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A COMPARATIVE STUDY OF THE WRITTEN VOCABULARY OF STUDENTS IN GRADES 1-6

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# A COMPARATIVE STUDY OF THE WRITTEN VOCABULARY OF STUDENTS IN GRADES 1-6 

A DISSERTATION

SUBMITTED TO THE GRADUATE FACULTY
in partial fulfillment of the requirements for the degree of DOCTOR OF PHILOSOPHY

BY
LINDA HIGBEE MANDLEBAUM
Norman, Oklahoma
1981

A COMPARATIVE STUDY OF THE WRITTEN VOCABULARY OF STUDENTS IN GRADES 1-6

APPROVED BY


## ACKNOWLEDGEMENTS

Many thanks are offered to Dr. Gaye McNutt who has served not only as an advisor and teacher, but also as a friend and an outstanding role model in my professional development.

Thanks also go to my husband, Bill Mandlebaum, who supported and encouraged me throughout the program and who proofread stories and keypunched computer cards when his help was needed.

In addition, thanks go to my committee members: Dr. William Graves who patiently spent hours helping with the computer programs; Dr. Caryl Adams and Dr. Loy Prickett who were always ready with a cheerful smile and, when needed, sound advice; and Dr. Dorothy Higginbotham whose interest and questions kept me thinking.

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A COMPARATIVE STUDY OF THE WRITTEN VOCABULARY OF STUDENTS IN GRADES 1-6

CHAPTER I
THE PROBLEM

Two common problems with written vocabulary studies are that they are either outdated or they focus on a limited geographic area. Therefore, the studies may be of questionable use. Although these and other problems exist, many of the language arts materials used in today's schools are based on lists of words developed from written vocabulary studies. For example, the vocabulary of reading, spelling, and language development programs are often based on such lists. Perhaps the area which can be most directly related to the studies of students' written vocabulary is spelling, since a student should have some knowledge of how a word is spelled in order to write the word. The following focuses on the problems of vocabulary selection for the author of spelling materials and how this relates to written vocabulary studies.

An unabridged dictionary contains approximately 500,000 words. The teacher who would attempt to teach the spelling of each of these words would be facing a monumental task. Furthermore, it is unlikely that any individual could learn to spell all 500,000 words. According to Ames (1965) the typical spelling program includes a total of less than 4,000 words; however, the adult who is considered a good speller
knows the spelling of about 50,000 words (Smith, 1980). The discrepancy between the spellings the adult knows and the spellings s/he was taught may be accounted for through incidental learning. That is, a person learns the spelling of words unconsciously while performing other tasks such as reading (E. Horn, 1937; Smith, 1980).

Unfortunately, not everyone appears to learn spelling through incidental means. Many students who have been identified as handicapped (e.g., learning disabled, mentally retarded, emotionally disturbed) as well as many students who have not been identified as handicapped often have a difficult time learning to spell. These students appear not to learn the spelling of words incidentally; therefore, every word they learn must be taught. If these individuals are to attain most of the words they will learn to spell in a lifetime through the use of a spelling program, the vocabulary of that program must be carefully chosen.

The selection of words which constitute the vocabulary of a spelling program has long been debated. Over the years several methods of word selection have been used. A listing of the methods of word selection followed by a summary of the representative problems with the methods is presented here.

1. Select words at random. If a teacher opened a dictionary and selected words at random, it is possible s/he might include anemones, scabbard, and insurrections which were included in a spelling book published in 1920 (Van Wagenen).
2. Select words that occur in the content area curriculum. These might include continent, Antarctica, fjord, and peninsula.
3. Select seasonal words such as reindeer, sleigh, wreath, and Santa Claus.
4. Select words occurring in the students' reading material. Students reading the story "The Three Billie Goats Gruff" might find troll, gruff, and bridge among their spelling words.
5. Select words which represent a particular linguistic principle. If a teacher wanted to teach the sh spelling, s/he might use shun, gosh, shod, and mushroom in the spelling list.
6. Select words students misspell in their work (e.g., alien, soccer, devil).
7. Select words students ask to have spelled such as Frankenstein, laser, and battleship.
8. Select words used frequently by children in their writing. These might include into, gave, dog, and mother.
9. Select words used frequently by adults in their writing (e.g., accept, address, further).
10. Select words which adults and/or children use frequently in their writing (e.g., went, now, girl). This method allows the teaching of words that are used frequently by (a) both children and adults, (b) children but not adults, and (c) adults but not children.

The first four methods of word selection allow the author of a spelling program to choose words which may be of little practical use to a student since the words may be rarely used by the average individual. The fifth method, selecting words which represent a particular linguistic principle, is a common approach to vocabulary selection; however, this method also allows for the selection of words which may not be used often in writing.

The sixth and seventh methods would adapt themselves well to individualized spelling programs designed by the classroom teacher; however, the majority of teachers rely on a commercial product as the source of their program. Additionally, students may misspell or ask to have spelled words they are not likely to write more than a few times in a lifetime (e.g., Dracula).

Methods eight and nine would permit teaching a high percentage of words which would be used during only one period in a lifetime (i.e., only during childhood or only during adulthood). Although there is an overlap between the two lists, using only one or the other criterion eliminates a number of important words. This difficulty is avoided by using the tenth method of word selection (i.e., selecting words which adults and/or children use frequently in their writing). This method works well because of the large overlap between the child and adult vocabularies; and because it allows words to be taught at the time when they are most likely to be used. For instance, the word kitty would be taught in the primary grades where children use the word frequently; and the word address would be taught in the upper grades in the program when students are more likely to use and, therefore, remember it. Additionally, this method of vocabulary selection is supported by many authors in the field of spelling (Allred, 1966; Coleman, 1931; Cook, 1914;

Dolch, 1942; Fitzgerald, 1951; Foran, 1934; Hildreth, 1948, 1955;
Hillerich, 1978; Hinrich, 1975; E. Horn, 1926, 1954; Kyte, 1943;
Rinsland \& Moore, 1937; Thomas, 1974; Wilson, 1963).
This researcher also supports the tenth method of vocabulary selection (i.e., selecting words which adults and/or children use
frequently in their writing) ; however, the task of determining what those words are for both children and adults could be a colossal task which could be divided into at least three smaller tasks (i.e., determining the vocabularies of elementary children, secondary students, and adults). Therefore, the decision was made to begin with the vocabulary elementary children use in their writing since these would be the words which would be taught first in a spelling program.

## Significance of the Study

The results of this research may affect the vocabulary chosen for spelling programs and reading materials designed for children. Additionally, it could demonstrate alterations in vocabulary due to mass communication and other changes in lifestyle.

Four things could occur which would be significant: (a) new words might appear which were not previously reported; (b) words which were used frequently in the past may no longer occur at all or may occur less frequently; (c) words might appear earlier or later in students' vocabularies; or (d) there could be no change in the vocabulary currentIy used by students in their writing.

## Statement of the Problem

The problems in this study are: (a) to compare two methods of determining the frequency of words used in the written vocabulary of students, (b) to compare the results of this research with that conducted by Henry Rinsland (1945), and (c) to compare the 100 words used most frequently at each grade level (1-6) of this research with corresponding lists from the Rinsland study. Rinsland's work was chosen as the comparison because it is the second largest and most widely cited study;
and although it is smaller than the study conducted by Jones in 1913, Rinsland provided information on word frequency which Jones did not supply.

Specifically, answers to the following questions are sought:

1. What are the 250 words used most frequently in written expression by a sample of students in grades 1-6? (This method of ranking words will be referred to as Method 1.)
2. Which 250 words are used in written expression by the greatest percentage of a sample of students in grades $1-6$ ? (This method of ranking words will be referred to as Method 2.)
3. Do the two methods of ranking students' written vocabulary describe the same set of words?
4. What is the relationship between each of the lists compiled in Questions 1 and 2 of this study and the 250 words used most frequently as reported in the Rinsland study?
5. Which words occur in this study that were not reported by Rinsland?
6. What are the 100 words used most frequently in written expression by students at each grade level (1-6)?
7. What is the relationship between each of the lists compiled in question six and the equivalent lists compiled by Rinsland?

Definition of Terms

1. A word will be defined as an entry in the Webster's Third New International Dictionary of the English Language, Unabridged (1976).
2. Nonstandard words are words not included in the dictionary which are generally considered grammatically unacceptable (e.g., runned, mostest).
3. New words are words of recent origin which do not appear in the dictionary but are seen in print. If a student used a word which was not in the dictionary, attempts were made to determine its validity. For instance, the Health, Physical Education and Recreation Department of the University of Oklahoma was called to determine that brany was a gymnastic term.
4. Closed compound words are two words written as one word to communicate meaning (e.g., doghouse, schoolteacher).
5. Open compound words are two or more words used together but not written as one word (e.g., high school, swimming pool, industrial engineer). The dictionary was consulted to determine whether a group of words is considered an open compound word.
6. Concatenations are two or more words which have been chained together as they are often prounounced (e.g., wanna, gonna, sorta).
7. Dialect influenced words are individual words written in a manner to indicate pronunciation (e.g., goin', y'all).
8. Onomatopeic items are alphabetical representations of noises and sound effects which are not found in the dictionary (e.g., $z-z-z-z, h m-m-m-m, \quad b r-r-r-r)$.

Delimitations
This study was organized and conducted with the following delimitations:

1. Participating students were enrolled in grades 1-6 in public school districts randomly selected throughout the United States during the 1980-81 school year.
2. Only stories from students returning signed parental permission slips were used in the study.
3. Only students from public school systems participated.
4. Only one sample of writing was selected from each student.
5. Only one kind of writing (creative stories) was gathered.

## Limitations

1. All fifty states were not represented by the school districts which furnished stories.
2. Words had to be eliminated from the study because they were either illegible or they were non-English and were not recognized as words by the researcher.
3. Before compiling the words from this study, various cutoff points were considered (e.g., 100, 250, 500). Once the words were compiled, it appeared that beyond 250 the number of words which occurred with the same frequency was so great that the information would have been insignificant; therefore, the decision was made to use 250 as the cutoff point.

## Assumptions

The following assumptions have been made regarding this study.

1. Creative stories will provide an adequate sampling of the written vocabulary of students.
2. The stories submitted were the original work of students.

## CHAPTER II

## REVIEW OF THE IITERATURE

Rinsland (1945) was referiing to a frequency count of students' written expressive language when he stated:

> Any accurate and exact knowledge concerning these symbols-what they are in each grade and how children use them from grade to grade--should lead to a better method of preparing all verbal materials so that learning can go on with the greatest ease and benefit to the whole personality of the growing child. (p. 1)

Nisbet (1960-61) was also concerned with frequency counts and their uses; he wrote that if we know what items are most likely to be used in actual practice, "we can plan the instruction more efficiently" (p. 51).

Nisbet and Rinsland probably would have agreed that when a student learns a list of spelling words, those words should be ones they will actually use in writing as a child and as an adult. Determining just what those words are and using them as the basis for a spelling program is supported by a large number of authors in the field of spelling (Allred, 1966; Coleman, 1931; Cooke, 1914; Dolch, 1942; Fitzgerald, 1951; Foran, 1934; Hildreth, 1948, 1955; Hillerich, 1978; Hinrichs, 1975; E. Horn, 1926, 1954; Kyte, 1943; Rinsland and Moore, 1937; Thomas, 1974; Wilson, 1963).

In the past 70 years a great deal of research has been conducted to determine which words are likely to be written by students and adults. Because the research for this dissertation is limited to the vocabulary
of students, this review focuses on the research of students' written expression.

