INFORMATION TO USERS

This material was produced from a microfilm copy of the original document. While the most advanced technological means to photograph and reproduce this document have been used, the quality is heavily dependent upon the quality of the original submitted.

The following explanation of techniques is provided to help you understand markings or patterns which may appear on this reproduction.

1. The sign or "target" for pages apparently lacking from the document photographed is "Missing Page(s)". If it was possible to obtain the missing page(s) or section, they are spliced into the film along with adjacent pages. This may have necessitated cutting thru an image and duplicating adjacent pages to insure you complete continuity.

2. When an image on the film is obliterated with a large round black mark, it is an indication that the photographer suspected that the copy may have moved during exposure and thus cause a blurred image. You will find a good image of the page in the adjacent frame.

3. When a map, drawing or chart, etc., was part of the material being photographed the photographer followed a definite method in "sectioning" the material. It is customary to begin photoing at the upper left hand corner of a large sheet and to continue photoing from left to right in equal sections with a small overlap. If necessary, sectioning is continued again — beginning below the first row and continuing on until complete.

4. The majority of users indicate that the textual content is of greatest value, however, a somewhat higher quality reproduction could be made from "photographs" if essential to the understanding of the dissertation. Silver prints of "photographs" may be ordered at additional charge by writing the Order Department, giving the catalog number, title, author and specific pages you wish reproduced.

5. PLEASE NOTE: Some pages may have indistinct print. Filmed as received.

Xerox University Microfilms
300 North Zeeb Road
Ann Arbor, Michigan 48106

Downloaded from SHAREOK. Persistent Handle URL: https://hdl.handle.net/11244/3671

74-6991

WOOD, Ruby Pearl, 1916-
THE APPLICABILITY OF SELECTED STRUCTURAL ANALYSIS GENERALIZATIONS TO INSTRUCTIONAL READING VOCABULARIES.

The University of Oklahoma, Ed.D., 1973
Education, general

University Microfilms, A XEROX Company, Ann Arbor, Michigan

© 1973

RUBY PEARL WOOD

ALL RIGHTS RESERVED

THIS DISSERTATION HAS BEEN MICROFILMED EXACTLY AS RECEIVED.

THE UNIVERSITY OF OKLAHOMA

GRADUATE COLLEGE

THE APPLICABILITY OF SELECTED STRUCTURAL ANALYSIS GENERALIZATIONS TO INSTRUCTIONAL READING VOCABULARIES

A DISSERTATION

SUBMITTED TO THE GRADUATE FACULTY

in partial fulfillment of the requirements for the degree of

DOCTOR OF EDUCATION

BY

RUBY P. WOOD

Norman, Oklahoma

1973

THE APPLICABILITY OF SELECTED STRUCTURAL ANALYSIS GENERALIZATIONS TO INSTRUCTIONAL READING VOCABULARIES

APPROVED BY

Mary Clare Petty

Gene Shepherd

Jack F. Parker

R. L. Curry

DISSERTATION COMMITTEE

DEDICATION

This research study is dedicated to my grandchildren, Teresa, Jay C., Steve, Jeff, and Julie; and to my niece, Gina. May their tomorrows be brighter because of today's research.

ACKNOWLEDGMENTS

Sincere appreciation and gratitude are expressed to Dr. Mary Clare Petty, chairman of the doctoral committee, for her skill, interest, and patience, in directing this research. This researcher is especially indebted to Dr. Robert Curry, also of the doctoral committee, for his granting permission to use his published structural analysis generalizations for testing in this study, and for his recommendations, as a specialist in the field of reading. Appreciation and sincere thanks are due Dr. Jack Parker and Dr. Gene Shepherd, other members of the doctoral committee, for their interest and cooperation during this study.

Appreciation is expressed to Dr. Theodore Clymer for his granting permission to utilize his research procedure in this study and to The International Reading Association for permission to quote from articles published in The Reading Teacher.

Very special thanks are expressed to my husband, J. C., my children, Larry, Jerry, and Johnel; and to my mother, Vera Rooker, now in her eighty-fourth year, for their patience and understanding during this study.

TABLE OF CONTENTS

		Page
ACKNOWLEDGMENTS		iv
LIST OF TABLES		vii
Chapter		
I.	INTRODUCTION AND REVIEW OF LITERATURE	1
	Introduction	1
	Review of Literature	2
	Research Reports	2
	Other Literature	8
II.	THE STUDY	15
	Statement of the Problem	15
	Delimitations of the Study	15
	Assumptions	16
	Definition of Terms	17
	Study of Applicability of Generalizations	20
	Selection of Generalizations	21
	Selection of Basal Readers	21
	Criteria for Degree of Applicability	22
	Compilation of Composite Vocabulary	23
	Recording of Word Syllabications	25
	Determining Per Cent of Applicability	25
	Study of Instructional Programs in Structural Analysis	26
III.	APPLICABILITY OF GENERALIZATIONS	29
IV.	INSTRUCTIONAL PROGRAMS IN STRUCTURAL ANALYSIS	41
	Review of Basal Reading Texts	41
	Review of Teacher Education Reading Texts	50
	Importance of Structural Analysis	51
	Structural Analysis Content	54
	Teaching Structural Analysis	62
	Summary	66

Chapter Page

V. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS . 68

Summary 68
Purpose and Procedures 68
Findings 72
Conclusions 75
Recommendations 77

BIBLIOGRAPHY 79

APPENDIX A 82

APPENDIX B 84

APPENDIX C 86

APPENDIX D 89

APPENDIX E 100

APPENDIX F 102

APPENDIX G 124

APPENDIX H 126

APPENDIX I 135

LIST OF TABLES

Table		Page
1.	Areas of Study in Structural Analysis by Reading Series	90
2.	Generalizations Presented by Reading Series .	96
3.	Oklahoma Elementary Teaching Certificates Issued July 1, 1970-June 30, 1971	101
4.	The Composite Vocabulary	103
5.	Summary of Applicability of Structural Analysis Generalizations by Grades	127
6.	Summary of Applicability of Structural Analysis Generalizations by Grade Groupings	131
7.	Total Conformations for all Generalizations by Grades and by Generalizations	134

THE APPLICABILITY OF SELECTED STRUCTURAL ANALYSIS GENERALIZATIONS TO INSTRUCTIONAL READING VOCABULARIES

CHAPTER I

INTRODUCTION AND REVIEW OF LITERATURE

Introduction

In recent years much emphasis has been placed on the need for evaluating educational programs in terms of assumptions, materials, and methods. One basic facet of reading instruction is that of skills development in word recognition. Programs for the development of these skills should be evaluated in terms of their possible effectiveness in developing reading independence. Such evaluations should include assessments of the applicability of generalizations introduced. The specific concern of this study was the applicability of selected structural analysis generalizations to the vocabulary of basal readers, grades one through six.

In the areas of word recognition there are many generalizations which authors and teachers have accepted and presented to learners without establishing their utility. It was not until the last decade that any formal or scientific

evaluation of these generalizations claimed the interest of researchers. For example, only since 1963 when Theodore Clymer[1] reported his study on the applicability of forty-five phonic generalizations to the vocabularies of primary readers, have others begun to show interest in extending investigations in this area. To the present time little investigation has been made to determine the applicability to selected vocabularies of frequently stated generalizations specifically related to the structure of words.

Review of Literature

A review of the literature yielded very little research related to the use of structural analysis generalizations as a tool in word recognition. The literature did describe several studies in which phonic generalizations had been examined and applied to determine their applicability and value as aids in word recognition. Moreover professional publications have discussed the importance of structural analysis for the development of independence in word recognition.

Research reports

Pioneering in the field of investigating the utility of phonic generalizations was Clymer, who reported his study,

---

[1]Theodore Clymer, "The Utility of Phonic Generalizations in the Primary Grades," The Reading Teacher, XVI (January, 1963), 252-58.

"The Utility of Phonic Generalizations in the Primary Grades," in the January, 1963 issue of The Reading Teacher. In Clymer's report he stated three questions that he attempted to answer. These were:

> (1) What phonic generalizations are being taught in basic reading programs for the primary grades?
> (2) To what extent are these generalizations useful in having a "reasonable" degree of application to words commonly met in primary grade material?
> (3) Which of the generalizations that stand the test of 2 can be learned and successfully applied to unknown words by primary children?[1]

Clymer examined the manuals from four widely used sets of readers and selected forty-five phonic generalizations to test on a composite reading vocabulary from these same manuals, plus the Gates Reading Vocabulary for the Primary Grades. The forty-five generalizations were tested on some twenty-six hundred words and the percentage of utility was computed for each generalization. In essence the result of his finding was that of the forty-five generalizations tested only eighteen met the criteria that had been set forth.

Clymer's conclusion as stated in his own words was:

> In evaluating this initial venture in testing the utility of phonic generalizations, it seems quite clear that many generalizations which are commonly taught are of limited value. Certainly the study indicates that we should give careful attention to pointing out the many exceptions to most of the generalizations that we teach.[2]

---

[1] Clymer, "Utility of Phonic Generalizations," p. 252-58.

[2] Ibid.

Following this study, other persons motivated by the somewhat shocking findings of Clymer, extended his study in the area of applicability of phonic generalizations. Bailey[1] reported her study of 1965, which was entitled "Utility of Phonic Generalizations in Grades One Through Six" and was printed in the February, 1967 issue of The Reading Teacher. She tested the same forty-five generalizations used by Clymer, but extended their application to grades beyond the primary and through grade six. Bailey[2] reported eight of the generalizations tested "to possess low percentage of utility." She noted, too, that certain generalizations were difficult to interpret and that it was questionable as to whether children in the elementary grades could apply these. Bailey judged only six of the forty-five generalizations to be easy to apply. In her words:

> Only generalizations 20, 22, 23, 28, 32, and 40 were found to be simple to understand and apply, to be applicable to large numbers of words, and to have few exceptions.[3]

Emans reported on a study of the usefulness of phonic generalizations above the primary grades. He replicated Clymer's procedures. In the report of his study, he said, "This study used a random sample of 10 per cent of the

---

[1]Mildred Hart Bailey, "The Utility of Phonic Generalizations in Grades One Through Six," The Reading Teacher, XX (February, 1967), 413-18.

[2]Ibid.

[3]Ibid.

words (1,944 words) beyond the primary level (grade four) in The Teacher's Word Book of 30,000 Words by Thorndike and Lorge."[1] In the report of his study Emans stated that only sixteen generalizations met the same criteria as set by Clymer.

Burmeister[2] compared the findings of seven studies in which the usefulness of phonic structural analysis, and accent generalizations had been investigated. In this comparison she included her own unpublished doctoral dissertation (1966), "An Analysis of the Inductive and Deductive Group Approaches to Teaching Word Analysis Generalizations to Disabled Readers in Eighth and Ninth Grade." Using a "utility level" concept for evaluation, she[3] utilized generalizations which are frequently found in materials at fourth grade level and above. She made a special effort to compile, as evenly as possible, both easy and difficult words in the vocabulary sample that she used.

From the findings of her own study and from those of the other six studies cited she observed that variation in sources and levels of difficulty of vocabulary words made little difference in the utility level of a generalization.

---

[1]Robert Emans, "The Usefulness of Phonic Generalizations Above the Primary Level," The Reading Teacher, (February, 1967), 419-425.

[2]Lou E. Burmeister, "Usefulness of Phonic Generalizations," The Reading Teacher, XXI (January, 1968), 349-356.

[3]Ibid., p. 351.

From her comparison of the several studies, she stated, in relation to structural syllabication, "These generalizations take precedence over phonic syllabication generalizations:

1. Divide between a prefix and a root.
2. Divide between two roots.
3. Usually divide between a root and a suffix.[1]

One of the recommendations made by Bailey, perhaps, was instrumental in setting up a kind of chain reaction in this area of research. Quoting Bailey:

> In the present study, phonic generalizations were applied only to words collected from basal reading series. It is recommended that future research relative to the utility of phonic generalizations include vocabulary derived from the various subject-matter areas in the elementary school--such as, science, social studies, and arithmetic. Vocabulary collected from children's trade books, magazines, and newspapers should also be included.[2]

For whatever reason, more recent studies have utilized Clymer's research design and have established the applicability of the forty-five phonic generalizations to selected vocabularies in various subject matter areas. Davis[3] tested the applicability of these generalizations to a composite of spelling words; Ferguson,[4] to the vocabulary

---

[1] Ibid., p. 354.

[2] Bailey, "The Utility of Phonic Generalizations in Grade One Through Six," pp. 413-18.

[3] Lillie Smith Davis, "The Applicability of Phonic Generalizations to Selected Spelling Programs," (unpublished Ed.D. dissertation, University of Oklahoma, 1969).

[4] Loree H. Ferguson, "The Applicability of Specific Phonic Generalizations to Elementary Mathematics Textbooks," (unpublished Ed.D. dissertation, University of Oklahoma, 1970).

of elementary mathematics texts; Jernigan[1] to the vocabulary of science books; and King[2] to the vocabularies of books used in social studies.

This investigator acknowledges that these studies have given impetus to the motivation of this study in the areas of testing the application of structural analysis generalizations. It was with the written permission of Theodore Clymer and of the International Reading Association, that the investigator of this study was granted permission to adapt his procedure for testing the applicability of phonic generalizations to the structure of this study for testing the utility of structural analysis generalizations.

Implications from many of the research reports dealing with the presentation and use of generalizations indicated that much more study was needed in order to determine the real value of such practices. Indicative of this awareness, even among outstanding authorities in the field of reading, was a statement by Spache and Spache in which they said:

> In question in the teaching of syllabication is the utility of the various rules. Should pupils be taught a number of stable, consistent principles: If so, which principles: Is a knowledge of rules essential for reasonable success in syllabication or can the skill

---

[1]Mary Jernigan, "The Utility of Specific Generalizations to Vocabularies in Science Textbooks," (unpublished Ed.D. dissertation, University of Oklahoma, 1969).

[2]Elizabeth Pendergraft King, "The Utility of Phonic Generalizations in Social Studies Programs," (unpublished Ph.D. dissertation, University of Oklahoma, 1970).

> be learned by rule of thumb (26)? In other words, is precise syllabication needed for a functional use of syllables in reading, spelling, and writing? Is there evidence that mature readers use the rules they have been taught, or are they reasonably successful in discriminating syllables without such knowledge? Unfortunately there are very few conclusive answers to these questions.[1]

Other literature

Much discussion was given to the teaching of structural analysis for word recognition in books on the teaching of reading. Many recommendations for correct approaches were given. Divergent views, even among recognized authorities in reading education, were found.

Stauffer, along with his strong emphasis on meaning, recognized structural analysis as an aid to developing meaning. He said, ". . . One deals with phonic elements not merely to say a word but as an aid in grasping its meaning. The same is true of the use of structural aids."[2]

Many writers cautioned that structural analysis must include the concept of a meaningful as well as a pronunciation unit. Harris[3] stressed this idea even to the inclusion of some terms commonly associated with linguistics.

---

[1]George D. Spache and Evelyn B. Spache, Reading in the Elementary School (Boston: Allyn and Bacon, 1969), pp. 411-412.

[2]Russell G. Stauffer, The Language-Experience Approach (New York: Harper & Row, 1970), pp. 180-181.

[3]Albert J. Harris and Edward R. Sipay, Effective Teaching of Reading (New York: David McKay Company, Inc., 1971), pp. 259-260.

He said:

> In basal-reader systems the first step in morphemic analysis is learning to recognize the root words and inflectional endings in such words as runs, fishes, liked, jumped, traded, and looking. This is usually done in the first grade. . . .[1]

Harris continued:

> Sometimes the root word is changed when certain suffixes are added. Among the more commonly taught generalizations in this area (most, if not all, of which are taught in spelling) are the following:
>
> 1. When words end with a final silent e, the e is usually dropped when adding suffixes or inflectional endings that begin with a vowel (e.g., ed, ing, en, er, est).
>
> 2. When a one syllable word ends with a single consonant (except for x), the final consonant is doubled when adding a suffix.
>
> 3. When the final y in a word is preceded by a consonant, the y is usually changed to i when adding a suffix (other than ing) that begins with a vowel.
>
> During the second- and third-reader levels, but mainly in the third, words with prefixes and suffixes begin to appear with increasing frequency. At this level words are analyzed phonically and the meaning significance of the affixes is usually left for instruction in higher grades, although there is a recent trend to begin such instruction at the third-reader level.
>
> Suffixes help to indicate both grammatical function and specifics of shades of meaning. When act changes to actor and action, the latter two words are both noun forms, one indicating performer and the other indicating function.[2]

---

[1] Ibid., p. 259.

[2] Ibid., p. 260.

Wallen,[1] who used the term "structural signals" and explained that structural word attack utilizes two types of structural signals, roots and affixes, stressed the importance of meaning as related to structural analysis. He said, "The most important single characteristic of structural signals is that they contribute to the meaning of words. Parts of words which do not contribute to the meaning of the word are not 'structural signals.'"

In a discussion and analysis of beginning reading programs, Schnepf and Meyer attested to the importance of combined techniques for word recognition. They said, "All programs must eventually include structural analysis and some use of content clues."[3] The point they made was that decoding or symbol-sound understanding is not enough. They explained further that a word root can be isolated from its structural affixes and stated, "The units can be analyzed by sound, sight, or structure. Word structure contributes to the meaning of a word."[4]

It would seem from the above reasoning that the use of structural analysis should be initial in word attack.

---

[1]Carl J. Wallen, Word Attack Skills in Reading (Columbus: Charles E. Merrill Publishing Company, 1969), p. 72.

[2]Ibid., p. 73.

[3]Virginia Schnepf and Odessa Meyer, Improving Your Reading Program (New York: The Macmillan Company, 1971), p. 117.

[4]Ibid., p. 118.

In support of the importance of syllabication as an element of structural analysis, Spache said:

> . . . Syllabication functions as an aid to word recognition by helping the pupil break words into smaller units, pronounce these, blend, and thus recognize words in his auditory vocabulary. Syllabication helps pupils in spelling and writing. Moreover, as has been indicated, most normal readers, as they mature in reading in intermediate and upper elementary grades become increasingly dependent upon their knowledge of syllables and less upon letter phonics.[1]

Zintz offered six rules for syllabication and then made this explanation:

> It is not expected that boys and girls will attempt to learn rules of syllabication until they have derived the generalization based on seeing a large number of words syllabicated in each of the various ways provided by these rules. Moreover, it is more important for children to be able to apply the rule in pronouncing the word than it is for them to be able to "recite" the rules.[2]

It was interesting that along with the numerous lists of rules for syllabication came this statement from McKee questioning the value of introducing structural analysis to children:

> In some schools it has been the custom to teach the pupil (1) the relation between the number of vowel sounds in a word and the number of syllables in that word and (2) at least two if not more rules for determining what are the syllables in a word. This knowledge

---

[1]George D. Spache and Evelyn B. Spache, Reading in the Elementary School (Boston: Allyn and Bacon, 1969), p. 410.

[2]Miles V. Zintz, The Reading Process: The Teacher and the Learner (Dubuque, Iowa: Wm. C. Brown, 1970), p. 164-165.

