

A COMPARATIVE ANALYSIS OF THE VOCABULARIES OF
ARIZONA FIRST GRADE PRE-PRIMERS AND PRIMERS

by

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Chapter

Page

Procedure..... 44
Terms..... 46
Method..... 45
List of Total Vocabulary..... 47
Analysis of Total Vocabulary..... 48
Words with Total Frequency of Use..... 49

TABLE OF CONTENTS

Chapter		Page
I.	INTRODUCTION.....	1
	Reading in General.....	1
	Reading in the First Year.....	2
	Readers in the First Grade of Arizona Schools.....	4
	Statement of the Problem.....	5
	Importance of the Problem.....	6
	Limitations of the Study.....	11
II.	PREVIOUS READING VOCABULARY INVESTIGATIONS	13
	Vocabulary Investigations on What Words are Important.....	14
	Horn.....	14
	Spoken Vocabulary Lists.....	15
	Thorndike.....	16
	Gates.....	17
	Buckingham and Dolch.....	18
	Kyte.....	20
	Vocabulary Investigations Involving Readers.....	21
	Pre-primers.....	22
	Primers.....	27
	First Readers.....	34
	Readers Beyond First Grade.....	36
	Summary.....	40
III.	ANALYSIS OF WORDS IN ARIZONA PRE-PRIMERS AND PRIMERS.....	42
	Publications Used in This Vocabulary Analysis.....	42
	Reading Texts.....	42
	Vocabulary Lists.....	42

Procedure.....	44
Terms Used.....	44
Method of Procedure.....	45
List of Total Vocabulary.....	47
Analysis of Total Vocabulary.....	72
Words with Total Frequency of One.....	72
Words Common to All Pre-primers and Primers.....	72
Summary of Varied Repetition of Words in Texts.....	73
Average Number of Running Words and New Words per Page.....	76
Number of Words Common to Any Two Texts.....	78
Words Common to Just One Text.....	81
Vocabulary of Texts Not in Primer Level of Standard Word Lists.....	82
 IV. A MASTERY READING VOCABULARY FOR ARIZONA PUPILS IN THE FIRST HALF OF THE FIRST GRADE.....	 87
Importance of a Mastery Vocabulary.....	87
Deciding on Criteria to Judge the Mastery Vocabulary.....	89
Total Frequency of a Word.....	90
Number of Readers and Word Lists in Which a Word Appeared.....	92
Mastery Vocabulary for Arizona Pre- primers and Primers.....	95
Evaluation of the Mastery Vocabulary....	96
Length of List.....	96
Range in Number of Books and Fre- quencies of List.....	99
Appearance of Words in Standard Word Lists.....	100
 V. CHOOSING THE SEQUENCE OF ARIZONA PRE- PRIMERS AND PRIMERS.....	 104
Two Methods Advocated.....	105

Chapter	Page
Evaluating and Ranking the Texts.....	108
Word Occurrence in the Vocabularies of Texts.....	108
Agreement of Vocabularies of Texts with Standard Lists.....	110
Overlapping Among the Texts.....	110
A Suggested Sequence of Use of Arizona Pre-primers and Primers.....	115
 VI. CONCLUSIONS AND RECOMMENDATIONS.....	 120
The Mastery Vocabulary.....	120
Sequence of Readers.....	121
Vocabulary Facts Implied by the Study..	122
Recommendations.....	124
 BIBLIOGRAPHY.....	 127
 APPENDIX.....	 136

TABLES

Number	Page
I. PRE-PRIMERS AND PRIMERS USED IN ARIZONA INCLUDING PUBLISHERS AND AUTHORS.....	43
II. TOTAL VOCABULARY OF ARIZONA PRE-PRIMERS AND PRIMERS SHOWING FREQUENCY AND RANGE IN TEXTS AND APPEARANCE IN WORD LISTS.....	48
III. SUMMARY OF REPETITION OF WORDS USED IN ARIZONA PRE-PRIMERS AND PRIMERS.....	74
IV. AVERAGE NUMBER OF RUNNING WORDS AND NEW WORDS INTRODUCED ON EACH PAGE OF ARIZONA PRE-PRIMERS AND PRIMERS.....	77
V. NUMBER OF WORDS COMMON TO ANY TWO OF FOUR PRE-PRIMERS AND SEVEN PRIMERS USED IN ARIZONA.....	79
VI. NUMBER OF WORDS IN EACH OF FOUR PRE-PRIMERS AND SEVEN PRIMERS WHICH DO NOT APPEAR IN ANY OF THE OTHER ELEVEN TEXTS.	83
VII. VOCABULARY OF ARIZONA PRE-PRIMERS AND PRIMERS NOT INCLUDED IN THE PRIMER LEVEL OF STANDARD WORD LISTS.....	85
VIII. RANGE IN NUMBER OF BOOKS AND FREQUENCIES OF THE 248 WORDS IN THE MASTERY VOCABULARY FOR ARIZONA PRE-PRIMERS AND PRIMERS.....	101
IX. RANK OF TEXTS ON THE BASIS OF ITEMS OF WORD OCCURRENCE IN TEXTS.....	109
X. RANK OF TEXTS ON THE BASIS OF VOCABULARY NOT APPEARING AT PRIMER LEVEL OF STANDARD WORD LISTS.....	111

Number	Page
XI. AVERAGE NUMBER OF WORDS IN COMMON IN EACH PRE-PRIMER WITH THE OTHER THREE PRE-PRIMERS.....	113
XII. AVERAGE NUMBER OF WORDS IN COMMON IN EACH PRIMER WITH THE OTHER SIX PRIMERS.....	114
XIII. RANK OF PRE-PRIMERS ON THE BASIS OF VOCABULARY COMMON TO BASIC PRE-PRIMER AND OTHER PRE-PRIMER.....	116
XIV. RANK OF PRIMERS ON THE BASIS OF VOCABULARY COMMON TO BASIC PRIMER AND OTHER PRIMERS.....	117
XV. FINAL RANK OF MERIT OF PRE-PRIMERS AND PRIMERS BASED ON MANNER OF WORD OCCURRENCE, APPEARANCE IN STANDARD LISTS, AND AMOUNT OF OVERLAPPING OF VOCABULARIES.....	118

CHAPTER I

INTRODUCTION

Reading in General

Through reading man has the past linked with the present and future. Through it he explores strange places, challenging mysteries, and varied experiences that raise his feelings and ideals to new heights. Take away the knowledge of reading and the door to the past is locked. Great literature, revolutionizing discoveries, and important events of history are meaningless and forgotten.

Besides giving us appreciation for places and events outside our daily lives, reading enriches and makes more practical our present living. Without reading written agreements and records which protect man's rights are useless. Desirable reading habits aid us in learning to adjust ourselves to the social, economic, and political demands of contemporary life. In a democracy reading helps us to produce an informed citizenry capable of thinking critically about current problems. This will be especially important in the reconstruction period of our post-war world. It is important, too, that the lessons we learn today be passed to future generations through reading.

In school, reading is probably the most important tool subject in the curriculum because it is the basis for understanding so many other experiences in school. The work-type reading is used in subjects such as geography, history, science, and so forth, and these subjects are dependent on reading as a source of information and clarification. Reading activities lend themselves to group activities that promote cooperation and social adjustments. Reading becomes a form of personal recreation and pleasure when a child finds out that through it he can satisfy valuable curiosities and his love for adventure.

Officers who plan and build highways over newly conquered territories must thoroughly understand their territory, men, and materials in order to link the new base of operations with former ones. Also, the teacher who is going to open the new road between pre-school experiences and reading experiences for the six-year-old coming to school for the first time must have a thorough understanding of her teaching situation, her children, and reading materials.

Reading in the First Year

Because a child in his first year begins habits and attitudes in reading often to be perpetuated through life, it is of fundamental importance that the teacher give much

thought to beginning reading. Gates suggests that¹ guidance is urgently needed in the first grade. The initial stages of reading should be planned carefully instead of considering the first year just as an experimental period in which the child orients himself by trial and error methods. Later reading difficulties often have their origin in this period, and later attitudes toward reading will often depend on the instructional technique used in the first grade. In learning to read the child is confronted with learning new skills for the first time and, in addition to this, he has the social adjustment to make of leaving home for the day to be at school. It is no wonder that more children fail in the first grade than in any other grade, and nearly all failures are due to reading.² In another investigation Dr. Mary Reed shows that 18.5 per cent, or one out of every six first grade children, failed at the end of their first semester in the first grade and that 12.6 per cent, or one out of every eight, failed at the end of their second semester in the first grade.³

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1. Gates, Arthur I. "Problems in Beginning Reading Suggested by an Analysis of Twenty-one Courses." Teachers College Record; 26:572, (March, 1925.)
 2. Caswell, Hollis L. "Non-Promotion in Elementary Schools." Elementary School Journal; 33:644-647, (May, 1933.)
 3. Reed, Mary M. "An Investigation of Practices in First Grade Admission and Promotion." Teachers College, Columbia University, Contributions to Education, No. 290, p. 114.

Knowing the problems of the child in beginning to read, a teacher realizes that she must thoroughly understand both the child who is going to learn and how and what to present to this child. Presuming that the teacher preparing to teach first grade reading is well trained and understands children's personalities and modern teacher techniques, the task left to consider is that of what readers will be used. Since it is in the first half of the first grade that the child makes his initial adjustments to the complicated process of reading, this is the place where one should evaluate the readers first. It is important to have your reading material well organized before you introduce it to the pupils.

Readers in the First Grade of Arizona Schools

The State Department of Public Instruction furnishes the Arizona public schools with eighteen readers for the first grade. There are four pre-primers, seven primers, and seven first readers. These have been chosen carefully and are a well-balanced variety so the Arizona first grade teacher does not have to go to the effort of ordering readers. However, there remains the problem of how to use these readers effectively. This paper will deal with the task of evaluating the contents of Arizona readers for the first half of the first year.

The undertaking of organizing the Arizona pre-primers and primers so as to introduce them most efficiently brings up two important questions. Using the Arizona pre-primers and primers as a basis, what are the words that should be used as a core or mastery vocabulary for drill? On the basis of vocabularies, what would be a good sequence in which to read the eleven Arizona pre-primers and primers?

In order to answer these questions it was decided to count the words appearing in these books. By carefully evaluating the tabulation of this count, important conclusions can be drawn to answer the above questions. The results of this count can be weighed profitably against other such investigations dealing with readers and against investigations including valuable word lists. In the next chapter a summary will be made of these important studies.

Statement of the Problem

The purpose of the investigation reported in this paper was to study the vocabularies of our present Arizona first grade pre-primers and primers in order to answer the following questions:

1. What are the important words that should be included in the mastery vocabulary of an Arizona first-grade pupil in the first half year?

2. On the basis of the vocabularies, what is the best sequence in which to present the Arizona pre-primers and primers to a first-grade pupil?

In the study of the vocabularies of the pre-primers and primers the frequency of occurrence of the words in each text was determined. On the basis of this count, there is presented a comparison of the vocabularies of the texts with one another and also with accepted word lists.

Importance of the Problem

It is well to consider some of the reasons why vocabulary studies are important in the first grade. First of all, why not just use the word lists at the back of the books for drill and not worry over a core vocabulary common to all of them? Experienced teachers know that only the brightest children learn many of the different words in the texts, and the average or dull pupils have difficulty learning a smaller number of them. If a child learns only a small number of words in a reader and then these are not words common to the next reader, he is forced in his new book to put his attention on the mechanics of word recognition rather than the interpretation of meaning. Thus, his reading becomes halting and slow, and he gets little pleasure for the effort expended. Naturally he becomes discouraged and frustrated. This situation can be remedied by seeing that the child knows

enough core words to progress with confidence in a new reader so that he can derive pleasure and satisfaction from his effort. If a teacher has a core vocabulary of words the first grade child should know, she can even make use of these in the reading readiness period so that the child can even pick up his first pre-primer with eagerness because he recognizes most of the words.

Only in the last two decades have educators begun taking a vital interest in vocabulary lists in connection with readers, although as early as 1915 Jones said:⁴

"In devising a standard test for primary reading one of the first tasks is the determination of a standard vocabulary. There are two possible ways of determining such a standard vocabulary and it appears that both ought to be used. In the first place, the vocabulary should be one that is fundamental to childhood itself; it should be composed of the words most commonly used by children of the primary grades. On the other hand, families and the mastery of one word of a family provides a key for unlocking the mysteries of all the other words of that phonetic family."

In 1919 the Textbook Commission of the State of Oregon⁵ decided that in order to better understand their adoptions of texts they would conduct a study to determine the minimum vocabulary of third grade children.

4. Jones, Robinson. Standard Vocabulary, p. 37.

5. Gregory, C.A. "The Reading Vocabulary of Third Grade Children." Journal of Educational Research; 7:127-131, (February, 1923.)

In 1923 Brown reported a vocabulary study of the Winston basal texts because some teachers were objecting to the vocabulary of the texts as being too large for the children to learn.⁶ From then on many more interesting studies have been made in the field of vocabularies of readers, and these will be reviewed in more detail in the next chapter. One of the latest core vocabularies for primary work was made by an investigation of Kyte, and includes one hundred common words usable by primary grade teachers in all phases of their work involving words.⁷

Just as there has been increased interest in minimum vocabulary lists the last two decades, there has been also more interest in the vocabulary burden of readers. In 1937 Hockett and Neeley compared the vocabularies of readers published in 1920-1929 to those of readers published in 1930-1935, and found several marked changes.⁸ The most significant change was a reduction of the vocabulary load

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6. Brown, M. Ethel. "A Mastery Vocabulary in Primary Reading." Second Yearbook, Department of Elementary School Principals of the N.E.A., pp. 296-306.
7. Kyte, George C. "A Core Vocabulary for the Primary Grades." Elementary School Journal; 44:157-166, (November, 1943.)
8. Hockett, John A. and Neeley, N. Glen. "The Vocabularies of Twenty-eight First Readers." Elementary School Journal; 37:344-352, (January, 1937.)

by 16 per cent. On the average each word was repeated three more times. The percentage of words in the first five hundred of the Gates list showed an increase of 5.4.

This trend toward a low vocabulary with more repetition is supported by such investigators as Courtier,⁹ Hockett and Neeley,¹⁰ Hildreth,¹¹ and a number of well-known¹² investigators; but Stone and Thorndike¹³ warn that these lists must not be used blindly. They are to be thought of as minimum vocabularies to be supplemented by more variety for more capable children.

This consideration of the vocabulary burden of readers leads to the question of what sequence to use in presenting the texts depending on the overlapping of their vocabularies. From the publishers one can find out for the individual books the total word count, the average amount of repetition, and the average number of new words

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9. Courtier, Audrey March. "Criteria for the Selection of Primers." Elementary English Review; 16:271-278, (November, 1939.)
 10. Hockett, John A. and Neeley, Deta P. "A Comparison of the Vocabularies of Thirty-three Primers." Elementary School Journal; 37:190-202, (November, 1936.)
 11. Hildreth, Gertrude. "All In Favor of a Low Vocabulary." Elementary School Journal; 43:462-470, (April, 1943.)
 12. Stone, Clarence R. "A Reply to 'All in Favor of a Low Vocabulary'." Elementary School Journal; 44:41-44, (September, 1943.)
 13. Thorndike, Edward Lee. "The Value of Word Counts." Elementary English Review; 17:60-62, (February, 1940.)

per page; but one cannot secure data on whether the vocabularies of given books are identical or very different, nor can one find data regarding the extent to which books may supplement each other. Once in a while publishers put out a supplementary book to follow another book in a series, and then one can tell more how their vocabularies compare.

From the foregoing paragraphs one can see the importance of vocabulary lists and sequence of readers on the basis of vocabularies. They are pertinent questions in elementary education today.

In Arizona we have four pre-primers and seven primers for use in the first grade, but we have no information on a core vocabulary for these texts or any scientific basis for comparison of their vocabularies to determine their sequence of use. The Arizona Course of Study on Reading suggests that the teachers familiarize themselves with "those words which are known to occur most frequently in the early reading that the child is most likely to do."¹⁴ There are excellent references to vocabulary lists, but the average teacher does not have the time to check these carefully for the best results in the Arizona reading program.

14. Payne, I.D., Chairman. "Reading." Bulletin Number Eight of Course of Study for Elementary Schools of Arizona, p. 11.

On page 27 of the same course of study in discussing the minimum achievements of the initial period of reading instruction it is stated that the children should "have a vocabulary of sight words that is practical help in beginning primer reading - from 70 to 100 words." But what two teachers will judge the same words to be a practical help? It is with a hope that these busy teachers may have an available source at hand to solve these problems that this study has been made.

Limitations of the Study

There are other aspects of the vocabulary problem in the lower first grade that are not taken up here, but perhaps this investigation may be of some assistance with these. For instance, the Arizona Course of Study tells us that in 1930 34.6 per cent of our school population was Mexican.¹⁵ These children have a foreign language handicap in the first grade. However, the minimum core vocabulary should serve as a good basis for the language drill preparation.

The readiness program before the use of pre-primers and primers is very important; and, although that phase

15. Larson, Emil L., Director. Bulletin Number One of the Course of Study for Elementary Schools of Arizona, p. 16.

is not dealt with directly in this paper, the core vocabulary will be useful to guide the word choice in reading readiness activities.

The present study does not differentiate between the different meanings of words such as can (to be able) and can (made of tin). The teacher, it is hoped, will easily pick out these words and handle their different meanings according to her own ingenuity. A vocabulary of 50 words may be a meaning vocabulary of just 50 words for some children, whereas it may be a meaning vocabulary of 200 or 300 words to others who know more than one meaning for a word.

CHAPTER II

PREVIOUS READING VOCABULARY INVESTIGATIONS

A quarter of a century ago very little was known about the vocabulary of available reading materials. However, research workers at that time began to sense the importance of controlled vocabulary in accomplishing good results in the teaching of reading, and soon began to make word lists by doing research in the field of vocabulary. Since that time a number of interesting and influential vocabulary investigations have been reported. Some of the most important of these investigations will be reviewed in this chapter.

After carefully evaluating the studies of previous investigators on the problem of reading vocabularies, it was evident that the main questions about which they sought answers are included under the following two headings:

- I. What sources of word lists are used in the construction of the vocabularies of readers?
 - A. What words are most important in the spoken vocabulary of young children?
 - B. What words are most important in written materials?
 - C. What words are most important for children to learn as a permanent vocabulary useful in adult life?

