	.14	1.70	2.30	.60	2.10	2.43	.33	PP-3	P
4.	7.17	6.25	87	2	9.0	30	B	1.55	2.55	1.00	2.13	2.35	.22	1.45	2.33	.88	1.71	2.41	.70	PP-3	P
5.	7.92	6.62	85	3	11.0	50	B	1.80	2.00	.20	2.27	2.27	.00	1.60	2.27	.67	1.89	2.18	.29	PP-3	PP-4
6.	8.50	7.54	89	3	5.5	30	B	1.60	2.23	.63	1.70	1.55	-.15	2.40	2.50	.10	1.90	2.09	.19	PP-3	P
7.	7.86	6.38	82	3	19.0	30	G	2.03	2.60	.57	2.37	2.62	.25	2.78	2.35	-.43	2.39	2.52	.13	PP-3	P
8.	7.58	6.04	80	3	3.0	20	B	1.95	2.67	.72	2.30	2.73	.43	2.30	2.60	.30	2.18	2.67	.49	PP-3	P
9.	7.75	6.25	81	2	15.0	30	B	1.60	2.13	.53	2.27	2.37	.10	1.55	2.27	.72	1.81	2.26	.45	PP-3	PP-4
10.	8.08	8.17	101	3	3.5	40	B	1.80	2.15	.35	2.20	2.70	.50	2.20	2.60	.40	2.10	2.48	.38	PP-3	P
$\bar{X}$	7.82	6.69	86	2.6	11.4	34		1.75	2.28	.52	2.15	2.44	.29	1.93	2.39	.46	1.95	2.37	.42		

APPENDIX B

INDIVIDUAL INFORMAL READING INVENTORY (EXAMPLE)

INFORMAL READING INVENTORY

I. SECTIONS OF I.R.I. TO BE GIVEN:

A. Word Recognition Test
   To get general idea of level at which to start reading
B. Oral and Silent Reading
   To ascertain Instructional Reading Level
   (Independent and Frustration levels may also be found.)
   To ascertain needs
C. Oral Reading to Pupil, with Comprehension Check
   To ascertain Hearing Capacity Level

II. DIRECTIONS FOR GIVING I.R.I.

A. Word Recognition Test

1. Start at Pre-primer level
2. When child fails in more than 5% of words in any list, drop back to previous level for starting reading.

B. Oral and Silent Reading

1. Provide readiness.
2. In oral - ask child to read to you.
3. Tell child he may ask for any word he does not know.
4. Count all words asked for, or mispronounced, as errors.
5. Ask questions (remove book) after oral; after silent-note vocabulary used in answers.
6. Stop when child fails in either vocabulary (more than 5% or 1 out of 20 running words) or comprehension (more than 25% or 1 out of 4 questions) for instructional level
7. One level below that one failed is the child's Instructional Reading Level

C. Hearing Comprehension Capacity Test

1. Provide readiness
2. Read selection at the next highest level (see "B - 6")
3. Read distinctly, with expression, but without overemphasis
4. Ask questions, check answers for correctness and use of vocabulary on a level equivalent to that of the selection.
5. When child fails in more than 25% of the questions asked, drop back to previous level which is his Hearing Capacity Level.

Katherine F Jackson

November, 1959
/MTB

BOOK 1 (Word Recognition Check)

sing

school

dress

found

bus

over

back

street

story

woman

that

going

give

brook

rabbit

night

around

other

flower

bicycle

GINN BASIC READERS - RUSSEL et al

BOOK 1 - ON CHERRY STREET

Book 1: Oral - Page 146

Readiness: Discuss farm - barn - pony (Briefly)
Tell title
Introduce characters
"Read to find out what Uncle Fred and Aunt Mary are talking about."

Oral Reading - Page 146

Number of words - 65

Number of errors allowed - 3

"Where is Tom?" said Uncle Fred.

"It is time for him to get up.

I am ready to go to the barn now."

Aunt Mary and Uncle Fred looked in at Tom.

"Let him sleep," said Aunt Mary.

"The sun is just up. It is not time for

Tom to get up. You will come back from the

barn soon. Then we will call him."

Comprehension Check - Page 146

Number of errors allowed - 1

I. 1. What time of day is it? Why do you think so? (Morning - "The sun is just up")

V. 2. How else could you say "the sun is just up?" (The sun is rising - it is dawn - it is early morning, etc.)

F. 3. Where was Uncle Fred going? (To the barn)

B. 4. Why do you think he was going to the barn so early? (To feed the animals, get eggs, etc.)

GINN BASIC READERS - RUSSEL et al

BOOK 1 - ON CHERRY STREET

Book 1: Silent - Page 147

Readiness: Discuss picture
"Read to yourself to find out why Pony was looking in the window."