> is supposed to be used in unlocking strange printed words. The author has no serious objection to letting the pupil know that usually the number of syllables in a word is the same as the number of vowel sounds in that word. But, rarely, if ever, has he found that any pupil who has learned to use together context and letter-sound associations for consonants and a few other items needs to use a knowledge of rules of syllabication in order to call to mind the familiar spoken word for which a given strange printed word stands. Consequently this volume does not recommend that the pupil be taught to use syllabication rules as aids in unlocking words which are strange only in print.[1]

Reeves,[2] in discussing the essential skills of reading, noted: "It may be that, after the primary grades, the use of word analysis--both structural and phonetic--is more valuable as a matter of spelling than of reading. Still any good teacher should be able to provide this kind of help if it is needed to enable children to gain ability in recognizing words."

Harris and Sipay[3] in their discussion of developing independence in word recognition said:

> In most basal reader programs, the major part of training for independence in word recognition is placed at the first- and second-reader levels or the second- and third-reader levels, and the second-reader level is particularly important. Much of what the intensive phonic programs introduce in the first grade is introduced a year or two later in most basal readers. By

---

[1]Paul McKee, A Reading Program of Instruction for the Elementary School (Boston: Houghton Mifflin Company, 1966), p. 114.

[2]Ruth Reeves, The Teaching of Reading in Our Schools (New York: The Macmillan Company, 1966), p. 37.

[3]Albert J. Harris and Edward R. Sipay, Effective Teaching of Reading (New York: David McKay Company, Inc., 1971), p. 121.

the end of the third grade most of the same ground has been covered.

> Word analysis involves the combined use of three procedures: use of context, structural (or morphemic) analysis, and phonics. Children are given practice in making intelligent use of the meaningful setting in which a new word appears. . . .

These authors continued with the statement:

> The basal reader approach to word analysis assumes that for most children it is easier to start with whole words and to introduce structural analysis and phonics gradually than to start with letter sounds and put them together to make words. In connected reading only those words that cannot be recognized as wholes need to be analyzed.[1]

Hester, in her discussion relating to sequential development of a word-recognition program, including structural analysis skills, presented a very logical point of view. She explained that: "Reading levels are not necessarily grade levels because a child may be able to read only a preprimer although he is in third grade. In such case preprimer competence is expected, not that of third grade."[2]

The following list of principles for teaching word attack skills, which includes structural analysis skills, seemed representative of recommendations by many writers in the field. Cushenbery listed these eight skills:[3]

---

[1] Ibid., pp. 121-122.

[2] Kathleen B. Hester, Teaching Every Child to Read (New York: Harper & Row, 1964), p. 143.

[3] Donald C. Cushenbery, Reading Improvement in the Elementary School (West Nyack, N.Y.: Parker Publishing Co., Inc., 1969), pp. 73-74.

1. All words should be taught in a contextual situation. Words may be taught in isolation only when the repetition of known segments of the word will result in learning new words.

2. The skills and abilities necessary for efficient word-attack must be taught in sequential order.

3. Children differ considerably in the amount of training or emphasis which may be needed for a particular skill. A fourth grade pupil, for instance, may need a complete reteaching of most of the basic skills of phonetic and structural analysis while another child in the same room may be very efficient with respect to these skills.

4. Generalizations should be taught from the inductive, not deductive, point of view. When children discover for themselves the rationale for a particular principle, a meaningful mind set is more apt to result.

5. Frequent review of individual word-attack skills in both group and individual situations is absolutely necessary. The influence of forgetting is more powerful than one realizes. "Solid" learning takes place through much repetition in meaningful situations.

6. There is no one method or approach to word perception skills which is so superior to all other methods that it should be used on an exclusive basis. The efficient reader uses a combination of procedures in unlocking words.

7. The needs of the pupils should dictate the appropriateness of a particular method at any particular time.

8. The teacher should make use of a wide variety of materials in word recognition instruction.

CHAPTER II

THE STUDY

Statement of the Problem

The purpose of this study was to evaluate the possible applicability of selected structural analysis generalizations to a composite of instructional reading vocabularies. Specifically, the problem was to determine the level of utility or applicability of ten structural analysis generalizations to "new words," as identified by the authors, in five series of basal readers, for grades one through six. One correlative study was to determine what structural analysis generalizations each series introduced. A second correlative study was to determine what instruction in structural analysis was being given students currently enrolled in teacher education programs in Oklahoma.

Delimitations of the Study

The following limitations were recognized:

1. The study was limited to the applicability of structural analysis generalizations, as stated by Curry

and Rigby.[1]

2. The study was limited to an analysis of the "new words," as identified by the authors, of five Oklahoma state-adopted basal reading programs, grades one through six.

3. The study was further limited by exclusion of contractions, possessives, foreign words, proper adjectives, and proper words.

4. The study was confined to Webster's New Collegiate Dictionary,[2] 1961 edition, as the authority for establishing the syllabic divisions and pronunciation of each word in the composite vocabulary which was examined.

5. The investigations of the extent of structural analysis generalizations being presented to prospective teachers were limited to state-owned Oklahoma senior colleges and universities. Furthermore, the study was limited (1) to content presented in reading education courses required by these schools for undergraduates majoring in elementary education and (2) to content in required texts for these courses.

Assumptions

Basic to this study were the following assumptions:

---

[1]Robert L. Curry and Toby W. Rigby, Reading Independence Through Word Analysis (Columbus: Charles E. Merrill Publications, 1969), v.

[2]Webster's New Collegiate Dictionary (Springfield, Mass.: G and C Merriam Company, Publishers, 1961).

1. The ten selected structural analysis generalizations as stated by Curry and Rigby[1] are representative of those being taught to elementary school children, grades one through six.

2. The five selected basal reading series are representative of reading vocabularies being encountered by children receiving instruction in grades one through six.

Definition of Terms

The application of the following terms was in accord with the definitions, as stated below:

"An affix is a syllable or syllables that when added to a word, alters that word's meaning and often its grammatical function."[2]

Applicability or utility refers to the degree in terms of per cent, that the structural analysis generalization could aid in pronunciation of a "new word."

Compound words are made up of root words that combined, usually indicate the meaning of the compound word.

"A consonant blend is a group of two or three consonants which are blended together to make one sound but which

---

[1]Curry and Rigby, Reading Independence Through Word Analysis, p. v.

[2]El donna L. Evertts and Van Roekel, Crossroads (Teacher's Edition, Basic Fifth Reader, Strand 1; New York: Harper & Row, 1966), p. 51.

do not lose their separate identity."[1]

"A derivative is a word derived from another word by adding a prefix or suffix."[2]

A digraph is a group of letters representing a single speech sound. These letter groups may be made up of vowels or consonants.

Incidents of conformity are the number of word incidents which are pronounced according to the claims of the generalization.

Incidents of non-conformity are the number of word incidents that are not pronounced as the generalization indicates that they should be pronounced.

Incidents of possible application are word incidents which have the order arrangement of letters that would indicate that the generalization should be applicable whether the word conforms or is an exception to the generalization.

"Inflectional forms are words that have undergone change by the addition of an ending for grammatical purposes, such as case, gender, number, tense, person, mood, or voice."[3]

New words are words that have not appeared previously in a specified basal reading series and have been identified

---

[1]Nila Banton Smith, Reading Instruction for Today's Children (Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1963), p. 197.

[2]Ibid., p. 217.

[3]Ibid., p. 217.

by the authors as "new words" when presented at a particular level of instruction.

"Phonetic analysis in reading consists of identifying by sounding out loud or to oneself the letters and letter combinations which make up the pronounceable units of the word."[1]

"A prefix is one or more letters or a syllable combined or united at the beginning of a word to change its meaning."[2]

"Root and stem are generally used interchangeably to denote a word base which is not compounded or modified by a prefix; suffix, or inflectional ending, and which remains unchanged through such modification."[3]

"Structural analysis is a word-recognition procedure that deals with root words and their inflected and derived forms, including variant endings, compound words, prefixes, suffixes, contractions, and syllabication."[4]

Structural generalizations are conclusions drawn from principles basic to structural analysis.

---

[1]Miles A. Tinker and Constance M. McCullough, Teaching Elementary Reading (Third edition; New York: Appleton-Century Croft, 1968), p. 155.

[2]Nila Banton Smith, Reading Instruction for Today's Children, p. 217.

[3]Ibid., p. 216.

[4]Guy L. Bond and Eva Bond Wagner, Teaching the Child to Read (New York: The Macmillan Company, 1966), p. 161.

"A suffix is an element added to the end of a word to change its meaning."[1]

"A syllable is a vowel or a group of letters containing a vowel sound which together form a pronounceable unit."[2]

"Visual analysis identifies the syllables which are then synthesized in pronouncing the word to achieve perception."[3]

"A word variant is made up of a root or stem and an inflectional ending."[4]

Study of Applicability of Generalizations

This research utilized the procedures and criteria developed by Clymer, in his study "The Utility of Phonic Generalizations in the Primary Grades."[5] Permission was obtained from Theodore Clymer to adapt his procedures to the testing of ten structural analysis generalizations to be applied to each word of a composite vocabulary taken from basal reading programs.

---

[1]Nila Banton Smith, Reading Instruction for Today's Children, p. 217.

[2]Arthur W. Heilman, Phonics in Proper Perspective (2nd. ed., Columbus: Charles E. Merrill Publishing Company, 1968), p. 77.

[3]Miles A. Tinker, Bases for Effective Reading (Minneapolis: University of Minnesota Press, 1965), p. 36.

[4]Nila Banton Smith, Reading Instruction for Today's Children, p. 217.

[5]Theodore Clymer, "The Utility of Phonic Generalizations in the Primary Grades," The Reading Teacher, XVI (January, 1963), 252-58.

The structural analysis generalizations tested were those of Curry and Rigby.[1] Permission was also received from Robert Curry to use the generalizations in this study.

Selection of generalizations

The generalizations selected for this study were developed by Curry and Rigby and included in their book, Reading Independence Through Word Analysis.[2] The generalizations tested dealt with (1) consonants appearing between two vowels, (2) consonant blends and digraphs, (3) syllabic division of consonants, (4) prefixes, (5) suffixes, (6) le endings, and (7) syllabic division of compounds. They were assumed to be representative of structural analysis generalizations being taught to elementary school children. An examination of the basal reading text manuals, from which the composite vocabulary was taken, substantiated this assumption. A complete list of these selected generalizations can be found in Appendix A of this report.

Selection of basal readers

In the selection of basal reading programs used as the source of the composite vocabulary to be tested, two criteria were maintained. At the inception of this study

---

[1]Robert L. Curry and Toby W. Rigby, Reading Independence Through Word Analysis (Columbus: Charles E. Merrill Publications, 1969), v.

[2]Ibid., p. v.

it was stated that the following criteria would be used for the selection of reading series from which the vocabulary was to be drawn.

1. The series must be presently state-adopted in Oklahoma.

2. The basal reading series must not be one which the authors identify as being either phonetic or linguistic in approach. This decision was based on the assumption that the vocabulary of such readers would be determined, at least in part, to facilitate the approach.

There were five basal reading programs which were Oklahoma-adopted at the time this study began and which met both criteria. A list of these basal reading programs appears in Appendix B of this report.

Criteria for degree of applicability

Since the literature frequently recognized the relatedness and interdependence of structural analysis and phonic analysis as skills of word recognition, it seemed entirely appropriate to study the applicability of structural generalizations by approximately the same technique used by Theodore Clymer in his study of the utility of phonic generalizations.

Since the Clymer technique was used in this study, his criteria as well as his general procedures were accepted for evaluating the degree of utility for a

generalization in structural analysis. Clymer[1] described his criteria as follows:

1. The first criterion was that the composite word list must contain a minimum of twenty words to which the generalization might apply. Generalizations with fewer frequencies of application do not seem to merit instructional time.

2. The second criterion was a percent of utility of at least seventy-five. To state the matter another way, if the pupil applied the generalization to twenty words, it should aid him in getting the correct pronunciation in fifteen of twenty words.

Compilation of composite vocabulary

Six composite vocabularies, one for each grade, were compiled. According to previously established criteria, words must have been identified as "new words" for the grade level by the author, and must have consisted of more than one syllable. Another criterion required that words would be placed on a grade level vocabulary only if they were introduced on that grade level by at least two of the five reading series.

The first step in assembling the composite vocabulary was to copy on an index card each word identified by the author as a "new word" for that grade level of that particular reading series. This recording form appears in Appendix G of this study. The accompanying manual for each basal reading book of each series was used as the source of

---

[1]Clymer, "Utility of Phonic Generalizations," pp. 252-58.

the word list in which were indicated the "new words" for that grade level of the series. Words of only one syllable and words that were contractions, possessives, foreign words, proper adjectives, or proper words were never copied from the reader manual list. This was in line with the delimitations set forth in the proposal of this study. At the time of the first recording of each word to be analyzed, a check (✓) was made on the index card to indicate the reading series in which this word appeared, and at which grade level it appeared as a "new word." Color coding was used in checking for different grade levels, which facilitated counting when totals were made. This composite vocabulary is listed in Table 4, which appears in Appendix F.

When all "new words" from reading series "A" had been recorded and the series and grade level indicated, the total words from this first series were alphabetized. As words in other series were recorded for analysis, a word previously listed for any series was recorded on the original entry card, or a new entry card was made and placed in the file. This system was continued until all "new words" which met the criteria for inclusion, from all five reading series, were recorded and alphabetized. The investigator was then ready to begin the recording of the dictionary syllabication for each word.

Recording of word syllabications

The 1961 edition of Webster's New Collegiate Dictionary was used as authority for syllabication and pronunciation of words inspected. First pronunciations given by this dictionary were accepted as authoritative for this study. This dictionary was used because it records all syllabic divisions, including those unacceptable for writing purposes.

At this point in procedure the recording of each syllabication was begun. Each word which appeared in two or more series at the same grade level was found in the above dictionary reference. The syllabication divisions, with all markings, were copied from the dictionary on the word card in the position just under the original entry of the word from the basal reader list.

Determining per cent of applicability

When all word syllabications were recorded the actual application of generalizations began. Each of the ten selected generalizations was applied to each syllabicated word as it had been copied from the designated dictionary of authority. If the word did not contain the letter arrangement described in the statement of generalization, then the generalization was checked as Not applicable--N.A. to that particular word. If the word did have the letter arrangement as described by the generalization, but the dictionary syllabication was not according to the stated generalization, then

the word was recorded as a Possible incident--P.I., but also checked as an Incident not conforming--I.N.C. If the word met the letter arrangement requirements of the generalization being applied, and the dictionary syllabication was in agreement, then the word was checked as an Incident Conforming--I.C. These recordings are of the number of incidents of conformity for a generalization and indicate that some words had more than one incident of conformity to certain generalizations.

In order to compute the percentage of applicability of the number of incidents conforming in syllabication to the generalization the following computation was made: The total number of incidents conforming in syllabication to the generalization was divided by the total number of words having the indicated letter arrangement stated in the generalization and which could, therefore, be expected to apply. The quotient of this computation was recorded as the percentage of applicability for that particular generalization.

Study of Instructional Programs in Structural Analysis

Instructional programs were examined for structural analysis content. Both basal reading programs for grades one through six and college reading education texts were studied.

The five basal reading series adopted for use in Oklahoma Public Schools and identified in Appendix B were

examined. The manual for each reader was carefully analyzed to determine recommended instruction. By series and by grade levels, areas of instruction and generalizations introduced related to structural analysis were determined and recorded.

The twelve senior colleges and universities in Oklahoma were contacted to determine what courses in reading education were required of students majoring in elementary education and to determine the required texts for these courses. The texts are listed in Appendix C. Twenty texts were identified. Each text was examined for references to structural analysis, and recommendations were summarized. Both content and method were considered.

Parallel to the content and method phase of this study, was another survey relating to the teacher education programs. This investigation was to determine the number of Oklahoma Elementary Teaching Certificates issued over a one year period. This information was secured from the Certification Office of the Oklahoma State Department of Education. These statistics are of two types: one report is of the total number of certificates issued; another is of per cent of certificates issued based on work completed in each of the Oklahoma state-owned senior colleges and universities. This information is summarized in Table 3, which appears in Appendix E of this study.

The certifications reported in this table represent teachers who have completed such programs as those described in this study, and who are likely now teaching in many of Oklahoma's schools. It is assumed that they are teaching what they were taught.

CHAPTER III

APPLICABILITY OF GENERALIZATIONS

A major facet of this study was concerned with the testing of ten selected structural analysis generalizations against a composite vocabulary of 1,569 words. The vocabulary was composed of "new Words" as identified by the authors of the manuals of five basal reading programs. The list of generalizations tested is recorded in Appendix A of this report. A list of the basal reading programs used can be found in Appendix B.

The ten selected structural analysis generalizations were applied to each word of the composite vocabulary as syllabicated by Webster's New Collegiate Dictionary.[1] The criteria and procedure for establishing levels of applicability of generalizations have been described in Chapter II.

The content and form of the generalizations tested required that some arbitrary decisions be made. Because the dictionary identified as authoritative for this study did not give the past tense of verbs formed by simply adding ed, it was arbitrarily decided that in such cases the suffix ed

---

[1] Webster's New Collegiate Dictionary, 1961.

would not be identified as a separate syllable. This decision was based on customary phonetic transcription linking a final d in such a word to the final syllable of that word.

The syllabic division of words given in Webster's Collegiate Dictionary was used in determining the applicability of all ten generalizations. However, for Generalization Two it was also necessary to use the phonetic transcription to identify short vowels within accented syllables.

An arbitrary criterion was established for identification of consonant blends and digraphs. A consonant combination was consistently identified as a blend or digraph if that combination was so identified by either Curry and Rigby[1] or Wilson and Hall.[2]

Webster's Collegiate Dictionary was used as the final authority for identifying prefixes and suffixes. Basic to all decisions was the strong recommendation made by Curry and Rigby[3] that meaning should always be stressed when affixes are introduced. Almost all the affixes considered appeared on lists given by these authors.

All single vowels appearing in the words analyzed were not considered in establishing the applicability of

---

[1]Curry and Rigby, op. cit., p. 29.

[2]Wilson and Hall, op. cit., pp. 8-13.

[3]Curry and Rigby, op. cit., pp. 39-42, 47-49.

Generalization Eight, "A syllable may consist of a single vowel." Only those single vowels which were identified as separate syllables in the dictionary of authority were considered as possible incidents. This decision arbitrarily established an applicability of 100 per cent for this generalization. There were two reasons for this decision. First, considering all single vowels would have established an artificial and extremely low level of applicability. Second, this generalization is unlike the other nine in that it is permissive. It is presented because most readers tend to attach single vowels to consonants. The generalization primarily serves to focus attention on the fact that vowels may form separate syllables, and this generalization is customarily applied after other structural analysis is complete.

The results of testing the ten generalizations against the composite vocabulary of 1,569 words are summarized in Tables 5, 6, and 7 (Appendix H). Table 5 reports the applicability of each generalization by grades; Table 6 gives the same information by primary and by intermediate grades; and Table 7 summarizes the applicability of all generalizations for each grade and the applicability of each generalization for all grades.