- II. By comparing the vocabularies of readers, what important implications in reading are discovered?
- A. How many running words are introduced in a book?
 - B. How many different words are introduced in a book?
 - C. What is the frequency of word repetition in a book?
 - D. What is the number of words common to different books?
 - E. Can essential word lists result from the evaluation of readers?

It is well to have the foregoing questions in mind as one reviews the literature on vocabulary studies.

Vocabulary Investigations on What Words are Important

Considerable investigation has been made to discover which words children should learn in school, and as a result the recent readers have been written with vocabulary control definitely in mind. There follows a discussion of some of the most important word lists:

Horn: In 1926 Ernest Horn made a list of the 10,000 words most commonly used in writing.¹ He tabulated five million running words used in correspondence. This list has its limitations for the primary teacher of reading. First, the list is based almost entirely on adult material. Second, the list is based on correspondence and it is

1. Harris, Albert J. How to Increase Reading Ability, p. 228.

estimated that a child's reading vocabulary is much larger than his writing vocabulary. Third, this list is not graded to help the teacher place words of questionable value.

Spoken Vocabulary Lists: The spoken vocabulary of children entering school for the first time should help serve as a guide in the choice of words for beginning reading texts. There are two reliable sources that a primary teacher may check for the spoken vocabularies of young children. First, in 1925 the Twenty-Fourth Year-book of the National Society for the Study of Education published a list of words which appear most frequently in the spoken vocabulary of pre-school, kindergarten, and first-grade children.² This list is a compilation of the results of investigations by Mrs. Ernest Horn, P.C. Packer, and Ernest Horn. Second, in 1928 the International Kindergarten Union of Washington, D.C. published a list of words commonly known to first grade entrants.³ The latter is used a great deal by recent investigators and includes a list of 2,596 words out of 7,000 words found to be used in the speech of children before entering the

2. McKee, Paul. Reading and Literature in the Elementary School, p. 78.

3. Harris, Albert J. op. cit., p. 228.

first grade. Lists of the spoken vocabularies of young children may be helpful in constructing beginning reading materials.

Thorndike: One of the most extensive studies to discover a list of words most useful for reading was made by Dr. E.L. Thorndike.⁴ He tabulated some nine and one-half million running words derived from literature for children, the Bible and English classics, newspapers and magazines, books on various industries, elementary school texts, correspondence, and the Encyclopedia Britannica. From this compilation Thorndike chose a list of the 20,000 words used most frequently. These words are arranged in groups of 500 according to frequency of occurrence.

This list is very valuable for many purposes, but in using it the teacher of primary reading should keep in mind at least these two limitations. First, since the list was derived from sources of adults' reading as well as children's reading, it should be considered more in the light of a general reading vocabulary in which the list is a valid measure of the permanent value of a word, but not especially a valid measure of the present value of a word in beginning reading. Second, the Thorndike list is not

4. Thorndike, Edward L. A Teacher's Word Book.

graded, but rather arranged according to frequency of appearance in the source material. The teacher should have more information about the range of vocabulary for her grade to include or exclude words of questionable placement.

Gates: Besides the Thorndike list, the other most widely used word list by authors of primary texts is probably that constructed by Arthur I. Gates.⁵ In 1935 he revised and extended his primary reading vocabulary published in 1926. The revised list includes 1,811 words suitable for use in all forms of reading for the primary grades and arranged in groups of 500 selected on the basis of a combination of several sources of information. These sources were: Thorndike's commonest 2,500 words; all additional words from Moore's count of children's literature (an unpublished study supervised by Annie E. Moore of Teachers College, Columbia University); all additional words from J.L. Packer's vocabulary of ten first readers; all additional words from Ernest Horn's commonest words in the spoken vocabulary of children up to and including six years of age; all additional words found with considerable frequency in various studies of primary literature published since 1925; and all additional words

5. Gates, Arthur I. A Reading Vocabulary for the Primary Grades.

appearing in at least one-sixth of a list of 105 books selected by Gates. The words obtained from this investigation were judged by experts for utility, interest, and difficulty in reading in the three primary grades.

Because Gates' list is based on a good balance of various sources mostly pertaining to children, it is reliable for checking words for their usefulness in primary reading. It is not a graded list, but the most important words for pre-primer and primer reading are apt to fall in the first five hundred words of this list.

Buckingham and Dolch: One of the most extensive vocabulary investigations ever attempted has its results published in A Combined Word List.⁶ This study combined ten of the larger word studies previously reported by other investigators and a new Free-Association Study subsidized by Ginn and Company. The free-association method was having the children write any words which come to their minds in a certain period of time. This study involved over 20,000 children and 2,700,000 words of data; and it resulted in tentative vocabulary lists for grades two to eight. No tabulations were kept of the frequencies of words already appearing in the Kindergarten Union list

6. Buckingham, B.R., and Dolch, E.W. A Combined Word List.

because it was felt the placement of these words was well established as first grade. The reader may refer to pages 13 and 14 of A Combined Word List for a summary of the other ten investigations used besides the Free-Association Study to make the vocabulary list in this book.

The greatest limitation of this study is that it is not definitely graded. There is given information about the grading or frequency of 19,000 words from the eleven investigations, but only 10,000 have definite grade placements and there are many contradictions in the placement of most words, some varying as much as four elementary grades. At present the best use of the Buckingham and Dolch list for teachers of beginning reading is as a combined source to check words for their appearance in either the lists of Gates, Kindergarten Union, or Horn's vocabulary for six-year-olds.

Recently Dolch compiled results of three important vocabulary lists and developed a basic sight vocabulary of 220 words which he considers as a minimum group of words so common in all reading matter that all children should know them instantly by sight.⁷ His list contains no nouns but only pronouns, prepositions, conjunctions,

7. Dolch, Edward William. Teaching Primary Reading, p. 205.

adjectives, verbs, and adverbs which he calls "service words." Dolch believes nouns cannot be of universal value because each noun is tied to a special subject matter. Not all teachers will agree with Dolch on the omission of all nouns in a basic vocabulary. However, on page 207 of his Teaching Primary Reading Dolch lists 95 nouns common to the three lists but not recommended for a basic sight vocabulary. This is a good choice of common words for the teacher who wishes to drill on some important nouns, too. Dolch states that normal third-grade children should know practically all the 220 basic words, and they should be stressed from beginning reading through the grades in order to help pupils read more efficiently. This basic list made by Dolch may be helpful to a primary teacher to check drill words against to decide on their importance in mastery, and it may be useful in the upper grades for remedial work.

Kyte: A very recent investigation resulting in a core vocabulary of 100 words for primary grades was reported by Kyte in 1943.⁸ He evaluated eleven former vocabulary studies in primary reading, composition, and spelling. The list of 100 words that resulted from this

8. Kyte, George C. "A Core Vocabulary for the Primary Grades." Elementary School Journal; 44:157-166, (November, 1943.)

compilation is recommended as a core vocabulary in all primary subjects involving words. It is fortunate that current publications can bring to teachers such important investigations as Kyte's core vocabulary.

The word lists just reviewed include the most important general ones used today in checking for words useful for children. Other minimum word lists resulting from the study of readers already published will be discussed in summarizing the trends indicated by investigators of the vocabularies of readers. The summary of these other investigations follows.

Vocabulary Investigations Involving Readers

With the interest in vocabulary lists came the desire to evaluate the vocabularies of available readers to see how well their vocabularies had been controlled. Most of the research carried on has been in the field of primary reading, with vocabulary studies of first-grade readers being the most widely investigated. It is natural that the beginning readers would be the first to be carefully studied because the initial vocabulary foundation in the essential tool subject of reading is very important, and children should be given this initial vocabulary foundation in agreement with the best scientific educational principles known. In this study the investigations concerning the vocabularies of readers will be reviewed

under the headings of pre-primers, primers, first readers, and readers beyond the first grade.

Pre-primers: It is only in the last ten years that we have studies reported on pre-primers because previous to that time the use of these easy first books in the first grade reading program was not popular, and most series of readers started with primers. Today pre-primers are considered very important in beginning reading, and some of the series of readers such as the basic readers of Scott, Foresman, and Company used by Arizona have several pre-primers introducing a small number of different words but affording a good repetition of vocabulary.

In 1934, Gross made a study of the vocabularies of ten pre-primers in order to know the most useful words in pre-primers to teach children at this level and to use as a basis for their experience charts in the reading readiness period.⁹ In the ten pre-primers tabulated there were 8,813 words in all but only 393 different words. She listed the 238 words which appeared four or more times. Gross rightly states:

"The wise teacher will not let a list of this kind dominate her reading situation. She will use it for what it is worth to her

9. Gross, Aline E. "A Preprimer Vocabulary Study." Elementary School Journal; 35:48-56, (September, 1934.)

particular class, and the list will be determined in the light of the principles that are known to govern a good reading program."

In 1937, Hayward and Ordway made a study of fifteen pre-primers published since 1932, and found 350 different words, which is 43 less than the Gross study for ten pre-primers.¹⁰ This may indicate a lessening of vocabulary load for more recently published pre-primers. There is still evidence in this study of a wide variety in the use of words because of the fact that only three words were used in all fifteen books and only eighteen in ten or more books. On page 611 of this reference Hayward and Ordway list the 311 words used four or more times in the fifteen pre-primers. They suggest that a knowledge of the vocabulary of the pre-primers will give the teacher a wider scope in vocabulary choice for chart work and in developing a basic vocabulary.

In 1938, Curtis tabulated 11,914 words from twelve pre-primers and found only 241 different words.¹¹ He made a core vocabulary of 72 words which are repeated 9,047 times in the twelve pre-primers analyzed. This shows that the core vocabulary of 72 words made up 75.9 per cent of

10. Hayward, W. George, and Ordway, Nancy M. "Vocabularies of Recently Published Pre-Primers." Elementary School Journal; 37:608-617, (April, 1937.)

11. Curtis, H.A. "Wide Reading for Beginners." Journal of Educational Research; 32:255-262, (December, 1938.)

the number of running words. This study again indicates a lessening of the number of different words at pre-primer level.

In 1938, two other interesting studies were made, both involving pre-primers and primers. Stone took the vocabularies of pre-primers and primers of different series as one unit and compared them on the basis of new words in the first 500, first 2,000, and first 5,000 words in the books.¹² Because books vary in the total number of words, he considered a comparison by this method to be more valid for the ratio of new words to total number of running words.

Rudisill made a detailed analysis of a group of pre-primers and primers to determine in what sequence they should be read according to percentages of vocabulary in common.¹³ On the basis of amounts of identity between the vocabularies of the various books, she suggests an appropriate sequence for the reading of these pre-primers and primers. Rudisill believes that:

"Because of the wide variation in extent to which the vocabularies of preprimers and primers

12. Stone, Clarence R. "Measures of Simplicity and Beginning Texts in Reading." Journal of Educational Research; 31:447-450, (February, 1938.)

13. Rudisill, Mabel. "Selection of Preprimers and Primers." Elementary School Journal; 38:683-693 & 767-775, (June, 1938.)

are identical, the sequence in which these books are read is an important factor determining a child's progress in beginning reading."

In 1941, two of the most recent pre-primer studies were reported. Both Stone and Langston investigated the vocabularies of pre-primers published between 1931 and 1940. Stone evaluated twenty pre-primers and found a wide range in vocabularies. The report lists the 100 words discovered to be the most important, and compares the difficulty of the pre-primers on the basis of vocabulary load as determined by simplicity of words and repetition. Langston investigated further a core vocabulary for pre-primer reading by analyzing twelve pre-primers from ten pre-primer programs not included in either the Gross or Curtis study. By combining the results of his study with that of Gross and Curtis, Langston lists on pages 772 and 773 of his reference a core vocabulary of 79 words for pre-primer reading, and this is a very helpful list for teachers of beginning reading.

In 1942, Carson made a study on the use of

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14. Stone, Clarence R. "Vocabularies of Twenty Pre-Primers." Elementary School Journal; 41:423-429, (February, 1941.)
 15. Langston, Roderick G. "Core Vocabulary for Pre-Primer Reading." Elementary School Journal; 41:766-773, (June, 1941.)

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 pre-primers. One school of thought recommends that many pre-primers be read before reading any primers and the other school of thought holds that, because any two pre-primers not of the same series are likely to vary widely in vocabulary, it is best to go directly from the pre-primers or primer of that series. After studying the percentage of vocabularies in common among the pre-primers and primers of different series, Carson recommends on page 233 of this reference:

"It seems advisable to follow the pre-primers of a particular series with the primer of the same series to the point where difficulty is manifested and then to switch to a series with as high a degree of overlapping vocabulary as possible (other things being equal). After several series have been used in this way, a return to the first series is made, and the more difficult parts of the other primers are made. Such a plan gives a much greater repetition of vocabulary than is provided by any other method of extensive use of reading materials."

In June of 1944, Russell reported on an investigation of primary-grade basic reading programs that was made by sending a questionnaire to selected persons in the field of reading.¹⁷ Among the topics investigated was vocabulary control. Concerning the number of different words to be

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16. Carson, Louise Geddings. "The Use of Preprimers: A Teacher's Point of View." Elementary School Journal; 43:225-233, (December, 1942.)
17. Russell, David H. "Opinions of Experts About Primary-Grade Basic Reading Programs." Elementary School Journal; 44:602-609, (June, 1944.)

introduced at the pre-primer level, the answers favored a median figure of approximately 57.5 words.

Primers: One of the best known early studies of the vocabularies of primers was made in 1922 by Selke and Selke who tabulated 1,636 different words used in twelve beginning books.¹⁸ First, this study showed little agreement in practice as to the number of different words that beginning books should introduce. The number of words introduced in a single book ranged from 157 to 630. Second, the study showed only a limited number of words common to beginning books. Of the total of 1,636 words found in all the books there were 783, or 47 per cent, found only in one book. Only 38 words are common to all the books. Third, the study showed a low frequency of word repetition. On page 746 of the reference it states:

"Four of the methods have 70 or more per cent of the total number of words occurring less than ten times; four others from 60 to 69 per cent; three from 50 to 59 per cent; and but one less than 50 per cent."

Fourth, the study showed little agreement on the principles of word selection. The vocabulary of any two books differed so widely that they could hardly be thought of as supplementary to each other.

18. Selke, Erich, and Selke, G.A. "A Study of Vocabularies of Beginning Books in Twelve Reading Methods." Elementary School Journal; 22:745-749, (June, 1922.)

In 1925, Gates analyzed 21 reading systems, and his findings supported those of Selke and Selke a few years earlier.¹⁹ Gates found the variations in range greater than the number of different words in the various books, and there was no significant correlation between amount of reading provided and number of different words used. There seemed to be a lack of information concerning the number of different words a child should learn in first grade reading, some systems indicating 100 and some as many as 900. Also, the reading systems did not agree on the character of the criteria on the basis of which the words for the first year were selected. The story rather than the vocabulary seemed of most concern in some books, resulting in a varied vocabulary without enough word repetition. Gates suggested other criteria to remedy this lack of concern for vocabulary selection.

In 1927, Rankin studied three primers representing different periods of publication in order to note any possible progress in vocabulary selection for beginning books.²⁰ Just as Gates found, there was lack of agreement among the authors as to the size of vocabulary that should

19. Gates, Arthur I., and others. "Problems in Beginning Reading Suggested by an Analysis of Twenty-One Courses." Teachers College Record; 26:572-591, (March, 1925.)

20. Rankin, Mary I. "A Study of the Recurrence of Words in Certain Primers." Elementary School Journal; 28:278-285, (December, 1927.)

be used in making beginning readers. The rate at which new words were introduced varied widely, as did the amount of repetition and drill. The number of words common to the three primers was small. In all, Rankin decided there was no significant change in the "manipulation of vocabulary" in the primers that were published in 1914 and 1925, respectively, over the primer published in 1907.

In 1928, Beck in an unpublished thesis of George Peabody College for Teachers reported evidence of little progress made in selection of the vocabularies of eight beginning books published in 1926 or 1927.²¹ She found their vocabularies had little more in common than those published before 1922 studied by Selke and Selke.

However, Selke reported more agreement as to the number of different words a beginning book in reading introduces in the twelve sets of readers he examined that were published near 1930.²² As compared to his earlier study in 1922, there was a distinct tendency to introduce fewer words in beginning books. In the 1930 study only two books had more than 400 different words, and eight had less than 300; whereas in the 1922 study of Selke and

21. Beck, Mae Miller. An Analytical Study of the Vocabulary of Twelve Primers.

22. Selke, Erich. "A Comparative Study of the Vocabularies of Twelve Beginning Books in Reading." Journal of Educational Research; 22:369-374, (December, 1930.)

Selke only two readers had less than 300 words and six less than 400, with four ranging from 400 to 630. Even if there were a change to fewer different words introduced in the beginning books in the 1930 study, it still showed that there were too few words common to beginning books, too many words that appear but once in each book, and too many words in the books had a too limited frequency.

Gates in 1930 recognized that writers of primers should reduce the rate at which new words are introduced, and that the number of repetitions provided should be increased.²³ It is important, though, that these items should vary for pupils of different levels of intelligence. Authors of primers are faced with a serious problem in the selection and arrangement of vocabulary.

In 1931, Harring made a study concerning the sequence of reading primers.²⁴ By the use of tables showing the percentage of words in common, data were furnished by Harring so a teacher could arrange a sequence of primers "which will enable her to present the less difficult or the more difficult books according to the needs of her

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23. Gates, Arthur I. A Reading Vocabulary for the Primary Grades.
24. Harring, Sydney. "What Primer Shall I Use Next?" Elementary School Journal; 32:207-213, (November, 1931.)

pupils." In this study the fact again appears that a large number of words appear in each book which are not found in any other book.

In 1932, a study of the vocabulary of primers was made that is of special interest to Arizona teachers. Fra L. Samuels compared fourteen other primers with the Arizona basic primer of the Elson-Gray series that was then a new primer.²⁵ On page 228 of the reference she gave a table listing about each primer the number of different words, the number of words in common with the Elson, the number of words dropped from the Elson, the number of new words added, and the number of words in no other primer. This was a valuable study for the Arizona teachers then, but now the basic primer has been changed and new information is needed. It is interesting that, like other investigators, she found the vocabulary common to all the primers very small. The total vocabulary that she tabulated was 4,379 words of which there were 1,206 different words. Of these different words only 16 or 1.3 per cent were common to all of the primers.