Silent Reading - Page 147

Number of words - 56

Number of errors allowed - 2

Pony saw Uncle Fred go out to the barn.

He saw Aunt Mary at the window. He

wanted to see Tom too.

Pony went all around the house, but he

could not find Tom. The Pony put his

nose in a window. He looked into the

house. There was Tom!

"He-e-e! He-e-e!" called Pony.

"He-e-e! He-e-e!"

Comprehension Check - Page 147

Number of errors allowed - 1

I. 1. On what floor was Tom's bedroom? Why? (On the first floor - Pony could look in)

F. 2. Where had Pony gone to look for Tom? (All around the house)

V. 3. What is the difference between a pony and a colt? (Colt is a baby horse - a pony is a small horse - will not grow into a big horse)

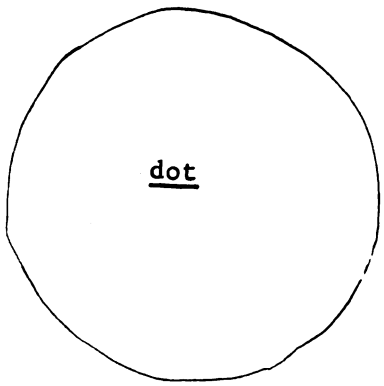
B. 4. What do you think will happen next? (Tom will wake up)

APPENDIX C

SP-SVB (EXAMPLES)

(Example 1)

LETTER BUILDING FORMS



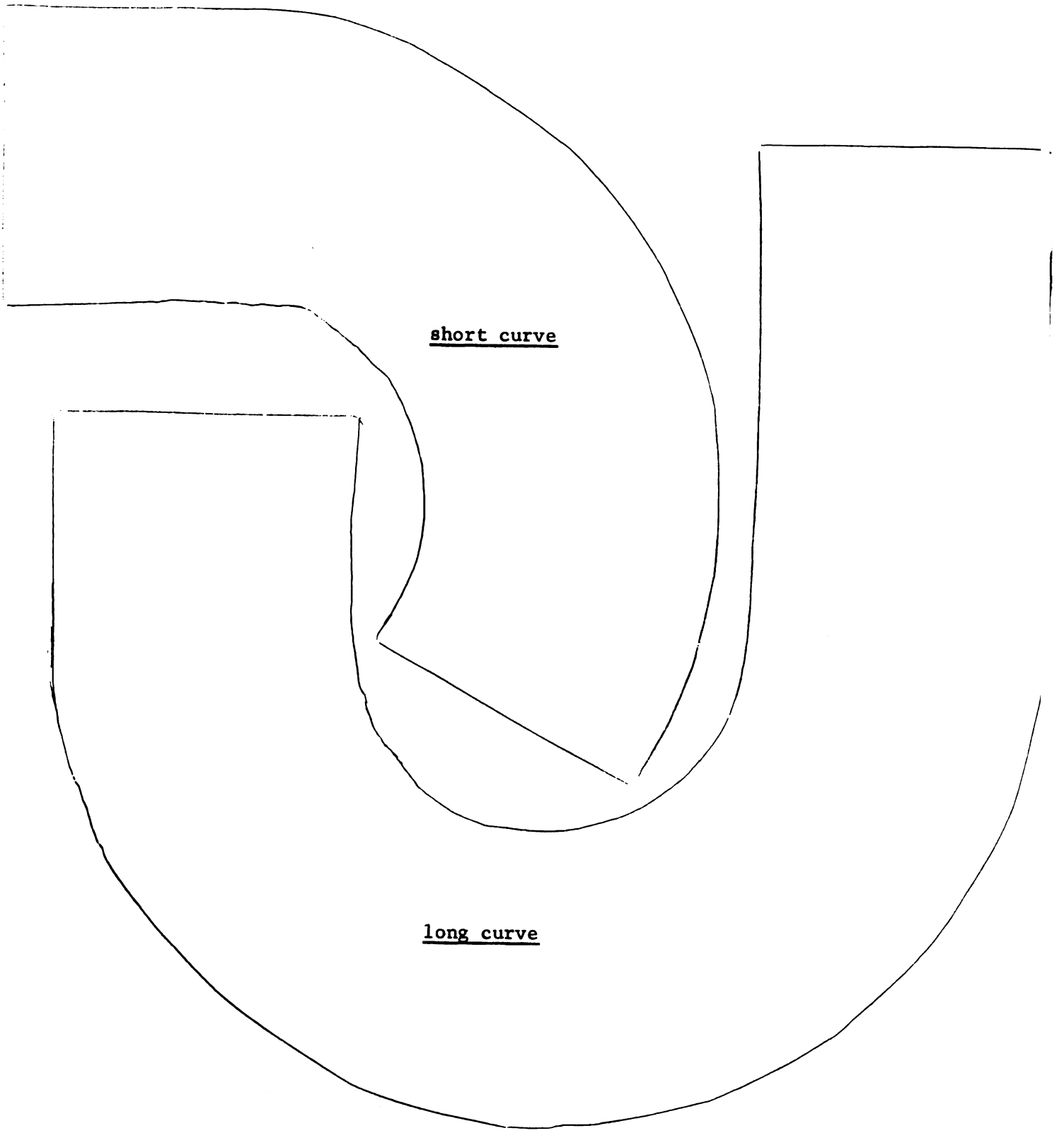
dot

long straight

short straight

(Example 1)