In testing the generalizations against the 1,569 words, only two words were found to which none of the generalizations had any possible application. These words were

lion from the second grade vocabulary and kayak from the fourth grade vocabulary. The letter composition of these words did not meet the description of any of the stated generalizations.

Of the composite vocabulary there were only 271 words with only one incident of conformity each. The one-incident conformations were not related to any one generalization.

The application of the ten generalizations to the total composite vocabulary, grades one through six, yielded 3,937 conformations and an overall degree of utility of 81 per cent. This 81 per cent was well above the criterion of 75 per cent set by Clymer.[1]

Generalization One--"A single consonant usually goes with the vowel which follows when that consonant appears between two vowels."[2] There were 1,263 possible incidents of application of this generalization, that is, the letter arrangement of one consonant appearing between two vowels was present. Of the possible conforming applications, there were only 783 conformations, yielding an applicability of 62 per cent.

Several words had multiple incidents of conformity to this generalization. Two examples of such words were

---

[1]Clymer, op. cit., pp. 252-58.

[2]Curry and Rigby, op. cit., p. 21.

automobile and laboratory, which appeared at third grade level. Moreover, some of these multiple-incident words appeared on more than one grade level, as was true of the word automobile which was identified at both third and fourth grade levels as a "new word" in at least two of the five basal reading programs.

Grade one had two words, grade two had nine words, and grade three had twenty-one words with two conforming incidents each. The words laboratory and immediately appeared on third grade level and with three conforming incidents each. In addition to the reappearance of the word automobile at fourth grade level, therefore, fortunately, and determination were also multiple incident words with three conformations each. There were twenty-eight words in the fourth grade vocabulary with dual incidents of conformity. The application of this generalization to the fifth grade vocabulary revealed thirty-one words with two incidents of conformity each and seven words with triple conformities. At sixth grade level thirty-eight words had two incidents of conformity each, and three words contained three incidents of conformity.

The highest percentage of conforming applicability for Generalization One by grade levels was a 65 per cent tie between grades one and six. The applicability of this generalization was 61 per cent for grades one through three, 63 per cent for grades four through six, and 62 per cent for

all grades. This 62 per cent utility is well below the 75 per cent criterion of conformity.

If Generalizations One and Two are considered together, the low applicability of Generalization One is explained. For both generalizations, it was necessary to count as possible incidents all words with the letter compositions of one consonant appearing between two vowels. Generalization Two stated that a consonant goes with the preceding vowel if that vowel is short and within an accented syllable. Therefore, all conforming incidents for Generalization Two were exceptions to Generalization One. Possible rewording or combining of these two generalizations would increase the percentage of applicability of Generalization One.

Generalization Two--"A single consonant appearing between two vowels usually goes with the preceding vowel if that vowel is short and within an accented syllable."[1] In evaluating applicability of this generalization, a basic consideration was the explanation of Curry and Rigby:[2] "Of importance is the fact that both conditions involving position and accent must exist before the rule applies; that is to say, the vowel preceding the single consonant must have the short sound as in hat, bet, bit, hot, and hut, and the preceding syllable must receive the primary accent."

---

[1]Curry and Rigby, op. cit., p. 24.

[2]Ibid.

Of the 1,569 words examined for application of Generalization Two, only 320 were possible incidents of conformity. Of these possible incidents all but one conformed, and an applicability of 100 per cent was determined for grades one through six.

There was only one word containing multiple incidents of conformity for Generalization Two in vocabularies one through three. One word in each of the fourth, fifth, and sixth grade lists had two conforming incidents.

Generalization Three--"No syllabic division should be made between consonants that constitute a consonant blend or consonant digraph."[1] From the total vocabulary there were 873 possible incidents to Generalization Three, with 810 conforming. Words with dual incidents of conformity by grades were as follows: grade one, seven; grade two, eight; grade three, twenty-eight; grade four, twenty-four; grade five, twenty; and grade six, twenty-two. Words containing triple incidents of conformity to this generalization were: grade three, eight; grade four, two; and grade five, two.

The testing of this generalization against the composite primary grade vocabulary produced a 92 per cent level of conformity. At the intermediate grades conformity was 93 per cent with 93 per cent applicability for grades one through six.

---

[1]Curry and Rigby, op. cit., p. 28.

Generalization Four--"The syllabic division of two consonants, which are neither blend nor digraph, and which appear between two vowels, usually comes between the two consonants."[1] Generalization Four was tested against the total 1,569 word composite vocabulary. The possible incidents of conformation were 707 and incidents of conformity totaled 676. No words contained triple incidents of conformity for this generalization, but words with dual conformities by grade level were: grade two, two; grade three, seven; grade four, six; grade five, twelve; and grade six, twelve. In grades one through three, this generalization had a 95 per cent applicability. In grades one through four, applibility was 96 per cent. The conformity for grades one through six was 96 per cent.

Generalization Five--"Prefixes usually form separate syllables."[2] From the total composite vocabulary there were only 289 possible incidents of conformity, but the conformity of applications for this generalization was 100 per cent.

Generalization Six--"Suffixes usually form separate syllables."[3] The testing of this generalization produced variation at different grade levels, as well as a comparatively low overall percentage of conformity. The lowest

---

[1]Curry and Rigby, op. cit., p. 39.

[2]Ibid.

[3]Ibid., p. 47.

percentages of utility were at grades five and six with 57 per cent each, and the highest utility found was 82 per cent for grade one. At grade four the conformity level was only 60 per cent. The percentage of applicability for grades one through three was 66 per cent, and for grades four through six was 58 per cent. This generalization had no multiple conformations in any word at grades one and two. Examples of words with dual conformations were cheerfully, anxiously, and violently. Conformity for Generalization Six, grades one through six, was 61 per cent. This generalization, like Generalization One, was far below the 75 per cent level of utility needed to label the generalization as valuable for instruction.

The percentage of applicability of Generalization Six would be substantially increased if this generalization were combined with Generalization Seven, which states that those words ending in the suffix ed preceded by d or t form a separate syllable, and that all ed words not preceded by d or t combine with other letters in the last syllable. According to the broad statement of Generalization Six that suffixes usually form separate syllables, these ed endings become non-conforming and are counted as exceptions and have the effect of lowering the percentage of applicability of Generalization Six. Many of the exceptions to Generalization Six conformed to Generalization Seven where ed was combined with other letters to form

one syllable.

Generalization Seven--"The suffix -ed, if immediately preceded by d or t, forms a separate syllable. The suffix -ed combines with other letters to form one syllable if not preceded by d or t."[1] Though the number of possible incidents of application was only 176, the percentage of conformity was high at all grade levels. There was only one word which was a possible incident at grade one level. The number of incidents of conformity by other grade levels were: grade two, fourteen; grade three, forty-seven; grade four, thirty-seven; grade five, thirty-nine; and grade six, thirty-eight. There were no exceptions. The percentage of conformity for grades one through six was 100 per cent at each grade level.

Generalization Eight--"A syllable may consist of a single vowel."[2] This generalization had 294 incidents of possible application, all of which conformed. The generalization, therefore, had 100 per cent applicability. No words at the primary level had multiple incidents of conformity, but there were eight incidents of dual conformity at the intermediate level.

The 294 possible incidents justify the introduction of Generalization Eight even if possible incidents are

---

[1]Curry and Rigby, op. cit., p. 54.

[2]Ibid., p. 58.

arbitrarily limited to single vowels identified as separate syllables by the dictionary of authority. This generalization is valuable when introduced along with the other nine generalizations.

Generalization Nine--"A word ending in le, when the le is preceded by a consonant, forms a final syllable with that consonant and the le. Note: le stands alone as the final syllable when preceded by ck."[1] Of the 1,569 word composite vocabulary, there were only 58 words that had the letter composition to make them have a possible incident of conformity to generalization nine. Of these 58 words, there were 57 incidents of conformity. There was only one exception, axle. The level of conformity for grades one through three was 100 per cent and for all grades was 98 per cent.

Generalization Ten--"A syllabic division is made between words which form a compound."[2] There were only thirty-four compound words in the 1,569 word composite vocabulary. Ten of these thirty-four compound words appeared at grade one. All possible incidents were incidents of conformity, giving this generalization a 100 per cent applicability at all grade levels.

These findings pointed to the high level of utility of the structural analysis generalizations applied in this

---

[1] Ibid., p. 61.

[2] Ibid., p. 65.

study. The comparable levels of utility from grade to grade and throughout the five basal reading series further substantiated the value of utilizing such generalizations in reading instruction. The high degrees of utility of these generalizations, both individually and as a group, were generally in contrast to findings reported in similar studies relating to phonic generalizations.

CHAPTER IV

INSTRUCTIONAL PROGRAMS IN STRUCTURAL ANALYSIS

Review of Basal Reading Texts

Each of the manuals from the five basal reading programs used in this study was examined at each grade level, first through sixth grade. These manuals were carefully examined for recommendations for a program in structural analysis. Areas of instruction and generalizations introduced were identified. A summarized listing of areas of study, by reading series and by grades, appears in Table 1 (Appendix D) and a similar listing of generalizations introduced appears in Table 2 (Appendix D) of this report.

An examination of the five selected basal reading programs yielded much duplication of basic content in the areas relating to the application of structural analysis. At the preprimer and primer levels none of the series presented structural analysis generalizations, as such, but many activities were provided as a beginning or readiness foundation for a more formal approach, which was to follow.

An examination of areas of content at the preprimer level showed that inflected endings, recognition of letters of the alphabet, common consonant digraphs, such as ch, sh,

wh, and consonant blends, such as nd, pl, sl, were all included at this level by at least one reading series. Matching of capital and lower case letters, matching of words, and recognizing likeness of word parts were developed by at least two reading series at preprimer level. Though one of the limitations of this study was the elimination from application of the selected generalizations words in their possessive form, it was observed that two series included, as early as the preprimer period, activities designed to help learners understand possessive forms, that is those ending in 's. At this early level, also, three series introduced verbs with the s or ing ending, and all five series presented nouns ending with s.

At the primer level all of the areas, related to structural analysis, that were found in the preprimer manuals, were continued. In addition, other content was added. In the study of inflectional endings, variants added were: verbs with the ed ending, and the er ending. One series gave particular attention to recognition of change in meaning when s is added to a verb form. Another series began helping learners in hearing syllables. The same four consonant digraphs which were introduced at the preprimer period, namely ch, sh, th, and wh, were continued, particularly by the one series, into the primer program. In addition to the consonant blends nd, pl, and sl, which were introduced by one series at the preprimer stage, the same series added bl, cr,

fl, fr, ld, sk, nk, nt, st, str, and tr at the primer. The other four series were much less extensive in their content at the primer level. At this level two series gave practice in identifying the root word within a variant. Two other series provided in their primers for recognizing compound words with familiar parts, that is, compounds composed of simple words which had been presented separately earlier in the series vocabulary. Still at the primer level, as was observed at the preprimer level, no structural analysis generalizations were presented, as such.

At the first reader level, in addition to the continuation of the content presented at the two preceding levels, several new areas were added. One series listed the following as groups of letters that frequently occur in words: ar, er, ight, and qu. Another gave special attention at first grade level, to the combining of structural and context clues. This same series planned for developing skill in recognizing singular and plural words. The series which previously presented extensive content in the recognition of blends, adds the following in first grade: br, gr, mp, and pr. The same series also lists as common prefixes a and be. Such areas as: building new compound words from known parts, learning correct usage of verb forms, and noting that some verbs change internally, such as (run to ran) and (come to came), were all developed by at least two of the series examined. In addition to consonant digraphs previously

introduced, two series added the following: gh, ng, and ph, in the first reader. Three series mentioned distinguishing of words of similar configuration and recognizing contractions with one letter omitted, such as those with 't and 's endings. Four series continued much work in recognition of compounds composed of known words. The majority of the five series provided exercises for both visual and auditory recognition of variants of known words when adding or dropping ed, s, d, ing, and 's.

The first reader level was the first stage of development where a generalization was stated, at least, in essence, which might be considered as a rule or guide for the pupil's application. The following two statements appeared at first grade level. One series explained: "In some words the last consonant is doubled before the ending ed is added." Two series presented this statement in essence: "When the letters ing are added to a word that ends in a silent e the e is dropped before the ing is added." The three other series still continued exercises in developing background for making such statements more meaningful, but made no succinct rules at this point.

Structural analysis at the second grade level continued review in the use of known words to determine the recognition of compound words and, also, in the use of such familiar words in the building of new compounds. An extension of this activity encompassed the use of the hyphen in

hyphenated words. Continued experiences were included in identifying base words in variants with s endings. Other variants from which base words are extracted are those ending in the following: re, ful, ly, en, es, er, n, y, s, en, and d. Base words are identified from verbs which double the final letter before adding ing and ed; also, from verbs which drop the final e before endings. One series continued to introduce verbs which change internally, while another series, which has been very comprehensive in its introduction of content, continued to review and increase the list of consonant blends. Exercises for forming plurals of words ending in x, ch, sh, s, and es, and practice in the recognition of words with slight configuration changes were presented by two of these basal programs. Plans for continuing the identification of digraphs and provision for special instruction in the formation of contractions were also included in at least three of the series. Four series gave much practice in adding suffixes to base words. All series gave repeated opportunity for dividing words into syllables at second grade. One series gave exercises in the recognition of the double medial consonant as a clue to syllabication. Prefixes specifically noted were un-, re-, and im-.

Two series continued to state no generalizations, as such, even at the second grade level. Three series stated four or more rules that really amounted to generalizations. For a summary of content, including generalizations, at the

second grade level, see Tables 1 and 2 (Appendix D), of this report.

The structural analysis program at the third year level reviewed and extended most of the areas previously introduced in grades one and two. One area of increased emphasis seemed to be that of developing skill in syllabication. The real application of many rules relating to syllabic division was incorporated into the third level programs. There seemed to be at this grade level the intent to firm up or establish in the learners workable skills relating to the use of structural analysis in word recognition.

The adding of two suffixes to a base word was new at this level. The introduction of irregular verb forms, such as (break, broke) was presented by one series. The meaning of diacritical markings was first presented by one other series, but not listed in the other four programs. By the end of third grade at least, twelve prefixes and thirty suffixes had been introduced in the composite of structural activities described in the various manuals of the five basal reading series analyzed.

Of the two series that stated no generalizations in grades one or two, both stated the following generalization in grade three: "When a word ends with e the e is usually dropped before ing or ed is added."

One of the two series which waited until grade three to formulate specific rules listed the following seven

generalizations in grade three:

> A word that has double medial consonants is divided between the consonants.
>
> When two different consonants stand between two vowels, the first consonant usually goes with the first vowel and the second consonant with the second vowel.
>
> When double consonants come between two vowels in a word the word is divided between the consonants.
>
> In words ending in le after a consonant, the consonant usually goes with the last syllable.
>
> When a consonant digraph occurs in the middle of a word, it is usually considered as a single sound.
>
> In dividing words with prefixes into syllables, the prefix is usually considered a syllabic unit.
>
> In dividing words with suffixes into syllables, the suffix is usually considered a syllabic unit.

Areas of study and generalizations for the third grade level can be identified by reading series from an examination of Tables 1 and 2 (Appendix D) of this study.

Structural analysis content in the basal readers, grades four through six, provided for review of much of the content of the primary grades. Areas listed at these levels, by three or more of the five series, include: Identifying base words in their variant forms; hearing syllables and dividing words into syllables; recognizing clues to syllabication; adding endings and suffixes to base words; recognizing prefixes and their meaning; identifying syllables common to many words; and reviewing root words and compound words.

It seems appropriate to note at this point that all the structural analysis generalizations were presented, at

least in essence, by the end of grade three. The basal reading programs examined beyond grade three continued much opportunity for review and application of these principles, but the meaning of the structural principles was much the same. Certainly the re-statement of the generalizations changed somewhat according to the age of the intended learner. It was interesting to observe the variety of ways the same idea or principle was stated, even at the same grade level. Following are some illustrations of how the same generalization or principle was stated in different ways, yet carrying approximately the same meaning:

Re: Recognition of a syllable

A syllable is part of a word containing a vowel sound.

Each syllable must contain one vowel sound.

Re: Words ending in le

In two-syllable words ending in le preceded by a consonant, the consonant joins the le and begins the final syllable.

When the last syllable in a word ends in le preceded by a consonant, that consonant usually begins the final syllable.

Re: Single consonant between two vowels

When a single consonant appears between two vowels, the consonant usually begins the second syllable and the vowel in the first syllable has a long sound.

In many words that have one consonant between vowels, the first vowel has a long sound and ends the syllable.

Generalizations stated at this intermediate level were generally a repeat of principles stated previously, but usually these statements tended to be more inclusive than those stated at the primary level. An example of this seems to be the comparison of two generalizations of a parallel nature. At third grade level the concept was presented thus: "In words ending in a consonant with one vowel just before the final consonant, double the consonant before adding ing." The fifth reader presentation of the same principle was stated: "When a word ends in a single consonant preceded by a single vowel the consonant is doubled before adding a suffix beginning with a vowel." The change in the wording from ing to "a suffix beginning with a vowel" broadened the possibility for the generalization's application.

Generalizations given most extensive emphasis by all five series were those relating to: division of compound words, syllabication of two-syllable words ending in le, and syllabication of prefixes and suffixes. Two other generalizations frequently applied by three or more of the basal series were those relating to two like consonants appearing between two vowels and two unlike consonants appearing between two vowels.

The survey of approaches to structural analysis content in basal readers showed plans consistently emphasizing an inductive approach leading to discovery for grades one through three. There was some trend in grades four through

six to become somewhat more deductive, but even at this level, the application of the generalizations was developed basically through an inductive approach.

Review of Teacher Education Reading Texts

In an effort to further establish the validity of the content basic to this research, a survey was made to obtain information about what instruction in this area teachers were receiving in their college reading courses. More specifically, the question in the mind of this researcher was, "What instruction in structural analysis is being given to prospective elementary teachers in Oklahoma?" Key persons were contacted in each of Oklahoma's state-owned universities and senior colleges, and were asked the titles of the texts and other printed materials being used in the reading courses required of students who were pursuing the Oklahoma Standard Elementary Teaching Certificate. Upon receipt of this information from all of Oklahoma's twelve such institutions, the materials were examined, title by title, by this investigator, for their content relating to the development of structural analysis as a skill for word recognition.

It was assumed that, largely, teachers would be teaching what they had been taught and it seemed appropriate to try to determine to what extent these future teachers were likely to be familiar with the generalizations which were being applied to this study. The reasoning of this investigator was that beyond the per cent of applicability of these

generalizations, the way they were understood and used by teachers would ultimately determine their real effectiveness. Of course, this aspect of the study can only be projected speculation.

From the twelve state colleges and universities came twenty different titles. Not all of these were basically reading texts, because many of these programs seemed to be giving emphasis to language arts as a whole, rather than specifically to reading courses. For a complete list of these texts named by the various universities and colleges, see Appendix C of this report.

It seemed of interest to note that seventeen of the titles were mentioned by only one institution. Two texts were mentioned by only two schools, and one other by three colleges; another was leading in popularity by being used by four of the twelve institutions.