The purposes of a review of the literature are (a) to determine what research has already been done in the area and (b) to determine that there is a need for additional research. Generally, a review of the literature contains a brief discussion of each of the studies individually that have been conducted. This review, however, departs somewhat from the standard format for two reasons: First, because of the large number of studies that were located dealing with the written vocabulary of students; and second, because of the difficulty of discussing the results of each study since the "results" are lists of words. Specifically, this chapter contains (a) a list of written vocabulary studies in table format and a brief discussion of several aspects of the studies (i.e, dates of publication, ages or grades of the students involved, types of papers utilized, geographic locations from which the samples were taken, and numbers of words counted), (b) a detailed discussion of the Rinsland study, (c) a review of other important studies related to written vocabulary, and (d) summary and conclusions.

## Written Vocabulary Studies

The 61 studies on the written vocabulary of students are summarized in Table 1 in chronological order. The table can be read in the following manner: The first study was conducted by $W$. Jones in 1913 and involved students in grades two through eight. The themes Jones used were on topics chosen by the teachers involved; he obtained themes from students in four states and counted approximately $15,000,000$ words. The remainder of this section is a discussion of the five variables common

Table 1
Summary of Research on Students' Written Vocabulary

| Study | Grade/Age of Subjects | Source of Vocabulary | Geographfc Location | Number of Hords Counted |
| :---: | :---: | :---: | :---: | :---: |
| W. Jones (1913) | Grades 2-8 | Themes on topics chosen by teacher | 4 states | 15,000,000 ${ }^{1}$ |
| H.Smith (1913) | Grades 3-8 | Themes | Wiaconsin | 75,000 ${ }^{2}$ |
| Studley \& Ware (1917) | Nor Indicated | Compositions | California | 200,000 ${ }^{2}$ |
| Tidyman (1921) | Grades 3-9 | Spontaneous compositions | Connecticut | 538,500 |
| G. McKee (1924) | Grade 6 | Themes on topics from given list | Illinois \& Iowa | 18,958 |
| 0'Brien (1925) | Grades 7-12 | Compositiona on two topica | Kansas | Not indicated |
| Erench (1926) | Grades 3-8 | Letters sent through the mail | All parts of the U.S. | 100,000 |
| Wilmarth (1926) | Grade 6 | Themes on topics from given list | Lowa | 123,235 |
| Dolch (1927) | Grades 2-8 | Hords writcen in free association | Illinois \& New York | 2,312,245 |
| Schlegel (1927) | Grades 7-9 | Compositions on a personal experience | Lawrence, Kansas | Not indicated |
| Hoffman (1928) | Grade 6 | Letters written in life outside school | 17 states | 49.423 |
| Shambaugh \& Shambaugh (1928) | Grades 4-8 | Free association to list of words | California or Cregon | 230,631 |
| K.Wilson (1928) | Grades 2-4 | Compositions and letters | Chicago \& fumediate vicinity | 126,427 |
| Cax (1929) | Grade 3 | Letters written to relatives and friends | 30 states | 32,007 |
| Riddle (1929) | Grade 5 | Letters written outside school | 31 states, Alaska, \& Canada | 54,034 |
| Simpson (1929) | Grades 1-8 | Letters written away from school | 39 states $\&$ child traveling in Europe | 67,143 |
| Bauer (1930) | Grades 3-8 | Themes on assigned topics | New Orleans | 2,500,000 |
| Martin (1930) | Grades 10-12 | Variety of sources | Oklahoma | 46,498 |
|  |  | Table continued on next page |  |  |

Table 1 (continued)

| Study | Grade/Age of Subjects | Source of Vocabulary | Geographic <br> Location | Number of Hords Counted |
| :---: | :---: | :---: | :---: | :---: |
| Nowlin (1930) | Grade 6 | Themes on furnished topics | 4 states | 101,981 |
| Taylor (1930) | Grades 2-3 | Lists of words written by students | Ok1ahoma | 54,194 |
| Lorenz (1931) | Grade 3 | Varlety of sources | 1 state | 82,694 |
| Matthews (1931) | Grades 7-8 | Varlety of sources | Oklahoma city | 60,140 |
| Pratt (1931) | Grade 5 | Themes on furnished topics | 3 states | 99,933 |
| Sharp (1931) | Grade 4 | Letters written outside school | 18 states, Canada \& Mexico | 51,483 |
| Troutt (1931) | Not indicated | Compositions and letters | New Jersey \& Pennsylvania | 110,360 ${ }^{2}$ |
| Wiley (1931) | Grade 2 | Variety of sources | Oklahoma County | 44,836 |
| Driggs (1932) | 12-15-year-o1ds | Letters sent through the mail | 34 states | Not indicated |
| Hall (1932) | Grade 8 | Themes on furnished topics | Southeastern Nebraska | 107,155 |
| Hunter (1932) | Grade 5 | Spontaneous letters away from school | $\begin{aligned} & 37 \text { states, Washington, D.C., } \\ & \text { Hawaif \& Cuba } \end{aligned}$ | 51,990 |
| Jakeman (1932) | Grades 4-6 | $\begin{aligned} & \text { Compositions written after viewing } \\ & 2 \text { films } \end{aligned}$ | University School at State University of Iowa | 27,352 |
| Mitchell (1932) | Grades 2-8 | Themes | 3 southern cities | 141,951 |
| Burdine (1933) | Grades 1-6 | Letters written outside school | 34 states | 54,750 |
| Francia (1933) | Grades 2-7 | Spontaneous letters | Texas | 120,000 |
| Oberman (1933) | Grades 3-8 | Themes stimulated by presentation of 26 words | Iowa | 290,000 ${ }^{3}$ |
| Van Bruggen (1933) | Grades 2-8 | Themes and letters | California \& Washington | 108,756 |
| Buechler (1934) | Grade 4 | Variety of sources | Los Angeles, California | 69,926 |
| Fitzgerald (1934) | Grades 4-6 | Personal letters written outaide school Table continued on next page | 41 states | 461,321 |

Table 1 (continued)


Table 1 (continued)

| Study | Grade/Age of Subjects | Source of Vocabulary | Geographic <br> Location | Number of Words Counted |
| :---: | :---: | :---: | :---: | :---: |
| Edwards \& Gibbon (1964) | 5-7-year-olds | Spontaneous writing | Leicestershire, England N | Not indicated |
| Kinsey (1966) | Grades 1-6 | Creative writing | Florida | 109,011 |
| Helms (1968) | Grades 4-6 | Original writing | Ohio | 1,270,880 |
| Schwarz (1972) | Grades 4-6 | Variety of sources | Massachusetts | 170,222 |
| Thomas (1972) | Grades 1-6 | Variety of sources | Alberta, Canada | 117,878 |
| Hillerich (1978) | Grades 2-6 | Creative writing | Suburban community in illinols | s 380,342 |

Footnotes
${ }^{1}$ Number 1 s an approximation
${ }^{2}$ Original study not avallable, information taken from secondary source
$3_{300}$ common words were not included in the count
${ }^{4}$ Counted only 50 consecutive words beginning on 1 ines 6-8 of the themes
${ }^{5}$ Includes proper nouns
to the 61 studies: (a) dates of publication, (b) ages or grades of the students involved, (c) types of papers that were utilized, (d) geographic locations from which the samples were taken, and (e) numbers of words counted.

## Publication Dates

Of the 61 studies conducted on students' written vocabulary, 49 were conducted before 1950. Only 12 were conducted since 1950; and of these, only three were conducted in the last ten years. Ages or Grades of Students Involved

The ages or grades of the students participating in the various studies ranged from five-year-old children to students in the twelfth grade. A summary of the information on ages and grades of students involved in the studies follows.

1. Three studies did not indicate the age or grade level of the samples.
2. Three studies referred to their subjects by age rather than by grade.
3. Of the remaining studies, 21 examined the written vocabulary of a single grade while 34 examined the vocabulary of two or more grades.
4. Grade one and grades $9-12$ were included in less than eight studies each.
5. Grades $4-6$ were included in at least 28 studies.

## Types of Papers That Were Utilized

The type of writing done by students included informal items such as grocery lists written for mothers or notes written to friends as
well as formal term papers written for school. A summary of the information on the types of papers which were used follows.

1. Four studies had children write lists of words they thought were important to learn or words they wrote from free association (i.e., any words that came to the students' minds).
2. Nine studies involved a wide variety of materials such as notes passed during class, poems, reports, stories, letters, plays, etc.
3. Fourteen studies involved only letters written by students to a friend, relative, or business. Usually, the letters had actually been sent through the mail.
4. Twenty-nine studies involved stories, compositions, themes, and free or creative writing. In 16 of these studies, students were provided a list of topics from which to choose or the topics were limited in other ways (e.g., stories were written after viewing two films, students were asked to write on a personal experience, a list of stimulus words was presented). The other 13 studies allowed the students to select their own topics.
5. Five studies used both letters and compositions as their source of vocabulary. The students involved in these studies wrote either a composition or a letter, generally, they did not write both a composition and a letter.

## Geographic Locations from Which the Samples Were Taken

The 61 st!dies listed in Table 1 were drawn from a wide variety of locations. This included studies which used students from a single school to one study which used students from 416 cities. A
summary of the information on the locations from which the samples were taken follows:

1. One study failed to indicate the location of the sample.
2. Samples for three studies were drawn from England or Canada.
3. The samples for four studies came from single schools.
4. Eleven studies used samples from single cities.
5. Samples from single states were used in 17 studies.
6. Twelve studies involved samples from fewer than five states.
7. The remaining 13 studies involved samples from ten or more states.

Numbers of Words Counted
Various factors affected the final total numbers of words counted for each study. For instance, W. Jones (1913) only gave an estimate of the number of words counted; and Oberman (1933) excluded 300 common words from his study (e.g., the, a, it). Chalmers (1935) counted only 50 consecutive words beginning on lines 6-8 of each theme; and Sega1la (1934) and Horgen (1952) included proper nouns within their counts. The following summarizes the information on the total numbers of words counted:

1. The authors of five studies did not indicate what their total word counts were.
2. Eleven studies had a total word count of 50,000 words or less.
3. A total word count of more than 50,000 words but less
than 100,000 words was reported in 15 studies.
4. Twenty-five studies had word counts of more than 100,000 but less than 600,000 words.
5. Five researchers reported counting over $1,000,000$ words. The Research of Rinsland

As was noted in Chapter I, the word lists obtained through this study are compared to the work of Rinsland (1945); therefore, a detailed description of his work is included in this section.

The work of Henry D. Rinsland is the most frequently cited research on the vocabulary of children's written expression. Rinsland's work began in the fall of 1936 when the Works Projects Administration of Oklahoma granted the University of Oklahoma funds to sample a minimum of $6,000,000$ running words written by children.

Rinsland attempted to obtain a true cross-section of all types of schools and all types of children's writing. Letters were sent to 1,500 schools representing various geographic, economic, and social areas. Schools from rural and urban areas were represented as were public, parochial, and private schools as well as training schools associated with universities. The letters requested genuine material written by children which included notes, stories, poems, compositions, examination papers, articles for school papers, also reports on projects, trips, and observations.

A total of 708 schools from 416 cities returned material to Rinsland. This represented papers from more than 200,000 elementary school children which was approximately one per cent of the children in elementary school in the United States at that time.

Each paper was read by at least two teachers in an effort to eliminate duplication of papers. If several papers from a single class were on the same topic, all but one or two papers were discarded. Also excluded were papers that were not believed to have been written by a child (e.g., a report copied from an encyclopedia or a story copied by several children from the chalkboard).

In tabulating the words, Rinsland counted all forms of a word as separate entries (e.g., jump, jumps, jumped, jumping); corrected spelling errors; and deleted baby talk, illegibles, slang, provincialisms, colloquial expressions, trade names, and proper names of persons and places. All tabulation was done by hand on $8 \frac{1}{2}$ by 11-inch paper; when these papers were filled, the words and frequencies were transferred to permanent ledgers. Rinsland (1945) published a list of 14,571 words with a frequency of occurence at each grade level and the total frequency. He omitted from his list 11,061 words which occurred only once or twice in any grade level. The complete list including the 14,571 words which were published and the 11,061 words which were not in the published list was placed on file at the Bureau of Educational Research, University of Oklahoma. However, an extensive search at the University and in Rinsland's personal library failed to locate this information.