LETTER BUILDING FORMS (CONTINUED)



(Example 2)

BUILDING CAPITAL LETTERS

We shall start with one straight piece. There is only one capital letter that can be made with just one long straight piece. It is an I. (FPI)--Follow previous instructions.

I

Now we shall use two straight pieces. When we place the second piece on top of the I, it becomes a T. (FPI)

T

What are the letters we have learned?

I T

When the piece on top is placed in the center and both pieces are turned, an X is formed. (FPI)

X

One piece by itself is an I. Put a second piece on top, and it becomes a T. (Demonstrate.) Put the second piece in the middle and it becomes an X. Demonstrate.)

These letters are

I T X

Make an I.

Make a T.

Make an X.

(Example 3)

ONE AND TWO-LETTER WORDS

Our first word is

I

We always use a capital letter for this word. (FPI)

Our next word is

a

These are one-letter words. These words are

I a

Spell I.

Spell a.

Here are some two-letter words in which each has the same vowel. (Name vowel for each and give sentence.)

am

an

at

ax

Al

ha

ma

pa

Learn how to spell these words.

(Example 4)

THREE-LETTER WORDS

a

at	am	bar	bag
bat	dam	car	gag
cat	ham	far	hag
fat	jam	jar	lag
hat	ram	mar	nag
mat	Sam	tar	rag
pat			sag
rat	ax	cap	tag
sat	lax	gap	wag
vat	tax	lap	
	wax	map	bad
an		nap	cad
ban	Al	rap	dad
can	pal	sap	fad
Dan	gas	tap	had
fan		yap	lad
man			mad
pan		cab	pad
ran		dab	sad
tan		gab	
van		jab	
		lab	
		nab	
		tab	

(Example 5)

THREE-LETTER WORDS (INITIAL LETTER)

a

bad	gab	mad	sad
bag	gag	man	sag
ban	gap	map	Sam
bar	gas	mar	sap
bat	had	mat	sat
cab	hag	nab	tab
cad	ham	nag	tag
can	hat	nap	tan
cap	jab	pad	tap
car	jam	pal	tar
cat	jar	pan	tax
dab	lab	pat	van
dad	lad	rag	vat
dam	lag	ram	wag
Dan	lap	ran	wax
fad	lax	rap	yap
fan		rat	
far			
fat			

(Example 6)

TWO-CONSONANT BLEND ENDINGS

and	pond	bun	art
band	fond	bunt	cart
land	bond	hunt	dart
sand		runt	part
	fun		
hand			
	fund	act	dirt
end		fact	
	ant		for
bend			
	pant	arm	fort
lend			
		farm	port
mend	Ben		
		harm	sort
send	bent		
tend	dent	fir	hurt
	lent	firm	
find			ask
	rent		
kind		for	mask
	sent		
wind		form	task
	tent		
mind			cask
	vent	term	
hind			
	went		desk
bind			
rind	hint		
	lint		
	mint		

(Example 7)

DOUBLE CONSONANT ENDINGS

11

all	ill	bell	dull	doll
ball	bill	dell	gull	
call	dill	fell	hull	
fall	fill	sell	null	
hall	gill	tell		
mall	hill	well		
tall	kill	yell		
wall	mill			
	pill			
	sill			
	till			
	will			

(Example 8)

LONG VOWELS WITH SILENT e ENDINGS

i

bide	dime	vise
hide	lime	bite
ride	time	kite
side	dine	
tide	fine	dive
wide	line	five
life	mine	hive
wife	nine	live
dike	pine	size
hike	vine	
like	wine	
pike	pipe	
bike	ripe	
file	wipe	
mile	fire	
pile	hire	
tile	tire	
	wire	

(Example 9)

CONSONANT DIGRAPH ENDINGS

sh

ash	gush	dish	marsh
cash	hush	fish	harsh
dash	lush	wish	
gash	mush		
hash	rush		
lash			
mash			
rash			
sash			

(Example 10)