Of the twenty texts listed as required, only twelve were basically reading texts, instead of general language arts. These indexed and gave discussion to structural analysis of words. The texts concerned with all facets of language arts made no reference to structural analysis as an area of study.

Importance of structural analysis

Throughout the literature and particularly in the reading texts used by Oklahoma's prospective teachers, there

was much emphasis given to the importance of teaching structural analysis. Though most authors and authorities in reading appeared to be convinced of the value of structural analysis, they observed that there is the recurring question, "Why teach structural analysis?"

Included here are some statements from the writing of well recognized authors of reading texts, which will establish that they attached great importance to a planned and consistent program for the development of structural analysis skills in learners.

Prospective teachers of reading were encouraged through these reading texts to teach structural analysis in an organized and purposeful manner, rather than leave this aspect to chance. It was pointed out that often pupils fail to make the transfer from words they know to modified forms of these base words. Teachers were cautioned to be alert to calling attention to such words whether they are listed in the structural analysis programs or not.

In defense of teaching structural analysis to children, Smith stated:

> The inexperienced teacher will be amazed to find how often children do not include word endings, and often beginnings, in their reading. In other words, inability to recognize word structure elements in reading is a persistent problem with many children in the elementary grades. This should be a challenge both to experienced and inexperienced teachers to teach children to recognize word structure elements while reading,

rather than leaving this important aspect of word recognition to chance.[1]

To the student and prospective teacher, DeBoer and Dallman stated this question specifically by saying, "Why should the teacher bother teaching children to use structural analysis when learning the word unhappy after they can recognize the root happy and can analyze the word phonetically? The answer is that phonetic analysis is a slower form of word analysis than structural analysis."[2]

Tinker and McCullough added their support to the importance of structural analysis as a means of word recognition in the following paragraph:

> Structural analysis and phonetic analysis are not only interrelated, but must frequently be combined in unlocking a word. During the visual survey which naturally precedes the sounding out of a word, the child, if properly trained, looks for units of both meaning and pronunciation. Having discovered the structural pattern by the visual survey, pronouncing the word follows naturally, provided the child has acquired systematic methods of structural analysis and sufficient skill in phonics. Structural analysis can become an extremely useful tool in word recognition when combined with phonics and employed with context clues. In fact, there is no satisfactory substitute for these techniques for working out the identification of new words.[3]

Reputable literature in the field of teaching reading was replete with statements declaring the worth of structural

---

[1]Nila Banton Smith, op. cit., p. 215.

[2]John J. DeBoer and Martha Dallman, The Teaching of Reading (New York: Holt, Rinehart and Winston, Inc., 1964), p. 99.

[3]Tinker and McCullough, op. cit., p. 175.

analysis in word recognition. This statement has been verified by previous quotations in this report, but the defense seems succinctly and most conclusively summarized by Curry and Rigby in the following statement:

> Though there may be some degree of dispute among reading authorities and lay groups as to the accomplishments of any one methodology toward efficient reading, the value of phonetic and structural analysis skills in developing reading proficiency is unquestionable.[1]

Structural analysis content

Some of the college reading texts examined listed their program content of structural analysis by grade, but most prefaced this listing by qualifying the presentation by the reader's age and needs. Smith warned that word structure elements cannot be designated as belonging to a certain grade or age level. She said that the time at which an element should be introduced depends on three factors:

1. The frequency with which this element appears in the child's reading.
2. The child's need for having development of practice in using this element in attacking unrecognized words. . . .
3. The child's stage of maturity in reading. . . .[2]

Continuing, Smith cautioned:

> We always must bear in mind, however, that reading is a continuous growth process and that the foundation for most of the skills should be laid in first grade and reviewed, built upon, and expanded at successive levels all through the elementary school.[3]

---

[1]Curry and Rigby, op. cit., p. iii.

[2]Nila Banton Smith, op. cit., p. 240.

[3]Ibid.

With this careful explanation Smith then presented a very comprehensive description of a structural analysis program for grades one through six. This seemed best stated in her own words. In relation to maturity levels and sequence, she said:

> With these considerations and exceptions in mind, some general statements may be ventured in regard to maturity levels and sequence in structural analysis.
>
> At the first grade level, children may become aware of and gain some skill in using structural analysis of compound words and of words ending in s, d, ed, and ing. They may learn some possessives and contractions as sight words.
>
> When the children have progressed to the normal stage of second grade development, they may be expected to increase the abilities developed in first grade and to add to them several of the variant endings--such as es, er, est, ly--and the generalizations concerned with the changes in word form made by adding these endings to certain vowel and consonant situations. The concepts of contractions and possessives can be understood at this level, and children should become skillful in recognizing word forms changed by contractions or by adding apostrophe s. At this stage they should be able to make considerable use of structural analysis along with phonic and context clues.
>
> Many prefixes and suffixes appear in words encountered in third grade reading material, and children of normal development can understand changes made in meaning by the addition of these affixes. Therefore, this is a time when some of the more commonly used prefixes in third grade material (such as a, re, in, un, be, dis) and commonly used suffixes (such as ful, ly, less, ness) may be developed. Orientation to syllabication, accent, and dictionary skills may also be made at this level. In addition to these new developments, children should continuously grow in ability to apply all word structure knowledge and skills developed at preceding levels.
>
> New word structure skills that may be given emphasis in grade four, five, and six are syllabication and skills in detecting accent. These skills may be introduced at

> the fourth grade stage and carried to higher levels of competency through grades five and six. Because prefixed and suffixed words increase in numbers and variety in intermediate grade material, marked advances should be made in developing the identification and meaning of these affixes. Work with compound words whose meanings are substantially changed in compounding is needed at these levels. Inflectional endings may still need review. This is the period when children should become highly efficient in combining and integrating all these skills with the other word recognition skills in attacking polysyllabic words independently and accurately. Versatility is the watchword![1]

Anderson said that even as early as first grade, children can be taught s, es, ing, ed, and est as common word endings. This is a beginning introduction to structural analysis, she said. She explained that, "To understand structural analysis one must first understand the meaning of a root word."[2] By this author's definition, "A root word is an uncompounded word or element without prefix, suffix, or inflectional ending."[3] She explained that this is not a definition to be taught to children.

Anderson's suggested approach is that after first grade children have learned several words which have these common endings these can be identified as endings common to many words and serve as a structural analysis clue for pronouncing other words. She also suggested helping children

---

[1]Nila Banton Smith, op. cit., pp. 241-42.

[2]Verna Dieckman Anderson, Reading and Young Children (New York: The Macmillan Company, 1968), p. 172.

[3]Ibid.

develop an early awareness of structural clues by noting that sometimes words are made up of two known words, later referred to as compound words.

At second and third grade levels Anderson suggested the following structural analysis elements: (1) contractions, (2) plural forms, (3) possessive forms, and (4) suffixes.[1] Anderson continued, "In fourth, fifth and sixth grades, it is more important to be sure children have the very basic elements of structural analysis than to burden them with too many less commonly used bits of analysis."[2]

Heilman's listing of content in structural analysis was more general but included the basic areas covered by the more detailed descriptions. He said, "Some inflectional endings are taught in first grade along with a few compound words. Prefixes and suffixes are usually introduced at a later period."[3] Heilman stressed: "Structural and phonic analysis go hand-in-hand. The structural changes caused by adding inflectional endings also result in added phonemes. In most cases prefixes and suffixes are separate syllables. Thus, they function as visual, auditory and meaning bearing units."[4]

---

[1] Anderson, op. cit., p. 173.

[2] Ibid.

[3] Arthur W. Heilman, Principles and Practices of Teaching Reading (Columbus: Charles E. Merrill Publishing Company, 1967), p. 157.

[4] Ibid.

In another statement Heilman said:

> As taught in the primary grades, structural analysis involves a review and extension of the child's experience with:
>
> common word endings
> compound words
> doubling consonants before adding endings beginning with a vowel
> adding es to form some plurals
> forming plurals of words ending with y
> contractions
> recognizing prefixes and suffixes added to root words
> syllabication[1]

DeBoer and Dallman noted that in developing a program in structural analysis for the elementary school, it has not yet been determined which elements and generalizations should be taught. This awareness was common knowledge among other writers of college reading texts. Various writers stated their own criteria for their tentative recommendations of content. DeBoer and Dallman listed three criteria, which they said the teacher should keep in mind. These were:

(1) the frequency of occurrence of the structural form
(2) the ease with which the learner can identify the form, and
(3) the value of the element to the development of speed and independence in word recognition[2]

Much of the content was also stated in terms of rules or generalizations. In one teacher training text Durkin pointed out that the particular wording of a generalization

---

[1]Heilman, Principles and Practices of Teaching Reading, p. 203.

[2]DeBoer and Dallman, op. cit., p. 101.

is insignificant. She said, "What is significant is that the child understands the generalization, and can use it in his attempt to analyze new words."[1] Continuing, Durkin emphasized that generalizations are not rules that always work but are generalizations only.[2]

Heilman listed a number of rules relating to inflectional endings. These were:

- an apostrophe followed by an s is used to form possessives;
- when root words end in y, the y becomes i in forming plurals;
- e is dropped before adding a suffix beginning with a vowel;
- some single consonants preceded by a single vowel are doubled at the end of root words before adding suffixes beginning with a vowel.[3]

Heilman also presented three generalizations about prefixes and suffixes. These were:

1. Common endings which begin with a vowel (-er, -est, -ing, -en, -able) are usually sounded as syllables.)

2. One-vowel words ending in a single consonant usually double that consonant before adding an ending which begins with a vowel (run-running; stop-stopped; beg-beggar). . . .

3. Prefixes added to words give us new words--often with quite different meanings: clean, unclean; read, reread; place, displace. Suffixes are word endings

---

[1]Delores Durkin, Phonics and the Teaching of Reading (New York: Teachers College Press, Columbia University, 1965), p. 31.

[2]Ibid.

[3]Heilman, Principles and Practices of Teaching Reading, p. 204.

which, when added to root words, give us different words. . . .[1]

Wilson and Hall presented four generalizations relating to suffixes. These were first presented in exercises and developed inductively. Then they were stated as follows:

> When the base word ends in e, you drop the e to add a suffix which begins with a vowel.
>
> The last consonant is doubled when you add a suffix that begins with a vowel to a word that ends in the pattern cvc.
>
> Suffixes are added without changing the spelling of the base word when the base word ends with a consonant but not the cvc pattern.
>
> Change the y to i when you add a suffix beginning with a vowel to words that end in a consonant plus y. . . .[2]

Much was written in the texts used by teachers regarding rules of syllabication. Heilman said of this skill:

> The ability to break words into the syllabic components is one of the mechanical skills which receives attention at various levels of instruction. A limited number of rules of syllabication are introduced at the primary level. The major emphasis on syllabication is found in the intermediate grades where dictionary skills are stressed. Pupils have a number of experiences with words from which they might generalize a number of rules. Whether or not these rules are memorized, most children will learn more effectively if the rules are presented verbally. How well a child masters the basic pattern of syllabication will influence his progress in independent reading. The first step in the process is the

---

[1]Arthur W. Heilman, Phonics in Proper Perspective (Columbus: Charles E. Merrill Publishing Co., 1968), pp. 81-82.

[2]Robert M. Wilson and Mary Anne Hall, Programmed Word-Attack for Teachers (Columbus: Charles E. Merrill Publishing Co., 1968), pp. 34-37.

ability to hear the number of distinct sounds in a word, or the number of syllables it contains. . . .[1]

In another of his publications, Heilman stated six rules for breaking words into syllables. These were:

Rule I : There are as many syllables as there are vowel sounds. Syllables are determined by the vowel sounds heard--not by the number of vowels seen. . . .

Rule II : Syllables divide between double consonants, or between two consonants. . . .

Rule III: A single consonant between vowels usually goes with the second vowel. . . .
Note: Although this rule is cited extensively in the literature on reading, the exceptions to it are numerous. . . .

Rule IV : As a general rule, do not divide consonant digraphs (ch, th, etc.) and consonant blends. . . .

Rule V : The word endings, -ble, -cle, -dle, -gle, -kle, -ple, -tle, -zle constitute the final syllable. . . .

Rule VI : In general, prefixes and suffixes form separate syllables.

Note: Rules I and II above are often combined: Divide between two consonants and in front of one.[2]

Several lists of generalizations considered of value by leading authorities in the field of reading were found in the teacher texts examined. Both similarities and differences of emphasis were evident in an examination of these generalizations. Only a few of these generalized statements, which

---

[1]Heilman, Principles and Practices of Teaching Reading, p. 213.

[2]Heilman, Phonics in Proper Perspective, pp. 78-79.

seemed representative, could be included in this report.

A final list of generalizations for consideration in the area of syllabication was one by Hull. This author stated six rules relating to syllabic division. These were:

1. In a compound word the syllable division usually comes between the words of which it is composed.
2. Prefixes and suffixes usually form separate syllables from the root word.
3. If the last syllable of a word ends in le preceded by a consonant, that consonant usually begins the last syllable.
4. If the first vowel in a two-syllable word is followed by a single consonant, that consonant often begins the second syllable.
5. When two vowel letters are separated by two consonants, the syllabic division usually occurs between the consonants.
6. When syllabicating a word, consonant blends and digraphs are treated as single consonants.[1]

Teaching structural analysis

DeBoer and Dallman stated seven principles for the teaching of structural analysis. Though comprehensive in form these are included because they appeared to be very important for young teachers who are not yet secure in the teaching of structural analysis generalizations. Their suggestions for procedure were:

---

[1]Marion A. Hull, Phonics for the Teacher of Reading (Columbus: Charles E. Merrill Publishing Company, 1969), p. 103.

1. Overemphasis on structural analysis should be avoided. Structural analysis should be seen in relationship to other methods of word recognition. When a word can be recalled by means of quicker methods, such as configuration or context clues, the reader should not resort to word analysis. . . .

2. As a rule, the reader should examine a "new" word to see if he can analyze it structurally before he tries to unlock it by means of phonics. This principle is sound because structural analysis is usually a quicker method of word recognition than phonetic analysis. . . .

3. The analysis of "new" words should not be isolated from reading as a meaningful process. Frequently it is advisable to present in context a "new" word that is to be analyzed structurally. . . .

4. The sequence in teaching a new word by means of structural analysis should, as a rule, be from the whole word to the word part and then back to the whole word. . . . This procedure is recommended because it more nearly resembles the situation in which the pupil is likely to encounter a word.

5. Structural analysis should not be confused with "finding little words in big words." . . .

6. Generalizations should be developed with pupils. They should not be presented as rules to be memorized.

7. There should be a developmental program that provides for training in structural analysis. Skill in analyzing words structurally is such a significant phase of skill in word recognition that it cannot be left to chance. . . .[1]

Nila Banton Smith gave several suggestions about procedures for instruction in structural analysis. In her approach she mentioned first Compound Words. She said:

> One of the easiest beginnings in structural analysis is that of helping children to see the two word units in

---

[1]DeBoer and Dallman, op. cit., pp. 99-100.

> a compound word. Even in the earliest stages of reading, children meet such compound words as playhouse, something, into, policeman, grandfather . . .
>
> It is helpful to synthesize as well as to analyze compound words. . . .
>
> Auditory perception of two words within a compound word may be developed by having children listen to the teacher say a new compound word and then tell what two words they hear . . .
>
> The practice of having children look for "little words in big words" is highly questionable and should not be considered as a part of a word structure program . . .
>
> . . . Teaching children to search for the root word as a first step in working out the recognition of a modified word is an important part of the word structure program.
>
> Visual discrimination of root words may be developed first by pointing out the root word and separating it from its inflectional ending whenever such a word comes up in reading context . . .[1]

The importance of meaning in structural analysis programs was stressed and repeated by many writers. Bond stated: "Each unit in structural analysis is meaningful. For example, the prefix re added to the root live makes a new word that means 'to live again.' The root word retains its meaning; the prefix has its meaning; when combined, a third meaning emerges."[2]

Tinker and McCullough pointed out that:

> The coordination of the visual and auditory aspects of phonics warrants additional emphasis. Too frequently

---

[1]Nila Banton Smith, op. cit., pp. 219-222.

[2]Guy L. Bond, Teaching the Child to Read (New York: The Macmillan Company, 1966), p. 161.

> the visual analysis and phonetic analysis are considered two distinct and independent processes. This is untrue. Visual and phonetic analysis are interdependent since proper pronunciation cannot take place in reading without simultaneous visual analysis of the words.[1]

Continuing reference to the role of visual analysis as an integral part of structural analysis, Tinker and McCullough stated:

> To develop the ability to analyze words visually up to the level of proficiency of which the average child is capable requires that instruction and practice be continued over a long period of time. In the beginning stages the child learns to locate usable elements at the front of a word. Later he is taught to perceive variant endings, common endings, parts of compound words, prefixes and suffixes, syllables, etc.[2]

In viewing the many facets of instruction in structural analysis, a statement by Heilman seemed appropriate to describe the comprehensiveness of the task for both the learner and the teacher. He said, "Learning to read is a long term developmental process, and teaching the total word-analysis skill program is also developmental in nature."[3]

Supportive of Heilman's statement was another by Tinker and McCullough, which said: "To acquire skill in recognizing words and to keep improving in doing so constitutes one of the main tasks in reading instruction in the primary grades. And teaching to perfect the various

---

[1]Tinker and McCullough, op. cit., p. 169.

[2]Tinker and McCullough, op. cit., p. 168.

[3]Heilman, Phonics in Proper Perspective, p. 77.

techniques for doing this continues throughout the intermediate grades."[1]

Summary

An examination of the reading texts used by Oklahoma university and senior-college students, who were prospective teachers of reading, revealed some common areas of emphasis. Among these were statements encouraging teachers to present a planned program of instruction in the area of structural analysis. Writers of these texts stressed the usefulness and importance of readers developing skill in the use of structural analysis as an aid in word recognition. Relatedness of structural and phonic analysis is emphasized. Another facet of instruction included was the explanation or definition of the several terms specifically related to instruction in structural analysis. Most authors gave much space to discussing what content should, or should not, be included in a structural analysis program for elementary school children. After basic content was identified with several qualifying criteria for its placement, most authors gave some recommendations for principles and procedures that could be used in introducing these areas of structural analysis to learners.

The general consensus of these basic text approaches seemed to be to build structural analysis generalizations

---

[1]Tinker and McCullough, op. cit., p. 152.

inductively. Recommendations in these teacher texts provided for developmental programs in structural analysis, whereby, pupils could learn to formulate their own generalizations. Many generalizations were stated in these books, but most authors suggested that, with teacher guidance, the concept or idea should be developed inductively in such a way that the learner could recognize the fact or principle.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

Purpose and Procedures

This study adapted the Clymer[1] technique for testing the applicability of phonic generalizations, to the testing of selected structural analysis generalizations on a composite vocabulary of 1,569 words, from five reading series, grades one through six. The major aspect of this study was to determine the level of applicability of ten structural analysis generalizations to "new words," as identified by the authors of the basal reading manuals. A correlative study was one to determine what structural analysis generalizations and related content were being presented by each of the basal reading series from which the composite vocabulary had been taken. A third facet of this study was an investigation to determine what instruction in structural analysis students were receiving in their teacher education reading programs in Oklahoma, and to determine the number of Oklahoma Elementary Standard Teaching Certificates which had been issued in

---

[1]Clymer, op. cit., pp. 252-258.

a one-year period.