## Other Important Studies on Written Vocabulary

This review of the literature on written vocabulary would not be complete if it did not include five studies which were not in Table 1. Although these studies do not relate specifically to the written vocabulary of children, they are frequently used to determine
the vocabulary of children's school curriculum. These studies are the works of E. Horn (1926), Thorndike (1932), Fitzgerald (1951), Kucera and Francis (1964), and Carrol, Davies and Richmond (1971). A brief description of these studies follows.

## E. Horn

The research of Ernest Horn (1926) focused on the words adults use in their writing. Horn counted approximately 5,000,000 words; the number is an approximation because he did not count the frequency of occurrence of several common words (e.g., a, not, red, pan). He did publish an estimation for the words he did not count. The material Horn sampled involved mainly the writing of men in business; this weighted the sample with well educated men of above average intelligence over the age of 40 (Coleman, 1931). The Horn study has been criticized for this reason and because of the dated nature of the material.

Thorndike
Thorndike (1932) selected the material for his research from children's reading, standard literature, elementary school texts, newspapers, and correspondence. He counted a total of $4,565,500$ words. The material Thorndike used represented only the writing of adults for children or for other adults. Furthermore, instead of selecting the same number of words from each source, he weighted the importance of the selections according to what he felt the elementary pupil and graduate should read.

## Fitzgerald

Although Fitzgerald is 1isted three times in Table 1 , his
most frequently cited work (1951) is a compilation of seven studies. In this study, Fitzgerald presented a list of 2,650 words and their rankings in seven different studies. He included the lists from the works of McKee and Fitzgerald, Horn (1926), Rinsland (1945), Breed (1930), Dolch (1942), Fitzgerald (1938), and Brittain (1942). In this work, Fitzgerald illustrated that although the studies had a great many words in common, the rankings within the studies varied greatly.

Kucera and Francis
Adult printed material was analyzed by Kucera and Francis (1964). They found 50,406 different words in a total of $1,014,232$ words from 500 samples of adult printed material. Hillerich (1974) points out that the Kucera and Francis list is perhaps not best used for the curricula for children since it is heavily weighted with words not common to the child's vocabulary (i.e., in the 500 words which occur most frequently are words such as board, business, community, department, federal, and military).

Carrol, Davies, and Richmond
The work of Carrol, Davies, and Richmond (1971) is based on samples taken from 1,000 textbooks for students in grades three through nine. They counted a total of $5,088,721$ words with a total of 86,741 different words. This study, as well as others in this section, is concerned only with words written by adults even though the words in this study were written to be read by children.

## Summary and Conclusions

In the first section of this review, five variables of 61 written vocabulary studies were summarized. These variables were the publication dates of the studies, the ages or grades of the students involved, the types of papers which were gathered, the geographic locations involved, and the numbers of words counted. The following are general criticisms of the 61 studies based on these variables:

1. The vast majority of the studies (49 of 61) were conducted before 1950; of the remaining 12, only three were conducted within the last ten years. With the rapid changes that are taking place in society, research in vocabulary should attempt to keep pace with these changes and should be as current as possible.
2. The twelve grades have been unequally represented in the studies (e.g., grade 1 and grades 9-12 have been included in fewer than eight studies while grades $3-7$ have been included in 20 or more studies). New research should include one or more of those grades which have been represented in fewer than nine studies. New research should also include as many grades as feasible with as equal representation as possible.
3. The studies which are probably most representative of the vocabulary students use when they write are the nine studies which included a wide variety of materials. On the other hand, in the past writing letters to friends and relatives was probably the most common reason students had to write outside school; and 14 studies limited the materials they used to letters. Today, however, students are probably more likely to place a telephone call than to write a letter. For this reason, letters should no longer be the single material used to determine
the written vocabulary of students. New research should attempt to elicit the most natural language possible by allowing students to write on topics of their own choice.
4. Only 13 studies involved samples from ten or more states. Of the three studies conducted within the last ten years, one was conducted in Canada, and the other two were conducted in single states. For the research results to be applied to a wide area, the samples should be drawn from as many different locations as possible.
5. Determining how many words are an adequate sample is a difficult decision. Half of the studies counted less than 100,000 words, while only five studies counted more than $1,000,000$ words. The number of words counted will certainly depend upon the time and resources available to the researcher as well as which words are counted (i.e., whether or not proper nouns are counted).

In the second section, a discussion of the research of Rinsland (1945) was included. Although Rinsland's work was probably the best designed, his work could be considered outdated. Current research is needed to update this important study.

In the third section, important studies of written language other than children's written language were discussed. These studies, because they represent words students will read while they are in school or after they graduate, are important in curriculum decisions. However, they do not offer information about words used by students in writing and are probably not the best source of information for a spelling vocabulary. Also, three of these studies could be considered outdated.

From this review of the literature, it may be concluded that research is needed in the area of students' written vocabulary. For this research to be applied to a spelling program, the sample needs to (a) be as current as possible, (b) include several grade levels, (c) be as representative as possible of the typical writing vocabulary of students, (d) include samples from different sections of the United States, and (e) include as large a sample as possible. In the following chapter, the procedures for the research to meet these criteria are detailed.

## CHAPTER III

## STUDY PROCEDURES

As discussed in Chapter I, the problems for this study are: (a) to compare two methods of determining the frequency of words used in students' written vocabulary, (b) to compare the results of this research with that conducted by Henry Rinsland (1945), and (c) to compare the 100 words used most frequently at each grade level with corresponding lists from the Rinsland study. Seven questions were formulated which pertain to these problems. The first two questions relate to the 250 most frequently used words as determined by two different methods of measurement. The third and fourth questions call for a comparison of these two lists to each other and to the 250 most frequently used words according to the Rinsland list. The fifth question calls for a comparison of the words from this research to the Rinsland list to determine what words appear in the current research which Rinsland did not report. The sixth and seventh questions are designed to determine the 100 most frequently used words at each grade level (1-6) and to compare them with corresponding lists from the Rinsland study.

This chapter presents the procedures that were utilized to answer the research questions. The first section, gathering the data, contains a delineation of (a) the methods used to identify the schools which were contacted and (b) the information which was sent to each
school district. The second section, preparing the data for input into the computer, includes a description of the system for proofreading the stories, the keypunching process, and the computer program utilized. The final section, statistical procedures, identifies the statistical analyses that were employed to answer questions three, four, and seven.

## Gathering the Data

This section contains information about the school districts which were contacted and the information which was sent to those school districts.

## School Districts Contacted

In order to make the results of this study as representative as possible of students' vocabulary, a wide sampling was needed. Ideally, every state would be represented in the final sample and each state's representation would be based on its proportion in the total population in the United States. This would mean that many districts in some states would have to be contacted or that some school districts would have to be contacted several times to obtain the proportional sample for that state.

With the limited time and resources available to the researcher, the decision was made to contact only two school districts in every state and to have only one mailing. The following exceptions were made: (a) the District of Columbia, although not a state, is within the boundaries of the United States and was contacted; and (b) the state of Hawaii received only one request since there is only one school district for the entire state.

The school districts which were contacted were located with the use of two government publications: Directory: Public Schools in Large Districts (1969) and Ed:ıcation Directory: Public School Systems 1977-78 (1978). The names of the states were located within the directories; then the school districts to be contacted were identified with the use of a table of random numbers. A total of 100 school districts were identified using this process with the two exceptions noted above. Information Sent to Each School District

Two types of information were sent to each school district: (a) the letter sent to each superintendent and (b) the directions for teachers whose classes were involved in the study. An explanation of these follows.

Letters to Superintendents. The superintendents of each school district were sent letters which explained the purpose of the research, directions for selecting classes to participate, and an offer of a copy of the results to participating districts. Each letter was accompanied by a packet of materials to be given to the selected teachers. A copy of the letter to the superintendent may be found in Appendix $A$. Directions to the Teachers. In order to involve a minimum of time from the participating teachers, directions to them were kept as brief as possible. The first two paragraphs in the directions were introductory in nature and included the purpose for the stories as well as assurance that the researcher would not grade the stories nor compare them with other classes. An address and telephone number were provided so that teachers having questions could contact the researcher. Finally, steps for the teachers to follow were listed which included:

[^0]Since the computer program used for this study could not correct spelling errors nor group all the possible spellings for one word into the same set (e.g., were, wer, wir, wur), it was necessary to enter only correct spellings; therefore, all papers were proofread and corrected for spelling errors. In addition to correcting spelling errors, most proper nouns (e.g., names of people, commercial and noncommercial establishments, cities, streets, names of pets) and numerals were deleted by drawing a line through the words or numerals. Proper nouns and numerals were deleted from the computer cards because of the low incidence for individual words and because in most instances it would be impossible to determine whether or not the spelling given was correct (e.g., Dian, Diane, Dianne). The deleted words and numerals
were tallied on a separate sheet of paper to provide information on how often students use personal proper nouns and numerals in their writing.

Another concern during the proofreading was the use of compound words. Although closed compound words (e.g., doghouse, fireman, sunshine) are written as one word and would not present a problem during computer analyses, open compound words (e.g., tennis shoe, police station, dressing room) which are written as two words, had to be written as one word for entry into the computer. Otherwise, they would have been treated as separate entries because there was no way of knowing they were written as one concept. Specific directions for the corrections of spelling errors and the deletions of words can be found in Appendix $B$.

In addition to proofreading, each story was assigned a code number which included coded information on the identity of the school district, grade level, student number, gender, race, school setting, and socioeconomic level of the school. The code number filled the first eleven spaces on the computer cards and appeared only on the first card when the student's story needed more than one card as was necessary for most stories. A signal (i.e., QQQQQ) was keypunched at the end of a story to indicate to the computer that a story had ended. Immediately following the code number was the first word in the story; a single space was left between each word and all punctuation except that which was within a word (e.g., don't, X-ray, U.S.A.) was omitted.

The computer program used to count the words in this research was an SAS79 (1979) program. Three different lists were provided by
the program: (a) an alphabetic listing of the words and the frequencies with which they were used (Method 1), (b) a rank order listing of the words counted using Method 1, and (c) a rank order list of the words using Method 2, the number of students who used a word. These two methods of counting words were selected because in a pilot study in which the 100 most frequently used words for a class of students was determined, the word gerbil was among the list. However, gerbil had been used several times by only one student. The researcher wanted to determine if a small number of students would influence a rank ordered list by using words repeatedly.

The program was run twice; one run provided the three lists mentioned above for the individual grades, and the second run provided the three lists for the combined grades. An additional program provided information about the number of students involved, grade level, gender, and race. (A copy of the computer programs used can be found in Appendix C.)

## Statistical Procedures

The answers to questions one, two, five, and six did not require statistical procedures because the answers to those questions were frequency lists. For the remaining questions (three, four, and seven), descriptive statistics were used. The lists were compared to determine the number and percentage of words which were common to the lists being compared and the number and percentage of words which were not common to those lists.

The results of the study are presented in this chapter. The first section is a description of the school districts and the students who participated in the study; the next seven sections are arranged to correspond with the research questions presented in Chapter I; and the final section is a description of the items which were not entered into the computer (e.g., proper nouns, numerals, ampersands). The text of the chapter is presented first followed by all the tables.

Briefly, the purposes of this study were (a) to compare two methods of determining the frequency of words used in the written vocabulary of students; (b) to compare the results of this research with that conducted by Rinsland (1945); and (c) to compare the 100 words used most frequently at each grade level (1-6) with corresponding lists from the Rinsland study.