VOWEL DIGRAPHS

ee

eel	wee	fee	(r changes sound)
	weep	feet	deer
bee			
	deep	beet	beer
fee			
	keep	meet	veer
lee			
	peep		
see		bee	
	seep		
wee		beef	
	eel	reef	
fee			
	feel		
feed		see	
	heel		
deed		seem	
	peel		
heed			
	reel	see	
need			
		seen	
reed	wee		
		keen	
seed	week		
weed	meek	teeth	
	peek		
		beech	
	seek		

(Example 11)

SOFT c

ice	ounce	peach
dice	bounce	voice
lice	pounce	sauce
mice	source	dance
nice	piece	since
rice	niece	force
ace	fierce	cell
face	fence	cease
lace	hence	cent
pace		cite
race		cinch

(Example 12)

SILENT CONSONANTS

gh	tch	dge
fight	catch	edge
light	match	ledge
night	patch	wedge
right	hatch	hedge
sight	batch	lodge
tight	latch	dodge
aught	itch	nudge
caught	pitch	fudge
taught	witch	budge
sigh	ditch	judge
high	hitch	ridge
nigh	fetch	badge
neigh	notch	
weigh		
weight		
eight		
eighth		

(Example 13)

BEGINNING CONSONANT DIGRAPHS

ch

at	chip	chase
chat	chop	chime
	chug	choke
eat	chum	
cheat		chain
	champ	chair
ill	chest	cheap
chill	child	cheek
ant	chirp	cheer
chant	churn	chief
arm	check	chance
charm	chick	change
	chuck	charge
art		choice
chart		church
		chunk

(Example 14)

BEGINNING CONSONANT BLENDS

br

ace	ranch	room	and
race	branch	broom	brand
brace			
	ray	rush	oil
at	bray	brush	broil
rat			
	read	raid	brave
brat			
	bread	braid	brick
each			brief
	rig	ride	
reach			broke
	brig	bride	
breach			breadth
	right	ridge	bribe
rag			
	bright	bridge	
brag			
	ring	book	
rain			
	bring	brook	
brain			
	risk	bass	
rake			
	brisk	brass	
brake			

(Example 15)

SPECIAL CASES

y as i

him	by
gym	my
	fry
lip	
	fly
gyp	
	why
wipe	pry
type	sky
	sly
inch	
	cry
lynch	
	try
	shy
	dry
	sty
	style
	spy
	spry
	cyst

(Example 16)

COMPOUND WORDS

Across	apiece	ballroom	blackbird
acute	arise	bareback	bluejay
ado	arose	barefoot	boathouse
afar	around	barnyard	bookcase
afire	aside	baseball	boyhood
aflame	asleep	bathrobe	
afloat	atop	bathroom	
afoot	await	became	
ago	awake	bedbug	
aground	away	bedroom	
ahead	awhile	bedside	
ajar	awoke	bedtime	
alike	aircraft	behive	
alive	airplane	belong	
alone	armchair	below	
along		beside	
amount		betray	
anew		birthday	
apart		blackboard	

(Example 17)

TERMINATIONS

ing

leap	dig	hide
leaping	digging	hiding
help	hum	make
helping	humming	making
end	tap	save
ending	tapping	saving
ring	get	bite
ringing	getting	biting
rush	rot	dodge
rushing	rotting	dodging
teach	win	dance
teaching	winning	dancing
rest	cut	curse
resting	cutting	cursing
	hop	rage
	hopping	raging

(Example 18)

CAPITAL LETTER REVIEW

These letters are:

X J S B I U K N E A W V Y H T

R D O C L Q G P F Z M

V W A E N K U I B S J X M Z F

P G Q L C O D R T H Y

Z Y X H J T S R B D I O U C K

L N Q M E G A P W F V

We are going to learn the letters in this order:

A B C D E F G H I J K L M N O

P Q R S T U V W X Y Z

(Example 19)

SILENT e KW

ate	bide	robe	tube
ape	life	rode	rude
ale	like	woke	rule
fade	pile	hole	fume
safe	dime	home	tune
bake	mine	cone	cure
came	wipe	rope	cute
cane	fire	dose	
base	vise	note	
cave	bite	wove	
daze	five	owe	
	size	doze	

(Example 20)

SILENT e C

fad	kite	tap	same	man
fade	kit	tape	Sam	mane
vane	cub	dime	fat	mate
van	cube	dim	fate	mat
bid	wade	cod	pine	rip
bide	wad	code	pin	ripe
bite	gap	cut	ton	hope
bit	gape	cute	tone	hop
note	rid	dam	cane	pane
not	ride	dame	can	pan
mad	robe	ate	hat	rate
made	rob	at	hate	rat
cape	tube	fin	wine	fir
cap	tub	fine	win	fire
hid	pale	rode	cop	mop
hide	pal	rod	cope	mope