In a study made in 1934, Dolch found that primers

25. Samuels, Fra L. "Vocabulary of Primers." Arizona Teacher; 20:228, (April, 1932.)

differ in their efficiency in training for a mastery of the vocabularies contained in them. He is of the opinion that pupils should attain a satisfactory vocabulary at the primer level before being advanced to more difficult reading, and recommends simple vocabulary testing at the primer level.

John A. Hockett has been one of the most active investigators of recent years in examining the vocabularies of primers. In 1936, he and Deta P. Neeley compared the vocabularies of thirty-three primers; and in 1938, Hockett examined the vocabularies of six recent primers along with six recent first readers. Valuable information concerning the vocabulary of primers is given by Hockett in the State of California Department of Education Bulletin, Number Three, 1938.

Hockett shows that the number of different words used in readers for each level is decreasing each year, and in the latter bulletin the primers listed with publication dates before 1928 have as an average number of

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27. Hockett, John A., and Neeley, Deta P. "A Comparison of the Vocabularies of Thirty-three Primers." Elementary School Journal; 37:190-202, (November, 1936.)
28. Hockett, John A. "Vocabularies of Recent Primers and First Readers." Elementary School Journal; 39:112-115, (October, 1938.)
29. Hockett, John A. "The Vocabularies and Contents of Elementary School Readers." State of California Department of Education, Bulletin No. 3.

words 369. In 1930-1931 the average primer had only 304 different words, and by 1936-1937 the number was lowered to 247. Since more recently published primers have their vocabulary burden reduced by one-third, it follows their vocabularies are only two-thirds as difficult as in primers a decade ago. Hockett and Neeley found in ten primers with copyright dates prior to 1932 that the number of words ranged from 219 to 413, with eight below 284. The average word repetition ranged from 12.6 to 24.2.

More than in the Hockett and Neeley study a noticeable trend toward the introduction of fewer words in beginning reading with increased repetition was shown by an evaluation of twenty recent primers by Courtier in 1939.³⁰ The vocabularies in these primers ranged from 166 to 289 different words, with an average repetition from 11.8 to 32.8. The results of Russell's recent questionnaire show that reading experts favor an approximate median of 150³¹ different words to be included in a primer. This is less than the average primer published today.

30. Courtier, Audrey March. "Criteria for the Selection of Primers." Elementary English Review; 16:271-278, (November, 1939.)

31. Russell, David H. op. cit., p. 608.

First Readers: In 1921, Packer made one of the first ³² important vocabulary investigations of first readers. A total of 3,541 different words were tabulated; this is more than twice the number reported by Selke and Selke in 1922 for twelve primers. Of Packer's total 2,048 words occurred four times or less and 2,562 occurred less than ten times. Two important facts brought out in this study were that there was a large number of different words and that their frequency of occurrence was low. This first-grade vocabulary list of Packer's was used a great deal by later investigators of primary reading vocabularies.

In 1925, the Twenty-Fourth Yearbook of the National Society for the Study of Education published Kircher's list of words derived from a study of thirty-seven primers and first readers, and this early list as well as ³³ Packer's has been used by research workers.

About the next most important vocabulary study including first readers was made in 1930 by Wheeler and Howell who made an elaborate investigation of the

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32. Packer, J.L. "The Vocabularies of Ten First Readers." Twentieth Yearbook of the National Society for the Study of Education, Part II, pp. 127-144.
33. Kircher, H.W. His primer-first grade word list. Twenty-Fourth Yearbook of the National Society for the Study of Education, pp. 193-198.

vocabularies of the primers and first readers of ten series.³⁴ When the vocabularies of the primers and first readers of the ten series were compared, it was found that the ten primers had 1,139 different words and the first readers had 2,061 different words. This smaller number of words in the first readers of the Wheeler and Howell study as compared with the Packer study reflects the trend toward better control of vocabulary in readers. Undoubtedly investigations of readers such as Packer's and word lists such as Thorndike's since 1920 had influenced authors of first-grade reading texts. It is interesting to note here that the one hundred words of greatest frequency in the Wheeler and Howell study and the first one hundred words of the Gates list were found to have 68 words in common. Also, the entire Wheeler and Howell list and the first 500 of the Gates list had 333 words in common.

More recent evidence of the trend toward a lower vocabulary burden was given by the study of John A. Hockett and N. Glen Neeley in 1937.³⁵ They examined twenty-eight first readers and found 2,800 different words for all of these. This is only four-fifths of the 3,541

34. Wheeler, H.E., and Howell, Emma A. "A First-Grade Vocabulary Study." Elementary School Journal; 31: 52-56, (September, 1930.)

35. Hockett, John A., and Neeley, N. Glen. "The Vocabularies of Twenty-eight First Readers." Elementary School Journal; 37:344-352, (January, 1937.)

different words reported by Packer in 1921 as the total vocabulary of ten first readers. In a summary statement concerning first readers Hockett and Neeley said:

"The typical first reader of the past twelve years contains slightly more than 9,000 words of reading matter, slightly less than 600 different words, and presents 15.6 running words to each different word."

In his bulletin published in 1938 Hockett tells us that there has been a trend to reduce the vocabulary burden of first readers as well as that of primers.³⁶ The decrease has been from an average of 644 words in first readers published before 1926 to 462 words in those of 1936-1937, a decrease of 28 per cent in the number of different words. In Russell's questionnaire the reading experts favored an approximate of 224 new words for a first reader.³⁷ This desired vocabulary is lower than that found in most first-grade books today.

Readers Beyond First Grade: Not as many investigations on the vocabulary of readers have been carried on in other grades as have been made in the first grade. Nevertheless, even over twenty-five years ago, in 1918, Housh³⁸ studied the vocabularies of ten second-year readers.

36. Hockett, John A. op. cit.

37. Russell, David H. op. cit., p. 609.

38. Housh, E.T. "Analysis of the Vocabularies of Ten Second-Year Readers." Seventeenth Yearbook of the National Society for the Study of Education, Part I, pp. 40-45.

There were found to be a large number of words in the ten readers. Of the 143,789 words in the readers, Housh reported that only 419 were common to all ten readers. Hundreds of words used in each reader occurred only one to three times in that reader. More repetition of words is needed if children are to learn to recognize words well through drill.

Two studies in 1923 are worth mentioning in connection with vocabulary research in readers above the first grade. In this year Ethel M. Brown made a mastery vocabulary for the first and the second semesters of the first three grades.³⁹ This list was made in connection with a vocabulary study of the Winston basal texts. It is worth noting that after the publication of The Teacher's Word Book by Edward L. Thorndike, Brown's mastery list of 680 words was checked against it and 408 of the words appeared in the first 500 words of the Thorndike list. The other vocabulary study of 1923 to be mentioned here is one reported by C.A. Gregory concerning a study made for the state of Oregon to determine the minimum reading vocabulary of third-grade children on the basis of prescribed books for children in Oregon for the first three grades.

39. Brown, M. Ethal. "A Mastery Vocabulary in Primary Reading." Second Yearbook, Department of Elementary School Principals of the N.E.A., pp. 296-306.

The fact was brought out that 29.5 per cent of the words in these Oregon texts were seen only once by the children who were promoted to the fourth grade.⁴⁰ There were 106,121 running words in the regular reading vocabulary, and 289 different words were repeated to constitute 71.2 per cent of the running words used in the texts. The 289 words constituted only 5.8 per cent of the number of different words in the reading vocabulary. There were too many words of low frequency of use.

In 1935, Stone examined sixteen second-grade readers and found the vocabularies for these books not to be so well standardized as for readers in the first grade.⁴¹ There was a surprising total of 3,200 different words in the total list.

Beyond the primary level there are two recent investigations dealing with vocabularies of elementary pupils. The first is by Berglund who in 1937 told about a reading vocabulary for the fourth grade.⁴² The second is by Rinsland who in 1938, through a federal appropriation of

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40. Gregory, C.A. "The Reading Vocabulary of Third Grade Children." Journal of Educational Research; 7:127-131, (February, 1923.)
41. Stone, Clarence R. "The Second-Grade Reading Vocabulary." Elementary School Journal; 35:359-367, (January, 1935.)
42. Berglund, Albert O. "A Reading Vocabulary for the Fourth Grade." Journal of Educational Research; 31:72-180, (November, 1937.)

the Works Progress Administration, carried on an investigation of the vocabulary of elementary pupils.⁴³

In the first part of this chapter, word lists were discussed that are helpful to teachers above the first grade as well as for teachers of the first grade. Upper grade teachers of reading should at least check the lists of Horn,⁴⁴ Thorndike,⁴⁵ and Buckingham and Dolch.⁴⁶ In the primary grades the Gates list is also helpful.⁴⁷

In addition to the above lists, Stone has made a graded reading vocabulary for primary grades by evaluating 105 readers.⁴⁸ His list of words was selected from among those appearing most widely in 21 pre-primers, 21 primers, 21 first readers, 21 second readers, and 21 third readers during the period of 1931-1941. Stone graded 2,164 words into the following ten reading levels: pre-primer, primer or pre-primer, primer, primer or first reader, first reader, first or second reader, second reader, second or third reader, third reader, and third or fourth reader.

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43. Rinsland, Henry D. "Vocabulary of Elementary Pupils." Journal of Educational Research; 36:157-160; (October, 1938.)
44. Harris, Albert J. op. cit., p. 228.
45. Thorndike, Edward L. A Teacher's Word Book.
46. Buckingham, B.R., and Dolch, E.W. op. cit.
47. Gates, Arthur I. A Reading Vocabulary for the Primary Grades.
48. Stone, Clarence R. Stone's Graded Vocabulary for Primary Reading.

In compiling and grading his vocabulary, Stone checked his list against five well-known word lists.⁴⁹ This is one of the best sources for a primary teacher to use to check the vocabulary of a reader.

Summary

From the foregoing review of investigations relative to the field of reading vocabularies it is evident that in the past twenty-five years there has been a steady increase in interest shown in a scientifically controlled vocabulary for children based on their present and future needs in life. A good summary of the kinds of studies made in word usage is given by Kyte:⁵⁰

"(1) the frequency of occurrence of the words in printed matter for (a) children of various ages and (b) adults; (2) the frequency of occurrence of the words in oral usage of young children from infancy through elementary school; and (3) the frequency of occurrence of the words in the written materials of (a) children of various grade levels and (b) adults. The investigations include also studies of (4) the frequency of misspelling of commonly used words, (5) the relative difficulty of specific words, and (6) the nature of spelling errors."

The word lists that have been compiled as a whole are commendable pieces of research, but they will be more

49. Stone, Clarence R. Stone's Graded Vocabulary for Primary Reading, p. 2.

50. Kyte, George C. op. cit., p. 157.

valuable to the classroom teacher when more of them are graded. Vocabulary investigations have had their influence on the vocabularies of recent readers and certain trends can be noted. Authors of readers have made an effort to check the vocabulary of a reader against well-known word lists for usefulness. There has been a tendency to decrease the total number of running words and the number of different words in a book, and to increase the number of times a word is repeated. There is a realization of the importance of the number of words in common between readers in deciding in what sequence the texts will be used in the reading programs.

CHAPTER III

ANALYSIS OF WORDS IN ARIZONA PRE-PRIMERS AND PRIMERS

Publications Used in This Vocabulary Analysis

Reading Texts: The various pre-primers and primers that are supplied by the Arizona State Department of Public Instruction for the reading program of the first half of the first grade have been grouped into basic and supplementary readers. Within each group the texts have been listed by publishers and arranged in a table in alphabetical order according to the publisher. The titles of the books analyzed in this study are given in Table I, together with the names of the publishers and authors, and publication or copyright dates.

Vocabulary Lists: Words should be checked for their usefulness as judged by competent authorities. Numerous word lists were considered and finally three were chosen which the present writer considered would furnish a well balanced criteria to judge pre-primer and primer words. First, words introduced in first grade reading should be familiar to the spoken vocabulary of children entering school. The Kindergarten Union rating as given by The

TABLE I

PRE-PRIMERS AND PRIMERS USED IN ARIZONA
INCLUDING PUBLISHERS AND AUTHORS

Publisher	Author	Title of Pre-primer	Title of Primer
<u>Basic Readers</u>			
Scott, Foresman and Company, c1940	Wm. S. Gray, Dorothy Baruch and Elizabeth Rider Montgomery	We Come and Go	
	Wm. S. Gray and Mary Hill Arbuthnot		Fun with Dick and Jane
<u>Supplementary Readers</u>			
Houghton Mifflin Com- pany, c1935	Julia Letheld Hahn	Everyday Doings	Everyday Fun
The Macmillan Company, 1936	Arthur I. Gates and Miriam Blan- ton Huber		Peter and Peggy
Rand McNally and Company, c1934 and c1935	Katharine E. Dopp, May Pitts, and S.C. Garrison	Little Friends	Little Friends at School
Row Peterson and Company c1936	Mabel O'Donnell and Alice Carey	Rides and Slides	Day In and Day Out
Scott, Foresman and Company c1941	Dorothy Baruch, Elizabeth Mont- gomery, and Wm. S. Gray		Good Times with Our Friends
The John C. Winston Com- pany c1928	Sidney G. Firman, Ethel Maltby Gehres, and Fred- erick Richardson		The New Winston Primer

Combined Word List of Buckingham and Dolch was used for this check for familiarity of the word to the spoken vocabulary of children beginning school.¹ Second, a word should be important in reading materials in the primary grades. A Reading Vocabulary for the Primary Grades by Gates served as a basis in checking words for their importance in literature of the primary level.² Third, the reading level of a word should be known so one may decide if it is assigned to the correct reading level in the text. In this study Stone's Graded Vocabulary for Primary Reading was found to be a good graded list for this purpose.³

Procedure

Terms Used: The term "different words" means the number of separate words in a text. The total number of different words in a text is sometimes referred to as the "vocabulary burden" of a text. A word appearing for the first time in a reader is spoken of as a "new word." When reference is made to "running words" it means the number of times all the words occur. For example, if 15 different words were found and the sum of their frequencies was 86, then the number of running words would be 86.

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1. Buckingham, B.R. and Dolch, E.W. op. cit.
 2. Gates, Arthur I. A Reading Vocabulary for the Primary Grades.
 3. Stone, Clarence R. Stone's Graded Vocabulary for Primary Reading.

Method of Procedure: Each Arizona pre-primer and primer was read carefully page by page, and a tabulation was made of the number of times each word was repeated. This analysis revealed for every new word its frequency in each text and its range in number of texts. For each text, information was obtained concerning the total number of different words, the total number of running words and, by division, the average repetition or ratio of running words to different words. Further analysis of the words in each book disclosed the number of words that were repeated specified numbers of times, the average number of new words introduced on each page, the average number of running words contained on each page, and the number of words appearing in only one text. The vocabulary of each book was compared with the vocabulary of every other book to determine the number of words common to any two books. Each different word was checked by the word lists of Stone, Kindergarten Union, and Gates as mentioned before in this chapter.

Rules for tabulation were followed that were in accordance with those most commonly used in studies of primary books. The titles of the stories on the pages were counted. Words in the table of contents, the preface, concluding word lists, and directions to the teachers were omitted. A cross-check was made by comparing the sum of

the frequencies of the words with the total number of words. The words of all the texts were arranged alphabetically on cards and the frequency of use of each word was computed. The grand total of running words was found to be 37,175 and the number of words used 551.

Because almost each new word form presents a separate problem to a child just beginning to recognize words, the present writer decided not to group all variations under the primary form of the word as is done in some studies. In counting the words, all variants of word forms were tabulated separately except the plurals of nouns and the singular of verbs formed by the addition of "s" to a form already listed. For example, "bark" and "barks" would be counted as identical words, but "barking" and "barked" would be listed separately. Words connected with a hyphen such as "bow-wow" were considered one word. The possessive form made by the addition of the apostrophe and "s" was considered a different word.

No specific proper nouns such as "Jane," "Jack," "Lambkin," and so on have been tabulated, but certain proper nouns made from common words such as "Mother," "Fire," "Spot," and "Fox" were listed as the common nouns from which they were derived. Other proper nouns such as "Christmas," "Santa Claus," months of the year, and so forth, which are of general interest were included. "Santa Claus" was

tabulated as two separate words, "Santa" and "Claus." The abbreviated titles of "Mr.," "Mrs.," and "Miss" were counted but not other abbreviations such as "lb." and "qt." Numbers when not spelled out were not listed. Words in the pictures (such as grocery store signs and so forth) were not included in the count.

Because of the difference in methods of counting the words, the tabulations in this study may not check exactly with the results recorded by other investigators.

List of Total Vocabulary: The total vocabulary of 551 different words found in the four Arizona pre-primers and seven primers is listed in Table II. The frequency of appearance of each word in each text is tabulated showing the total of its frequency in all texts and range in number of texts. Also the ratings of the word in the Stone, Kindergarten Union, and Gates list are given. As not all authors of word lists use the same method of tabulating different word forms, some of the ratings of the words listed in the table here have been inferred by the present writer from the primary form in the original list.

TABLE II

Explanation of the Initial Abbreviations and
Ratings of Word List Used in
Table II

Pre-primers

WCG = We Come and Go
ED = Everyday Doings
LF = Little Friends
RS = Rides and Slides

Primers

FDJ = Fun with Dick and
Jane
DDO = Day In and Day Out
EF = Everyday Fun
LFS = Little Friends at
School
NWP = New Winston Primer
PP = Peter and Peggy
GTOF = Good Times with Our
Friends

Word Lists

S = Stone's Graded Vocabulary for Primary Reading. There are ten levels, as follows:

pp = preprimer	pp-pr = pre-primer or primer
pr = primer	pr-1 = primer or first reader
1 = first reader	1-2 = first or second reader
2 = second reader	2-3 = second or third reader
3 = third reader	3-4 = third or fourth reader

KU = Kindergarten Union List as checked in the Dolch and Buckingham A Combined Word List. The check "x" means the word appears in the list.