## Description of the Sample

The 1,598 students who participated in this study represent 14 school districts in 13 states. A list of the school districts, their settings, and their socioeconomic levels can be found in Table 2. The participating students were $49.69 \%$ male and $48.44 \%$ female while the gender of $1.87 \%$ of the students was not indicated. More specific information about grade level, gender, and race can be found in Table 3 .

Research Questions One and Two
Research question one was: What are the 250 words used most frequently in written expression by a sample of students in grades 1-6? The total word count was 164,505 which represented 6,453 different words and their repetitions. The 250 words used most frequently can be found in Table 4 in the column labeled "Method 1 ".

Research question two was: Which 250 words are used in written expression by the greatest percentage of a sample of students in grades 1-6? The 250 words used by the greatest percentage of students can be found in Table 4 in the column labeled "Method 2 ".

Because of tied ranks (i.e., several words occurred the same number of times), Table 4 actually includes 256 words in each list. This was the point closest to 250 at which the number of words in both the Method 1 and Method 2 lists would come out evenly without splitting a rank in one or both lists.

## Research Question Three

Research question three was: Do the two methods of ranking students' written vocabulary describe the same set of words? The two lists which were compiled using Methods 1 and 2 and presented in Table 4 contain a total of 269 words. This includes 243 words (90.33\%) which are common to both lists and 26 words (9.67\%) which are in only one of the lists. Thirteen words were in the Method 1 list but not in the Method 2 list (i.e., Mr., horse, Mrs., dollars, monster, teacher, children, fish, million, trip, bike, animals, kids). Thirteen words were in the Method 2 list but not in the Method 1 list (i.e., almost, together, getting, story, than, yes, hope, everything, knew, many, anything, everybody, life).

## Research Question Four

Research question four was: What is the relationship between each of the lists compiled in Questions 1 and 2 of this study and the 250 words used most frequently as reported in the Rinsland study? The 256 words which were used most frequently as reported by Rinsland may be found in Table 4 in the column labeled "Rinsland". Because of tied ranks in the two lists developed using Methods 1 and 2, Rinsland's list contains 256 words so that all three lists are equal in length.

The list compiled by Method 1 and the list by Rinsland include a total of 307 different words. There are 205 words (66.78\%) in common to the two lists and 102 words ( $33.22 \%$; 51 per list) which occur in only one of the lists.

The list compiled using Method 2 and the list by Ririsland include a total of 305 different words. There are 207 words ( $67.87 \%$ ) in common to the two lists and 98 words (32.13\%; 49 in each list) which occur in only one of the lists.

When all three lists are considered (i.e., Method 1 , Method 2, and Rinsland), a total of 316 different words ars rapresented. There are 203 words ( $64.24 \%$ ) common to all three lists, 67 words ( $21.20 \%$ ) which occur in only one of the lists, and 46 words ( $14.56 \%$ ) which occur in two of the three lists. Words which are not common to all three lists are indicated in Table 4.

## Research Question Five

Research question five was: Which words occur in this study that were not reported by Rinsland? A total of 1,363 words were used by students in this study which were not reported by Rinsland. A list
of those words and the frequency with which they occurred appears in Table 5. This list includes only words entered into the computer following the guidelines in Appendix B.

## Research Question Six

Research question six was: What are the 100 words used most frequently in written expression by students at each grade level (1-6)? The 100 words used most frequently in written expression by students at each grade within grades 1-6 can be found in Tables 6-8 (i.e., grades 1 and 2 are in Table 6; grades 3 and 4 are in Table 7; grades 5 and 6 are in Table 8). Because of tied ranks in the lists from this study, the grade one, three, and six lists contain only 98 or 99 words each.

Research Question Seven
Research question seven was: What is the relationship between each of the lists compiled in question six and the equivalent lists compiled by Rinsland? The equivalent lists compiled by Rinsland are reported in Tables 6-8 with the corresponding lists from question six. A comparison of the lists by grade level follows.

1. The two first grade lists represent a total of 122 different words. The lists have 74 words ( $60.66 \%$ ) in common and 48 words (39.34\%; 24 in each list) appear on only one of the lists.
2. The two second grade lists represent a total of 129 different words. The lists have 71 words ( $55.04 \%$ ) in common and 58 words (44.96\%; 29 in each list) appear on only one of the lists.
3. The two third grade lists represent a total of 119 different words. The lists have 79 words ( $66.39 \%$ ) in common and 40 words (33.61\%; 20 in each list) appear on only one of the lists.
4. The two fourth grade lists represent a total of 126 different words. The lists have 74 words ( $58.73 \%$ ) in common and 52 words ( $41.27 \%$; 26 in each list) appear on only one of the lists.
5. The two fifth grade lists represent a total of 124 different words. The lists have 76 words ( $61.29 \%$ ) in common and 48 words (38.71\%; 24 in each list) appear on only one of the lists.
6. The two sixth grade lists represent a total of 122 different words. The lists have 76 words ( $62.30 \%$ ) in common and 46 words (37.70\%; 23 in each list) appear on only one of the lists.
7. When all 12 lists (two lists at each grade 1-6) are considered, a total of 191 words occurred. Of these words, 47 appeared in every list indicating that these are consistently important words across the grades. (The list of 47 words and an additional 10 words which appeared in 11 of the lists can be found in Appendix D.)

## Items Not Entered Into the Computer

A total of 5,957 words (including duplications) were deleted from the count following the guidelines found in Appendix B. This included (a) 3,726 words ( $62.55 \%$ ) which were names of people and groups; (b) 919 words (15.43\%) which were names of places; (c) 1,267 words $(21.27 \%$ ) which were names of things; and (d) 45 words (. $75 \%$ ) which were not found in the dictionary. Table 9 provides more detailed information about the words which were deleted.

Table 2

School Districts Represented in the Sample

| School District, City, and State | Setting ${ }^{1}$ | $\begin{gathered} \text { Socioeconomic }_{1} \\ \text { Level } \end{gathered}$ |
| :---: | :---: | :---: |
| Cedar Falls Community School District Cedar Falls, Iowa | Suburban | Mostly Middle Class |
| St. Mary's County Public Schools Leonardtown, Maryland | Rural | Mostly Middle Class |
| Douglas Unified School District Douglas, Arizona | Rural | Middle and Lower Class |
| Independent School District \#273 Edina, Minnesota | Suburban | Middle and Upper Class |
| Oklahoma City Public Schools Oklahoma City, Oklahoma | Urban | Middle and Lower Class |
| Port Arthur Independent School District Port Arthur, Texas | Urban | Middle and <br> Lower Class |
| Giles County Public Schools Lynnville, Tennessee | Rural | Middle and Lower Class |
| Bloomington Public Schools <br> Bloomington, Texas | Rural | Middle and Lower Class |
| Parma Public Schools Parma, Ohio | Suburban | Mostly Middle Class |
| Bourne Public Schools Bourne, Massachusetts | Rural | Middle and Lower Class |
| Capital School District Dover, Delaware | Suburban | Mostly Middle Class |
| Unified School District \#305 Salina, Kansas | Rural | Middle and Lower Class |
| North Slope Bourough Barrow, Alaska | Rural | Middle and Lower Class |
| Duval County Public Schools Jacksonville, Florida | Urban | Middle and Lower Class |
| $1_{\text {This }}$ information is based on data reported by the classroom teachers involved in the study. |  |  |

Table 3
Grade Level, Gender, and Race of Participating Students

|  | FIRST |  | second ${ }^{1}$ |  |  | THIRD |  | FOURTH |  | Fifth |  | SIXTII |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| RACE | Male | Female | Male | Female | $\begin{gathered} \text { Not } \\ \text { Indicated } \end{gathered}$ | Male | Female | Male | Fexale | Hale | Female | Male | Female | TOTALS |
| Hhite | 97 | 90 | 89 | 87 | 0 | 43 | 44 | 93 | 92 | 99 | 127 | 83 | 100 | 1,044 |
| Black | 6 | 7 | 9 | 10 | 0 | 3 | 6 | 9 | 11 | 10 | 6 | 26 | 26 | 129 |
| Native American | 0 | 2 | 15 | 9 | 0 | 37 | 28 | 2 | 4 | 1 | 2 | 17 | 11 | 128 |
| Bispanic | 22 | 15 | 16 | 14 | 0 | 32 | 28 | 17 | 14 | 30 | 13 | 15. | 13 | 229 |
| Asian | 3 | 0 | 3 | 4 | 0 | 2 | 0 | 1 | 2 | 3 | 0 | 1 | 2 | 21 |
| Sakimo | 0 | 0 | 8 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13 |
| OLher | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 3. |
| Not <br> Indicated | 0 | 0 | 0 | 0 | 30 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 31 |
| totals | 128 | 114 | 140 | 129 | 30 | 117 | 106 | 122 | 124 | 144 | 148 | 143 | 153 | 1,598 |

Footnote
${ }^{1}$ This was the only grade for which information on gender was missing.