Certain limitations were set and observed in making this study. The selected structural analysis generalizations were limited to ten generalizations stated by Curry and Rigby.[1] These generalizations appear in Appendix A and are listed and identified by numerals. The composite vocabulary was limited to "new words," as identified by the authors of five Oklahoma state-adopted basal reading programs, grades one through six. Further limitations included the exclusion from the composite vocabulary of contractions, possessives, foreign words, proper adjectives, and proper words. Authority for establishing word structure, syllabication, and pronunciation for each word in the composite vocabulary was limited to Webster's New Collegiate Dictionary,[2] 1961 edition. A final limitation was that the investigation of structural analysis content in teacher education reading courses was limited to Oklahoma's twelve state-owned, senior colleges and universities.

This study was initiated with two basic assumptions. The first assumption was that the selected structural analysis generalizations were representative of content which was being presented to elementary children. The second assumption was that the vocabularies were representative of words being encountered by pupils, grades one through six.

---

[1]Curry and Rigby, op. cit., p. v.

[2]Webster's New Collegiate Dictionary, op. cit.

The utilization of the design and procedures of this study and of the generalizations which were tested was by permission of their authors. With permission of Dr. Theodore Clymer and The International Reading Association, this research utilized the procedures developed by Clymer in his study, "The Utility of Phonic Generalizations in the Primary Grades."[1] With the permission of Dr. Robert Curry, the structural analysis generalizations selected and tested were those stated by Curry and Rigby[2] in their book, Reading Independence Through Word Analysis.

Several criteria were met in implementing the procedures of this research. Criteria maintained in the selection of basal readers were that they were state-adopted in Oklahoma and were neither phonetic nor linguistic in approach. In assembling the composite vocabulary from five basal reading series only "new words" of more than one syllable were included. Words were placed on a grade level vocabulary only if they were introduced at that level by at least two reading series. In accord with the adaptation of Clymer's[3] procedures, his criteria for evaluating the degree of utility of a generalization were also used. The two criteria observed were that the composite word list must contain a minimum of

---

[1]Clymer, op. cit., pp. 252-258.

[2]Curry and Rigby, op. cit., p. v.

[3]Clymer, op. cit., pp. 252-258.

twenty words to which the generalization might apply and that the generalization must have a utility level of at least 75 per cent.

Instructional programs were examined for structural analysis content. Manuals for each reading test of the five basal reading programs, grades one through six, which were utilized in this study were carefully analyzed to determine recommended instruction. A list of these reading series appears in Appendix B of this study. The twenty reading education texts used in the twelve senior colleges and universities in Oklahoma were also analyzed for both content and methods related to structural analysis. The results of this analysis were descriptively reported. A list of the education reading texts appears in Appendix C of this research report. In defense of the assumption that the twelve senior colleges and universities whose reading programs were studied in this research were representative of teacher education reading programs, an investigation was made to determine the number of students from these institutions receiving the Standard Elementary Teaching Certificate in relation to the total number of such certificates issued. From July 1, 1970, to June 30, 1971, there were 3,722 Standard Elementary Teaching Certificates issued in Oklahoma. Of this number 2,739 or 73.5 per cent, were issued to students from these twelve colleges and universities, indicating that these students comprised a substantial majority of teachers being certified.

The underlying assumption was that textbooks examined in this study were representative of the preparation teachers were receiving and would indirectly influence programs in structural analysis developed for children.

Findings

An examination of content and method presented in the basal readers revealed much review throughout the programs in an effort to establish and maintain proficiency in the use of structural analysis skills. Structural analysis content introduced by four or more of the five reading programs at first grade level included: inflectional endings; variants with d, ed, er, or ing endings; root words, and compound words. These areas were continued throughout the primary grades. At second grade content included: besides review, identifying base words with variant endings; dividing words into syllables; and adding suffixes to base words. Third grade continued first and second grade content and added: selecting correct variant forms; changing y to i before endings; doubling final consonants before adding ed or ing; hearing and dividing words into syllables; recognizing clues to syllabication; and recognition of consonant blends and digraphs. Fourth grade through sixth grade content in all five series included: adding prefixes and suffixes to base words; building compound words; identifying base words in their variant forms; recognizing and learning the meaning of

compound words, prefixes, and suffixes; and syllabication prefixes, suffixes, compound words, and words ending in le.

Exercises to develop readiness for use of structural skill began at preprimer level but only two generalizations were presented, and these only in essence, before the second grade period. Only three of the five reading programs stated generalizations even at second grade level. Beginning with third grade, structural analysis content was extended extensively and many generalizations were developed inductively. By the end of third grade most generalizations had been presented and the fourth through sixth grade programs were planned to maintain and strengthen the learners' use of these principles.

A survey of the teacher education reading programs in Oklahoma's twelve senior colleges and universities revealed much variation in the texts being used. Of the twenty titles listed only twelve were basically reading texts, the others being language arts in general. Seventeen of the twenty titles examined were mentioned by only one institution; two others were mentioned by two schools; one other by three colleges, and only one of these texts was used by as many as four of the twelve institutions.

The teacher reading texts contained much discussion to establish the worth of structural analysis as a tool in word recognition. Though some content was suggested for various grade levels, the authors also warned that the

placement of content is subject to many factors relating to pupils' needs and abilities. Most of the authors of these texts declared that instruction in structural analysis should be continuous throughout the elementary school.

Application of each of the ten structural analysis generalizations to each syllabicated word in the composite vocabulary yielded 3,937 conformations for all grade levels tested. In computing the level of utility for each generalization, the quotient of the total number of incidents conforming divided by the total number of words that could possibly conform represented the percentage of conformity. Tables 5, 6, and 7 (Appendix H) summarize the levels of applicability determined for the ten generalizations.

The findings of the application of these generalizations to the composite vocabulary have been viewed in various groupings and orders. Five of the ten generalizations tested had 100 per cent conformity at every grade level, grades one through six. These five were Generalizations Two, Five, Seven, Eight and Ten. Generalizations Nine and Four ranked next in order with conformity levels of 98 per cent and 96 per cent respectively. Generalization Three, though falling below the seven just cited had an applicability of 93 per cent which was well above the accepted criterion of 75 per cent.

Generalizations One and Six failed to meet the preestablished criterion of 75 per cent conformity for grades

one through six. The lowest percentage of utility for any generalization was for Generalization Six, which ranged from 57 per cent at grades five and six to 82 per cent at grade one and averaged only 61 per cent for grades one through six. Generalization One reached only 62 per cent applicability and thus also failed to meet the criterion. However, all incidents conforming to Generalization Two were also incidents non-conforming to Generalization One, and the applicability of Generalization One would be substantially increased by combining it with Generalization Two. Moreover, many of the incidents non-conforming to Generalization Six were incidents conforming to Generalization Seven, and the applicability of Generalization Six would be substantially increased by combining it with Generalization Seven.

Conclusions

A review of this study leads to certain conclusions.

1. The fact that the 1,569 word vocabulary yielded 3,937 or over two and one-half times as many conformations as words examined, indicates that there were many dual and triple incidents of conformity per word for many of the generalizations, thus apparently enhancing the utility of such generalizations.

2. From the finding that Generalizations Two, Five, Seven, Eight, and Ten had 100 per cent conformity at all grade levels, and since these generalizations seem to be

clearly enough stated for elementary pupils to comprehend, one would conclude that these generalizations would be valuable and should be included in an instructional program for grades one through six.

3. Since Generalizations Nine and Four averaged 98 and 96 per cent conformity, respectively, for grades one through six, these too should be used in structural analysis instruction at the elementary level. Generalization Three's high level of utility of 93 per cent seems to justify its being placed on a high priority list of generalizations to be taught to elementary school learners.

4. Generalizations One and Six failed to meet the 75 per cent recommended utility level for this research; however, the applicability of both would be increased by combining them with related generalizations.

5. The findings that the levels of conformity for the group of ten generalizations, applied by grade levels, ranged from 88 per cent to 80 per cent indicate that as a whole these generalizations are valuable. The overall application of the ten generalizations, as a group have a utility level value of 81 per cent.

6. The numerous titles found in use in teacher education reading programs suggest little conformity in the selection of reading education texts, but an analysis of the textual content indicates much duplication in the areas of structural analysis.

7. The several teacher programs that use only general language arts texts are apparently giving little, if any, emphasis in the areas of structural analysis.

8. The general discussions by those authors of college reading texts were largely in agreement that skill in the use of structural analysis is very valuable as an aid to word recognition.

9. With Oklahoma senior colleges and universities furnishing 73.5 per cent of the teachers receiving the Standard Elementary Certificate in the state, it is implied that most Oklahoma teachers have some preparation for teaching the structural analysis content of the basal readers.

Recommendations

The findings of this research imply that further studies are desirable to clarify still unanswered questions relating to structural analysis. Recommendations are listed here.

1. Research should be directed toward ways to insure that communication and agreement in the selection of textual material for instructional reading courses is made somewhat more uniform in Oklahoma's teacher training institutions.

2. Research is needed in the form of classroom experimentation to determine more accurately which generalizations elementary children can understand and apply and to determine at what grade level placement of certain generalizations would be most effective for learners.

3. Consideration should be given to research for establishing what percentage of utility should be expected of a structural analysis generalization for it to be valuable as a tool in word recognition.

4. A study involving other structural analysis generalizations might be of value.

5. Consideration should be given to rewording or combining some of the generalizations of this study to give them a higher utility value.

6. Research should be initiated to determine the feasibility and logical order for presenting structural analysis generalizations in relation to phonic generalizations.

7. Application of structural analysis generalizations to vocabularies of other subject areas, particularly to spelling, because of its close relationship to structural analysis, is recommended.

BIBLIOGRAPHY

Books

Anderson, Verna Dieckman. Reading and Young Children. New York: The Macmillan Company, 1968.

Bond, Guy L., and Wagner, Eva Bond. Teaching the Child to Read. New York: The Macmillan Company, 1966.

Curry, Robert L., and Rigby, Toby W. Reading Independence Through Word Analysis. Columbus, Ohio: Charles E. Merrill Publishing Company, 1969.

Cushenbery, Donald C. Reading Improvement in the Elementary School. West Nyack, N.Y.: Parker Publishing Company, Inc., 1969.

DeBoer, John J., and Dallmann, Martha. The Teaching of Reading. New York: Holt, Rinehart and Winston, Inc., 1964.

Durkin, Dolores. Phonics and the Teaching of Reading. 2nd ed. New York: Teachers College Press, 1965.

Evertts, El donna L., and Rockel, Van. Crossroads. Teacher's ed., Basic Fifth Reader, Strand 1. New York: Harper & Row, 1966.

Harris, Albert J., and Sipay, Edward R. Effective Teaching of Reading. New York: David McKay Company, Inc., 1971.

Heilman, Arthus W. Phonics in Proper Perspective. Columbus, Ohio: Charles E. Merrill Publishing Company, 1968.

Heilman, Arthur W. Principles and Practices of Teaching Reading. Columbus, Ohio: Charles E. Merrill Publishing Company, 1967.

Hester, Kathleen B. Teaching Every Child to Read. New York: Harper & Row, 1964.

Hull, Marion A. Phonics for the Teacher of Reading. Columbus, Ohio: Charles E. Merrill Publishing Company, 1969.

McKee, Paul. A Program of Instruction for the Elementary School. Boston: Houghton Mifflin Company, 1966.

Reeves, Ruth. The Teaching of Reading in Our Schools. New York: The Macmillan Company, 1966.

Schnepf, Virginia, and Meyer, Odessa. Improving Your Reading Program. New York: The Macmillan Company, 1971.

Smith, Nila Banton. Reading Instruction for Today's Children. Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1963.

Spache, George D., and Spache, Evelyn B. Reading in the Elementary School. Boston: Allyn and Bacon, Inc., 1969.

Stauffer, Russell G. The Language Experience Approach to the Teaching of Reading. New York: Harper & Row, 1970.

Tinker, Miles A. Bases for Effective Reading. Minneapolis, Minn.: University of Minnesota Press, 1965.

Tinker, Miles A., and McCullough, Constance M. Teaching Elementary Reading. 3rd ed. New York: Appleton-Century-Croft, 1968.

Wallen, Carl J. Word Attack Skills in Reading. Columbus, Ohio: Charles E. Merrill Publishing Company, 1969.

Webster's New Collegiate Dictionary. Springfield, Mass.: G & C Merriam Company, Publishers, 1961.

Wilson, Robert M., and Hall, Marryanne. Programmed Word Attack for Teachers. Columbus, Ohio: Charles E. Merrill Publishing Company, 1968.

Zintz, Miles V. The Reading Process: The Teacher and the Learner. Dubuque, Iowa: Wm. C. Brown, 1970.

Periodicals

Bailey, Mildred Hart. "The Utility of Phonic Generalizations in Grades One Through Six." The Reading Teacher, XX (February, 1967), 413-418.

Burmeister, Lou E. "Usefulness of Phonic Generalizations." The Reading Teacher, XXI (January, 1968), 349-356.

Clymer, Theodore. "The Utility of Phonic Generalizations in the Primary Grades." The Reading Teacher, XVI (January, 1962), 252-258.

Emans, Robert. "The Usefulness of Phonic Generalizations Above the Primary Grades." The Reading Teacher, XX (February, 1967), 419-425.

Unpublished Materials

Davis, Lillie Smith. "The Applicability of Phonic Generalizations to Selected Spelling Programs." Unpublished Ed.D. dissertation, University of Oklahoma, 1969.

Ferguson, Loree H. "The Applicability of Specific Phonic Generalizations to Elementary Mathematics Textbooks." Unpublished Ed.D. dissertation, University of Oklahoma, 1970.

Jernigan, Mary Lois. "The Utility of Phonic Generalizations to Selected Science Series." Unpublished Ed.D. dissertation, University of Oklahoma, 1969.

King, Elizabeth Pendergraft. "The Utility of Phonic Generalizations in Social Studies Programs." Unpublished Ph.D. dissertation, University of Oklahoma, 1970.

APPENDIX A

LIST OF GENERALIZATIONS APPLIED

THE GENERALIZATIONS TESTED

1. A single consonant usually goes with the vowel which follows when that consonant appears between two vowels.

2. A single consonant appearing between two vowels usually goes with the preceding vowel if that vowel is short and within an accented syllable.

3. No syllabic division should be made between consonants that constitute a blend or consonant digraph.

4. The syllabic division of two consonants, which are neither blend nor digraph, and which appear between two vowels, usually comes between the two consonants.

5. Prefixes usually form separate syllables.

6. Suffixes usually form separate syllables.

7. The suffix -ed, if immediately preceded by the letter d or t, forms a separate syllable. The suffix -ed combines with other letters to form one syllable if not preceded by d or t.

8. A syllable may consist of a single vowel.

9. A word ending in le, when the le is preceded by a consonant, forms a final syllable with that consonant and the le. (Note: le stands alone as the final syllable when preceded by ck.)

10. A syllabic division is made between words which form a compound.[1]

---

[1]Curry and Rigby, Reading Independence Through Word Analysis, p. v.

APPENDIX B

LIST OF BASAL READING TEXTS ANALYZED

Basal Reading Programs Analyzed

The Sheldon Basic Reading Series.
Boston: Allyn and Bacon, Inc., 1968.
Coded A.

The Ginn Basic Reading Program (100 Edition).
Boston: Ginn and Company, 1966.
Coded B.

The Harper & Row Basic Reading Program.
New York: Harper & Row Publishers, Inc., 1966.
Coded C.

The Reading for Meaning Program.
Boston: Houghton-Mifflin Company, 1966.
Coded D.

The Macmillan Reading Program.
New York: The Macmillan Company, 1966.
Coded E.

APPENDIX C

READING EDUCATION TEXTS

READING EDUCATION TEXTS

Anderson, Verna Dieckman. Reading and Young Children. New York: The Macmillan Company, 1968.

Applegate, Mauree. Easy in English. Evanston: Harper & Row Publishers, 1960.

Baker, William D. Reading Skills. Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1953.

Bond, Guy L. and Wagner, Eva Bond. Teaching the Child to Read. New York: The Macmillan Company, 1960.

Burrows, Alvena Trent, et al. They All Want to Write. New York: Holt, Rinehart and Winston, 1965.

Carlson, Ruth K. Enrichment Ideas. Dubuque, Iowa: William C. Brown Co.,

Curry, Robert L. and Rigby, Toby W. Reading Independence Through Word Analysis. Columbus: Charles E. Merrill Co., 1969.

DeBoer, John J., and Dallman, Martha. The Teaching of Reading. New York: Holt, Rinehart and Winston, Inc., 1964.

Durkin, Delores. Phonics and the Teaching of Reading. New York: Teachers College Press, Columbia University, 1965.

Heilman, Arthur W. Phonics in Proper Perspective. Columbus: Charles E. Merrill Publishing Co., 1969.

Heilman, Arthur W. Principles and Practices of Teaching Reading. Columbus: Charles E. Merrill Publishing Co., 1967.

Hull, Marion A. Phonics for the Teacher of Reading. Columbus: Charles E. Merrill Publishing Co., 1969.

Smith, James A. Creative Teaching of the Language Arts in the Elementary School. Boston: Allyn and Bacon, 1967.

Smith, James A. Creative Teaching of Reading and Literature in the Elementary School. Boston: Allyn and Bacon, 1967.

Smith, Nila B. Reading Instruction for Today's Children. Englewood Cliffs, N.J.: Prentice-Hall, 1963.

Strang, Ruth. Diagnostic Teaching of Reading. New York: McGraw-Hill Book Company, 1969.

Tinker, Miles A., and McCullough, Constance M. Teaching Elementary Reading. New York: Appleton-Century-Croft, Inc., 1968.

Torrance, E. Paul. Encouraging Creativity in the Classroom. Dubuque, Iowa: William C. Brown, Co.,

Trauger, William K. Language Arts in the Elementary School. New York: McGraw-Hill Book Co., 1963.

Wilson, Robert M., and Hall, Mary Anne. Programmed Word-Attack for Teachers. Columbus: Charles E. Merrill Publishing Company, 1968.

APPENDIX D

STRUCTURAL ANALYSIS CONTENT IN BASAL READING PROGRAMS

TABLE 1

AREAS OF STUDY IN STRUCTURAL ANALYSIS BY READING SERIES[1]

Series:	A	B	C	D	E
Preprimer Content					
Inflectional endings, such as: nouns ending with s	x	x	x	x	x
verbs ending with s or ing	x		x	x	
Matching of capital and lower case letters				x	x
Recognizing letters of the alphabet					x
Recognizing likenesses of word parts	x				
Recognizing possessive forms ending in s	x	x			
Recognizing consonant digraphs, such as, ch, sh, th, and wh				x	
Recognizing consonant blends such as, nd, pl, and sl				x	
Primer Content					
Review of preprimer structural analysis content	x	x	x	x	x
Variants--nouns, verbs with d, ed, er, or ing endings	x	x		x	x
Identifying the root word within a variant	x	x			
Change of meaning when s is added to a verb form		x			
Addition of such consonant blends as: bl, cr, fl, fr, etc.				x	
Recognizing compound words with familiar parts			x	x	
Hearing syllables					x
Recognition of root words	x	x	x	x	x

[1]See Appendix B for code to identify series.