G = Gates A Reading Vocabulary for the Primary Grades, as revised and enlarged in 1935. The rating 1, 2, 3, or 4 indicates whether the word falls in the first, second, third, or fourth 500 words on the basis of importance of 1811 words listed by Gates.

TABLE II

TOTAL VOCABULARY OF ARIZONA PRE-PRIMERS AND PRIMERS
SHOWING FREQUENCY AND RANGE IN TEXTS AND
APPEARANCE IN WORD LISTS

Words	Pre-primers				Primers							Total Frequency	Range in No. of Texts	Word Lists		
	W C G	E D	L F	R S	F D J	D D O	E F	L F S	N W P	P P	G F O F			S	K U	G
1 a	22	18	26	30	163	150	98	127	122	119	61	936	11	pp	x	1
2 aboard							5					5	1	2-3	x	1
3 about							10					10	1	pr-1	x	1
4 afraid							3					3	1	1-2	x	2
5 after							6	5	16	2		29	4	pp-pr	x	1
6 again							15	15	11			41	3	pr-1	x	1
7 airplane				5			17					22	2	pr-1	x	2
8 airport							5					5	1	1-2		
9 all					35	29	25	11	9	3	13	125	7	pr	x	1
10 am					17	10	20	10	24	25	8	114	7	pp	x	1
11 an									6	2		8	2	pr-1	x	1
12 and	46		39	48	197	188	70	99	68	169	182	1106	10	pp	x	1
13 animal					16	6				4	7	33	4	l	x	1
14 apple								8				8	1	pr-1	x	1
15 are			10		48	19	46	43	20	16	35	237	8	pp-pr	x	1
16 around										5		5	1	pr-1	x	1
17 as							6			3		9	2	pr-1	x	1
18 ask							1					1	1	pr-1	x	1
19 asked							16					16	1	pr-1	x	1
20 at		7	9	6	38	32	45	54	10	14	32	247	10	pp	x	1

TABLE II (Cont.)

Words	Pre-primers				Primers							Total Frequency	Range in No. of Texts	Word Lists		
	W C G	E D	L F	R S	F D J	D D O	E F	L F S	N W P	P P	G F O F			S	K U	G
21 ate					12	12	2		13		21	60	5	pr-1	x	1
22 awoke							8					8	1	2-3		2
23 away	17		9		40	25	5	19	19	9	28	171	9	pp	x	1
24 baby	22	2			23		14	5	20	12	13	111	8	pp	x	1
25 back							5	5	8	3		21	4	pr-1	x	1
26 baker									6			6	1	2	x	3
27 ball	12				23	24			9	7	17	92	6	pp-pr	x	1
28 balloon										2		2	1	pr-1	x	1
29 barn					17		7	20	5	8	8	65	6	pr	x	1
30 barnyard						5				3		8	2			3
31 be							40	4	8	2		54	4	pr-1	x	1
32 bear		3					9		40			52	3	1	x	1
33 bears'									1			1	1	1	x	1
34 beat									10			10	1	2-3	x	2
35 bed							4		36	6	14	60	4	pp-pr	x	1
36 bee							4		10			14	2	1	x	1
37 been									12	3		15	2	1-2	x	1
38 began							10		25			35	2	1	x	1
39 behind						2						2	1	1-2	x	2
40 best						5						5	1	1	x	1
41 big	32		6	16	52	61	7	23	14	44	41	296	10	pp	x	1
42 bigger										9		9	1	1-2	x	2
43 biggest										3		3	1	1-2	x	2
44 bird						41			5			46	2	pr-1	x	1
45 birthday					11				18		6	35	3	pr-1	x	1
46 bit									8			8	1	2	x	2

TABLE II (Cont.)

Words	Pre-primers				Primers						Total Frequency	Range in No. of Texts	Word Lists			
	W C G	E D	L F	R S	F D J	D D O	E F	L F S	N W P	P P			G F O F	S	K U	G
47 bite								11				11	1	2-3	x	2
48 black		2			13		7			58	13	93	5	pr	x	1
49 blew								5				5	1	1-2	x	3
50 block							10					10	1	2-3	x	2
51 blue	16			2	13	15	6		9		7	68	7	pp-pr	x	1
52 boat	32			16	11	12					13	84	5	pr-1	x	1
53 bone							2					2	1	2-3	x	1
54 book				2					7			9	2	1	x	1
55 bowl								10				10	1	2	x	1
56 bow-wow					25	22		6	2		12	67	5	pp-pr		2
57 box						14	7	8	18			47	4	pr	x	1
58 boy		2			13		16	26	54	39	13	163	7	pp-pr	x	1
59 bread								13	3			16	2	1	x	1
60 breakfast						29			8		34	71	3	pr-1	x	1
61 broke								1				1	1	2	x	3
62 broken								4				4	1	3	x	2
63 broom							7					7	1	3	x	1
64 brought							20					20	1	1-2	x	2
65 brown				6		25	4	37		17		89	5	pr	x	1
66 brown's							5					5	1	pr	x	1
67 brush							12					12	1	1-2	x	3
68 bump					17						115	32	2	1-2	x	2
69 bunny								11				11	1	1	x	3
70 burn								10				10	1	2-3	x	2
71 bus							10					10	1	1-2	x	2

TABLE II (Cont.)

Words	Pre-primers				Primers							Total Frequency	Range in No. of Texts	Word Lists		
	W C G	E D	L F	R S	F D J	D D O	E F	L F S	N W P	P P	G T O F			S	K U	G
72 but					17	55	7	6	11	10	43	149	7	pr	x	1
73 butcher									21			21	1	3-4	x	3
74 butter							9	5				14	2	1-2	x	1
75 buy								4	6	2		12	3	1	x	1
76 by						6		6	7	20		39	4	pr	x	1
77 cake									12	7		19	2	pr	x	1
78 call						4		3	7	4		18	4	pr	x	1
79 called						8	14	14	15	2		53	5	pr	x	1
80 came					40	19		5	7	11	22	104	6	pp-pr	x	1
81 can	53		8	4	132	44	59	54	13		71	438	9	pp	x	1
82 candle									12			12	1	2-3	x	2
83 candy							15				10	25	2	1-2	x	1
84 cap						20						20	1	1-2	x	1
85 car	27	4			27		9	12			16	95	6	pp-pr	x	1
86 cat			6		20			3	9	43	7	88	6	pp-pr	x	1
87 catch									11			11	1	pr-1	x	2
88 caught									8			8	1	2	x	2
89 chair							8	6	33			47	3	pr-1	x	1
90 chapter										5		5	1			2
91 cheese									6			6	1	2-3	x	2
92 chicken					18					41	7	66	3	pr	x	1
93 children					12		41	34		17	6	110	5	pr	x	1
94 choo										8		8	1			
95 Christmas							28					28	1	1		1

TABLE II (Cont.)

Words	Pre-primers				Primers							Total Frequency	Range in No. of Texts	Word Lists			
	W C G	E D	L F	R S	F D J	D D O	E E F	L F S	N W P	P P	G F F			S	K U	G	
96 circus		1											1	1	1-2	X	2
97 city						7				10			17	2	1	X	1
98 clapped								5					5	1	1-2	X	2
99 Claus								9					9	1	pr-1		1
100 clean								5	16		11		32	3	pr-1	X	1
101 close										3			3	1	2	X	1
102 closed										2			2	1	2	X	1
103 clothes											22		22	1	2	X	2
104 cluck					11	10					6		27	3	pr-1		2
105 coat						44							44	1	1-2	X	1
106 cock-a-doodle-doo							4		2		3		9	3	pr-1	X	
107 cold								9					9	1	1-2	X	1
108 color											2		2	1	1	X	1
109 colored											2		2	1	1	X	1
110 come	38		35	22	36	53	50	31	7	19	26	317	10	pp	X	1	
111 coming								2				2	1	pr-1	X	2	
112 cookie	28				29			8			18	83	4	1-2	X	1	
113 cooky								22				22	1	1-2	X	1	
114 corn								5				5	1	1-2	X	1	
115 could						26			21			47	2	pr	X	1	
116 country								10				10	1	1	X	2	
117 cow					12	14		25	8	19	14	92	6	pr	X	1	
118 cried										8		8	1	1			2
119 cry									9	4		13	2	1	X	1	

TABLE II (Cont.)

Words	Pre-primers				Primers							Total Frequency	Range in No. of Texts	Word Lists		
	W C G	E D	L F	R S	F D J	D D O	E F	L F S	N W P	P P	G T O F			S	K U	G
120 crying									10			10	1	1	x	1
121 cup											6	6	1	2	x	1
122 cupboard							7	4				11	2	2-3	x	2
123 daddy		2					15					17	2	2-3	x	1
124 danced						8					2	10	2	2	x	2
125 day						23			5	12		40	3	pr	x	1
126 dear			5				12	7				24	3	pr-1	x	1
127 December							2					2	1			4
128 did				6	38	34	13	5	37	9	62	204	8	pp	x	1
129 ding-dong						11						11	1	2	x	
130 dinner									10	2	21	33	3	1	x	1
131 dishes								19				19	1	1-2	x	1
132 do					37	13	21	13	17	21	34	156	7	pr	x	1
133 does							8					8	1	1	x	1
134 dog			11		15	28		18	49	39	13	173	7	pp	x	1
135 dog's						6						6	1	pp	x	1
136 doing							4					4	1	pr	x	1
137 doll			25		24	13	8	29		33	26	158	7	pp-pr	x	1
138 door						7	7	13	15	12		54	5	pr-1	x	1
139 down	28		5	22	33	14	6	12	11	5	26	162	10	pp	x	1
140 drank											3	3	1	2-3	x	3
141 draw							16		21	4		41	3	1	x	1
142 dress							9	7		2		18	3	1-2	x	1
143 dressed							2					2	1	1-2	x	1
144 drink									7	1		8	2	1-2	x	1
145 drum									19			19	1	1-2	x	1

TABLE II (Cont.)

Words	Pre-primers				Primers							Total Frequency	Range in No. of Texts	Word Lists			
	W C G	E D	L F	R S	F D J	D D O	E F	L F S	N W P	P P	G F F			S	K U	G	
146 duck					20	27						9	56	3	pr	x	1
147 early									2				2	1	1-2	x	1
148 eat					13	34		11	24	9	37		128	6	pr	x	1
149 eaten									5				5	1	2	x	3
150 eating									3				3	1	1	x	1
151 egg					10			21		14	14		59	4	pr	x	1
152 electricity										2			2	1	3-4	x	
153 every						9				5			14	2	pr-1	x	1
154 face								8					8	1	pr-1	x	1
155 fall								8					8	1	1-2	x	1
156 family					18							5	23	2	2	x	2
157 far										4			4	1	1-2	x	1
158 farm					17		5	20		22	20		84	5	pr	x	1
159 farmer								29	8	11			48	3	pr-1	x	1
160 farmer's										11			11	1	pr-1	x	1
161 fast					13		7				21		41	3	pr	x	1
162 fat									5				5	1	1-2	x	2
163 father	19			17	66	13		25	22	17	5		184	8	pp	x	1
164 father's				1							3		4	2	pp	x	1
165 fatter									6				6	1	1-2	x	2
166 fed						7							7	1	2-3	x	2
167 fell										2			2	1	1	x	1
168 find	14				23	27	17		11	5	9		106	7	pp	x	1
169 fire									20	29			49	2	1	x	1
170 first							13			4			17	2	1	x	1
171 five										2			2	1	1	x	1

TABLE II (Cont.)

Words	Pre-primers				Primers							Total Frequency	Range in No. of Texts	Word Lists			
	W C G	E D	L F	R S	F D J	D D O	E F	L F S	N W P	P P	F F F			S	K U	G	
172 flew									9				9	1	1	X	2
173 flour							5						5	1	2-3	X	2
174 fly						5							5	1	pr-1	X	1
175 for	19			8	76	28	52	45	22	29	60		339	9	pp	X	1
176 found							7		7	3			17	3	1	X	1
177 four					14					1	5		20	3	pr-1	X	1
178 fox								11	63				74	2	2	X	1
179 fox's									8				8	1	2	X	1
180 fresh							8						8	1	2	X	2
181 friend					9					12	6		27	3	1	X	1
182 from							5	13	17	11			46	4	pr	X	1
183 fun		7			35		11	6		3	12		74	6	pp-pr	X	1
184 funny	15	2	11		22	15	16	9			18		108	8	pp-pr	X	1
185 game									5				5	1	1-2	X	1
186 garden						20							20	1	pr-1	X	1
187 gate						15							15	1	1	X	1
188 gave						7	5	5	14	6			37	5	pr	X	1
189 gay						9							9	1	2-3		3
190 get					25	11	7		27	10	50		130	6	pp-pr	X	1
191 gingerbread									40				40	1	1-2	X	1
192 girl					13	8	7	23	6	32	8		97	7	pp-pr	X	1
193 give			4			5		12	17	10			48	5	pr-1	X	1
194 glad							7						7	1	1	X	1
195 gnaw									5				5	1	3		4
196 go	70		5	21	51	18	36	42	46	11	72		372	10	pp	X	1

TABLE II (Cont.)

Words	Pre-primers				Primers							Total Frequency	Range in No. of Texts	Word Lists		
	W C G	E D	L F	R S	F D J	D O	E F	L F S	N W P	P P	F O F			S	K U	G
197 goat						16			31	9		56	3	1-2	x	1
198 gobble							6					6	1	1	x	4
199 going						10	5	7		8		30	4	pp-pr	x	1
200 gone									5			5	1	1-2	x	2
201 good		2		10	15	15	33	47	13	8	38	181	9	pp	x	1
202 good-by				4	15	4	10	10		21	10	74	7-	pp-pr	x	1
203 good-bye									7			7	1	pp-pr	x	1
204 goody							6					6	1		x	3
205 got				8		3	1	12	15	2		41	6	pr	x	1
206 grade							15			2		17	2	2		2
207 grandfather					11						21	32	2	1-2	x	1
208 grandmother					22						31	53	2	1	x	1
209 grass									23	6		29	2	1-2	x	1
210 gray										14		14	1	1	x	2
211 great								7				7	1	2	x	1
212 green		2				24	15	7	6	6		60	6	pr	x	1
213 green's							1					1	1	pr	x	1
214 grow							6		7			13	2	1	x	1
215 guess					35		18				5	58	3	pp-pr	x	1
216 had				10		35	7	9	13	9		83	6	pp-pr	x	1
217 hammer								10				10	1	1-2	x	2
218 hand							11	9				20	2	pr-1	x	1
219 handker- chief											12	12	1	3	x	2
220 hang									5			5	1	2-3	x	3

TABLE II (CONT.)

Words	Pre-primers				Primers							Total Frequency	Range in No. of Texts	Word Lists		
	W C G	E D	L F	R S	F D J	D D O	E F	L F S	N W P	P P	G T O F			S	K U	G
221 happy					17	7		8	6		6	44	5	pr	x	2
222 hard									5			5	1	1-2	x	1
223 has							7	12	21	20		60	4	pr	x	1
224 hat											19	19	1	1	x	1
225 hatched										3		3	1	1-2		4
226 have			10	2	47	29	33	33	15	15	39	223	9	pp-pr	x	1
227 hay									14			14	1	1-2	x	1
228 he				19	78	138	25	38	38	33	41	410	8	pp	x	1
229 head									5	2		7	2	pr-1	x	1
230 heard						2			10			12	2	1-2	x	1
231 hello					25	9					7	41	3	pr-1	x	2
232 help	13	7			23	6	11	5	5		24	94	8	pp-pr	x	1
233 helped							7					7	1	pr-1	x	1
234 helpers		5										5	1	3-4	x	3
235 hen					24	12		24	27	17	6	110	6	pr	x	1
236 her						10	10		10	4		34	4	pr	x	1
237 here	26		32	19	48	43	61	31	7	6	51	324	10	pp	x	1
238 hid									6			6	1	2		1
239 hide								6				6	1	1	x	1
240 high										3		3	1	1	x	2
241 hill									12			12	1	1	x	1
242 him						14			17	3		34	3	pr	x	1
243 his						10			17	10		37	3	pr	x	1
244 hole						4						4	1	1-2	x	1
245 home				3	14	10	13		54	25	17	136	7	pp-pr	x	1

TABLE II (Cont.)

Words	Pre-primers				Primers							Total Frequency	Range in No. of Texts	Word Lists		
	W C G	E D	L F	R S	F D J	D D O	E F	L F S	N W P	P P	F O F G			S	K U	G
246 hop					18	6			21	2	5	52	5	pr	x	1
247 hopped								1	3		4	2	1	x	1	
248 horse					17		17		34	5	73	4	pr-1	x	1	
249 hot								7			7	1	1-2	x	1	
250 house	12	4	17		23	22	38	72	13	67	12	280	10	pp	x	1
251 how		3				17	17			2	39	4	pr	x	1	
252 hug						3					3	1	3-4		2	
253 hungry							11				11	1	pr-1	x	1	
254 hurt										16	16	1	1-2	x	1	
255 I	40	1	28	67	152	156	127	84	127	57	170	1009	11	pp	x	1
256 if							5				5	1	1	x	1	
257 in	34	1	4	14	35	56	36	42	47	92	24	385	11	pp	x	1
258 into					12	13	9	11	23	3	6	77	7	pp-pr	x	1
259 is	54		32	10	173	81	77	62	20	62	78	649	10	pp	x	1
260 it	26				132	44	60	28	26	47	80	443	8	pp	x	1
261 jingle							8				8	1	3-4			
262 jump	23		18	6	15	2		2	13		11	90	8	pp	x	1
263 jumped						7		8	11			26	3	pp-pr	x	1
264 just						8						8	1	pr-1	x	1
265 kerchoo											12	12	1			
266 kettle									13			13	1	2-3	x	3
267 kill									6			6	1	2	x	2
268 kitten				1	21	14	19				7	62	5	pp-pr	x	1
269 know							31			11		42	2	1	x	1
270 late											10	10	1	1-2	x	1

TABLE II (Cont.)