Table 4
256 Most Frequently Used Words*

| YELHOD : (TOTAL NORDS 165,821) |  |  | METHOD 2 (TOTAL STUDERTS 1.604 ) |  |  | RINSLINO (TOTAL WORDS 6, 012,359) |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Rank | Hord | Freguency | Rank | Hord | Parceat | Rank | Vord | Erequency |
| 1 | Etre | 8,401 | 1 | and | 86.72 |  | the | 284,145 |
| 2 | and | 7,334 | 2 | the | 82.86 | 2 | I | 205,581 |
| 3 | I | 6,833 | 3 | $a$ | 80.24 | 3 | and | 203,146 |
| 4 | a | 5,237 | 4 | 50 | 78.99 | 4 | co | 180,938 |
| 5 | EO | 5,056 | 5 | I | 71.82 | 5 | a | 171,566 |
| 6 | was | 2,381 | 6 | in | 58.67 | 6 | you | 102,426 |
| 7 | 近 | 2,723 | 7 | w | 85.24 | 7 | us | 93,444 |
| 8 | he | 2,418 | 8 | 18 | 52.37 | 8 | in | 88,782 |
| 9 | it | 2,381 | 9 | U4s | 51.87 | 9 | 15 | 83,344 |
| 10 | in | 2,331 | 10 | of | 51.31 | 10 | of | 81,620 |
| 11 | we | 2,110 | 11 | is | 44.39 | 11 | is | 79,025 |
| 12 | of | 1,839 | 12 | when | 40.46 | 12 | ras | 70,493 |
| 13 | 15 | 1,719 | 13 | one | 39.96 | 13 | have | 57,102 |
| 14 | they | 1,585 | 14 | on | 39.78 | 14 | my | 55,267 |
| 15 | on | 1,203 | 15 | chat | 39.40 | 15 | are | 49,699 |
| 16 | ehat | 1,198 | 16 | uth | 35.72 | 16 | he | 47,225 |
| 17 | when | 1,193 | 17.5 | bue | 35.47 | 17 | EOE | 44,547 |
| 18 | 704 | 1,159 | 17.5 | he | 35.47 | 18 | on | 42,058 |
| 19 | want | 1,118 | 19.5 | day | 35.22 | 19 | they | 41,363 |
| 20 | said | 1,101 | 19.5 | so | 35.22 | 20 | that | 39,497 |
| 29 | she | 1,099 | 21 | thay | 35.16 | 21 | had | 38,743 |
| 22 | 50 | 1,098 | 22 | for | 34.91 | 22 | she | 31,361 |
| 23 | shen | 1,096 | 23 | 4e | 34.35 | 23 | very | 31,327 |
| 24 | me | 1,088 | 24 | 30 | 33.42 | 24 | -H11 | 30,305 |
| 25 | 30 | 1,034 | 25 | me | 32.79 | 25 | when | 30,546 |
| 26 | bus | 1,026 | 26 | mene | 32.73 | 26 | school | 30,451 |
| 27 | one | 984 | 27 | ehere | 32.61 | 27 | me | 30,132 |
| 29 | with | 969 | 28 | have | 32.29 | 28 | whth | 29,968 |
| 29 | EOr | 960 | 29 | 211 | 32.23 | 29 | am | 29,115 |
| 30 | gos | 940 | 30 | then | 31.48 | 30 | ali | 29,111 |
| 31 | have | 936 | 31 | had | 31.17 | 31 | one | 28,710 |
| 32 | would | 920 | 32 | out | 30.67 | 32 | so | 28,693 |
| 33 | had | 888 | 33 | goe | 30.42 | 33 | your | 27,474 |
| 34 | 1ika | 881 | 34 | like | 30.36 | 34 | 305 | 26,528 |
| 35 | all | 879 | 35 | up | 29.30 | 35 | chere | 25,837 |
| 36 | chere | 872 | 36 | get | 26.75 | 36 | went | 25,190 |
| 37 | day | 864 | 37 | you | 26.56 | 37 | not | 24,969 |
| 38 | out | 810 | 38 | at | 26.00 | 38 | as | 24,708 |
| 39 | be | 791 | 39.5 | be | 25. 31 | 39 | 11ke | 24,682 |
| 40 | 4p | 758 | 39.5 | said | 25.31 | 40 | out | 23,970 |
| 41 | ware | 702 | 41 | time | 22.63 | 41 | 80 | 23.898 |
| 42 | her | 691 | 42 | because | 22.57 | 42 | but | 23.636 |
| 43 | get | 689 | 43. | by | 22.07 | 43 | chis ${ }^{\text {a }}$ | 23,623 |
| 44.5 | him | 570 | 44.5 | end ${ }^{4}$ | 21.57 | 44 | dear ${ }^{3}$ | 22.481 |
| 44.5 | his | 570 | 44.5 | were | 21.57 | 45 | some | 22,973 |
| 46 | will | 634 | 46 | she | 21.20 | 46 | then | 21.766 |
| 47 | at | 629 | 47 | are | 20.76 | 47 | going | 21,677 |
| 48 | are | 623 | 48 | some | 20.70 | 48 | up | 20,732 |
| 49 | 14 | 533 | 49.5 | his | 20.51 | 49 | cime | 20,659 |
| j0 | house | 526 | 49.5 | vould | 20.51 | 50 | 305 | 20,626 |
| 51 | them | 525 | 51 | 80108 | 19.83 | 51 | mould | 20,515 |
| 52 | gotag | 522 | 52 | if | 19.70 | 52 | Our | 20,418 |
| 53 | some | 520 | 53 | abous ${ }^{4}$ | 19.33 | 53 | were | 20.087 |
| 54 | becsuse | 514 | 54 | came | 19.26 | 54 | lierla | 19,240 |
| 55 | saw | 491 | 53 | house | 19.14 | 55 | how | 18,621 |
| 56 | cime | 469 | 56 | him | 18.90 | 56 | be | 18,600 |
| 57 | could | 462 | 57.5 | home | 18.83 | 57 | do | 18,284 |
| 58 | came | 457 | 57.5 | chell | 18.83 | 58 | from | 17,775 |
| 59 | play | 452 | 59 | w/11 | 18.33 | 59 | her | 17,752 |
| 60 | by | 436 | 60 | saw | 18.27 | 60 | chem | 17,727 |
| 61 | about ${ }^{4}$ | 435 | 61 | what | 18.08 | 61 | 48 | 17,497 |
| 62 | do | 428 | 62 | chis | 17.90 | 62 | his | 17.286 |
| 63.5 | home | 420 | 63 | could | 17.71 | 63 | mocher | 16,599 |
| 63.5 | what | 420 | 64 | do | 17.52 | 64 | sea | 16,533 |
| $65$ | very | $419$ | 65 | back | $17.27$ | 55 | finend | $26,206$ |
| 66 | beck | 413 | 66 | not | 16.15 | 66 | come | 16,055 |
| *Footnotes at end of table |  |  |  |  |  |  |  |  |

Table 4 continued

| YEIROD 1 (TOTAL woros 165,821) |  |  | STETEOD 2 (TOTAL STUDENTS 1,604) |  |  | RINSLAND (TOTAL HORDS 6,012,359) |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Rank | Hord | Etequancy | Ranic | Kicrd | Parcent | Rank | Gord | Erequancy |
| 67 | chis | 393 | 67 | play | 16.02 | 67 | can | 15,762 |
| 68 | school | 383 | 68.5 | dowa | 15.96 | 68 | day | 15,759 |
| 69.5 | down | 364 | 68.5 | vary | 15.96 | 69 | good | 15,138 |
| 69.5 | 500 | 364 | 70 | coo | 15.90 | 70 | what | 14,974 |
| 11 | and ${ }^{4}$ | 362 | 71 | her | 15.71 | 71 | seid | 14.849 |
| 72 | noc | 361 | 72 | over | 15.65 | 72 | him | 14,470 |
| 73 | over | 346 | 73 | once | 15.46 | 73 | home | 13,906 |
| 74 | can | 344 | 74 | see | 14.59 | 74 | now | 13,476 |
| 75 | dog | 343 | 75 | juse | 14.46 | 75 | did | 13,542 |
| 76 | ses | 331 | 77 | ateer | 14.40 | 76 | hes | 13,298 |
| 77 | Friand | 327 | 77 | can | 14.40 | 77 | dora 3 | 13.297 |
| 78.5 | Iferla | 325 | 77 | Sthool | 14.40 | 78 | Chriscman ${ }^{3}$ | 12,966 |
| 78.5 | tame | 325 | 79 | Erom | 14.21 | 79 | 15 | 12,723 |
| 80.5 | fust | 322 | 80 | lictla | 13.15 | 80 | weite ${ }^{3}$ | 12,671 |
| 80.5 | people | 322 | 81 | or | 12.91 | 81 | arter | 12,110 |
| 32 | as | 319 | 82 | knou | 12.66 | 82 | play | 11.959 |
| 33 | frow | 301 | 83 | पame | 12.41 | 83 | came | 11,698 |
| 84.5 | aiter | 295 | 84 | two | 12.22 | 34 | put | 11. 665 |
| 34.5 | or | 295 | 85 | fun | 12.16 | 85 | Ewo | 11.395 |
| 86 | our | 292 | 36.5 | gtarced | 12.09 | 86 | house | 11. 324 |
| 37 | wane | 290 | 86.5 | rant | 12.09 | 37 | us | 11,132 |
| 38 | 210 | 285 | 89 | did | 11.91 | 38 | because | 11.065 |
| 89 | starced | 280 | 89 | Inco | 11.91 | 89 | orer | 10.993 |
| 90 | Into | 276 | 99 | other | 11.91 | 90 | gaw | 10.992 |
| 91 | big | 274 | 91 | people | 11.78 | 91 | cheis | 10.979 |
| 93 | Eun | 271 | 92.5 | big | 11.60 | 92 | vell | 10.924 |
| 93 | once | 271 | 92.5 | gan | 21.60 | 93 | here | 10.562 |
| 93 | cold | 271 | 94.5 | friend | 11.47 | 94 | by | 20,428 |
| 95 | chatr | 268 | 94.5 | next | 11.47 | 95 | fust | 10,285 |
| 96.5 | boy | 266 | 96 | didn't | 11.35 | 96 | made | 10,100 |
| 95.5 | Ewo | 260 | 97 | good | 11.28 | 97 | back | 10,083 |
| 98 | ocher | 263 | 98 | now | 11.16 | 98 | an | 10,071 |
| 99 | good | 262 | 99 | aighe | 11.10 | 99 | could | 9.937 |
| 100 | dida't | 250 | 100.5 | around | 10.91 | 100 | $0 \cdot$ | 9,846 |
| 101.5 | know | 259 | 100.5 | cook | 10.91 | 102 | dog | 9.711 |
| 101.5 | aighe | 259 | 102 | don't | 10.85 | 102 | 500 | 9.634 |
| 103 | wother | 257 | 103.5 | as | 10.66 | 103 | cther | 9,381 |
| 104 | next | 254 | 103.5 | Our | 10.66 | 104 | cany ${ }^{6}$ | 9,013 |
| 105 | did | 251 | 105 | come | 10.35 | 105 | nighe | 8,924 |
| 108 | I'm 4 | 248 | 106 | how | 10.22 | 106 | name | 8,918 |
| 107 | Eriends ${ }^{4}$ | 244 | 107 | mother | 10.10 | 107 | old | 8,914 |
| 108 | took | 242 | 108.5 | chais | 10.04 | 108 | know | 8,300 |
| 109 | 48 | 240 | 108.5 | told | 10.04 | 109 | vane | 8.736 |
| 110 | best | 238 | 110 | OEf 4 | 9.98 | 110 | maka | 8.707 |
| 111 | now | 235 | 111 | Eriends ${ }^{4}$ | 9.85 | 111 | been | 8.202 |
| 112 | don't | 232 | 112.5 | bay | 9.79 | 112 | Eirge | 8,196 |
| 113 | around | 230 | 112.5 | las | 9.79 | 113 | ineo | 8,158 |
| 114.5 | cran | 227 | 114 | best | 9.73 | 114 | peopla | 8.141 |
| 114.5 | mom ${ }^{4}$ | 227 | 115.5 | mose | 9.54 | 115 | man | 8,133 |
| 116 | more | 215 | 115.5 | old | 9.54 | 116 | soon ${ }^{3}$ | 8,012 |
| 118 | am | 213 | 41 | Etrst | 9.48 | 117 | take | 7,968 |
| 118 | cona | 213 | 118.5 | I'm | 9.41 | 118 | much | 7,965 |
| 118 | old | 213 | 118.5 | put | 9.41 | 119 | lereer ${ }^{3}$ | 7,894 |
| 120 | how | 212 | 120 | dog | 9.04 | 120 | sure ${ }^{3}$ | 7,382 |
| 121 | Iot | 210 | 121 | someching | 8.92 | 121 | boy | 7,857 |
| 122 | Oft | 209 | 122.5 | no | 8.35 | 122 | big | 7,765 |
| 123 | Eirse | 202 | 122.5 | Uell | 8.35 | 123 | ching | 7,623 |
| 124 | vell | 201 | 124.5 |  | 8.30 | 124 | hope ${ }^{3}$ | 7,458 |
| 125 | put | 199 | 124.5 | $000{ }^{4}$ | 8.80 | 125 | grade ${ }^{3}$ | 7,375 |
| 126 | chree | 193 | 126 | an | 8.60 | 126 | wacar | 7,372 |
| 127.5 | gomaching | 189 | 127 | chings | 9. 54 | 127 | 50.11 | 7,305 |
| 127.5 | your | 189 | 128 | taka | 3.48 | 128 | dor's | 7,130 |
| 129 | no | 187 | 129 | Where | 8.42 | 129 | last 5 | 7.003 |
| 130.5 | asked | 186 | 131 | every ${ }^{\text {a }}$ | 8.29 | 130 | children ${ }^{5}$ | 6,943 |
| 130.5 | car | 186 | 131 | named ${ }^{4}$ | 8.29 | 131 | where | 5,777 |
| 132 | has | 183 | 131 | your | 8.29 | 132 | every ${ }_{3}$ | 5,667 |
| 133 | dad ${ }^{4}$ | 131 | 133 | nice | 8.23 | 133 | vhich ${ }^{3}$ | 6,555 |
| 134 | sumuer | 175 | 134.5 | three | 8.04 | 134 | cook | 5.540 |
| 135.5 | again | 173 | 134.5 | wino | 8.04 | 135 | moze | 6,359 |