TABLE 1--Continued

Series:	A	B	C	D	E
First Reader Content					
Continued review of content previously presented	x	x	x	x	x
Added content:					
Distinguishing words of similar configuration	x			x	x
Visual and auditory recognition of known words when adding or dropping such endings as ed, d, ing, etc.	x	x	x	x	x
Building compounds from known words	x	x			
Practice in recognition of compounds	x	x	x		x
Recognition of contractions--one letter omitted	x	x			x
Correct usage of verb forms		x			x
Groups of letters frequently occurring in words					x
Verbs changing internally as, (run to ran)--(came to come)	x			x	
Practice in combining structural and content clues				x	
Developing skill in recognizing singular and plural forms				x	
Addition of such digraphs as: ch, ng, and ph	x			x	
Addition of such blends as: br, gr, pr				x	

TABLE 1--Continued

Series:	A	B	C	D	E
Grade Two Content					
Recognition and building of compounds	x	x	x	x	x
Exercises in formation of contractions		x		x	x
Identifying base word in variants with such endings as: re, ful, ly, en, etc.	x	x	x	x	x
Identifying verbs which drop the final e before endings	x	x	x	x	x
Noting verbs which change internally	x			x	
Noting words with slight configuration changes	x	x			
Dividing words into syllables	x	x	x	x	x
Recognition of the double medial consonant as a clue to syllabication					x
Adding suffixes to base words, such as: ed, ly, ness, est, etc.	x	x	x	x	
Forming plurals of words ending in x, ch, sh, s, and es	x	x			
Identifying digraphs	x	x	x		
Introduction of consonant blends, such as: sc, sl, sm, st, etc.				x	
Introduction of such prefixes as: un-, re-, im-, etc.			x	x	

TABLE 1--Continued

Series:	A	B	C	D	E
Grade Three Content					
Adding es to words ending in x, ch, sh, and s	x				x
Understanding the formation of contractions		x		x	x
Identifying base words in variant forms	x	x			x
Selecting corrent variant forms	x	x		x	x
Changing f to v before adding es		x	x		
Changing y to i before adding endings, such as: er, es, ed, ly	x	x	x		x
Reviewing plurals of nouns formed by adding es	x				x
Dropping final e before adding such endings as: ed, ing, est, etc.	x		x		x
Doubling final consonant before adding ed or ing	x	x	x	x	x
Using known words in recognition of compounds	x	x			x
Hearing syllables and dividing words into syllables	x	x	x	x	x
Recognizing clues to syllabication, such as: double medial consonant, prefixes, suffixes, le ending, etc.	x	x		x	x
Adding suffixes to a base word--ly, est, al, etc.		x	x		x
Introduction of irregular verbs, such as (break-broke)			x		
Meaning of diacritical markings	x				
Recognition of consonant blends and digraphs	x	x	x	x	x
Recognition of root words	x	x		x	
Recognition of prefixes as syllable units		x		x	
Recognizing new compound and hyphenated words made up of known words		x	x	x	

TABLE 1--Continued

Series:	A	B	C	D	E
Grades Four, Five and Six Content					
Adding prefixes and suffixes to base words	x	x	x	x	x
Building compound words	x	x	x	x	x
Finding first syllables				x	x
Hearing syllables and dividing words into syllables		x	x	x	x
Identifying base words in their variant forms	x	x	x	x	x
Identifying syllables common to many words		x	x	x	x
Observing suffixes that turn base words into adjectives, such as: less, full, able, ative, etc.			x		
Recognizing and using variant forms of inflectional endings	x	x			
Recognizing clues to syllabication	x	x	x		x
Recognizing and learning meanings of compound words	x	x	x	x	x
Recognizing prefixes and their meanings	x	x	x	x	x
Recognizing suffixes and their meanings	x	x	x	x	x
Recognizing plural forms of verbs	x	x			
Recognizing consonant blends, such as: sm, sn, sw, spr, etc.		x	x	x	

TABLE 1--Continued

Series:	A	B	C	D	E
Reviewing:					
root words	x	x	x	x	x
principles for dividing words into syllables		x		x	
contractions	x				
inflectional endings		x			
verbs which change internally	x				
Syllabicating:					
compound	x	x	x	x	x
two-syllable words with two or more medial consonants					x
words ending with a consonant and le	x	x	x	x	x
words with a single medial consonant after a long vowel					x
words with a single medial consonant after a short vowel					x
words with double medial consonants		x		x	
words with consonant digraphs and blends		x	x	x	x
words with ed pronounced as t		x			
words with prefixes and suffixes	x	x	x	x	x

TABLE 2

GENERALIZATIONS PRESENTED BY READING SERIES[1]

Series:	A	B	C	D	E
Doubling the last consonant before adding ing or ed					x
Dropping silent e before adding ing			x		x
Grade Two					
Dropping e before adding ing			x		x
Doubling final consonant before adding ed, er, or ing			x		x
Changing y to i before adding es					x
Words ending in le--drop final e before adding ing					x
Dropping e at end of base word before adding suffix y	x				
Plurals of base words ending in ch, sh, ss,--formed by adding es	x				
Two like consonants coming together--second is silent					x
Two consonants appearing together in middle of word--divide between consonants	x		x		x
Syllable division--is according to number of vowel sounds			x		
Vowel found in middle of a first syllable--usually has short sound			x		
Consonant blend th--not separated			x		
Two different consonants appearing between two vowels--divide between unlike consonants			x		
a at beginning of word--often a separate syllable			x		
Dropping f at end of word--forming plural by adding ves			x		

[1]See Appendix B for code to identify series.

TABLE 2--Continued

Series:	A	B	C	D	E
Grade Three					
Two syllable compound words--division between words	x				x
Two different consonants between two vowels--first consonant goes with first vowel, second consonant with second vowel		x	x		
Double consonants between two vowels, divide between the consonants	x	x			x
Words ending in le after a consonant--consonant goes with last syllable		x			x
Consonant digraph in middle of word as a single unit		x			x
Suffixes considered as separate syllables		x			
Prefixes considered as separate syllables		x			
Words ending in a consonant with one vowel just before final consonant--double consonant before adding ing	x		x		x
Changing y to i before adding es, er, or est	x		x		x
Words having two or more consonants coming just after first vowel--first syllable ends with first consonant				x	
Finding first syllable in word with vcv pattern--try dividing after consonant--if not, after first vowel (long sound)				x	
A common ending added to a one-syllable word--ending becomes the last syllable if it has a vowel				x	
Words ending in e--e dropped before adding ing	x	x	x	x	x
Words ending in sh, ch, ss form plurals by adding es	x				x

TABLE 2--Continued

Series:	A	B	C	D	E
Grade Three--Continued					
One syllable word (short vowel)--final consonant doubled before adding an ending	x				x
Changing f to v before adding es	x		x		x
Number of vowel sounds same as number of syllables	x		x		x
Two-syllable word with one medial consonant--divide before consonant					x
Dividing between a base word and its affix					x
Adding ed to a base word ending in d or t--ed forms separate syllable					x
Dropping ed before adding al to some base words					x
Dividing between two consonants--which are not blend nor digraph	x				x
Syllabicating vcv pattern word--consonant usually goes with vowel that follows--unless first vowel is short and in an accented syllable					x
Some words ending in d--d changed to t to indicate past tense	x				
Words changing internally to form past tense (run-ran or come-came)	x				
Words ending in two consonants--no change before adding an ending	x				
Words ending in x not doubled before adding an ending	x				

TABLE 2--Continued

Series:	A	B	C	D	E
Grades Four, Five, and Six					
Adding ly to a base word					x
Changing e to i before adding ty			x		
Changing y to i before endings		x	x		
Division of compound words	x	x	x	x	x
Doubling consonant ending		x			
Dropping final e before ending		x	x		
Forming plural of words ending in ss			x		
One vowel sound for each syllable	x			x	x
Pronunciation of ed after t or d		x	x		
Single consonant appearing between two vowels	x	x			x
Syllabication of two-syllable words ending in le	x	x	x	x	x
Syllabication of prefixes and suffixes	x	x	x	x	x
Treatment of consonant digraphs and consonant blends		x	x		x
Two like-consonants appearing between two vowels	x	x	x		x
Two unlike-consonants appearing between two vowels		x	x		x
Two-syllable word-single medial consonant-short vowel preceding					x

APPENDIX E

SUMMARY OF OKLAHOMA STANDARD TEACHING CERTIFICATES ISSUED

TABLE 3

OKLAHOMA ELEMENTARY TEACHING CERTIFICATES ISSUED
JULY 1, 1970-JUNE 30, 1971

Bases for Certification	Number Certificates Issued	Per Cent of Certificates Issued
Total number issued	3,722	100%
Number based on work completed in all Oklahoma colleges and universities	3,103	83.3
Number based on work completed in state-owned colleges and universities	2,739	73.5
University of Oklahoma	244	8.9
Oklahoma State University	317	11.5
Central State University	395	14.4
East Central State College	242	8.8
Northeastern State College	638	23.2
Northwestern State College	112	4.0
Southeastern State College	253	9.2
Southwestern State College	236	8.6
Cameron State Agricultural College	65	2.3
Langston University	92	3.3
Oklahoma College of Liberal Arts	98	3.5
Oklahoma Panhandle State College of Agriculture and Applied Science	47	1.7
Number based on work completed in church-related colleges and universities	358	9.6
Number based on out-of-state colleges	625	16.7

APPENDIX F

THE COMPOSITE VOCABULARY

TABLE 4

COMPOSITE VOCABULARY BY GRADES AND BY SERIES[1]

abandoned (5AE)
ability (4CE) (5BD)
able (2AC)
about (1ABCDE)
above (2DE) (3BC)
abreast (6BDE)
abruptly (5DE)
absolute (5AE)
absurd (6ACDE)
accent (6BC)
accepted (6BC)
accident (4BD)
accompany (5AC)
accomplished (5CD)
according (4CD)
accustomed (6AD)
acquainted (6BD)
acre (4CD)
acres (4AB)
across (1AB) (2DE)
activities (6BC)
actually (4AE) (5CD)
address (5CD)
adjust (5BC)
admiral (5AD)
admit (5BE)
advantage (5CE) (6BD)
adventures (3AB)
advice (4ABC)
afford (4CD)
afraid (2ABDE)
after (1ABCDE)
afternoon (3BD)
again (1ABCDE)
against (3ABDE)
ago (2AE)
agony (6AB)
airplane (1DE)
alarm (3AE)
alas (6BCD)
alfalfa (5CE)
alley (6CD)
allow (3CD)
almost (2ADE)
alone (2ACE)
alphabet (4CD)
already (2AC)
also (2DE)
altered (6CD)
although (4ABD)
altimeter (6BC)
altogether (4BCD)
always (1AC) (2BDE)
amazed (3DE)

[1]The numeral or numerals in parentheses refer to the grade level at which the word appeared as a "new word," and the letter or letters in parentheses refer to the basal reading series introducing the word. For example, abandoned is introduced at the fifth grade level in series A and series E; above is introduced on the second grade level in series D and E, and on third grade level in series B and series C. See Appendix B for code to identify series.

TABLE 4--Continued

amazing (3CE)
among (3ACDE)
amount (3AD)
ancestors (3AC)
ancient (4ABE)
anemones (6BE)
angry (2ACDE)
animal (2BE)
animals (1CD)
annual (5CE)
another (1ACD)
answered (2AD)
anvil (6CD)
anxious (3CE)
anxiously (3AD)
any (1AC)
anything (1DE)
apartment (1AE)
apparatus (6BCE)
apparent (5AC)
appeared (3DE)
appetite (6BE)
appetites (5AD)
apprentice (5BE)
approached (4AD)
apron (3AB)
aqualung (6CE)
archaeologists (6BC)
area (4DE)
arithmetic (5BD)
armor (6CD)
army (3AD)
around (1ABCDE)
arranged (4CD)
arrested (3AC)
arrived (3BCDE)
arrows (3BE)
article (4BCE)
ascended (6DE)
ashamed (4AB)
ashes (5BC)
assembly (5CE)
assigned (5CE)
association (6BD)
assume (6CE)
astonished (3CE)
astonishment (5BD)
astride (5DE)
astronomers (6BD)
atomic (4BC)
attached (5BC)
attacked (4BC)
attendants (6BE)
attention (3ADE)
audience (4AE)
authority (6DE)
authors (4AC)
automatic (6AD)
automobile (3AC) (4BD)
avoid (4AB)
awake (3BD)
aware (5CD)
away (1ABCDE)
awful (5BD)
awkward (4AB) (5CE)
axes (4CD)
axis (5BE)
axle (6ABC)
babies (3CE)
baby (1ABCE)
bacon (4AB)
balance (4ADE)
balcony (3BD)
balloon (1ABE)
bamboo (4ADE)

TABLE 4--Continued

bandit (4BC)
barnacles (6BE)
barons (6CE)
barrel (3CE)
barren (4BC)
baseball (2BC) (4AD)
basket (2AC)
battery (3BD)
battle (3AE)
beautiful (2ABE)
because (1CD) (2ABE)
beehive (5CD)
beetles (5CD)
before (1ACDE)
began (1ACDE)
begun (3AD)
behind (1AD) (2BCE)
believe (2ADE)
bellowing (4AB)
beneath (4BC)
berries (4AB)
beseech (6BE)
better (1ABCD)
between (2ACDE)
bewildered (4AE)
beyond (4ABC)
bicycle (3DE)
bigger (2DE)
billion (6BC)
binoculars (5CE)
birthday (1ABDE)
blankets (3BE)
bleating (4BD)
blinking (4BD)
blizzard (3AB)
blossoms (3BD)
blubber (5AD)
blurted (4DE)
boosted (6BD)
borrow (3BD)
bother (3AE)
bottles (3BC)
bottom (2DE) (3AB)
boulder (5BDE)
bravo (6AD)
breakfast (2ABCDE)
breathing (3AB)
brilliant (5BCD)
broken (2ACD) (3BE)
brother (1AE)
brothers (2BD)
bruises (4BD)
brushes (3CE)
bucket (3BC)
buckets (5CD)
buffeter (6AC)
bulging (4BD)
buoys (6DE)
burden (5BD)
buried (3AD)
burnished (5CD)
burrow (4AE)
bushes (3AD)
business (3ABCD)
bustled (5AD)
busy (2BE)
butcher (3DE)
butter (2BD)
button (2AC)
cabin (3AD)
calculated (5AE)
calico (6BD)
camera (4CD)

TABLE 4--Continued

campaign (6AB)

canaries (3DE)

candle (2AE)

candles (1AB)

canoe (4AD)

canvas (3AE)
(5CD)

capable (5CD)

capital (3AC)

capsule (5ACD)

captured (4CD)

carcass (6BC)

cardboard (3AE)

career (5CE)

careful (2DE)

cargo (5BD)
(6AC)

caribou (5AD)

carnival (4CE)

carrots (3BCDE)

carry (2DE)
(3BC)

carving (3BC)

castle (2BCD)
(3AE)

catalogue (5AB)

cathedral (6DE)

cattle (2AE)
(3BC)

cautiously (4AB)
(5DE)

cedar (5AB)

ceiling (3AE)
(5CD)

celery (4BE)

cellar (2BE)

center (3ABC)

ceremony (6BC)

certain (2CE)

certainly (3AD)

champion (4ACD)

characters (4BE)

cheaper (6CD)

cheerfully (3DE)

chemical (5BC)

cherry (3AC)

chicken (3BD)

children (1ABE)

chipmunk (2AB)

chocolate (3AB)

chronometer (6CE)

chuckled (3DE)

circle (3ACE)

circular (6BD)

circumstances (6AB)

circus (2ABE)

city (2BDE)

clambering (6BE)

clatter (4BD)

clever (2AD)

climate (2AD)

climax (6BC)

clinging (6BD)

clothing (3AE)

cockpit (4ABD)

coffee (3AD)

collapsed (4ACE)

collar (4BD)

colors (1CD)

column (4CD)

comfortable (3ABCDE)

coming (1AD)
(2BE)

command (4AB)

commander (3AE)

committee (4AB)

commission (6BE)

common (3ADE)

communications (6AB)

companion (3AC)

TABLE 4--Continued

company (3ABDE)
compare (4ABC)
compared (3AD)
compartment (6BD)
competition (6BC)
complained (6BC)
completely (3ADE)
complicated (6CD)
compound (6BC)
concealed (6BD)
concerned (4CE)
condition (3CE)
confidence (6BD)
confident (5BC)
confused (3AD)
congratulated (6AB)
congratulations (5BE)
connected (5BD)
constantly (6BD)
construction (4AC)
consult (6CD)
contact (6ABD)
contain (3AC)
contained (4AD)
contemplating (6AD)
contest (3BD)
context (4CD)
continued (3ADE)
contract (5AC)
contraption (6AB)
contrary (6ABE)
convenient (4AD)
conversation (5ABDE)
control (4DE)
controlled (5BC)
convinced (5BC)
cookies (2DE)
copper (6BC)
copy (4BC)
coral (6AC)
corner (2ABE)
corral (5BD)
correct (3CE)
costume (3CE)
costumes (4CE)
cottage (3CD)
council (4AB)
counterclockwise (4AC)
country (2ABE)
couple (4BD)
courage (3ADE) (4BC)
courtesy (6CD)
cousins (3AC)
cover (2BE)
covered (2AD)
coward (5BD)
cowboy (1BE)
crayons (5CD)
crazy quilt (3AB)
creature (4BC)
creatures (4AE)
credit (6CD)
crescent (6BC)
crevices (6CD)
cripple (6AB)
crisply (5CD)
critically (6BC)
criticized (6AB)
crooked (3AC)
crowded (3BD)
crumbling (5BD)
crystal (6AC)
cubic (6BD)
cucumbers (6BC)
cultivate (6BE)

TABLE 4--Continued

cunning (5AD)

curiosity (3AC) (4BE)

current (5BD)

curtain (3ADE)

custom (3BC)

cylinder (6BDE)

dagger (6CD)

danger (3BDE)

dangerous (3BCE)

darkness (3BD)

daughter (3CDE)

deafening (5BD)

decided (3ABE)

declared (4AB)

decline (5AE)

decorated (4DE)

delay (5BCD)

delicate (6BCE)

delicious (3ADE)

delight (3DE)

delivered (4CD)

demanded (4BD)

demonstration (5BE)

denied (5DE)

department (4CD)

depend (3CE)

derby (4AD)

descended (4AC) (5BE)

descent (5AC)

described (5CD)

descriptive (6BC)

desert (4ABD)

deserve (3BE)

designs (4BD)

desolate (6AB)

desperately (5BD) (6AC)

despised (6DE)

destination (6AD)

details (5BD)

detective (3AE)

determination (4CE)

determined (5BD)

devised (6DE)

devoted (5AE) (6BC)

devoured (6BD)

diagram (6AD)

diameter (6ABC)

diamond (3AE)

diary (6CE)

dictionary (3AC) (4BD)

difference (3DE)

different (2ABDE)

difficult (3ACE)

digits (6CD)

dignity (4ABD)

dining (6BC)

dinner (1AC) (2DE)

direct (3DE)

direction (3AD)

dirty (2ADE)

disappeared (3ACDE)

disappointed (3ABE)

disaster (4CE) (6BD)

discarded (6DE)

discovered (3AD)

disease (5BC)

disintegrate (5BC)

dismay (5ABE)

distant (4BCDE)

distance (3ABCD)