Words	Pre-primers				Primers						Total Frequency	Range in No. of Texts	Word Lists			
	W C G	E D	L F	R S	F D J	D D O	E F	L F S	N W P	P P			G F O F	S	K U	G
271 laughed			5		30	16	9	7			28	95	6	pp-pr	x	2
272 lay							5	3	2			10	3	1-2	x	1
273 leaves									2			2	1	1	x	1
274 let							3	20	5			28	3	1-2	x	1
275 let's							25					25	1	2	x	2
276 letter							17		13			30	2	1-2	x	1
277 light		5					7	2				14	3	pr-1	x	2
278 lighted								5				5	1		x	2
279 like				32	21	45	18	13	7	13	24	173	8	pp	x	1
280 liked						14	4			2		20	3	pr	x	1
281 little	15	1	6	20	68	137	31	77	80	183	23	641	11	pp	x	1
282 live								17	1	11		29	3	pr-1	x	1
283 lived						6		5	8	2		21	4	pr-1	x	1
284 look	30		21	10	85	18	32	26	4	8	46	280	10	pp	x	1
285 looked				8	25	55	16	29	21	6	12	172	8	pp-pr	x	1
286 looking						3	8		1	8		20	5	pr-1	x	1
287 love										6		6	1	2	x	1
288 loved										2		2	1	2	x	1
289 lunch							12				19	31	2	1-2	x	1
290 lying									6			6	1	3	x	4
291 made								16	5	10		31	3	pr	x	1
292 make	5		5		24		50	26	14	5	6	135	8	pp-pr	x	1
293 making							1					1	1	pr-1	x	1
294 ma-ma					13	10					10	33	3			
295 man						51	7	8	11	2		79	5	pr	x	1

TABLE II (Cont.)

Words	Pre-primers				Primers							Total Frequency	Range in No. of Texts	Word Lists		
	W C G	E D	L F	R S	F D J	D D O	E F	L F S	N W P	P P	G F O H			S	K U	G
296 many						5				3		8	2	pr-1	x	1
297 may				3		11	7	11	11	3		46	6	pp-pr	x	1
298 me	18		15	12	40	28	31	16	45	8	16	229	10	pp	x	1
299 meat									13			13	1	2	x	1
300 merry							5					5	1	2	x	3
301 met									21	6		27	2	1	x	1
302 mew					32	15	6			1	6	60	5	pp-pr		1
303 middle-sized									8			8	1		x	2
304 milk							10	10	14	11	23	68	5	pp-pr	x	1
305 milked										2		2	1		x	1
306 milkman							4					4	1	pr	x	3
307 Miss							39	37		4		80	3	pr-1		1
308 money							5		5			10	2	1-2	x	1
309 monkey						44						44	1	pr-1	x	1
310 moo						10						10	1	pr-1	x	2
311 more		3					10					13	2	pr-1	x	2
312 morning				3		15		20		13		51	4	pp-pr	x	1
313 mother	19	5	6	16	55	46	68	50	26	38	56	385	11	pp	x	1
314 mother's										2		2	1	pp	x	1
315 mouse								11				11	1	pr-1	x	1
316 moving								5				5	1	2	x	2
317 Mr.						24	35			1		60	3	pr-1		1
318 must					19	7	15	23	6		11	81	6	1	x	1
319 my	16		19	7	43	45	18	29	37	21	33	268	10	pp	x	1

TABLE II (Cont.)

Words	Pre-primers				Primers							Total Frequency	Range in No. of Texts	Word Lists		
	W C G	E D	L F	R S	F D J	D D O	E F	L F S	N W P	P P P	G H O F			S	K U	G
320 nail								5				5	1	1-2	X	2
321 name				2		10			5			17	3	pr-1	X	1
322 nest					13	9				2		11	2	pr-1	X	1
323 new					10	15		9			8	42	4	pr	X	1
324 next						11						11	1	l	X	1
325 night						2	5		5	5		17	4	pr-1	X	1
326 no					24	11	22	15	11	9	18	110	7	pp-pr	X	1
327 noise									8			8	1	1-2	X	1
328 nose							2					2	1	l	X	1
329 not	15		8		101	80	20	26	102	15	106	473	9	pp	X	1
330 nothing							5		7			12	2	1-2	X	2
331 now					21	10	36	23		1	58	149	6	pp-pr	X	1
332 of						19	27	22	18	19		105	5	pr	X	1
333 off							4		8			12	2	pr-1	X	1
334 oh	68		14		103	32		21	7		53	298	7	pp	X	1
335 old						10		21	50			81	3	pr-1	X	1
336 on				5	25	39	16	24	50	39	30	228	8	pp-pr	X	1
337 once								5	5	2		12	3	l	X	1
338 one	15			10	34	29	12	32	10	16	9	167	9	pp-pr	X	1
339 only										2		2	1	1-2	X	1
340 open						6			4	3		13	3	pr-1	X	1
341 opened									8	2		10	2	l	X	1
342 or										2		2	1	l	X	1
343 organ						30						30	1			

TABLE II (Cont.)

Words	Pre-primers				Primers							Total Frequency	Range in No. of Texts	Word Lists		
	W C G	E D	L F	R S	F D J	D O	E F	L F S	N W P	P P P	G T O W			S	K U	G
344 other		4					8					12	2	1	x	1
345 our					17		11	9		5	9	51	5	pr	x	1
346 out					32	23	17		37	11	22	142	6	pp-pr	x	1
347 over									12			12	1	pr-1	x	1
348 ox									14			14	1	3		2
349 paid							2	2				4	2	2-3		3
350 paint		1					37	13				51	3	pr-1	x	1
351 painted							3	5				8	2	pr-1	x	1
352 painting							1					1	1	pr-1	x	1
353 pal						2						2	1			
354 pan								6	8			14	2	2	x	1
355 park		1										1	1	1-2	x	2
356 parrot						3						3	1	1-2	x	
357 party							13		10			23	2	pr	x	1
358 peep										12		12	1	pr-1	x	1
359 people										11		11	1	1-2	x	1
360 perhaps							5					5	1	2-3		3
361 pet					15	13					7	35	3	pr		1
362 picked									5			5	1	1-2	x	2
363 picture		2					22		11	8		43	4	pr	x	1
364 pie								5				5	1	1-2	x	1
365 pig					20	10	7		37	4	15	93	6	pr	x	1
366 plan							5					5	1	2		3
367 play	11		27	6	34	17	7	9	35	18	44	208	10	pp	x	1
368 played						10	1		1	3		15	4	pr-1	x	1

TABLE II (Cont.)

Words	Pre-primers				Primers							Total Frequency	Range in No. of Texts	Word Lists			
	W C G	E D	L F	R S	F D J	D O	E F	L F S	N W P	P P P	G H O F			S	K U	G	
369 playing						5	5			2		12	3	pr	x	1	
370 playtime									1			1	1				
371 please					16	4	8			16	7	11	6	6	pr	x	1
372 point									6			6	1	2	x	2	
373 policeman										1		1	1	1	x	2	
374 polite							7					7	1	2-3		3	
375 pony					31	11						11	3	pr	x	1	
376 porridge									15			15	1	3-4	x	2	
377 postman							8			3		11	2	1-2	x	3	
378 present							11					11	1	1-2	x	2	
379 pretty					15	22	9	6		2	11	65	6	pr	x	1	
380 puddle						14						14	1	2-3	x	4	
381 puff					39							51	2	2		4	
382 pull										2		2	1	pr-1	x	1	
383 pulled										2		2	1	pr-1	x	1	
384 pumpkin							21					21	1	2-3	x	2	
385 puppies							2					2	1	1	x	2	
386 puppy				16		6	5					27	3	1	x	2	
387 puppy's				1		1						2	2	1	x	2	
388 pussy								26				26	1		x	1	
389 put						3	25	15	36	25		104	5	pr	x	1	
390 quack					21	18				6		45	3	pr-1	x	4	
391 rabbit		2			20	49	43		60	23	19	216	7	pp-pr	x	1	
392 rain						10						10	1	pr-1	x	1	

TABLE II (Cont.)

Words	Pre-Primers				Primers							Total Frequency	Range in No. of Texts	Word Lists		
	W C G	E D	L F	R S	F D J	D D O	E F	L F S	N W P	P P	G F F			S	K U	G
393 ran				13	24	59		18	40	2	22	178	7	pp	x	1
394 rap									3			3	1	3-4		3
395 rapped									5			5	1			3
396 rat									6			6	1	3	x	1
397 read		4					7		4	8		23	4	pr	x	1
398 ready							10	16			30	56	3	pr	x	1
399 red	10	4		8	12	41	11	21	21	34	10	172	10	pp-pr	x	1
400 ride			23	53	36	8	7	3		3	10	143	8	pp-pr	x	1
401 right												2	1	1	x	1
402 road							6					6	1	1	x	1
403 rode										3		3	1	1-2	x	3
404 roll									1			1	1	pr-1	x	1
405 rolled									6			6	1	pr-1	x	1
406 roof							11	9			5	25	3	2	x	2
407 rooster						7		9		46		62	3	pr-1	x	1
408 rope									11			11	1	2	x	1
409 round						12		10				22	2	1	x	1
410 rug										5		5	1	2-3	x	2
411 run	19		18		19	10		7	11	3	5	92	8	pp	x	2
412 said	92		59	37	290	224	234	205	138	68	228	1575	10	pp	x	1
413 same						2						2	1	2	x	2
414 Santa							9					9	1	pr-1		1
415 sat					15				7	2	6	30	4	pr	x	1
416 saw				22	19	40	10		7	14	33	145	7	pp	x	1
417 say					29	28			11	21	10	99	5	pr-1	x	1

TABLE II (Cont.)

Words	Pre-primers				Primers							Total Frequency	Range in No. of Texts	Word Lists		
	W C G	E D	L F	R S	F D J	D D O	E F	L F S	N W P	P P	G F O			S	K U	G
418 school		3			15		6	37		18	5	84	6	pp-pr	x	1
419 second							7					7	1	2-3	x	2
420 see	73		13	5	84	41	46	9	6	10	59	346	10	pp	x	1
421 seen									5			5	1	1-2	x	2
422 send										2		2	1	1-2	x	2
423 sent										2		2	1	2	x	2
424 set										1		1	1	2	x	1
425 shall									15			15	1	pr-1	x	1
426 she				14	53	50	12	42	110	17	63	361	8	pp-pr	x	1
427 shinning						3						3	1	1-2	x	2
428 shoe							6					6	1	1-2	x	1
429 show										7		7	1	1	x	1
430 sit									4	16		20	2	pr-1	x	1
431 sitting									3			3	1	2	x	1
432 sleep									4	4	15	23	3	pr-1	x	1
433 sly									21			21	1	3-4		2
434 smell							8					8	1	1-2	x	2
435 snap						10						10	1	2-3		3
436 so					18	20	15		25	7	25	110	6	pr	x	1
437 soft									5			5	1	1-2	x	1
438 some						24	15	55	72	3	16	185	6	pp-pr	x	1
439 someone									20			20	1			2
440 something	22	8		23	50	19	25					36	7	pp-pr	x	2
441 soon					12		12	9	18		16	67	5	pr	x	1

TABLE II (Cont.)

Words	Pre-primers				Primers							Total Frequency	Range in No. of Texts	Word Lists			
	W C G	E D	L F	R S	F D J	D D O	E F	L F S	N W P	P P	G H O			S	K U	G	
442 splash						19							19	1	1-2	x	2
443 spoon								6					6	1	3	x	2
444 spot					50						42		92	2	1	x	3
445 squirrel							25		20				45	2	pr-1	x	1
446 stair									10				10	1	2	x	3
447 stand							6						6	1	1	x	1
448 started						9							9	1	1-2	x	1
449 stay						3							3	1	pr-1	x	1
450 stick									19				19	1	1	x	1
451 stile									13				13	1			4
452 sting									5				5	1	2-3		3
453 stir								4					4	1	3	x	3
454 stood											2		2	1	2	x	2
455 stop							9		13		5	16	43	4	pr	x	1
456 stopped						15	4	4	1		5		29	5	pr	x	1
457 store		6		12		19	13				8		58	5	pr	x	1
458 store-keeper											12		12	1			3
459 story							17	3			15		35	3	pr	x	1
460 street						6					6		12	2	pr-1	x	1
461 sugar							5	5					10	2	2-3	x	1
462 suit											2		2	1	1-2	x	2
463 sun						6		3			2		11	3	pr-1	x	1
464 surprise						17		13	18				30	2	pr-1	x	2
465 table							5	15					38	3	pr	x	1

TABLE II (Cont.)

Words	Pre-primers				Primers							Total Frequency	Range in No. of Texts	Word Lists		
	W C G	E D	L E	R S	F D J	D D O	E E F	L F S	N W P	P P	G F O F			S	K U	G
466 tail					15				20		5	40	3	pr-1	x	1
467 take							16	12	7			35	3	pr	x	1
468 talk					24	28					5	57	3	pr-1	x	1
469 talked						8						8	1	pr-1	x	1
470 teacher							3					3	1	l-2	x	1
471 tell								6	6			12	2	pr-1	x	1
472 than										9		9	1	l-2	x	1
473 thank			4		12		11	7	12	2	13	61	7	pr	x	1
474 that					24	30	18	22	11		18	123	6	pr	x	1
475 the	45	8	29	12	199	369	270	344	478	432	176	2362	11	pp	x	1
476 their										3		3	1	pr-1	x	1
477 them							6	22		8		36	3	pr	x	1
478 then						47	27		36	3	19	132	5	pp-pr	x	1
479 there					25	4		29	22	11	10	101	6	pr	x	1
480 these							15					15	1	l-2	x	1
481 they			8		57	30	27	80	14	22	35	273	8	pp-pr	x	1
482 thing								9		2		11	2	pr-1	x	1
483 think							5					5	1	l-2	x	1
484 this			5	8	46	30	15	17	11	7	22	161	9	pp-pr	x	1
485 three	12	3		7	17	4			17	3	6	69	8	pp-pr	x	1
486 time							11		5	2	3	21	4	pr-1	x	1
487 tired											10	10	1	l-2	x	2
488 to	26	4	23	46	94	117	98	120	98	117	160	903	11	pp	x	1
489 today								9				9	1	pr-1	x	1

TABLE II (Cont.)

Words	Pre-primers				Primers							Total Frequency	Range in No. of Texts	Word Lists		
	W C G	E D	L F	R S	F D J	D D O	E E F	L F S	N W P	P P	G T H			S	K U	G
490 tonight									8			8	1	2-3	x	2
491 too				4	33	46	32	26	16	3	50	210	8	pr	x	1
492 took							15			4		19	2	pr-1	x	1
493 tool							8					8	1	3	x	2
494 top										1		1	1	1	x	1
495 toy					20	14	17				6	57	4	pr-1	x	1
496 train				4		21				17		42	3	pp-pr	x	1
497 tree							12		8			20	2	pr	x	1
498 tune						14						14	1	3-4		4
499 turkey							5					5	1	1-2	x	2
500 turn								10				10	1	1-2	x	1
501 tweet						28						28	1	3-4		
502 two	12			7	15	7	9	8		3	10	71	8	pp-pr	x	1
503 under					14				19	3	5	41	4	pr	x	1
504 up	18			22	29	15	17	5	9	7	31	153	9	pp	x	1
505 upon									5			5	1	2	x	1
506 us							13	13	11	13		50	4	pr	x	1
507 very						12	6					18	2	pr-1	x	1
508 voice									19			19	1	1-2		2
509 wagon										6		6	1	1	x	2
510 wake											14	14	1	pr-1	x	2
511 walk						12			5	3		20	3	pr	x	1
512 walked				14		17				2		33	3	pr	x	1
513 wall							9					9	1	2-3	x	1

TABLE II (Cont.)

Words	Pre-primers				Primers							Total Frequency	Range in No. of Texts	Word Lists		
	W C G	E D	L F	R S	F D J	D D O	E E F	L F S	N W P	P P	G T O F			S	K U	G
514 want	28		13	8	54	45	29	33	6	15	70	301	10	pp	x	1
515 wanted					25	6	5	11	9	3	20	79	7	pr	x	1
516 warm								5		12		17	2	l-2	x	1
517 was					11	67	16	15	32	22	37	200	7	pp-pr	x	1
518 wash												25	1	pr-1	x	2
519 water									16	7		23	2	pr	x	1
520 way			7				7	4	7	16		41	5	pr-1	x	1
521 we	14		6		64	11	43	85	12	22	60	317	9	pp	x	1
522 wee						6				61	82	149	3	l-2	x	1
523 well					12	4	15				6	37	4	l	x	2
524 went			12	7	41	42	20	10	38	13	70	253	9	pp	x	1
525 were								18	5	6		29	3	pr	x	1
526 what			12	17	41	30	61	22	32	8	27	250	9	pp	x	2
527 when									5	2		7	2	pr-1	x	1
528 where	15		11		17		10	17	6	2	7	85	8	pp-pr	x	1
529 which							7		11	2		20	3	l-2	x	1
530 white					22	28		5	22	35	8	120	6	pr	x	1
531 who					21	3	9		61	7	7	108	6	pp-pr	x	1
532 whoa							5					5	1		x	4
533 why									10			10	1	l	x	1
534 wife										6		6	1	2		2
535 will		1	17		53	45	45	59	101	10	83	414	9	pp	x	1
536 window						14	8	10	9	13		54	5	l	x	1
537 wing										3		3	1	l-2	x	2

TABLE II (Cont.)

Words	Pre-primers				Primers							Total Frequency	Range in No. of Texts	Word Lists		
	W C G	E D	L F	R S	F D J	D D O	E E F	L F S	N W P	P P	G T O F			S	K U	G
538 wish						9						9	1	1	x	1
539 with			28	12	45	28	25	35	5	25	50	253	9	pp	x	1
540 woman								10	39			49	2	1-2	x	1
541 wood							5		24	21		50	3	3	x	1
542 word						19						19	1	1-2	x	2
543 work	10				12		4	4			12	42	5	pr-1	x	1
544 worked							4	8				12	2	pr-1	x	1
545 workers		2										2	1			
546 would									14			14	1	1	x	1
547 write							7					7	1	1-2	x	1
548 yellow	22				11			8		39	6	86	5	pr	x	1
549 yes					21	10	12	11	6	4	11	75	7	pp-pr	x	1
550 you	19	4	21	3	112	88	100	95	70	15	121	648	11	pp	x	1
551 your							10	8	6			24	3	pr	x	1
TOTALS	1378	146	798	906	5627	5459	4357	4335	5349	3991	4820	37,175				

Analysis of Total Vocabulary

Words with Total Frequency of One: A careful study of Table II reveals many interesting vocabulary facts. Total frequencies range from 1 to 2,362. The 13 words that appeared just once in the 37,175 running words and 551 different words were: ask, bears', broke, circus, green's, making, painting, park, playtime, policeman, roll, set, and top. These 13 words occurring only once in the total vocabulary are found in just four books. There are two in Everyday Doings, four in Everyday Fun, four in The New Winston Primer, and three in Peter and Peggy.