Table continued on next page

Table 4 continued

| YEETHOD 1 (TOTAK WORDS 165,821) |  |  | METHOD 2 (TOTAZ STUDENTS 1,604) |  |  | RINSLAND (TOTAL NORDS $6,012,359)$ |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 3ank | Word | Erequency | Rank | Word | Parcane | Ranic | Word | Esequancy |
| 135.5 | named ${ }^{4}$ | 173 | 136 | has | 7.98 | 136 | arcund | 6,508 |
| 138.5 | cat | 170 | 138.5 | again | 7.92 | 137 | tather | 6,348 |
| 138.5 | Eound | 170 | 138.5 | eat | 7.92 | 138 | sree | 6,304 |
| 138.5 | 16.st | 170 | 138.5 | 15'a ${ }^{\text {a }}$ | 7.92 | 139 | Long | 6,294 |
| 138.5 | aica | 170 | 138.3 | looked | 7.92 | 140 | who | 6,260 |
| 142 | an | 168 | 141 | years | 7.79 | 141 | morning | 6,258 |
| 142 | things | 168 | 142.5 | car | 7.73 | 142 | started | 6,233 |
| 142 | whare | 168 | 142.5 | us | 7.73 | 143 | three | 6,228 |
| 145 | cak: | 167 | 144 | asked | 7.61 | 144 | 8171 | 6,132 |
| 145 | tho | 167 | 145 | aray | 7.54 | 145 | ehings | 6,105 |
| 145 | wish | 167 | 146.5 | found | 7.42 | 146 | cat | 6,093 |
| 147 | facher | 166 | 146.5 | ouly | 7.42 | 147 | nev | 6,037 |
| 148 | looked | 165 | 148.5 | dad ${ }^{4}$ | 7.29 | 148 | atay | 5,385 |
| 149.5 | buyt | 264 | 148.5 | man | 7.29 | 149 | anxe | 5,858 |
| 149.5 | Mr. ${ }^{1}$ | 164 | 150.5 | callad | 7.21 | 150 | fine ${ }^{3}$ | 5,345 |
| 151 | heard | 163 | 150.5 | sumar | 7.23 | 151 | off | 5,342 |
| 152 | years | 162 | 152 | walking ${ }^{\text {a }}$ | 7.17 | 152 | cold | 5,735 |
| 153 | atc | 160 | 153.5 | heard, | 7.11 | 153 | uay | 5,490 |
| 154 | every | 138 | 153.5 | that's ${ }^{\text {a }}$ | 7.11 | 154 | away | 5,457 |
| L55 | faxaly ${ }^{4}$ | 154 | 155 | EIghe | 7.04 | 155 | found | 5,414 |
| 156 | amay | 153 | 157 | never | 6.98 | 156 | coorl | 5,264 |
| 157 | think | 152 | 157 | . think | 6.98 | 157 | before | 5,248 |
| 158 | only | 149 | 157 | zay | 6.98 | 158 | show ${ }^{3}$ | 5,228 |
| 159 | help | 148 | 159 | zanced | 6.96 | 159 | dida't | 5,216 |
| 160 | araned | 147 | 160.5 | family ${ }^{4}$ | 6.80 | 160 | eas. | 5,185 |
| 161.5 | girl | 145 | 160.5 | ching | 6.80 | 161 | boys ${ }^{3}$ | 5.126 |
| 161.5 | horse ${ }^{\text {a }}$ | 145 | 162 | long | 6.73 | 162 | no | 5,083 |
| 163.5 | love | 142 | 163 | make | 6.67 | 163 | $c^{\text {cosa }}{ }^{3}$ | 5,070 |
| 163.5 | make | 142 | 164.5 | almays | 6.61 | 164 | men ${ }^{3}$ | 5,061 |
| 165.5 | dever | 141 | 164.3 | avar ${ }^{4}$ | 6.61 | 165 | precty | 5,045 |
| 165.5 | righe | 141 | 166.5 | made 4 | 6.36 | 166 | aice | 4,999 |
| 167 | doas | 139 | 166.5 | 5wimining ${ }^{4}$ | 6.36 | 167 | chought | 4,891 |
| 168 | bracher | 138 | 168 | here | 6.30 | 168 | tun | 4,889 |
| 169 | also | 136 | 169 | much | 6.23 | 169 | called | 4,885 |
| 170 | here | 134 | 171 | door | 6.17 | 170 | 7ear 3 | 4,878 |
| 171.5 | always | 133 | 171 | 100\% ${ }^{\text {, }}$ | 6.17 | 171 | ball ${ }^{3}$ | 4,869 |
| 171.5 | walking ${ }^{4}$ | 133 | 171 | $3 \mathrm{Cl11}{ }^{4}$ | 6.17 | 172 | whisa ${ }^{3}$ | 4,868 |
| 174 | htt ${ }^{4}$ | 1.32 | 174.5 | help | 6.11 | 173 | again | 4,847 |
| 174 | 100k | 132 | 174.5 | left 4 | 6.11 | 174 | bed | 4,316 |
| 174 | wacer | 132. | 174.5 | ceally ${ }^{4}$ | 6.11 | 175 | years | 4,760 |
| 177 | long, | 131 | 174.5 | thought | 6.11 | 176 | chrough | 4,725 |
| 177 | Tide ${ }^{4}$ | 131 | 177.5 | lived | 6.05 | 177 | -hile | 4,701 |
| 177 | thoughe | 131 | 277.5 | upoa ${ }^{4}$ | 6.05 | 178 | gave | 4,688 |
| 180 | ehing | 130 | 179 | mozaing | 5.99 | 179 | cork 3 | 4,679 |
| 180 | cree | 130 130 | 181.5 | also | 5.92 | 180 | dol1 ${ }^{3}$ | 4,524 |
| 180 | way | 130 | 181.5 | bed 4 | 5.92 | 181 | 8eteing ${ }^{6}$ | 4,513 |
| 182 | cailed | 129 | 181.5 | sometime ${ }^{4}$ | 5.92 | 182 | baby ${ }^{3}$ | 4,456 |
| 183.5 | room | 126 | 181.5 | Why ${ }^{4}$ | 5.92 | 183 | once | 4,447 |
| 183.3 | yesr | 126 | 184 | Earher | 5.86 | 184 | also | 4,378 |
| 185 | bed | 125 | 185.5 | before | 5.80 | 185 | 5un | 4,373 |
| 187 | made | 124 | 185.5 | wacer | 5.80 | 186 | coming, | 4.332 |
| 187 | 92y | 124 | 188 | girl | 5.74 | 187 | should ${ }^{3}$ | 4,289 |
| 187 | chac's ${ }^{4}$ | 124 | 188 | place | 5.74 | 188 | ceacher ${ }^{5}$ | 4,288 |
| 189 | I'114 | 123 | 188 | precty | 5.74 | 189 | placm | 4,256 |
| 190 | much | 122 | 190 | brocher, | 5.67 | 190 | car | 4,190 |
| 191 | dhy ${ }^{4}$ | 121 | 191 | Efnaliy | 5.61 | 191 | give | 4,181 |
| 193 | 11v* | 120 | 192.5 | love | 5.55 | 192 | Ean | 4,180 |
| 193 | İved 4 | 120 | 192.5 | worix 4 | 5.55 | 193 | les | 4,173 |
| 193 | really ${ }^{4}$ | 120 | 194.5 | Playdng ${ }^{4}$ | 5.42 | 194 | only 3 | 4,124 |
| 195.5 | evar ${ }^{4}$ | 119 | 194. 5 | ride ${ }^{\text {a }}$ | 5.42 | 195 | coday ${ }^{3}$ | 4,046 |
| 195.5 | work | 219 | 196.5 | hts ${ }^{\text {b }}$ | 5.36 | 196 | summer | 4.023 |
| 197 | money ${ }^{\text {d }}$ | 117 | 196.5 | Tun | 5.36 | 197 | righe | 4,005 |
| 199 | Mrs. 1 | 116 | 199 | any | 5.30 | 198 | red ${ }^{\text {a }}$ | 3,368 |
| 199 | new | 116 | 199 | cell | 5.30 | 199 | another | 3,862 |
| 199 | sesill ${ }^{\text {c }}$ | 116 | 199 | year | 5.30 | 200 | mose | 3,330 |
| 201 | place | 115 | 202 | E.114 | 5.23 | 201 | look | 3,810 |
| 202 | trimining ${ }^{\text {d }}$ | 114 | 202 | nev | 5.23 | 202 | -13k ${ }^{3}$ | 3,799 |
| 203 | left | 113 | 202 , | say ${ }^{\text {cog }}$ | 5.23 | 203 | boak ${ }^{3}$ | 3,784 |
| 204.5 | precty | 111 | 204.5 | food ${ }^{+}$ | 5.17 | 304 | uanzed | 3,748 |