TABLE 4--Continued

distinctly (5ACD)
distribute (5CD)
disturbed (5DE)
disturbing (5BC)
divided (3CE)
dizzy (5BC)
doctor (1AE)
(3BD)
doldrums (6CE)
dollars (2ADE)
donkey (2BE)
double (6BD)
dozen (3AE)
dragon (2AD)
dreadful (4AB)
dripping (3AD)
dungeon (4AD)
during (3ADE)
duty (4ACD)
dwindled (6AD)
dying (6BC)
dynamite (5ABD)
eager (3AE)
eagle (3ABE)
early (2ACE)
(3BD)
earnestly (4AD)
earthquake (6BC)
easy (2AE)
(3BD)
education (5BCD)
eerie (5DE)
effect (4BE)
(5AC)
effort (4AE)
efforts (5BD)
either (2CE)
(3AD)
elaborate (5CE)
elbows (5BD)
elected (5BD)
election (5BC)
electric (3BE)
electronic (5BE)
elegant (5AE)
elephant (2AB)
elevator (5CD)
eleven (4AC)
eliminate (6BC)
embankment (6AB)
embedded (6DE)
embroidered (5CE)
emerged (6CE)
emergency (5BD)
employed (5BCD)
empty (2BE)
(3ACD)
enclosed (6AB)
encountered (6DE)
enemy (3ABE)
engine (3CD)
enjoy (3CD)
enormous (3AE)
(4BC)
enough (1CE)
(2ABD)
entirely (4AD)
envelope (4CD)
environment (4BC)
epidemic (6DE)
equipment (4CE)
erect (6BD)
especially (3CDE)
essential (6CD)
estate (6AD)
eternity (6DE)
even (2ADE)
evening (2AC)
events (3CD)
ever (1DE)
(2ABC)

TABLE 4--Continued

every (2BE)

everyone (1CD)

evidence (5AE)

exactly (3ADE)
(4BC)

example (4BC)

examples (3DE)

excellent (4BD)

except (3ACDE)

excited (2AE)
(3BCD)

exclaimed (3ACDE)

excuse (4ABD)

exercise (3BE)
(4CD)

exhausted (6AB)

exhaustion (5BE)

exhibit (6AD)

existence (6BE)

expected(4AB)

expedition (5BE)

expensive (3AE)

experience (4AE)
(5CD)

experiments (4AB)

expert (4AC)

explained (3ACD)

explanation (4BD)

explode (5BC)

exploded (3AC)

explorer (3AC)

exposure (6CE)

extended (4BC)

extinct (6DE)

extra (3ADE)

exulted (5AB)

eyebrows (3AD)

faces (2AD)

factory (3AC)

faded (5CD)

fairy (2CDE)

falconry (6CE)

familiar (3ADE)
(5BC)

family (2BE)

famous (3BCDE)

farmer (2AB)

farther (2AC)
(3BDE)

fastened (3BE)

faster (1BC)

fatal (5AB)
(6DE)

favor (3CE)
(5BD)

favorite (3CD)

feathers (2AC)

fellow (3AD)

ferry (5AD)

fertile (5AD)

fertilizer (5AB)

fever (5AB)

fiction (4AC)

fiercely (3DE)

fiery (4CE)

fifteen (3AC)

fifty (3CDE)

figure (3AD)

filament (6CE)

finally (3ACDE)

fingers (2ACD)

finish (2ADE)

firefly (4AD)

firmly (3AC)

fitted (4BD)

flitting (6CD)

fluid (6DE)

fluttering (4BD)

TABLE 4--Continued

foliage (6DE)	future (4CD)	good-by (1AB)
followed (2ADE)	fuzzy (4AB)	gorgeous (6BC)
foolish (3ADE)	gaily (4AB)	governor (5BD)
forehead (4BD)	gallant (6BC)	government (4AD)
foreman (5BC)	galleon (6CD)	gradually (4AD)
forest (2CE)	galley (6AD)	granite (5BE)
formidable (6AD)	galloping (4AC)	grapevine (5BD)
formula (6CE)	garage (2AC)	grateful (3AE)
fortunately (4BE)	garden (1ABC)	gratitude (5AE) (6BD)
fortune (3BC)	gathered (3ABCDE)	gravity (5BC)
forward (3ADE)	general (4AD)	greedy (4AD)
foster (5AD)	generous (4AE)	greeted (4AD)
fourteen (3BC)	genius (6CD)	gripping (4AB)
fraction (6AC)	gentle (3ABE)	groaning (4BD)
fragrant (5AB)	getting (2AE)	growling (3ABD)
frequent (6ABC)	ghastly (6BD)	grumbled (4AB)
frequently (5DE)	giraffe (3AB)	gully (6AD)
frightened (2AE)	glaciers (5ABDE)	halo (6CD)
frolicking (4CD)	gleefully (5DE)	hammer (2AB)
frontier (5BD)	glider (4AD)	handicap (6BD)
funny (1ABD)	gloomily (4AD)	handkerchief (3ABCE)
furiously (6BC)	glorious (5CE)	handle (2DE)
furnished (5BC)	glory (5AD)	happen (2AE)
furniture (3BD)	going (1BCE)	happened (2BD)
further (3AE) (4CD)	goldfish (2BC)	happiness (3AD)

TABLE 4--Continued

happy (1ABCDE)
harbor (3AE)
harbors (3CD)
harness (3CE) (4AB)
harpoon (4AE)
harvest (4AB)
hasten (5BC)
hasty (5AD)
hated (3DE)
hazards (6AE)
hazel (6BD)
healthy (4BD)
heavens (3AE)
heavy (2AE) (3BCD)
helicopter (3DE) (4AC)
hello (1AE) (3BC)
hemisphere (6BC)
herons (5AD)
herself (1CD)
hesitate (5BC)
hidden (3AB)
himself (2AB)
history (3AE)
hobbled (6BD)
hoisted (5CD)
homage (6AE)
honey (1AB) (3CD)
honor (3BE) (4AD)
horizon (5BD)
horrible (6BD)
horror (6AD)
hotel (2AE)
hovering (6CD)
human (3ACD) (4BE)
humiliating (6AB)
humming (3AD)
hummingbird (2CE)
humor (6BC)
hundred (3BD)
hungry (2BCDE)
hunted (3AD)
hurdle (6BE)
hurry (1ABDE)
husband (3ABD)
husky (6AD)
hypothesis (6CE)
icebergs (4CD)
icicles (6AD)
idea (2AE) (3BD)
idle (6CD)
igloo (5AD)
ignorance (6CD)
ignoring (6BC)
illuminated (6CE)
illustrations (6BE)
imagination (4AB)
imagine (3ABCDE)
immediately (3ADE) (BC)
immense (6ABD)
immigrants (5AE)
impact (5CE)
impenetrable (6AC)
important (3ABD)
impossible (2CE) (3AD)
improved (4CD)
improvements (4AE)
impulse (6AE)
inches (3AB)
inclined (5BD)

TABLE 4--Continued

income (6CD)	intense (6CD)	jumbo (3CD)
increasing (5AB)	intent (5BDE)	junior (5AC)
incredible (6DE)	interesting (3BD)	justice (5BD)
indeed (3ACDE)	interfere (5CD)	kayak (4DE)
independent (5CD)	interior (6BE)	kerosene (5ACE)
indignant (5DE)	internal (6CE)	kindness (2AE)
indignation (6AB)	international (5DE)	kingdom (4ABD)
indigo (6AD)	interrupted (5BE)	kitchen (2ABCE)
individual (6BC)	into (1ABDE)	kitten (1ABDE)
inferior (6BE)	inventor (5BD)	kittens (1CE)
ingredients (6DE)	invisible (3CD)	knitting (3CD)
inhabited (4CE)	invitation (4CD)	knowledge (4AE) (5BCD)
initials (6AB)	invite (3DE)	label (4AE)
insects (3DE)	invited (3AB)	labor (6CD)
insignia (6CE)	issued (5AE)	laboratory (3CE)
insignificant (6CD)	jacket (3AD)	ladder (2AB)
insisted (3AD)	jagged (6BD)	lady (3DE)
inspected (5CD)	jalopy (5BE)	language (3CD) (4AB)
instantly (4AB)	jealous (6BC)	lanky (5AD)
instead (2ACE) (3BD)	jelly (3AD)	lantern (4BD)
instinct (5CE)	jolly (4BD)	larder (4AB)
instructions (4ABC)	jubilantly (6AE)	larger (2CD)
instruments (5BD)	judges (3CE)	laughter (4BD)
intelligence (5BD)	juicy (3AE)	lawyer (6AC)

TABLE 4--Continued

lazy (2ABE) (3CD)
leather (3AD)
legend (5BC)
legislature (5AD)
lemonade (2AD)
leopard (5AB)
lesson (3ABD)
letter (1ABE)
level (3CE)
librarian (2AE)
library (4BCD)
lieutenant (6BE)
lifted (3ACD)
lightning (3AD) (5BC)
linen (5BD) (6AC)
lion (2AE)
liquid (4CD)
listen (1AC) (2DE)
literally (6AE)
little (1ABCDE)
lively (3AC)
locate (5BD)
lollipop (3AE)
looking (1CE)
loosened (4BC)
lying (4BD)
machinery (5BD)
machines (3AC)
madam (5BD)
magazine (4CD)
magazines (3AC)
magic (2DE) (3ABC)
magician (4AE) (5BD)
magnificent (4DE)
maintenance (6CE)
majesty (4AE)
mammoth (5AE)
manner (3AC)
many (1ACDE)
marble (6AC)
market (3ABCE)
marry (3ADE)
marvelous (5BC)
massacre (6AD)
master (3AD)
materials (5BD)
mathematics (3BC)
matter (2BCE) (3AD)
mattresses (3AE)
meadow (3BD)
medals (6BD)
medicine (3AB)
melody (5AB)
mental (6BD)
mentioned (4AC)
mercy (5AB)
merely (6AC)
merry (2BD)
mesa (4AD)
message (3BC)
messenger (3BD)
metal (3BE)
meter (6BC)
methods (6BD)
middle (3ABD)
migrating (4BC)
military (5AB)
million (3AC)
minerals (5AE) (6CD)
minstrel (5AC)
minus (5BC)
minute (2AC) (3BE)

TABLE 4--Continued

miracle (5ABE)
mirror (3BE)
mirrors (3CD)
mischievous (6BE)
miser (5BD)
mishap (6AB)
missile (5BC)
mistake (3ADE)
mistakes (4AC)
mitten (1BD)
mixture (6CD)
moccasins (3AB) (4CE)
model (4AC)
modern (3BC) (4AD)
modestly (5DE)
moisture (6DE)
molasses (5CD)
moment (3ACDE)
money (1ABCD)
monkey (1BC) (2DE)
morning (1ACE) (2BD)
mother (1CD)
motion (4AE)
motionless (4BCD)
motor (3BCE)
mountain (3ACD)
mountains (2BC)
muffled (5AD)
murmured (4ABE)
music (2ACD)
musicians (4DE)
mustache (3DE)
muttered (3CE)
mutton (6AD)
muzzle (6AB)
mysterious (4AB)
mystery (3ADE)
narrow (3ACE)
national (3CD)
navigation (5AB)
navy (5BD)
necessary (4AB)
needles (3AD)
neighborhood (3CDE)
neighbors (2BE)
neither (3AD)
never (1ABCD)
nibble (3CD)
noble (5BD)
nodded (3ACD)
noisy (2AE)
nonsense (4BD)
nostrils (5ABD)
nothing (1AB) (2CDE)
noticed (3ABCD)
notified (6DE)
notion (6BC)
nuisance (4BD)
number (2AE)
nutrition (6AE)
obey (3BE)
object (4AD)
obviously (5AD)
occurs (6BC)
ocean (3BDE)
oceanographer (6CE)
octopus (6BC)
odor (6BD)
office (2ACD) (3BE)
often (2CDE)
onions (4BD)
only (2ADE)
open (1ACD)

TABLE 4--Continued

opened (2BE)
opportunity (6ABCD)
opposite (3AE) (4CD)
orange (1AC)
orbit (4BC)
order (4BC)
organized (6AD)
original (4CD)
ostrick (6AB)
other (1BCDE)
otter (4AB)
ourselves (3DE)
oval (6BE)
oven (2DE) (4AB)
over (1ABCDE)
oxen (3AB)
oxygen (3AC) (5BD)
packets (5BD)
paddle (3AB)
palace (3BCDE)
palpitated (5AB)
panel (6BD)
panic (5BDE)
panorama (6DE)
panting (4BD)
paper (2BDE)
parade (2AB)
paragraph (4DE)
parallel (5BC)
parchment (6CE)
pardon (6BD)
parents (3DE)
parlor (6ABD)
parrot (4AC)
particular (4DE) (5AC)
particularly (4BE)
partners (5AC)
party (1ABC)
passenger (3BD)
pasture (3ACDE)
patience (4BD)
patiently (3CE)
patio (6AE)
patrol (4CD)
pattern (6AB)
peanut (1ADE)
peasants (5AB)
peddler (3BE)
peering (4BD)
pencil (3AB)
pendulum (6CE)
penetrate (6AD)
people (1ACE) (2BD)
perfect (3AE) (4BC)
perhaps (3ABDE)
period (5AD)
permanent (6AC)
permission (5CD)
perpetual (6BE)
person (3ABD)
persuade (4BE)
petals (5CD)
phrases (5ABC)
physical (5AC)
piano (3BDE)
picnic (1ABE)
picture (2AE)
pinon (4AC)
pinto (6BD)
pirates (3CE)
pistols (5AB)
pitcher (3AD)

TABLE 4--Continued

pity (4BD)
planet (3BC)
plaster (6BD)
platform (3CD)
platter (6BC)
playing (1CE)
pleasant (3BCDE)
plenty (3AD)
plodded (5BD)
pocket (1ABCDE)
pointed (2AE)
polar (4AB)
policeman (1AE)
polio (6AB)
popular (4CE) (5AD)
population (6BCD)
portable (6AD)
position (4ACD)
positive (6BC)
possible (3DE)
potato (3DE)
potential (6BE)
pottery (6BD)
power (3BD)
practical (5AE)
practice (3BCE)
prairie (4ADE)
precious (3AE) (5BC)
precipice (6AB)
preparing (3ABCDE)
presence (5AE)
present (3AD)
presents (3BE)
preserved (5AD)
president (3AC)
pressure (5BCD)
pretty (2ABDE)
prevent (5AB)
prickly (5BD)
princess (3AB)
principal (5AD)
printing (3AB)
prisoner (3AC)
prizes (1ADE)
probably (3ADE)
problem (3AD)
problems (4BC)
process (6AE)
procession (6BD)
product (4BC)
program (3BE) (4CD)
project (5BCE)
promise (2CD) (3BE)
pronounce (4CDE)
pronounced (3AC)
propeller (4AD)
proper (3AE) (5BD)
properly (4AC)
properties (5AC)
prophet (6AB)
prosperous (5AE)
protect (3BE)
proudly (3BD)
provisions (5DE)
prowling (5AC)
public (5BD) (6AC)
pulleys (5AB)
pulses (6AE)
punctuation (6CD)
punish (3AD)
puppy (1CE) (2ABD)

TABLE 4--Continued

purple (2BD)	recognize (3ACE)	reputation (5BCE)
purpose (3AC) (4DE)	recommended (6BE)	rescue (3AC) (5DE)
puzzled (4BC)	record (3CDE)	research (6BC)
qualities (5CD)	referred (5AC)	reservation (4AB)
quantities (5ADE)	refrigerator (3BE) (4AD)	residence (6CD)
quarter (3AE)	refuge (5DE)	resistance (5CE)
question (3AE)	refused (3ABE)	resolutions (5AB)
quickly (2ACE)	regarded (6BD)	respect (3BE)
quivered (5BD)	region (5CDE)	response (6BD)
rabbit (1ABCDE)	register (3AC)	responsible (5AC)
raccoon (2AB)	registered (5CE)	restaurant (5CD)
radio (3ADE)	regular (4DE)	results (6BD)
rapidly (3AD)	regulations (6AE)	returned (2ADE)
rascal (5BE)	related (5CE)	revolution (6CE)
raspberry (3AD)	released (5BC)	reward (3ADE)
rather (3ADE) (4BC)	relief (4BCE)	rhythm (5DE)
ready (1ABCE)	remainder (6CE)	ribbon (4AB)
really (2ADE)	remained (4ABC)	ridges (4AC)
reason (3AD)	remember (2DE)	ridiculous (5DE)
recently (5BCD)	remote (6DE)	rifle (5BD)
recess (3AC) (5BD)	repair (3AE) (4CD)	rising (4ABD)
recipe (6CD)	replied (3ACDE)	river (2ABE)
recite (4AE)	report (4BC)	rocket (1CE)
reckon (5AD)	represent (6BD)	roebuck (5AB)

TABLE 4--Continued

romantic (6CE)
rooster (3ACD)
rotates (6CE)
rotor (4AB)
rotten (3BC)
royalty (5CE)
rumpled (6BD)
running (1ACD)
rustle (4AB)
rustlers (4BC)
saddle (3AB)
safety (3BD)
salad (4AD)
salary (4AC)
salmon (5AB)
salute (3ACE)
salvaged (6BE)
samples (6CD)
sapling (5BE)
satisfaction (6CD)
satisfied (5BCD)
saucer (3BE)
sausage (4BC)
savage (4AB)
scampered (3BD)
scantily (5CE)
scarcely (3AE)
scarlet (5ABD)
scary (3AE)
scattered (3DE) (4AB)
schedule (5BE)
schooner (5AB)
scientific (6BD)
scolded (3AD)
scrambled (4BD)
seasons (3BD)
second (2ACDE)
secret (2BCE)
securely (5ACD)
seedlings (6AB)
selfish (3DE)
senator (6AB)
senior (5AC)
sentries (6CDE)
series (6BC)
serious (3CDE)
servant (2AC)
service (5BD)
settlers (4AB)
seven (1BD) (2CE)
seventeen (3CE)
seventh (4AB)
several (3ABCDE)
severe (6ACE)
sewing (3ACE)
shadow (3BDE)
shaggy (5AD)
shallow (4BCDE)
shattered (5DE)
sheriff (5BCD)
shimmering (5BD)
shiny (2BE)
shivered (4AB)
shoulder (3AC)
shoulders (3BDE)
shouted (2AB)
shovel (2AC)
shuddered (5AE)
shuffling (3AE)
signal (3ABD)
silence (4BD)
silently (3AE)
silly (2ACDE)