Words Common to All Pre-primers and Primers: The eight words that were common to all eleven texts were: a, I, in, little, mother, the, to, and you. The text Everyday Doings, which is listed as a pre-primer, really belongs to the preparatory reading readiness period of reading instruction before reading in pre-primers is taught. In the opinion of the present writer the results of this study would have been more consistent if this text had been omitted from the investigation. However, as it was on the Arizona list as a pre-primer, it was included. In this discussion of words common to all texts in the investigation the inclusion of Everyday Doings made the results show just these 8 words already mentioned common to all pre-primers;

but if we exclude Everyday Doings there are 22 words in all common to the other three pre-primers. These additional 14 words that would then be common to the three pre-primers are: and, big, come, down, go, here, is, look, me, my, play, said, see, and want. All words common to the four pre-primers are common to the primers.

There are 58 words common to all seven primers. In addition to the 8 words common to the four pre-primers, the other 50 words common to the primers are:

all	do	into	on	up
am	down	is	one	want
and	for	it	play	wanted
are	girl	like	red	was
at	go	look	said	we
away	good	looked	see	went
big	have	me	she	what
but	he	my	they	will
come	here	no	this	with
did	house	not	too	yes

Summary of Varied Repetition of Words in Texts: The following Table III gives data for each text concerning the average repetition or ratio of running words to different words, and the number and per cent of words repeated with various frequencies.

TABLE III

SUMMARY OF REPETITION OF WORDS IN ARIZONA PRE-PRIMERS AND PRIMERS

Name of Text**	Total Running Words	Total Different Words	Average Repetition of Words	Number and Per Cent* of Words Used with Frequency of													
				1		2-9		10-24		25-49		50-99		100-199		200 up	
				No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
PRE-PRIMERS																	
WCG	1387	52	25.52	0		1	2	30	58	15	29	6	11	0		0	
ED	146	39	3.74	7	18	31	79	1	3	0		0		0		0	
LF	798	52	15.35	0		21	40	20	39	10	19	1	2	0		0	
RS	906	67	13.52	3	5	29	43	28	42	5	7	2	3	0		0	
PRIMERS																	
FDJ	5627	151	37.27	0		1	.5	82	54	41	27	16	11	10	7	1	.5
DDO	5459	214	25.51	1	.5	64	30	84	39	45	21	12	5.5	6	3	2	1
EF	4357	235	18.54	6	2.5	106	45	74	31.5	33	14	12	5	2	1	2	1
LFS	4335	202	21.46	0		85	42	68	34	31	15	13	7	2	1	2	1
NWP	5349	276	19.38	9	3	107	39	113	41	27	9.5	13	5	6	2	1	.5
PP	3991	270	14.78	7	2.5	159	59	71	26	21	8	7	2.5	4	1.5	1	.5
GTOF	4820	174	27.70	0		45	26	71	41	31	18	20	11.5	6	3	1	.5

*The per cents for word frequencies are rounded out to nearest whole numbers and .5 of whole numbers.

**See page 48 for key to titles of texts.

It is gratifying to note that the Arizona basal pre-primer We Come and Go, with an average word repetition of 25.52, and the primer Fun with Dick and Jane, with an average word repetition of 37.27, rate highest in their respective groups in average word repetition. The reason Everyday Doings rates the low average of 3.74 times a word as repeated in the reading material is, as stated previously in this chapter, that it is more of a reading readiness book than a pre-primer and constructed more to acquaint children with continuity of ideas through pictures rather than to give drill by word repetition. Only two primers, Good Times with Our Friends and Fun with Dick and Jane, have a higher average for repetition than the pre-primer We Come and Go, and both of these books are of the same Scott Foresman series published in 1940 and 1941. The other series of readers were published in 1935 and 1936, and one in 1928.

Because of the inclusion of the brief book Everyday Doings in the pre-primers, a truer knowledge will be gained of the first grade reading situation in Arizona by a closer study of the primers than of the pre-primers. In a survey of investigations in Chapter II it was noted that there was a trend in primers to have fewer words in beginning books with increased repetition. The results of

one of the latest studies of this kind, made in 1939 by Courtier, will be used for comparison with results shown in Table III.⁴ Courtier found the number of different words in 20 primers ranged from 166 to 289, with an average repetition from 11.8 to 32.8. The number of different words in Arizona primers range from 151 to 276, with an average repetition of from 14.78 to 37.27. The present study supports the trend of other recent studies toward a smaller vocabulary with more repetition of words. In the basal primer Fun with Dick and Jane, only 1.5 per cent of the words are repeated fewer than 10 times; but in the other six Arizona primers, from 26 to 61.5 per cent of the words in a book are repeated less than 10 times.

Average Number of Running Words and New Words per

Page: The average number of running words per page is not a much discussed topic in vocabulary investigations, but in primary reading it is important that the words on the page be not too numerous and that they be arranged in sentences best for the eye sweep and thought-getting process of beginning reading. Not taking Everyday Doings into account, the other three pre-primers seem to agree on approximately

4. Courtier, Audrey March. op. cit., p. 272.

TABLE IV

AVERAGE NUMBER OF RUNNING WORDS AND NEW WORDS
INTRODUCED ON EACH PAGE OF ARIZONA
PRE-PRIMERS AND PRIMERS

Name of Text	Total Running Words	Total Different Words	Number of Pages in Text	Average Number of Running Words per Page	Average Number of New Words per Page
PRE-PRIMERS					
We Come and Go Everyday	1387	52	70	19.81	.73
Doings	146	39	31	4.71	1.26
Little Friends	798	52	38	21.00	1.36
Rides and Slides	906	67	47	19.28	1.42
PRIMERS					
Fun with Dick and Jane	5627	151	157	35.84	.96
Day in and Day Out	5459	214	153	35.69	1.39
Everyday Fun	4357	235	151	28.85	1.56
Little Friends at School	4335	202	122	35.53	1.66
New Winston Primer	5349	276	138	38.76	2.00
Peter and Peggy	3991	270	123	32.45	2.19
Good Times with Our Friends	4820	174	123	39.19	1.42

20 running words per page, while the primers average about 36 running words per page.

Not so much is reported in current periodical investigations concerning the number of new words that should be introduced per page. Dr. Paul McKee says he thinks that in a primer an average of 2.5 new words introduced per page is reasonable.⁵ This means 5 new words would be introduced in every two pages of reading. If the present study is any indication, it seems that authors of pre-primers and primers now aim at a lower average of new words per page than the figure McKee suggests. Disregarding Everyday Doings, the Arizona pre-primers introduce on an average approximately 4 new words in every 3 pages of pre-primer reading, and approximately 3 new words in every 2 pages of primer reading.

Number of Words Common to Any Two Texts: Table V shows the number of words common to any two of the four pre-primers and seven primers used in Arizona first grade reading.

Reading from the upper left-hand corner in Table V, one sees that We Come and Go and Everyday Doings have 15 words in common. By referring to the numbers in the

5. McKee, Paul. op. cit., p. 177.

TABLE V

NUMBER OF WORDS COMMON TO ANY TWO OF FOUR PRE-PRIMERS
AND SEVEN PRIMERS USED IN ARIZONA*

Name of Text	Everyday Doings (39)	Little Friends (52)	Rides and Slides (67)	Fun with Dick and Jane (151)	Day In and Day Out (214)	Everyday Fun (235)	Little Friends at School (202)	New Winston Primer (276)	Peter and Peggy (270)	Good Times with Our Friends (174)
				PRE-PRIMERS						
We Come and Go (52)	15	32	33	52	45	43	47	42	42	52
Everyday Doings (39)	4	11	14	24	21	34	22	23	25	24
Little Friends (52)			31	49	46	46	52	47	46	49
Rides and Slides (67)				53	65	52	52	50	60	53
				PRIMERS						
Fun with Dick and Jane (151)					115	103	103	101	113	151
Day in and Day Out (214)						115	114	129	141	121
Everyday Fun (235)							127	132	141	111
Little Friends at School (202)								127	136	108

TABLE V (Cont.)

New Winston Primer (276) Peter and Peggy (270)	Everyday Doings (39) * Little Friends (52) Rides and Slides (67) Fun with Dick and Jane (151) Day In and Day Out (214) Everyday Fun (235) Little Friends at School (202) New Winston Primer (276)	Peter and Peggy (270)	Good Times with Our Friends (174)
		161	113
			122

* The numbers in the parentheses following the titles of the texts show the total number of different words in each book.

parentheses following the titles of the books, we see that the two books have 52 and 39 different words, respectively. By subtracting 15 from 52 and 39, it is seen that We Come and Go contains 37 words that are not included in Everyday Doings, and Everyday Doings contains 24 words not found in We Come and Go. Likewise, it may be seen that We Come and Go contains 20 words not found in Little Friends, and Little Friends has 20 words not used in We Come and Go.

By following this procedure one may find the vocabulary difficulty in any of the texts given in Table V when used to follow any of the other texts. This information is useful in choosing the sequence in which the readers are introduced.

Words Common to One Text: In examining the 551 different words in all the Arizona pre-primers and primers, it was found that 243, or approximately 44 per cent of this total vocabulary, were used in just one of the eleven different texts. Not all 243 of these words were found in the same text, but each was in just one reader. In 1922 one of the first studies of beginning books disclosed that out of 1,636 different words in 12 beginning books of reading, 783 or 47 per cent were found in only one book.⁶ The

6. Selke, Erich and Selke, G.A. op. cit., p. 747.

more recent books studied here do not show a marked improvement in this respect, as one would expect for books published about twenty years later than those in the Selke study.

Table VI lists the texts of this Arizona study and shows how many words appear only in each text. The four which contain no words not found in some other text are: We Come and Go, Little Friends, Rides and Slides, and Fun with Dick and Jane. Over 26 per cent of The New Winston Primer vocabulary is common only to that book, and almost 20 per cent of the vocabulary of Everyday Fun is found just in that text.

Vocabulary of Texts not in Primer Level of Standard Word Lists: The value of words should be determined by more than the number of times they are repeated or the number of texts in which they are present. Their usefulness may be checked against standard word lists. As explained earlier in this chapter the lists of Stone, the Kindergarten Union, and Gates were used to check respectively the usefulness of a word as to grade level rating, spoken vocabulary of children beginning school, and importance in primary literature. An explanation should be made here as to the meaning of "primer level" in the lists.

TABLE VI

NUMBER OF WORDS IN EACH OF FOUR PRE-PRIMERS
AND SEVEN PRIMERS WHICH DO NOT APPEAR
IN ANY OTHER OF THE ELEVEN TEXTS

Name of Text	Words Common to Just This Text	
	Number	Per Cent
We Come and Go	0	0
Everyday Doings	4	10.3
Little Friends	0	0
Rides and Slides	0	0
Fun with Dick and Jane	0	0
Day In and Day Out	33	15.5
Everyday Fun	46	19.6
Little Friends at School	29	14.4
New Winston Primer	73	26.4
Peter and Peggy	50	18.5
Good Times With Our Friends	8	4.6

Stone grades his vocabulary for primary reading into ten levels, as explained when discussing Table II. In order to be of "primer level" in the Stone list the word had to be rated by Stone as pre-primer (pp), pre-primer or primer (pp-pr), primer (pr), primer or first reader (pr-1). If a word appeared in the Kindergarten Union list it was considered "primer level" as it is in the range of the spoken language of children entering school. To be "primer level" in the Gates list a word had to appear in the first 500 words of the 1,811 words listed by Gates.

Keeping in mind this explanation of "primer level," Table VII presents a comparison of these three standard lists with the vocabularies of the Arizona texts for the first half of the first grade.

Table VII shows that most of the vocabulary of the texts appears in the spoken language of young children. We Come and Go, Little Friends, and Rides and Slides contain no words not appearing in the Kindergarten Union list. Day In and Day Out contains the highest percentage outside of the Kindergarten Union list, and this is only 6.5 per cent. The New Winston Primer has the highest per cent of vocabulary not in the first 500 of the Gates list.

TABLE VII

VOCABULARY OF ARIZONA PRE-PRIMERS AND PRIMERS NOT INCLUDED IN THE PRIMER LEVEL OF THREE STANDARD WORD LISTS

Name of Text	Stone Vocabulary		Kindergarten Union List		Gates Vocabulary		
	No.	%*	No.	%	No.	%	
			PRE-PRIMERS				
We Come and Go	1	2	0	0	2	4	
Everyday Doings	5	12	1	2.5	6	15	
Little Friends	0	0	0	0	3	6	
Rides and Slides	2	3	0	0	5	7.5	
			PRIMERS				
Fun with Dick and Jane	11	7	6	4	15	10	
Day In and Day Out	34	16	14	6.5	36	17	
Everyday Fun	53	22.5	11	4.5	31	13	
Little Friends at School	39	19	2	1	22	11	
New Winston Primer	82	29.5	11	4	49	17.5	
Peter and Peggy	56	20.5	11	4	27	10	
Good Times with Our Friends	19	11	7	4	20	11.5	

*The per cents in this table are rounded off to the nearest whole number or .5 of a whole number.

Of the three lists, the Stone is the one in which the greatest amount of the vocabularies of the texts is outside of "primer level." The New Winston Primer was the greatest offender in this respect with 29.5 per cent of its vocabulary graded beyond primer level; and a number of these words were not just outside of primer level in high first or low second grade vocabulary, but in the vocabulary of higher grades. This lack of agreement of The New Winston Primer with the word lists is probably because it is an older publication. The more recently published Scott Foresman books of the group check the best with the word lists.

From the foregoing analysis of the vocabulary of Arizona pre-primers and primers, there will follow in Chapter IV a mastery vocabulary for the first half year of reading in Arizona, and in Chapter V a suggested sequence for reading Arizona pre-primers and primers.

CHAPTER IV

A MASTERY READING VOCABULARY FOR ARIZONA PUPILS IN THE FIRST HALF OF THE FIRST GRADE

Importance of a Mastery Reading Vocabulary

It is a common belief of educators that the primary purpose of the elementary school is to teach the child good reading habits and to be sure that he has a fundamental vocabulary. If he has these, his comprehension will develop with maturity and experience. Numerous factors enter into a child's ability to read, but if his comprehension is low he most likely has an inadequate vocabulary. Lacking a good sight vocabulary, reading is difficult for a child and he learns to hate it.

There are some who believe a child should acquire a sight vocabulary from reading experiences without definite drill. Roma Gans is one who favors gaining a reading vocabulary through experiences, and this is the way she puts her opinion:¹

"This theory of learning to read, which can be observed in action in many primary schoolrooms, obviously presupposes freedom from vocabulary

1. Gans, Roma. "This Business of Reading." Progressive Education; 21:72, (February, 1944.)

control in the later reading experiences of children. The system of sensing the reading needs of individuals and groups, finding the right books or other materials, continuing their zestful growth in independence in reading, keeping sufficiently aware of each child's progress to give him the right help at the time when it is needed - this system will develop animated readers, who will become increasingly alert in choosing their own reading material for their many needs."

The idea of Gans sounds good in theory, but how many teachers are capable of "sensing the reading needs" of a child and knowing how "to give him the right help at the time when it is needed" without some knowledge of the definite vocabulary need of the child at different reading levels? Any teacher can guide the reading of her pupils better if she has available a mastery reading vocabulary containing important words a pupil will need in his subsequent reading. Without a basic vocabulary knowledge, ideas of a story can not be understood and word meanings from context can be gained only if a vast majority of words in a story are known.

Because a teacher uses a mastery vocabulary list is no reason that the lessons need to become dull with drill. The reading lessons can still be varied and interesting yet purposeful, keeping in mind as a goal the attainment of being familiar with the mastery vocabulary. As a whole, children like drill and it is the teacher who dislikes it. Word drill can be made very interesting to children, and

all mastery words will not necessarily need a lot of drill because the teacher will see that they are learned by repetition in various reading experiences other than just word drill.

Mabel Rudisill expresses well the need for vocabulary² control in the following quotation:

"The necessity for a controlled, systematically developed vocabulary in beginning reading materials arises separately from each of several commonly accepted principles in the teaching of beginning reading. One principle is that the child should experience reading from the beginning as the process of getting ideas from the printed page. If this objective is to be realized when the child is doing the reading, the materials must be composed mainly of vocabulary that is so familiar as to be instantly recognized. A second principle is that familiarity with printed words is best developed through meeting the words repeatedly in the reading of meaningful content. The fulfillment of this idea requires that reading materials repeat old words systematically and introduce new words gradually. A third principle is that accurate, fluent, and rapid reading at mature levels represents a complex of habits perfected through extensive practice in reading with accuracy, fluency, and rapidity at each subordinate level. One requisite for such reading is a vocabulary that is familiar to the reader."

Deciding on Criteria to Judge the Mastery Vocabulary

After the analysis of the vocabulary of the four pre-primers and seven primers used in the lower half of

2. Rudisill, Mabel. op. cit., p. 683.

the first grade in Arizona, as reported upon in Chapter III of this study, there still remained the problem of evaluating the results obtained and choosing a mastery vocabulary from the 551 different words. Which were the most important of these words for children to learn more thoroughly for mastery?

Total Frequency of a Word: Some studies base the importance of a word on its total frequency of appearance in all books examined. Frequency is important, but it alone should not be the criterion. For example, take two words with a total frequency the same. The words "organ" and "sat" both have a frequency of 30. The first word appears only in one book and is in none of the word lists used for checking in this study. On the other hand, "sat" appears in four books and has a primer level rating in all three word lists. Surely "sat" is a more valuable primer word than "organ," although they have the same frequency.