Table continued on next page

Table 4 continued

| METHOD 1 (TOTAL HORDS 165,821) |  |  | METHOD 2 (TOTAL STUDENTS 1,604) |  |  | SINSLAND (TOTAL WORDS $6,012,359$ ) |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Rank | Word | Eyequency | Ragk | Word | Percene | Rank | Mord | Frequencr |
| 204.5 | siscar | 111 | 204.3 | wish, | 5.17 | 205 | black | 3,730 |
| 206.5 | trocring | 109 | 206.5 | aven ${ }^{4}$ | 5.11 | 206 | bring ${ }^{3}$ | 3.693 |
| 206.5 | somactme ${ }^{4}$ | 109 | 206.5 | stay ${ }^{4}$ | 5.11 | 207 | girls | 3.668 |
| 208 | 5 | 106 | 208 | Liva | 5.05 | 208 | along ${ }^{3}$ | 3,604 |
| 209.5 | dollars ${ }^{1}$ | 105 | 209 | buy ${ }^{4}$ | 4.99 | 209 | slad ${ }^{3}$ | 3,661 |
| 209.5 | Eall ${ }^{4}$ | 105 | 212 | another | 4.92 | 210 | Lova | 3,652 |
| 211 | played | 103 | 212 | couting | 4.92 | 211 | Ifve, | 3,598 |
| 213 | bassball ${ }^{4}$ | 102 | 212 | happy, | 4.92 | 212 | read ${ }^{3}$ | 3,594 |
| 213 | Food ${ }^{4}$ | 102 | 212 | later ${ }^{\text {d }}$ | 4.92 | 213 | soweching | 3,560 |
| 213 | tall | 102 | 212 | lec | 4.92 | 214 | until | 3,547 |
| 215.5 | before | 101 | 218 | deen | 4.86 | 215 | played | 3,595 |
| 215.5 | Etral19 ${ }^{4}$ | 101 | 218 | fast ${ }^{4}$ | 4.86 | 216 | best | 3,571 |
| 217.5 | lasar ${ }^{4}$ | 100 | 218 | gave | 4.86 | 217 | heart | 3,570 |
| 217.5 | playing ${ }^{\text {a }}$ | 100 | 218 | give, | 4.86 | 218 | Eour ${ }^{3}$ | 3,552 |
| 219.5 | monscar ${ }^{1}$ | 99 | 218 | [114 | 4.86 | 219.5 | brocher | 3,535 |
| 219.5 | upon' | 99 | 218 | mose | 4.36 | 219.5 | say | 3,535 |
| 223 | coulda' $5^{4}$ | 98 | 218 | uhila | 4.36 | 221 | cold ${ }^{3}$ | 3.520 |
| 223 | give | 98 | 222.5 | sleep ${ }^{4}$ | 4.30 | 222 | never | 3.511 |
| 223 | hard | 98 | 222.5 | through | 4.80 | 223 | I'm | 3,465 |
| 223 | lec | 98 | 224 | Efad | 4.74 | 224 | sister | 3,457 |
| 223 | Eenchars | 98 | 224 | last | 4.74 | 225 | chan ${ }^{\text {d }}$ | 3,433 |
| 227 | been | 97 | 224 | outside ${ }^{4}$ | 4.74 | 226 | doot | 3,426 |
| 227 | children ${ }^{5}$ | 97 | 227 | almosc ${ }^{2}$ | 4.63 | 227 | great ${ }^{3}$ | 3,384 |
| 227 | even ${ }^{\text {a }}$ | 97 | 229.5 | couldn' $\mathrm{E}^{\text {a }}$ | 4.61 | 228 | muse ${ }^{\text {a }}$ | 3,353 |
| 229 | outside ${ }^{\text {a }}$ | 96 | 229.5 | roon 2 | 4.61 | 229 | looked | 3,329 |
| 231 | any | 95 | 229.5 | cogethar ${ }^{2}$ | 4.61 | 230 | thing | 3,310 |
| 231 | last | 95 | 229.5 | valked ${ }^{4}$ | 4.61 | 231 | Exid | 3,308 |
| 231 | stay ${ }^{4}$ | 95 | 232 233 | everyone ${ }^{4}$ | 4.55 | 232 233 | ${ }_{\text {aluays }}{ }^{\text {pleasa }}$ | 3,295 3,290 |
| 233 | happy | 94 | 233 | $\operatorname{can}^{1} t^{-}$ | 4.49 4.43 | 233 234 | pleasa | 3,290 3,254 |
| 236.5 | anocher | 93 | 235.5 | ace ${ }^{4}$ | 4.43 | 234 235 | happy | 3,254 |
| 236.5 | can'ti 4 | 93 | 235.5 | money ${ }^{\text {a }}$ | 4.43 | 235 | daddy ${ }^{3}$ | 3,253 |
| 236.5 | everyona ${ }^{4}$ | 93 | 235.5 | played | 4.43 | 236 | counery $^{3}$ | 3,250 |
| 236.5 | Elnd | 93 | 235.5 | unesi | 4.43 | 237 | Ean | 3,245 |
| 236.5 | $E_{1 s h}{ }_{4}$ | 93 | 238.5 | black | 4.30 | 238 | wish | 3,241 |
| 236.5 | waiked ${ }^{4}$ | 93 | 238.5 | geteing ${ }^{6}$ | 4.30 | 239 | $10 t$ | 3,225 |
| 242 | mil110n | 92 | 240.5 | hard | 4.24 | 240 | asked | 3,197 |
| 341 | on ${ }^{4}$ | 92 | 240.5 | szory ${ }^{2}$ | 4.24 | 241 | days ${ }^{3}$ | 3,149 |
| 241 | cripl | 92 | 243.5 | cat | 4.18 | 242 | large ${ }^{3}$ | 3,137 |
| 243 | while | 91 | 243.5 | oh ${ }^{4}$ | 4.18 | 243 | better ${ }^{3}$ | 3,123 |
| 245 | coming | 90 | 243.5 | chay ${ }^{6}$ | 4.18 | 244 | chese ${ }^{3}$ | 3,121 |
| 245 | gave | 90 | 243.5 | ves ${ }^{2}$ | 4.18 | 245 | each ${ }^{3}$ | 3,102 |
| 245 | uncil | 90 | 246 | hope ${ }^{6}$ | 4.11 | 246 | Eive ${ }_{3}$ | 3,085 |
| 248.5 | bike1 | 89 | 247.5 | siscer | 4.05 | 247 | \#eeic ${ }_{3}^{3}$ | 3,078 |
| 248.5 | black | 89 | 247.5 | world ${ }^{4}$ | 4.05 | 248 | lacs ${ }^{3}$ | 3,026 |
| 248.5 | 703 5 | 89 | 250 | everyching ${ }^{2}$ | 4.00 | 249 | help | 3,005 |
| 248.3 | sorid ${ }^{4}$ | 89 | 250 | knew ${ }^{2}$ | 4.00 | 250 | left | 2,999 |
| 252.5 | anfmals ${ }^{\text {P }}$ | 88 | 250 | many ${ }^{6}$ | 4.00 | 251 | Ifved | 2,361 |
| 252.3 | East ${ }_{1}$ | 88 | 254 | anything ${ }^{2}$ | 3.93 | 252 | hard | 2,950 |
| 252.5 | kids ${ }^{\text {b }}$ | 88 | 254 | basebal14 | 3.93 | 253 | Eire ${ }^{3}$ | 2,721 |
| 252.5 | chrough | 88 | 254 | Evarybody ${ }^{2}$ | 3.93 | 254 | keep ${ }^{3}$ | 2.720 |
| 255.3 | ate ${ }^{\text {a }}$ | 37 | 254 | $11 \mathrm{Ee}^{2}$ | 3.93 | 255 | Eraes, | 2,906 |
| 255.5 | Sleep ${ }^{*}$ | 87 | 254 | tree | 3.93 | 356 | comes ${ }^{3}$ | 2,394 |

Foocrotes
${ }^{1}$ Hord oceurs 1n Mecthod 1 lise ouly
2 Word occurs in wathod 2 lise oaly
${ }^{3}$ Hord occurs ta Rdnaland Lise only
4 :hord occurs in Method 1 and Mechod 2 Lises bue noe in Rinsland Lise
$5_{\text {Hord }}$ occurs in Yechod 1 and Rdnsland lises bue noe in Yethod 2 lise
${ }^{6}$ Hord occurs in Mechod 2 and 3nasland Lises but not in Mechod 1 1ise

Table 5

## Words Not Reported By Rinsland

| Mord | Frequency | word | Eraquency | Aord | Frequencr |
| :---: | :---: | :---: | :---: | :---: | :---: |
| A-¢rame | 1 | bald asgle | 1 | bootng | 1 |
| abracadaora | 1 | ball game | 2 | booked | $i$ |
| ace | 1 | ballistic missile | 1 | bossed | 1 |
| adjuscments | 1 | ball parix | 1 | bocslernosed dolphin | $:$ |
| Afghan hound | 1 | ballplayer | 2 | bouney | 1 |
| AEghaniscan | 1 | baloney | 1 | bow head | 1 |
| Africa | 8 | jam | 6 | bow eie | 1 |
| airborn | 2 | bankrobbers | $i$ | boytiriend | 5 |
| air eondieioner | 1 | bapcism | 4 | boyish | 1 |
| air condietoners | 1 | baref́eer | 1 | brackec | 1 |
| air condictoning | 1 | bares | 1 | brang | 3 |
| aircraic careler | 1 | barf | $\underline{\square}$ | bracey | 1 |
| alrcraits | 2 | baracuda | 2 | break in | : |
| 315 force | 2 | bametes | 1 | brew | 3 |
| air pockee | 1 | bacika | $\geq$ | bsindle | 1 |
| ait pressure | 3 | bacon | 2 | 3řxisk | 1 |
| Alabama | 4 | bacted | 3 | broiled | $\pm$ |
| Alaska | 2 | baceer's | 2 | bronces | 1 |
| Alaskan | 1 | batcers | 3 | brook trout | $\pm$ |
| a) bums | 1 | bacting average | 1 | brown sugar | 1 |
| aliens | 4 | baetlesinips | 1 | brown Erout | 1 |
| alley cacs | 1 | bateling | 2 | bubble 3 un | 3 |
| alrerec | 1 | 38 gun | 4 | bubbly | 2 |
| Amarica | 3 | beady | 2 | buckled | 1 |
| America' 3 | 1 | beagles | 1 | bugging | 1 |
| amion | 1 | beaks | 1 | bugles | $!$ |
| amusemenc park | 1 | beanscalk | 5 | built-in | 3 |
| anchovies | 3 | beac up | 2 | bulldozer | 1 |
| antsgravicy | 2 | beaucy concest | 1 | bulijozers | 1 |
| anconym | 2 | beaucy conceses | 1 | bulleigite | 1 |
| anconyms | 1 | beaucy shop | 1 | bullies | $!$ |
| aqua | 2 | bee's | 1 | burgars | 1 |
| 1quariums | 1 | beep | 5 | bus driver | 4 |
| Arceac Circle | 2 | beige | : | bus 3cop | 4 |
| drizona | 5 | belly dancer | 1 | buccher knife | 11 |
| Arkansas | 4 | bengal Eiger | $i$ | buclers | 2 |
| arrogane | 1 | berrays | 1 | buzzed | $\pm$ |
| assises | 1 | baceing | 1 | buzzer | 1 |
| assuming | 1 | bewitched | $\vdots$ | Caiffomia | 25 |
| as chmacte | 1 | bicyeling | 1 | calma | : |
| sscounded | 1 | biddies | 3 | Camodia | , |
| astronaut | 4 | bide | 1 | sameras | 2 |
| ascronaucs | 4 | big shat | 1 | camp-out | 2 |
| Aclanels | 1 | oikiag | 3 | zmper | $?$ |
| telancic Ocean | 2 | bilitons | 1 | campgrounds | 1 |
| acom jomb | 1 | bing | 2 | Canada | 7 |
| acomic | 1 | bionic | 2 | Canadians | 1 |
| Ausczilian | 2 | black hole | 3 | canter | ! |
| tuscifa | ! | blase oif | $: 0$ | cape buifalo | ! |
| ulucographs svalanche | $!$ | bleschers | $\pm$ | capcive | $\frac{1}{1}$ |
| svalanche | 2 | blindfold | $!$ | caracals | $!$ |
| d 4 | 2 | blondish | ! | carbohydrate | 1 |
| aresome | 2 | blow up | : | caspeced | $!$ |
| baby-sic | 3 | bluegill | 2 | car pool | 2 |
| 'aby-sierer, | $\pm$ | bluegills | ! | carsoons | $\cdots$ |
| 'Sabpasiccez' ${ }^{\text {babyostcring }}$ | $\pm$ | blue feans | 1 | cartwheels | - |
| baby-sitcing backrito | 5 1 | blue whale | 4 | car mash | : |
| backeracx | 1 | boars | 1 | cauctous | $i$ |
| backyards | 1 | bogus | 1 | Eavisies | 3 |
| baddest | 1 | bologna | 1 | C3 | $j$ |
| bafiled | 1 | jomber | 1 | cellophane | 1 |
| bagzed | $i$ | bombers | 1 | cen cavos | 1 |
| bail | $i$ | bounechead shark | ! | cancer ijeld | $\cdots$ |
| balancing | 1 | boogeyanan | ; | cencer ilelder | $\vdots$ |
| bald-ineaded | 1 | boogle | 1 | chain-9moikng | $:$ |