TABLE 4--Continued

silver (2AB) (3CD)
similes (6BC)
simple (3CDE)
simply (3AC)
single (3AD) (4BC)
sister (1AE) (3BCD)
situation (6BD)
sixteen (3ACD)
skipper (4CD)
slender (4BC)
slightly (5CD)
slimy (6BE)
slowly (2ADE)
smoldering (6AD)
snooping (6BD)
snowplow (3AB)
society (4AC)
soldiers (3DE)
solemn (3CE)
solemnly (5DE)
solid (4AC) (5BD)
solo (5AC)
something (1ACDE)
sorry (2AC) (3BDE)
sourdough (5BD)
sparkling (3BE)
special (3ABDE)
specimen (6CD)
spectacular (6BD)
speculated (6CD)
speculators (5AE)
spider (3BE)
spirit (5BD)
splendid (5BD)
splitting (4AD)
sprawling (6BD)
squirrel (1AB)
stables (4AB)
stampede (5AD)
standing (2BD)
starboard (5AD)
started (2ABE)
startled (4BD)
starvation (6BC)
station (2ABCD)
steadily (4AC)
steady (4BD)
stealing (3CDE)
stockings (3CD)
stolen (3DE)
stomach (3ACE) (4BD)
stories (2BDE)
story (1ABCE)
stranded (5BD)
strenuous (5BC)
stricken (5AE)
strolling (5ABC)
struggled (4AB)
stubble (6BD)
stubborn (3AC)
student (4CE)
study (4BC)
stumbled (4BD)
stupid (3ABCD)
submerged (6AD)
succeeded (4ABD)
success (3DE) (4AC)
successful (4BE)
suddenly (2ACE) (3BD)
sugar (2DE) (3AB)

TABLE 4--Continued

suggested (3CD)
sulphur (5DE)
summer (2ABDE)
summon (5AB)
superstition (6BC)
supper (2BE)
supplies (4ABE)
suppose (2BE) (3AD)
surface (3ABE)
surgeon (6AD)
surging (6BD)
surprise (1AC) (2DE)
surrender (6CD)
surrounded (3AC)
suspected (4AC)
suspension (6BD)
suspicious (5AD)
swirling (5BD)
sympathy (6BD)
table (2BCDE)
tablet (6BD)
taken (2DE)
talent (6BC)
talking (1CE) (2ABD)
tapering (6AD)
tawny (5DE)
teacher (2ADE)
technical (6AB)
technicians (6AC)
techniques (5CE)
tedious (6DE)
telegraph (5BD)
telephone (2ACDE)
television (3ADE)
temperature (4CD)
tempted (6BC)
tender (3AB)
tendrils (5BD)
tentacles (6BE)
terrible (4BD)
terrier (4BD)
territory (5BDE)
terror (4DE)
tested (4AB)
thankful (2AE)
therefore (4BCD)
thinner (3AB)
thirteen (4CD)
thoroughbred (5AB)
thousand (3AB) (4CD)
tickets (3DE)
tiger (4AD)
tiny (2AB) (3CE)
together (1CE) (2ABD)
tomatoes (4BD)
tomorrow (1ABD) (2CE)
topic (4AD)
tornado (5CD) (6AB)
touching (3AE)
tourist (5CD)
tournament (6CE)
traffic (2AD)
transfer (4DE)
transparent (6ACDE)
travel (3DE)
treacherous (6BD)
treason (6CE)
treasure (3CE)
tremendous (5CE) (6BD)
triggered (6BC)
trillion (6CE)
triumph (5BD)

TABLE 4--Continued

tropical (4BDE)

trotted (2BD) (3AE)

trouble (2ACDE)

trousers (4AB)

tundra (5AD)

turban (6AB)

turbulent (6DE)

turnip (3BE)

turnpike (5CD)

turtle (1BC)

twenty (3ACD)

twilight (5BD)

twinkle (4AD)

twisted (3CE)

tyranny (5AE)

ugly (3AD)

umpire (5BE)

under (1AC) (2BDE)

underneath (5CD) (6AB)

unhappy (2ADE)

uniform (3AE)

unit (4AB)

universe (5BD)

unless (4BC)

until (2ABDE)

updraft (6BD)

usual (3DE)

vacation (3DE) (4AB)

valiant (6CD)

valley (3ABCE)

valuable (4AD)

various (5AB) (6CD)

vegetable (3AE)

vegetables (3BCD)

vegetation (6BE)

velvet (4BC)

verify (6BC)

vertical (6CD)

very (1ACDE)

village (3ABCD)

vinegar (3BC) (5AD)

violently (6AD)

violin (5AB)

visions (5AD)

visit (3ACD)

vital (5AE)

vivid (6BC)

volcano (6CD)

voyage (5ABD)

vulgar (6AD)

waddled (4AD)

wagging (2CD)

wagon (1ABD) (2CE)

waited (2AB)

walnut (6AD)

wander (3DE)

wanted (1BCDE)

warrior (3ACE)

water (1ACD)

wealthy (6AC)

weary (4AB)

weather (1CE)

weaving (4AC)

weeping (3AC)

welcome (3BCE)

whether (3AD)

whining (5CD)

whispered (2CDE)

whistle (3BC)

whittling (5DE)

whooping (5CD)

wiggled (3ACD)

TABLE 4--Continued

wilderness (4ABC)

willingly (3AE)

willows (4BC)

window (1AB)
(2CD)

winter (2ABDE)

wizard (4BE)

wobbling (4BD)

woman (2DE)

women (3ABDE)

wonderful (2AE)

wondrous (6BCD)

worried (3AB)

worry (3ACD)

wrinkled (3DE)

written (3AE)

yellow (1ABCDE)

yesterday (4ABD)

yonder (5BD)

zebra (4AB)

zero (4AC)

APPENDIX G

RECORDING FORM USED

FORM FOR RECORDING INFORMATION ON EACH WORD
IN THE COMPOSITE VOCABULARY

curiosity

kū ri·os ĭ·tĭ

Grd.	1	2	3	4	5	6				
Ser. A			✓							
B				✓						
C			✓							
D					✓					
E				✓						

Gen.	1	2	3	4	5	6	7	8	9	10
N. A.			✓	✓	✓		✓		✓	✓
P. I.	3	1				1		1		
I. C.	2	1				1		1		
I.N.C.	1									

KEY TO THE ABBREVIATIONS USED ON THE ABOVE FORM:

Grd. Grades (1 through 6)

Ser. Series of Basal Readers
- A. Allyn and Bacon, Sheldon Basic Reading Series
- B. Ginn Basic Reading Program
- C. Harper & Row Basic Reading Program
- D. Houghton Mifflin Reading for Meaning Program
- E. Macmillan Reading Program

Gen. Generalizations (1-10)

N.A. Generalization not applicable to word

P.I. Possible incident (word has the indicated letter arrangement stated in the generalization)

I.C. Incidents conforming

I.N.C. Incidents not conforming

APPENDIX H

SUMMARY TABLES OF APPLICABILITY OF GENERALIZATIONS

TABLE 5

SUMMARY OF APPLICABILITY OF STRUCTURAL ANALYSIS GENERALIZATIONS BY GRADES

Generalizations	Grade Level	Total "New Words" of All Series	Number of Possible Incidents	Number of Incident Conformations	Number of Incident Exceptions	Per Cent of Applicability
1. A single consonant usually goes with the vowel which follows when that consonant appears between two vowels.	1	92	48	31	17	65
	2	173	101	62	39	61
	3	402	285	170	115	60
	4	289	244	153	91	63
	5	305	288	175	113	61
	6	308	297	192	105	65
2. A single consonant appearing between two vowels usually goes with the preceding vowel if that vowel is short and within an accented syllable.	1	92	17	17	0	100
	2	173	27	27	0	100
	3	402	72	72	0	100
	4	289	59	58	1	100
	5	305	75	75	0	100
	6	308	70	70	0	100
3. No syllabic division should be made between consonants that constitute a consonant blend or consonant digraph.	1	92	43	41	2	95
	2	173	79	75	4	95
	3	402	213	193	20	91

TABLE 5--Continued

Generalizations	Grade Level	Total "New Words" of All Series	Number of Possible Incidents	Number of Incident Conformations	Number of Incident Exceptions	Per Cent of Applicability
	4	289	170	160	10	94
	5	305	189	176	13	93
	6	308	179	165	14	92
4. The syllabic division of two consonants, which are neither blend nor digraph, and which appear between two vowels, usually comes between the two consonants.	1	92	33	31	2	94
	2	173	72	70	2	97
	3	402	179	170	9	95
	4	289	129	120	9	93
	5	305	141	135	6	96
	6	308	153	150	3	98
5. Prefixes usually form separate syllables.	1	92	12	12	0	100
	2	173	19	19	0	100
	3	402	65	65	0	100
	4	289	60	60	0	100
	5	305	68	68	0	100
	6	308	65	65	0	100

TABLE 5--Continued

Generalizations	Grade Level	Total "New Words" of All Series	Number of Possible Incidents	Number of Incident Conformations	Number of Incident Exceptions	Per Cent of Applicability
6. Suffixes usually form separate syllables.	1	92	22	18	4	82
	2	173	66	45	21	68
	3	402	207	132	75	64
	4	289	164	99	65	60
	5	305	180	102	78	57
	6	308	182	103	79	57
7. The suffix -ed, if immediately preceded by the letter d or t, forms a separate syllable. The suffix -ed combines with other letters to form one syllable if not preceded by d or t.	1	92	1	1	0	100
	2	173	14	14	0	100
	3	402	47	47	0	100
	4	289	37	37	0	100
	5	305	39	39	0	100
	6	308	38	38	0	100
8. A syllable may consist of a single vowel.	1	92	20	20	0	100
	2	173	27	27	0	100
	3	402	58	58	0	100

TABLE 5--Continued

Generalizations	Grade Level	Total "New Words" of All Series	Number of Possible Incidents	Number of Incident Conformations	Number of Incident Exceptions	Per Cent of Applicability
	4	289	52	52	0	100
	5	305	55	55	0	100
	6	308	82	82	0	100
9. A word ending in le, when the le is preceded by a consonant, forms a final syllable with that consonant and the le. (Note: le stands alone as the final syllable when preceded by ck.)	1	92	3	3	0	100
	2	173	10	10	0	100
	3	402	18	18	0	100
	4	289	8	8	0	100
	5	305	5	5	0	100
	6	308	14	13	1	93
10. A syllabic division is made between words which form a compound.	1	92	10	10	0	100
	2	173	5	5	0	100
	3	402	7	7	0	100
	4	289	6	6	0	100
	5	305	4	4	0	100
	6	308	2	2	0	100

TABLE 6

SUMMARY OF APPLICABILITY OF STRUCTURAL ANALYSIS GENERALIZATIONS--
BY PRIMARY, BY INTERMEDIATE, AND BY PRIMARY-INTERMEDIATE GRADES

Generalizations	Grade Level	Total "New Words" of All Series	Number of Possible Incidents	Number of Incident Conformations	Number of Incident Exceptions	Per Cent of Applicability
1. A single consonant usually goes with the vowel which follows when that consonant appears between two vowels.	1-3	667	434	263	171	61
	4-6	902	829	520	309	63
	1-6	1,569	1,263	783	480	62
2. A single consonant appearing between two vowels usually goes with the preceding vowel if that vowel is short and within an accented syllable.	1-3	667	116	116	0	100
	4-6	902	204	203	1	100
	1-6	1,569	320	319	1	100
3. No syllabic division should be made between consonants that constitute a consonant blend or consonant digraph.	1-3	667	335	309	26	92
	4-6	902	538	501	37	93
	1-6	1,569	873	810	63	93
4. The syllabic division of two consonants, which are neither blend nor digraph, and which appear between two vowels, usually comes between the two consonants.	1-3	667	284	271	13	95
	4-6	902	423	405	18	96
	1-6	1,569	707	676	31	96

TABLE 6--Continued

Generalizations	Grade Level	Total "New Words" of All Series	Number of Possible Incidents	Number of Incident Conformations	Number of Incident Exceptions	Per Cent of Applicability
5. Prefixes usually form separate syllables.	1-3	667	96	96	0	100
	4-6	902	193	193	0	100
	1-6	1,569	289	289	0	100
6. Suffixes usually form separate syllables.	1-3	667	295	195	100	66
	4-6	902	526	304	222	58
	1-6	1,569	821	499	322	61
7. The suffix -ed, if immediately preceded by the letter d or t, forms a separate syllable. The suffix -ed combines with other letters to form one syllable if not preceded by d or t.	1-3	667	62	62	0	100
	4-6	902	114	114	0	100
	1-6	1,569	176	176	0	100
8. A syllable may consist of a single vowel.	1-3	667	105	105	0	100
	4-6	902	189	189	0	100
	1-6	1,569	294	294	0	100

TABLE 6--Continued

Generalizations	Grade Level	Total "New Words" of All Series	Number of Possible Incidents	Number of Incident Conformations	Number of Incident Exceptions	Per Cent of Applicability
9. A word ending in le, when the le is preceded by a consonant, forms a final syllable with that consonant and the le. (Note: le stands alone as the final syllable when preceded by ck.)	1-3	667	31	31	0	100
	4-6	902	27	26	1	96
	1-6	1,569	58	57	1	98
10. A syllable division is made between words which form a compound.	1-3	667	22	22	0	100
	4-6	902	12	12	0	100
	1-6	1,569	34	34	0	100

TABLE 7

TOTAL CONFORMATIONS FOR ALL GENERALIZATIONS BY GRADES AND BY GENERALIZATIONS

Generalizations	Grades													
	1		2		3		4		5		6		T	
	I.C.		I.C.		I.C.		I.C.		I.C.		I.C.		I.C.	
1	31	(65%)	62	(61%)	170	(60%)	153	(63%)	175	(61%)	192	(65%)	783	(62%)
2	17	(100%)	27	(100%)	72	(100%)	58	(100%)	75	(100%)	70	(100%)	319	(100%)
3	41	(95%)	75	(95%)	193	(91%)	160	(94%)	176	(93%)	165	(92%)	810	(93%)
4	31	(94%)	70	(97%)	170	(95%)	120	(93%)	135	(96%)	150	(98%)	676	(96%)
5	12	(100%)	19	(100%)	65	(100%)	60	(100%)	68	(100%)	65	(100%)	289	(100%)
6	18	(82%)	45	(68%)	132	(64%)	99	(60%)	102	(57%)	103	(57%)	499	(61%)
7	1	(100%)	14	(100%)	47	(100%)	37	(100%)	39	(100%)	38	(100%)	176	(100%)
8	20	(100%)	27	(100%)	58	(100%)	52	(100%)	55	(100%)	82	(100%)	294	(100%)
9	3	(100%)	10	(100%)	18	(100%)	8	(100%)	5	(100%)	13	(93%)	57	(98%)
10	10	(100%)	5	(100%)	7	(100%)	6	(100%)	4	(100%)	2	(100%)	34	(100%)
(1-10)	184	(88%)	354	(84%)	932	(81%)	753	(81%)	834	(80%)	880	(81%)	3937	(81%)

I.C. means Incidents of Conformity.

APPENDIX I

CORRESPONDENCE

1707 Coventry Lane
Oklahoma City, Okla. 73120
June 21, 1972

Dr. Theodore W. Clymer
Professor, College of Education
University of Minnesota
Minneapolis 14, Minn.

Dear Dr. Clymer:

I am interested in doing a research study to determine the applicability of selected structural analysis generalizations to instructional reading vocabularies. This study will be under the direction of Dr. Mary Clare Petty, Department of Education, University of Oklahoma, and will be presented in partial fulfillment of requirements for the Ed.D. degree.

As you are aware, a series of studies, relating to the utility of phonic generalizations in the vocabularies of various subject matter areas, has been done at the University of Oklahoma. The researchers of these studies have employed and found very significant the basic procedures as described in your original study, "The Utility of Phonic Generalizations in the Primary Grades." I see great possibility for extending your method to the examination of the applicability of structural analysis generalizations.

I would like your permission to adapt the very excellent techniques of your study and to perhaps quote certain applicable statements. All quoted statements would be properly documented. I am aware that to quote from your published article I must secure permission from the International Reading Association.

Your cooperation will be very much appreciated. Enclosed is a self-addressed, stamped envelope to facilitate your reply.

Sincerely,

Ruby P. Wood

UNIVERSITY OF MINNESOTA
Division of Elementary Education
Minneapolis, Minnesota 55455

Please reply to:
4312 Via Glorieta
Hope Ranch
Santa Barbara, California 93110

June 30, 1972

Ms. Ruby P. Wood
1707 Coventry Lane
Oklahoma City, Oklahoma 73120

Dear Ms. Wood:

I am pleased to grant you permission to adapt the techniques of my study on "The Utility of Phonic Generalizations in the Primary Grades" and to perhaps quote applicable statements from my study for your research work at the University of Oklahoma. You are correct in assuming that quotations from my article must be cleared through the International Reading Association. I am sure that you will have no difficulty in securing this permission.

Good luck to you in what I know will be a difficult, but exciting and rewarding task.

With all good wishes.

Cordially,

Theodore Clymer
Professor, Elementary Education
Educational Psychology

TC:djf

cc: Dr. Mary Clare Petty
Department of Education
University of Oklahoma
Oklahoma City, Oklahoma

CC: Dr. Ralph Staiger
International Reading Association
Six Tyre Avenue
Newark, Delaware 19711

INTERNATIONAL READING ASSOCIATION
Six Tyre Avenue
Newark, Delaware 19711

August 14, 1972

Ms. Ruby P. Wood
1707 Coventry Lane
Oklahoma City, Oklahoma 73120

Dear Ms. Wood:

IRA grants you permission to adapt the article by Theodore Clymer, "The Utility of Phonic Generalizations in the Primary Grades," for your research work at the University of Oklahoma.

If I can be of any further help, please let me know.

Sincerely,

Mrs. Linda Foote
Permissions

1707 Coventry Lane
Oklahoma City, Okla. 73120
June 21, 1972

Dr. Robert L. Curry
College of Education
University of Oklahoma
Norman, Oklahoma 73069

Dear Dr. Curry:

This letter is a follow-up of our oral discussions relating to my use of the set of structural analysis generalizations developed by you and Dr. Toby W. Rigby, and included in your co-authored publication, Reading Independence Through Word Analysis. I should like to extend the courtesy of asking your formal approval of my testing the applicability of these ten generalizations in my doctoral dissertation study entitled, "The Applicability of Selected Structural Analysis Generalizations to Instructional Reading Vocabularies."

I should also like to express my sincere appreciation for your interest and very capable assistance in this study thus far.

For inclusion in the written report of this research I would appreciate a brief letter giving your permission to utilize this set of generalizations in my dissertation study. Enclosed is a self-addressed, stamped envelope to facilitate your reply.

Sincerely,

Ruby P. Wood

THE UNIVERSITY OF OKLAHOMA
820 Van Vleet Oval
Norman, Oklahoma 73069

College of Education

July 27, 1972

Mrs. Ruby P. Wood
1707 Coventry Lane
Oklahoma City, Okla.

Dear Mrs. Wood:

Permission is granted for you to utilize the structural analysis generalizations included in Reading Independence Through Word Analysis in your dissertation study.

Sincerely,

Robert L. Curry
Professor of Education