In trying to decide the minimum frequency that would be judged acceptable to an Arizona pre-primer and primer mastery vocabulary, opinions of others were sought. Not a great deal of information is available concerning the number of times a word should be repeated for mastery, but the opinions of two authors are repeated here. Spache says:

"No one knows exactly how many times a word must be repeated to insure mastery, for intelligence, vocabulary ability, previous reading experience, and other factors influence the situation. However, repetition of a word six times is probably close to minimum. Since Hockett and his workers made a count of the number of times each word was repeated in a large number of books, we have been able to use his data in establishing this standard."³

McKee agrees quite closely with Spache's minimum repetition of six times for mastery.⁴ McKee says:

"Primers vary in the number of word repetitions which they include. It is possible that in some books only a small percentage of the number of words are repeated enough times to provide sufficient practice for mastery. In others the percentage is considerably higher. It is probably safe to say that each word should be repeated in the primer itself at least five or six times in different and well-distributed reading situations, and that additional repetitions should occur in the work book that accompanies the primer."

These two writers agree that a repetition of five or six times is a minimum for mastery of a word. McKee suggests additional practice in a work book, but the State of Arizona does not provide work books; and if the school system or pupils can not afford to buy work books, it is to be presumed that a child will have to get additional experience in word repetition in another pre-primer or primer. Among the factors that influence the situation

3. Spache, George. "New Trends in Primary-Grade Readers." Elementary School Journal; 42:284, (December, 1941.)

4. McKee, Paul. op. cit., p. 177.

of word repetition Spache names "vocabulary ability" and "previous reading experience." These factors are at a minimum with children just learning to read, so it is reasonable that these beginners should have more than the minimum repetition of six times in a mastery vocabulary.

The present writer decided on a frequency of 11 as minimum repetition to include a word in the mastery vocabulary of this study. Presuming the class has no workbooks to repeat the vocabulary of a word, they may depend on two readers or more for word repetition. If there were only two readers for word repetition and one book had the McKee minimum of five times repetition for a word while the other had the Spache minimum of six times, any word appearing the minimum number of times would have a total frequency of 11.

Therefore, the first step in choosing the mastery vocabulary for Arizona pre-primers was to eliminate all words with a total frequency of less than 11.

Number of Readers and Word Lists in which a Word Appeared: After eliminating the words with a frequency of less than 11, the problem of the number of books in which they appeared was considered next. Words of about the same total frequency varied in the number of texts in which they were found. For instance, "gingerbread" with a frequency of 40 appeared in just one book, but "by"

with a frequency of 39 appeared in four different books. The reading situations of "by" are better distributed, and this fact makes it a more important word for mastery.

It was decided that a word appearing in just one text out of eleven was not well enough distributed to be kept in a mastery vocabulary, so all such words were discarded from the mastery group. All words appearing in four or more books were considered to be well enough distributed to be kept in the mastery list.

There remained the question of words appearing in two or three books. To assist in judging these words, consideration was given to their ratings in the three standard lists. If a word appeared in only two books, it had to meet a primer level rating in all three lists or it was excluded. If a word appeared in three books, it was retained provided it met the primer level requirements of two of the standard word lists.

After all this elimination, there remained for the mastery list 248 words out of the original 551 different words in the Arizona pre-primers and primers. In summary, each of these 248 words meets the following criteria:

- I. It has a total frequency of 11 or more
- II. It also meets one of the following qualifications:
 - A. It appears in four or more books
 - B. It appears in three books and checks as primer level in two of the three standard word lists

C. It appears in two books and checks as primer level in all three standard word lists.

To make the 248 mastery words for pre-primers and primers more useful to the Arizona teacher, they were rated further into pre-primer and primer level. The grade level rating of Stone could not be followed completely with the Arizona vocabulary. Some words rated definitely pre-primer level by Stone did not appear at all or had a limited frequency in Arizona pre-primers. Only words appearing in just two books had to meet the primer level requirements of all three standard lists of Stone, the Kindergarten Union, and Gates, so it was possible for words appearing in three or more books to have a higher than primer level rating by Stone. The present writer decided to rate for pre-primer level any words of the 248 in the mastery list which met these two requirements:

- I. It appeared in seven or more of the eleven texts
- II. It had a total frequency of ten or more within the four pre-primers.

After measuring the words by the two requirements listed above, the 248 mastery words were divided into 62 of pre-primer level and 186 of primer level. In the following list those marked with an asterisk (*) are rated as pre-primer level; those not so marked are rated as primer level.

Mastery Vocabulary for Arizona
Pre-primers and Primers

a*	children	good-by	made
after	clean	got	make*
again	come*	green	man
all	cookie	guess	may
am	could	had	me*
and*	cow	hand	mew
animal	day	happy	milk
are*	dear	has	Miss
at*	did	have*	morning
ate	dinner	he*	mother*
away*	do	hello	Mr.
baby*	dog	help*	must
back	doll*	hen	my*
ball	door	her	name
barn	down*	here*	nest
be	draw	him	new
bear	dress	his	night
bed	duck	home	no
big*	eat	hop	not*
bird	egg	horse	now
birthday	every	house*	of
black	farm	how	off
blue*	farmer	I*	oh*
boat	fast	in*	old
bow-wow	father*	into	on
box	find*	is*	once
boy	for*	it*	one*
breakfast	found	jump*	open
brown	four	jumped	our
but	friend	kitten	out
buy	from	laughed	paint
by	fun	let	party
cake	funny*	light	pet
call	gave	like*	picture
called	get	liked	pig
came	girl	little*	play*
can*	give	live	played
car	go*	lived	playing
cat	goat	look*	please
chair	going	looked	pony
chicken	good*	looking	pretty

put	something*	they	water
quack	soon	thing	way
rabbit	squirrel	this*	we*
ran*	stop	three*	wee
read	stopped	time	well
ready	store	to*	went*
red*	story	too	were
ride*	street	took	what*
rooster	sun	toy	where*
run*	table	tree	which
said*	tail	train	white
sat	take	two*	who
saw*	talk	under	will*
say	tell	up*	window
school	thank	us	with*
see*	that	very	wood
she*	the*	walk	work
sit	them	walked	worked
sleep	then	want*	yellow
so	there	wanted	yes
some		was	you*
			your

* The words marked with an asterisk (*) are rated pre-primer level; the rest of the words are rated primer level.

Evaluation of the Mastery Vocabulary

Length of the List: There is satisfaction in knowing how the 62 pre-primer words and 186 primer words of this mastery vocabulary compare in length with similar lists that have been made. More pre-primer vocabulary lists were found than just primer lists. In 1938 Curtis⁵ analyzed 12 pre-primers and listed a core vocabulary of 72 words which constituted 75.9 per cent of the number of

5. Curtis, H.A. op. cit., p. 257.

running words. In this study of Arizona pre-primers and primers the 248 mastery words make up 33,900 of the 37,175 running words in all the readers and this is 91.19 per cent of the running words. This is 23 per cent higher than that reported by Curtis.

In 1941 Langston constructed a core pre-primer vocabulary of 79 words by combining the results of his study with two earlier investigations of Curtis and Gross.⁶ Also, in 1941 Stone studied 20 pre-primers and listed the 100 most important words in them.⁷

The Arizona Course of Study on Reading states that a child should have a sight vocabulary of from 70 to 100 words at the end of the pre-primer stage,⁸ but gives no definite number for the primer level. However, on pages 101-102 of the Scott Foresman manual Combined Guidebook for the First-Grade Program one finds that pre-primer attainments list the ability to recognize 50 words, and the primer attainments list the ability to recognize 150 to 160 words. McKee expects children to learn to recognize some 75 or 100 words during pre-primer reading.⁹

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6. Langston, Roderick G. op. cit., pp. 772-773.
 7. Stone, Clarence R. "Vocabularies of Twenty Pre-Primers." Elementary School Journal; 41:426-427, (February, 1941.)
 8. Payne, I.D. op. cit., p. 27.
 9. McKee, Paul. op. cit., p. 188.

Cole lists an average vocabulary acquired by ordinary classroom instruction, and for low first or primer stage she gives the number of words as 280.¹⁰

In Stone's Graded Vocabulary for Primary Reading the words are not divided just into pre-primer and primer levels; for his first four levels Stone distributes his words as follows: (1) pre-primer, 49; (2) pre-primer or primer, 56; (3) primer, 76; and (4) primer or first reader, 102.¹¹ To put Stone's distribution on just a pre-primer and primer basis, level (1) plus half of level (2) equals 77 words which we shall call pre-primer. Levels (1), (2), and (3) plus half of level (4) equal 232 words which we shall call primer.

For convenience there follows a summary of the foregoing estimates of amounts of words to include in a basic list for pre-primer and primer levels. Instead of using both of Stone's reports we shall use only the figures in his Graded Vocabulary for Primary Grades. When there were inclusive numbers given in the original statement, a score half way between was listed below.

-
10. Cole, Luella. The Improvement of Reading, pp. 129-130.
 11. Stone, Clarence R. Stone's Graded Vocabulary for Primary Reading, p. 5.

<u>Source</u>	<u>No. of Pre-primer Words</u>	<u>No. of Primer Words</u>
Arizona Course	85	
Cole		280
Curtis	72	
Langston	79	
McKee	88	
Scott Foresman	50	155
Stone's Graded List	77	232

From this list we get a rough average of 75 words for the pre-primer stage, and 222 for the primer stage of reading. The mastery vocabulary list suggested in this study for Arizona gives 62 words for the pre-primer stage, and 186 additional words for the primer stage, making a total vocabulary of 248 by the end of the primer stage. These totals are in a reasonable range of the findings of other studies. If there were a fourth pre-primer in this study of regular length instead of the brief one, Everyday Doings, no doubt there would be a larger percentage of the total mastery vocabulary graded as pre-primer level.

Range in Number of Books and Frequencies of Words:

Table VIII shows facts concerning the range in number of books and in total frequencies of the 248 words of the mastery list. All words on this list which appear in from

nine to eleven of the texts rate pre-primer level; their frequencies range from 153 to 2,362. Of these 248 words, 34 per cent have total frequencies of over 60; and 100 per cent of the pre-primer words have total frequencies of over 60.

Appearance of Words in Standard Word Lists: A comparison of the 248 mastery words with the other 303 words on the list of 551 different words found in Arizona pre-primers and primers gives evidence that the mastery list is well chosen from the total list on the basis of the Stone, Kindergarten Union, and Gates lists. Of the 303 words not listed in the mastery vocabulary, 243 or 80 per cent were beyond Stone's reading level (4) - primer or first grade. Only 11 words, or 4 per cent, of the mastery vocabulary were beyond Stone's reading level (4), and even then they were not in a much higher level.

Of the 303 words, 132 or 44 per cent were beyond the first 500 of the Gates list; but in the 248 mastery words only 10, or 4 per cent, were beyond the first 500 of the Gates list. Of these 10 words, 9 were in the second 500. These 9 words are: bow-wow, happy, hello, laughed, light, run, something, well, what. The one word beyond the second 500 of the Gates list was "quack," in the last 311 of the 1811 words appearing in that list.

TABLE VIII

RANGE IN NUMBER OF BOOKS AND FREQUENCIES OF THE
248 WORDS IN THE MASTERY VOCABULARY FOR
ARIZONA PRE-PRIMERS AND PRIMERS

No. of the 11 Texts in Which Words Are Common	No. of Words Given Pre-primer Rating	No. of Words Given Primer Rating	Total in Mastery Vocabulary	Range in Total Frequencies
11	8	0	8	385-2362
10	17	0	17	162-1575
9	15	0	15	153- 473
8	14	6	20	69- 443
7	8	16	24	61- 298
6	0	27	27	46- 185
5	0	30	30	29- 110
4	0	30	30	12- 83
3	0	59	59	11- 149
2	0	18	18	11- 47

Of the 303 words, 44 or 14.5 per cent were not in the Kindergarten Union list; and of the 248 mastery words only 4, or about 2 per cent, were not in this list. These four words were: bow-wow, Miss, Mr., pet.

To put all of this discussion in a positive way, 96 per cent of the mastery list is in the primer level of the Stone list and in the first 500 of the Gates list, while 98 per cent of the mastery list is found in the Kindergarten Union list of the spoken vocabulary of children entering school.

In summary, the mastery vocabulary here offered measures up well with current opinions as to length, frequencies, range of texts including it, and ratings of standard word lists. The fact that these 248 different mastery words constitute 91.19 per cent of all the running words shows that they represent a large part of the reading material in the eleven pre-primers and primers. It follows, also, that the ratio of running words to different words in the 248 mastery word list is much higher than in the remaining 303 words of the total vocabulary of 551 different words in this study. The 248 mastery words were repeated an average of 136.7 times, whereas the other 303 words were repeated only an average of 10.8 times.

This list should be helpful to Arizona teachers of lower first grade not only as a guide for vocabulary work relative to pre-primers and primers, but also as a guide in selecting vocabulary for use in charts and other devices of the period before books are read.

The following list of words is intended to provide the teacher with a list of words that should be used in the first year of school. The words are listed in alphabetical order. The teacher should select the words that are most appropriate for the child's level of development. The words are listed in alphabetical order. The teacher should select the words that are most appropriate for the child's level of development.

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Arizona Department of Education, Phoenix, Arizona

CHAPTER V

CHOOSING THE SEQUENCE OF ARIZONA PRE-PRIMERS AND PRIMERS

The problem of what pre-primer and primer to use next confronts every lower first-grade teacher each term. Learning new words is a perplexing problem to young children in school for the first time. The teacher realizes that in the first grade more than in any other grade the child must add to his ever-growing vocabulary gradually. One very good way to be sure his vocabulary has a gradual, systematic development is to choose readers which have a definite amount of words in common. Harring, in his discussion of the question of what primer to use next, says:

"After the basic book has been read, first-grade pupils read from four to twenty other primers in the order in which chance or accessibility at the moment may decide. Since the number of different words used in primers varies from two hundred to over five hundred to a primer and since the range in total word content is from two thousand to over eight thousand words, it is obvious that these books are very unequal in difficulty. The thoughtful teacher feels that there should be some guide to enable her to present the primers in such an order that each would supplement the preceding book. Authors of primers and writers of courses of study also state that

1. Harring, Sydney. op. cit., p. 207.

primers should supplement each other and that words taught should be those most frequently used."

If a primer is to be read with pleasure and understanding, the pre-primers should develop a sight recognition in fair proportion to the vocabulary of the primer. Pre-primers and primers of the same series usually have a high percentage of overlapping vocabulary. For example, in the Scott Foresman basic series used in Arizona, all of the 52 different words found in We Come and Go are found in the primers Fun With Dick and Jane and Good Times With Our Friends. The different words learned in the pre-primer represent roughly a third of the different words in the two primers.

Among current investigators in primary reading there are two methods of using pre-primers and primers suggested. One of these methods is to read a number of pre-primers and then a number of primers. The other is to read books in the same series together, reading the pre-primer first and then the primer up to a point where new words start making reading more difficult. Then it is suggested that one leave this series and go to another, reading the pre-primer and primer in the same way up to the point where new words increase the reading difficulty. It is claimed this gives more repetition in vocabulary. Then the

remaining harder part of the primers in the various series may be read following the pre-primers and simpler first part of the primers. Carson very seriously advocates the latter method.²

The present writer questions the advisability of breaking into the continuity of a primer when the interest is high among the children concerning the characters in the book and what they are doing. Of course, if there are the same characters in the pre-primer and primer story of a series and one reads other pre-primers before the primer of the series, one leaves the characters for a while and comes back to them again; but this is not quite the same break as in the middle of a book. If the content of a pre-primer is well organized, the story comes to a climax at the end of the book where the children are willing to bid their fanciful friends good-by for a while. On the other hand, if the primer is discontinued in the middle on account of the introduction of new words, this may not be the best place to stop from the standpoint of story plot and interest. The organization and content of a primer would influence a teacher's decision as to whether she would follow a pre-primer by the primer of the same series or by another pre-primer of a different series.

2. Carson, Louise Geddings. op. cit., p. 232.

The recent practice of publishers offering several pre-primers in the same series helps solve this problem of word repetition at the same reading level and in separate interesting story units.

This study favors the practice of reading several pre-primers with overlapping vocabularies that will give a vocabulary foundation for later primers. This opinion is expressed by Rudisill, and she states that the number of pre-primers needed to develop sight recognition of a high percentage of the vocabulary of a primer is dependent on the overlapping of vocabulary among pre-primers and how much of the vocabularies of the pre-primers is common to the primer.³ She expresses her ideas on the question as follows:

"The amount of identity to be desired varies with the aptitude of the pupils. The greater the identity between the vocabularies, the easier is the transition from pre-primer to primer. The slow learner needs a high degree of overlapping in the vocabularies of succeeding books in order that there may be sufficient repetition for mastery and that the confusion and discouragement occasioned by the rapid introduction of new words may be avoided. On the other hand, the quick learner acquires new words at a more rapid rate and may profit from the reading of pre-primers with more diverse vocabularies. Hence the bright pupil makes a successful approach to the primer through the reading of fewer pre-primers than does his less gifted companion."

3. Rudisill, Mabel. op. cit., pp. 683-684.

In this study the method of reading pre-primers and then primers will be followed. Each group of readers will be evaluated carefully and suggestions made to help the Arizona first-grade teacher decide in what sequence she will present the readers to her pupils.

Evaluating and Ranking the Texts

A detailed study was made of the tables in the foregoing chapters in order to judge the best sequence in which to read Arizona pre-primers and primers. It was decided to rank the books in order of their importance as to:

- I. The manner in which the words occur in the vocabularies of the texts.
- II. The agreement of the vocabularies of the texts with the word lists of Stone, Kindergarten Union, and Gates.
- III. The amount of overlapping among the texts.

Word Occurrence in the Vocabularies of Texts: A beginning book is easier for children if its vocabulary is repeated with a good average frequency, if not too many words are introduced per page, and if there are not too many words in the book not common to the other texts. By referring to Table III on page 74 the average word repetition for each text may be found. In Table IV on page 77 is given the average number of new words each text introduces per page of reading. From Table VI on page 83 one

learns the per cent of words in a book found in none of the other texts. The information from these three tables has been combined in Table IX.

All texts, except the pre-primer Everyday Doings, were ranked in order of their usefulness on the basis of the various types of word occurrence. This Houghton Mifflin Company pre-primer was considered definitely belonging to the reading readiness period before more formal reading in pre-primers. Therefore only the other three pre-primers used in Arizona were rated for their sequence of use.

Since the plan here is to use pre-primers and then primers, the texts were ranked separately for study within each group. The texts were ranked in order giving first place in repetition to the text having the highest average of word repetition, giving first place in amount of new words per page to the text introducing the least number of new words per page, and giving first place in words common to only one text to the book having the lowest per cent of words common only to that text. The sum of the rank order of each text for these three factors was found, and on this basis a rank of merit was assigned to each text in relation to each other text of its group.

TABLE IX

RANK OF TEXTS ON THE BASIS OF TYPES OF WORD OCCURRENCE IN TEXTS

Name of Text	Word Repetition		No. of New Words per Page		Words Common to Only One Text		Total of Rank Order	Rank of Merit
	Average	Rank Order	Average	Rank Order	Per Cent	Rank Order		
PRE-PRIMERS								
We Come and Go	25.52	1	.73	1	0	1	3	1
Little Friends	15.35	2	1.36	2	0	1	5	2
Rides and Slides	13.52	3	1.42	3	0	1	7	3
PRIMERS								
Fun With Dick and Jane	37.27	1	.96	1	0	1	3	1
Day In and Day Out	25.51	3	1.39	2	15.5	4	9	3
Everyday Fun	18.54	6	1.56	4	19.6	6	16	5
Little Friends at School	21.46	4	1.66	5	14.4	3	12	4
The New Winston Primer	19.38	5	2.00	6	26.4	7	18	6
Peter and Peggy	14.78	7	2.19	7	18.5	5	19	7
Good Times With Our Friends	27.70	2	1.42	3	4.6	2	7	2

Agreement of Vocabulary of Texts with Standard Lists:

The percentage of the vocabulary of Arizona pre-primers and primers not included in the primer level of the lists of Stone, Kindergarten Union, and Gates may be found in Table VII on page 85. The lower the percentage not in the lists, the higher the text rated in rank among the other texts for having a vocabulary well chosen for children just beginning to read. For instance, Fun With Dick and Jane with just 10 per cent of its vocabulary outside the first 500 of the Gates list received a higher rank order than The New Winston Primer with 17.5 per cent of its vocabulary outside the first 500 of the Gates list.

Overlapping Among Texts: In Chapter III on pages 78 and 81 an explanation was made of how to read Table V to discover the words in common among the texts and the additional new words remaining to learn in a text after another text had been read. To look at the overlapping among pre-primers in averages and percentages will give one a better idea of the one pre-primer which overlaps most with the other three pre-primers, and the one primer which overlaps most with the other six primers. An average was calculated for each pre-primer of the number of words in common with the other three pre-primers. Likewise for each primer the average was calculated for the number of words common with the other six primers. Then

TABLE X

RANK OF TEXTS ON THE BASIS OF VOCABULARY NOT APPEARING
AT PRIMER LEVEL IN STANDARD WORD LISTS

Name of Text	Stone		Kinder- garten Union		Gates		Total of Rank Order	Rank of Merit
	Per Cent	Rank Order	Per Cent	Rank Order	Per Cent	Rank Order		
PRE-PRIMERS								
We Come and Go	2	2	0	1	4	1	4	1
Little Friends	0	1	0	1	6	2	4	1
Rides and Slides	3	3	0	1	7.5	3	7	2
PRIMERS								
Fun With Dick and Jane	7	1	4	2	10	1	4	1
Day In and Day Out	16	3	6.5	4	17	5	12	4
Everyday Fun	22.5	6	4.5	3	13	4	13	5
Little Friends at School	19	4	1	1	11	2	7	2
The New Winston Primer	29.5	7	4	2	17.5	6	15	6
Peter and Peggy	20.5	5	4	2	10	1	8	3
Good Times With Our Friends	11	2	4	2	11.5	3	7	2

it was found what per cent of the total number of different words in each text this average represented. This information follows in Tables XI and XII.

In Table XI we see that the Arizona basic pre-primer We Come and Go measures up to its place as a basic reader to be read first because it has, among the pre-primers, the highest percentage of its vocabulary common to the other three pre-primers. Choosing the pre-primer We Come and Go to read first, we can then refer back to Table V to see which pre-primer to read next on the basis of words in common with this first book. Earlier in this chapter it was suggested that the teacher use Everyday Doings in the reading readiness program before regular pre-primers are read. It is to be presumed the teacher will emphasize the 15 words in Everyday Doings common to We Come and Go. By referring to Table II on pages 49-71 the teacher can tell which are the 15 words common to these two books.

From Table V we see that Little Friends has 32 words in common and Rides and Slides 33 words in common with Fun With Dick and Jane. This is very little difference, but from Table XI we see that Little Friends has a higher percentage of words in common with the other three texts than does Rides and Slides. Therefore, on the basis of

TABLE XI

AVERAGE NUMBER OF WORDS IN COMMON IN EACH PRE-PRIMER
WITH THE OTHER THREE PRE-PRIMERS

Name of Pre-Primer	Words in Common with Other Pre-Primers	
	Average Number	Per Cent
We Come and Go	26.7	51.3
Everyday Doings	13.3	34.1
Little Friends	24.7	47.5
Rides and Slides	26	38.8

overlapping, it will be best to read Little Friends after We Come and Go, followed by Rides and Slides.

From Table XII we see again that the books of the Arizona basic series measure up well in per cent of vocabulary common to other texts. Fun With Dick and Jane and Good Times With Our Friends, of the Scott Foresman series, contain the highest percentages of vocabulary common to other texts. Fun With Dick and Jane has an average of 75.5 per cent of its vocabulary repeated in other books and, since it is the text we shall use as the first primer read, we shall refer back again to Table V to find out the number of words in common with this book in the

TABLE XII
 AVERAGE NUMBER OF WORDS IN COMMON IN EACH PRIMER
 WITH THE OTHER SIX PRIMERS

Name of Primer	Words in Common With Other Primers	
	Average Number	Per Cent
Fun With Dick and Jane	114	75.5
Day In and Day Out	122.5	57.2
Everyday Fun	121.5	51.7
Little Friends at School	119	58.9
The New Winston Primer	128	46
Peter and Peggy	136	50.4
Good Times With Our Friends	121	69.5

other primers. Since both the factors of overlapping vocabulary with Fun With Dick and Jane and overlapping vocabulary among all the other primers should be considered in choosing the sequence of readers to follow Fun With Dick and Jane, the choice of sequence with six primers will be made easier by listing the readers and figuring out their rank order.

Tables XIII and XIV give the rank of two pre-primers and six primers on the basis of their vocabulary common with the basic text read first, and on the basis of the per cent of their average number of words common to all the pre-primers or to all the primers.

Table XIV shows that, on the basis of overlapping of vocabularies, it probably is best to read after Fun With Dick and Jane the primers in this order: Good Times With Our Friends, Day In and Day Out, Little Friends at School or Peter and Peggy, then The New Winston Primer.

A Suggested Sequence of Use of Arizona Pre-Primers and Primers

In the first part of this chapter it was stated that the Arizona pre-primers would be judged on the three factors: the manner in which the words occur in the vocabularies of the texts; the agreement of the vocabularies of the texts with the word lists of Stone, Kindergarten Union, and Gates; and the amount of overlapping among the texts. Discussion of Tables IX, X, XI, XII, XIII, and XIV evaluated these three factors, and each text was given a rank of merit according to information in the tables. In Table XV is given a summary of the three ranks of merit of the texts in the three above factors, and a final order of merit is made for their order of sequence.

TABLE XIII

RANK OF PRE-PRIMERS ON THE BASIS OF VOCABULARY COMMON
TO BASIC PRE-PRIMER AND OTHER PRE-PRIMER

Name of Pre-primer	Words in Common with We Come and Go		Average No. of Words Common to Other Three Primers		Total Rank	Order of Merit
	Number	Rank Order	Number	Rank Order		
Little Friends	32	1	47.5	1	2	1
Rides and Slides	33	1	38.8	2	3	2

TABLE XIV

RANK OF PRIMERS ON THE BASIS OF VOCABULARY COMMON
TO BASIC PRIMER AND OTHER PRIMERS

Name of Primer	Words in Common with <u>Fun With Dick and Jane</u>		Average No. of Words in Common with Other Six Primers		Total of Rank	Order of Merit
	Number	Rank Order	Per Cent	Rank Order		
Day In and Day Out	115	2	57.2	2	4	2
Everyday Fun	103	4	51.7	3	7	4
Little Friends at School	103	4	58.9	2	6	3
New Winston Primer	101	4	46	4	8	5
Peter and Peggy	113	3	50.4	3	6	3
Good Times With Our Friends	151	1	69.5	1	2	1

Note: Texts were given the same rank when their
number or percentage scores were very close.

TABLE XV

FINAL RANK OF MERIT OF PRE-PRIMERS AND PRIMERS BASED ON
MANNER OF WORD OCCURRENCE, APPEARANCE IN STANDARD LISTS,
AND AMOUNT OF OVERLAPPING OF VOCABULARIES

Name of Text	Merit Rank from Table IX on Word Occurrence	Merit Rank from Table X on Word Lists	Merit Rank from Tables XIII & XIV, Overlapping	Total of 3 Ranks of Merit	Final Rank of Merit
PRE-PRIMERS					
We Come and Go	1	1	0	2	1
Little Friends	2	1	1	4	2
Rides and Slides	3	2	2	7	3
PRIMERS					
Fun With Dick and Jane	1	1	0	2	1
Day In and Day Out	3	4	2	9	3-4
Everyday Fun	5	5	4	14	5-6
Little Friends at School	4	2	3	9	3-4
The New Winston Primer	6	6	5	17	7
Peter and Peggy	7	3	3	13	5-6
Good Times With Our Friends	2	2	1	5	2

It is realized that the method used in this study of evaluating the texts by rank order gave just a rough estimate that had to be influenced by the judgment of the writer when scores were close. However, the results for this study serve the purpose of ranking the texts for choice in sequence of use, and that was the information sought in this chapter. It is not believed the results would have been altered by detailed statistics, and the ordinary classroom teacher would not prefer correlations and the like to the ranking method.

In summary, this study suggests the Arizona pre-primers and primers be read in the following sequence after Everyday Doings is used in the reading readiness period:

Pre-primers

1. We Come and Go
2. Little Friends
3. Rides and Slides

Primers

1. Fun With Dick and Jane
2. Good Times With Our Friends
- 3-4. Day In and Day Out
or
Little Friends at School
- 5-6. Everyday Fun
or
Peter and Peggy
7. The New Winston Primer

CHAPTER VI

CONCLUSIONS AND RECOMMENDATIONS

The Mastery Vocabulary

A careful and detailed study of the vocabularies of readers will yield a core list of words most essential for mastery. By an analysis of the 37,175 running words in the four Arizona pre-primers and seven Arizona primers a mastery vocabulary of 248 different words was chosen. That this mastery list is truly a core vocabulary is evidenced by the fact that it makes up 33,900 or 91.19 per cent of the total number of running words in all the texts. Knowledge of these words will solve most of the vocabulary needs peculiar to Arizona first-grade pupils reading the pre-primers and primers listed in the State Course of Study.

Since 96 per cent of the mastery list appears in the first 500 of the Gates list, the words are also among the most important ones found in other sources of primary reading. Stone's list grades 96 per cent of the mastery words at primer level. This list is almost entirely within the spoken vocabulary of children entering the first grade because 98 per cent of the words appear in the

Kindergarten Union list. Even the four words omitted from the Kindergarten Union list are, in the opinion of the investigator, within the spoken vocabulary of most first-grade children.

It is recommended that first-grade teachers presenting the Arizona pre-primers and primers use the mastery vocabulary to judge which words in the readers are most necessary for the children to learn as a part of their permanent sight vocabulary. Also, the teacher may use the list as a guide for important words to stress in chart work, stories, and the like, in the reading readiness period before reading in books is done. Furthermore, the mastery list may be referred to if pre-primers and primers outside of those supplied by the Arizona Department of Public Instruction are desired for use to supplement the Arizona reading program in the lower half of the first grade. In choosing an additional book, its vocabulary should be checked against the mastery list to see if there is enough overlapping of different words in it with the important Arizona words to make it a valuable book to use.

Sequence of Readers

It was found that a critical analysis of the vocabularies of the Arizona pre-primers and primers gave a

measure of their value and an indication of the best sequence in which to read the texts. Each text was judged on: its average word repetition; the average number of new words introduced per page; agreement of vocabulary with the standard lists of Stone, Kindergarten Union, and Gates; and words in common with other texts. As a result of this study it is recommended that the pre-primer Everyday Doings be used in the reading readiness program before regular books are read, and then that the other ten texts be read in the following order:

Pre-primers

1. We Come and Go
2. Little Friends
3. Rides and Slides

Primers

1. Fun With Dick and Jane
2. Good Times With Our Friends
- 3-4. Day In and Day Out or Little Friends at School
- 5-6. Everyday Fun or Peter and Peggy
7. The New Winston Primer

Vocabulary Facts Implied by the Study

Through an analysis of the total vocabulary included in the Arizona pre-primers and primers, certain facts other than those concerning the mastery vocabulary and

sequence of readers were brought to the attention of the reader. There follows a brief summary of these facts.

1. The analysis in this study supports the trend shown by other investigators toward a smaller number of different words repeated more times in a reader. In the four Arizona pre-primers the average number of different words was 52.5, and the average number of times the words were repeated was 14.5 times. In the seven Arizona primers the average number of different words was 217.4, and the average number of times a word was repeated was 23.5.

2. The Arizona pre-primers introduce an average of 1.4 new words per page, and the primers introduce an average of 1.6 words per page. This is consistent with the trend to introduce fewer new words per page.

3. There are 243, or 44 per cent, of the 551 different words appearing in just one text, and this supports the findings of others that there are too many words common to just one book.

4. The range in number of seven primers is a small number on which to base a conclusion concerning the improvement in vocabulary of recent primers over those published earlier; but at least the results of other investigators showing the improvement of recent texts in

controlled vocabulary is illustrated by the difference in the 1940 and 1941 publications of the Scott Foresman Company and the 1928 publication of the Winston Company. The newer texts have fewer different words, more word repetition, less new words per page, and agree more in vocabulary with standard word lists.

5. There were eight words common to all 11 texts. This is more than were found by some other investigators, but it still seems too few words common to all texts.

Recommendations

In using the mastery vocabulary and sequence of readers suggested for Arizona pre-primers and primers in this study, the teacher should consider the type of children in her class. Children with much ability will be able to master a larger vocabulary, but for children of lesser ability who have difficulty with vocabulary it will be especially helpful to have a mastery list to know the most important words they should learn. The mastery list is not to be used just for drill in alphabetical or frequency order. The words should be learned in meaningful situations. The sequence of readers here suggested to make the vocabulary load at a minimum for materials available in Arizona need not be adhered to strictly for more gifted pupils who can read books with more diversified

vocabularies without as much difficulty in comprehending new words.

There are other phases of the Arizona first-grade reading program not within the scope of this study which could be evaluated with profit to yield beneficial information for Arizona teachers. There is a book, Teaching Beginners to Speak English, furnished Arizona teachers of Spanish-speaking pupils. Is this, in addition to the regular pre-primers and primers offered, sufficient material to enable the teacher to skilfully present reading to these pupils? Which pre-primers and primers are the best written in a style suitable for young pupils with simple, direct sentences and the like? Are the stories in the texts within the experiences of the children? Would a classification of the content of Arizona pre-primers and primers be helpful to teachers when studying certain units of work? If a teacher is interested in this subject of reader content, one of the best sources available at present is John A. Hockett's report in the State of California Department of Education, Bulletin Number Three, on "The Vocabularies and Contents of Elementary School Readers." Even if some of the latter questions of Arizona first-grade reading are still unanswered,

I. Hockett, John A. op. cit., pp. 39-104.

it is hoped that the present study will be of assistance in answering questions on the important subject of the vocabularies of readers.

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APPENDIX

It is helpful for a teacher to know the total number of different words presented in a reader. Of the eleven texts provided for the reading program of the first half of the first grade in Arizona, eight of them list in the back of the book the new words introduced. There are two pre-primers and one primer which have no such lists. For the teacher's convenience the different words in each of these three books are listed here.

There are word lists for the pre-primers Everyday Doings and Little Friends, and for the primer Little Friends at School.

Total Number of Different Words
in Everyday Doings

a	help	picture
at	helpers	rabbit
baby	house	read
bear	how	red
black	I	school
boy	in	something
car	lights	store
circus	little	the
daddy	more	three
fun	mother	to
funny	other	will
good	paint	workers
green	park	you

Total Number of Different Words
in Little Friends

a	have	run
and	here	said
are	house	see
at	I	thank
away	in	the
big	is	they
can	jump	this
cat	laughed	to
come	little	want
dear	look	way
dog	make	we
doll	me	went
down	mother	what
for	my	where
funny	not	will
give	oh	with
go	play	you
	ride	

Total Number of Different Words in
Little Friends at School

a	do	it
after	dog	jump
all	doll	jumped
am	door	laughed
and	down	lay
apple	dress	like
are	eat	little
at	egg	live
awoke	face	lived
away	fall	look
baby	farm	looked
back	farmer	made
barn	father	make
be	flour	man
big	for	may
block	fox	me
blue	fresh	milk
bone	from	milkman
box	fun	Miss
boy	funny	morning
broom	gave	mother
brought	girl	must
brown	give	my
but	go	nail
butter	going	new
buy	good	no
by	good-by	nose
call	goody	not
called	got	now
came	green	of
can	had	oh
car	hammer	old
cat	hand	on
chair	happy	once
children	has	one
clean	have	our
cock-a-doodle-doo	he	paid
come	help	paint
cookie	hen	painted
cooky	here	pan
corn	hide	pie
country	horse	play
cows	house	pretty
cupboard	I	pumpkin
dear	in	put
did	into	ran
dishes	is	ready

red.
ride
roof
rooster
round
run
said
school
see
she
shoe
some
soon
spoon
stir
stopped
story
sugar
sun
surprise

table
take
tell
thank
that
the
them
there
they
thing
think
this
to
today
too
took
turn
two
up
us

want
wanted
warm
was
way
we
went
were
what
where
white
will
window
with
woman
work
worked
yellow
yes
you
your