Table continued on next page

Table 5 continued

| 'Gord | Frequency | 'Tord | Frequency | Hord | Frequency |
| :---: | :---: | :---: | :---: | :---: | :---: |
| chalkboard | 2 | crazy house | : | drownded | 1 |
| chalked | 1 | creaked | , | drowned | 4 |
| challenges | 1 | creased | 1 | drumbing | 1 |
| championships | 1 | crossly | 1 | dryness | 1 |
| champs | 3 | crunch | $!$ | duffel bag | 1 |
| characterszed | 1 | cuddla | 1 | dumpling | $\pm$ |
| chauvioists | 1 | cultures | 2 | dumps | 1 |
| cheaes | 1 | cupcaikes | 3 | dune buggies | 3 |
| cheerah | 3 | cuscomizad | 1 | duge bugsy | 4 |
| cineeran's | 1 | cuear | 1 | just mop | 1 |
| sheerans | 1 | daddy longlegs | 2 | earphones | 2 |
| einicikened | 1 | dang | 1 | earthling | 2 |
| ciref's | 1 | davenpores | 1 | earehlings | 3 |
| ehthuahua | 2 | day-care cencer | 1 | earchitngs' | 2 |
| chillier | 1 | daylighe | 2 | ease! | 1 |
| chimp | 1 | dears | 1 | ago | 1 |
| chin-ups | 1 | decider | 1 | egos | $\pm$ |
| China | 5 | fecisions | 1 | Egypt | 2 |
| Chinesa | 3 | deess | 1 | election day | 1 |
| chirp | 1 | degected | 1 | elecrric eyes | 1 |
| shopper | 2 | defended | 1 | elecrronic | 1 |
| chorused | 1 | deformed | 2 | elecszon microscope | 1 |
| cisy hall | 2 | Delaware | 1 | wiementary school | 1 |
| classical | : | delectabic | 2 | eloped | 1 |
| clogs | 3 | delusion | 2 | engina rocm | 1 |
| clorhes hanger | $\pm$ | demolished | $?$ | England | 7 |
| clucked | $i$ | Denmark | 1 | Englishman | 4 |
| coaseal plain | 2 | dencs | 1 | Engligh Seceer | 2 |
| coasters | 1 | descroyers | 1 | encercininer | 1 |
| coast 3uard | $?$ | descructed | 1 | anczance | 2 |
| come of ames | 2 | decested | 1 | equaifey | 2 |
| cock-2-ioodie-do | 1 | devil's | 2 | ersors | 2 |
| eockple | 1 | diabolical | 1 | Eskimo | $i$ |
| cockroach | 1 | diagnosis | 2 | etch | 1 |
| cockroaches | 3 | dial cone | $\pm$ | Europe | 11 |
| collapsed | 2 | diesel | 1 | evacuate | 1 |
| collarbone | 2 | digital | 1 | evacuaced | 2 |
| collided | 2 | ding-a-11ag | 2 | ex-con | 1 |
| Colo. | 1 | diagier | 2 | ex-Eriends | $\pm$ |
| Colorado | 5 | dinnertime | 1 | exhaus5 | 1 |
| comic books | 1 | dinosaurs' | 1 | exocic | $\underline{1}$ |
| coumunieared | 1 | dipcharia | 1 | exploratory | 1 |
| compere | 3 | disconneceed | 1 | explosions | 1 |
| comperes | $\pm$ | disguseing | 2 | exctres | 3 |
| compeciag | 2 | discribuce | 7 | excremes | 1 |
| computa | 1 | diver | $\underline{7}$ | eyeoalis | 5 |
| sompurer | 2 | diving board | $\stackrel{+}{4}$ | eyesighc | $\pm$ |
| sompucers | 4 | divorced | $\stackrel{2}{2}$ | face-ofz | 1 |
| concencrace | 2 | dizzier | 2 | Ėace-50-race | 1 |
| conditrioner | 1 | Dobazman Pinscher | 1 | Ealling star | 1 |
| condominium | 1 | doc | 1 | E3mily roour | $\geq$ |
| Connacricue | 1 | dodge 0811 | : | 三amily =aea | - |
| conscience | 1 | dogiouse | 5 | Eanciさul | 1 |
| sonserve | : | dogs' | $?$ | fantasy | $\cdots$ |
| conczol cowez | $!$ | dollhouse | 1 | fashions | 1 |
| conveyor bele | 1 | dol11es | $\div$ | Etance | 1 |
| sonvoy | 1 | doli3hop | 1 | Efances | 1 |
| cook's | 1 | dolphin | 1 | Etaid aice | 1 |
| zookhousa | 3 | dolphins | 2 | Efeld crip | 5 |
| cope | 1 | domain | 1 | Eteld czies | 1 |
| correcting | 1 | donace | 1 | E117 | 1 |
| coceon candy | 3 | domasing | : | Eslmed | $\vdots$ |
| sougars | 1 | double-barreled | : | EInish Iine | i1) |
| coughs | 2 | double play | $?$ | Ein whale | $\geq$ |
| counedown | 3 | joubles | : | Etre alam | i |
| country store | : | draricad | 1 | Eire chier | 2 |
| coustins' | $:$ | dragoa's | $\vdots$ | Efre company | - |
| crap | 1 | drag races | 2 | Elre deparcment | 3 |
| crappie | 3 | drawing beard | $!$ | Eire extinguisher | $?$ |
| evapoies | $-$ | dressing reom | - | Eirenouse | 2 |

Table continued on next page

Table 5 continued

| Tosd | Esequency | Word | Erequancy | Nord | Erequenct |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Expe eruck | 7 | 30-care | 12 | homers | 2 |
| \#゙irse base | 4 | 3o-cares | 4 | home cuns | 3 |
| Etrst-class | 2 | 30al1a | 2 | homestresch | 1 |
| Eirse class | 1 | 3018 ball | 3 | homeworix | $: 5$ |
| Eishbowl | 1 | golf balls | 1 | homonym | 2 |
| EIshing poles | 2 | 3014 club | 1 | hamonyes | 1 |
| Ejsh tail | 1 | golf course | 1 | hooking | 1 |
| E1xer | 5 | 300¢̊y | 1 | hooray | I |
| Elavored | 1 | 300n | 1 | hooves | 2 |
| ilavors | 1 | 3randdad | 1 | hoperuily | 3 |
| ting | 1 | grand slan | 1 | hopelessiy | 1 |
| finp-Elops | 1 | srape fuice | 1 | hoscage | 3 |
| Exipped | 4 | gray whale | 2 | hosrages | 6 |
| IIoopy | 2 | Breasful | 1 | hoc-rize | 1 |
| Elorida | 29 | 3reedier | 1 | hoc dog | 7 |
| Flocacica | 1 | 3riddle | 1 | iotrod | 1 |
| ${ }^{3}$ Iunk | 1 | 3rins | 1 | hot shot | 3 |
| slying saucer | 5 | grizziy bear | 2 | hound dog | 1 |
| good scamps | 1 | ground ball | $\pm$ | housewife | 1 |
| footline | 1 | 3r0wn-up | 1 | hover | 2 |
| forest ranger | 1 | 3roun ups | 3 | hovering | 1 |
| Eorgives | 1 | 3 Fuesoat | 1 | hutsiag | 1 |
| Ėoms | 1 | guaranteed | 1 | hula | 2 |
| Eoster home | 1 | guinea pigs | 4 | humpback whale | 2 |
| goul bali | 1 | guitarise | 2 | hunk | : |
| toul balls | 1 | gumay | 2 | huezay | 1 |
| Eour-wheei | 1 | Suntight | 1 | ice age | 1 |
| France | 2 | gunnysact | 1 | ice cream | 22 |
| Srankifurser | 4 | 3ushing | 1 | fcesicate | 1 |
| Eranks | : | 3uts | 4 | 1二e skater | 1 |
| Ereaky | 1 | 3uy's | : | 1ce cea | ! |
| Erench Ėties | 3 | guzzlers | 1 | smation | 2 |
| freshwacer | 1 | gymastic | 1 | ignoza | 1 |
| Eridge | 2 | Byweaseics | 14 | Illinois | 1 |
| Eries | 1 | Bymascs | 1 | impala | 1 |
| Enigace | 2 | gyous | 1 | faconveniences | 1 |
| Erog's | 1 | haircue | 4 | India | 1 |
| Erone zoom | 2 | hairdo | 1 | Indian Ocean | 1 |
| Erontwards | 3 | halfback | 1 | Indians' | $\underline{1}$ |
| Erone yard | 1 | hale hour | 1 | ineteld | 5 |
| Eroscbicten | 1 | hallelujah | 2 | inclacad | 1 |
| froseed | 1 | iamseer | 5 | frilacton | 1 |
| Euli-grown | $:$ | hamscer's | 1 | iniomer | 1 |
| Eull-sime | 1 | hamsears | 6 | inialaeton | 2 |
| Eun Eale | 10 | hamscers' | $\pm$ | Inaer cube | 1 |
| Ejn house | 3 | handball | 7 | insule | ! |
| 3alaxy | 2 | hamdspeings | 2 | incercepe | 1 |
| 3ambla | 1 | haunetag | 2 | incerceptad | 1 |
| garage saia | 1 | Eawais | 25 | incercom | ; |
| 3arderer | 9 | Havailan | 2 | 1acerieres | 1 |
| 3ardener's | 1 | headless | 3 | incersupeion | 1 |
| 3asoline's | 1 | headilnes | $\underline{1}$ | ineroduceions | 1 |
| gas stacion | 5 | headlock | 1 | invaders | 3 |
| gazalle | 1 | head seart | 3 | invasion | 2 |
| genealogy | 1 | heare actuck | 1 | invese | $\pm$ |
| gende | 17 | hearing | 1 | inveseigator | $\underline{-}$ |
| genies | 2 | hee-nee | $\frac{2}{7}$ | invisibla inix | $\vdots$ |
| Georgia | 2 | helicoper | 37 | Towa | $?$ |
| 3erbils | 1 | helicopeer's | 1 | IQ | $\pm$ |
| Genman | 3 | heroic | $\frac{1}{2}$ | İan | 4 |
| Garman shepherd | 4 | hic | 2 | Tranian | 2 |
| German Shepherds | 1 | nideous | 9 | Iransans | $\div$ |
| Germany | 3 | hfppo | 2 | Ereland | 9 |
| 3ifiad | 1 | hippopoeamuses | $i$ | Irish | 5 |
| 31:1 Eraand | 15 | hiring | 1 | Erish Sterers | $:$ |
| 3irl Eriend's | 4 | hittar | 4 | Sslanders | $\geq$ |
| 3i=1 Eriends | 1 | histers | 1 | Teslian | 1 |
| 3lacial | 1 | hockey sesck | $j$ | Japanese | 1 |
| Slicters | 1 | hogged | 2 | $J \mathrm{Jps}$ | 1 |
| 310b | 1 | hoiy tacer | 1 | tavoalking | - |
| 39453 | : | home plate | - | jeans | * |

Table continued on next page

Table 5 continued

| Mord | Etequency | yord | Erequency | Mord | Erequency |
| :---: | :---: | :---: | :---: | :---: | :---: |
| jeep | 1 | lure | 1 | Ms. | 7 |
| jellyfiah | 2 | magictan's | 1 | multicolored | 1 |
| fec liner | 1 | magnum | 1 | nubetole | 1 |
| jecs | 3 | Maine | 2 | munch | 1 |
| jockey | 8 | tajor league | 1 | munching | 1 |
| jogsing | 1 | \#akeup | 2 | mushream | 1 |
| john | 1 | mall | 2 | musicrac's | 2 |
| johnny-come-lateiy | 1 | Jarkers | 1 | uruseangs | 3 |
| Jumbo | 1 | Mars | 29 | muce | 2 |
| jump rope | 1 | Maredan | 18 | naps | 1 |
| jumpy | 1 | Sareians | 13 | narwiala | 1 |
| junior hizh | $i$ | Matyland | 1 | nartonal parks | 1 |
| Junkyard | 1 | Yass. | 1 | neck-rein | $i$ |
| Fupicer |  | Massachuseces | 1 | namously | 1 |
| kangaroo's | 2 | macehbox | 1 | Necherlands | 1 |
| kangaroo racs | 2 | natching | 1 | Sew England | 3 |
| kangaroos | $\stackrel{3}{3}$ | natcared | 2 | Sew Hampahi:e | 2 |
| Sansas | 5 | nayday | 2 | New Jersay | 1 |
| karate | 2 | maze | 1 | New Mexico | $i$ |
| Kuncucky | 3 | zeaningless | 1 | пewspaperman | 1 |
| kickball | 15 | mescball | 4 | New York | 4 |
| kid's | 3 | meacbalis | 1 | arbbIing | 1 |
| k1ddo | 1 | memorized | 1 | aighemare | 1 |
| killers | $!$ | neowed | 5 | night school | 1 |
| kIntolk | 1 | meows | 1 | no-nit | 1 |
| king-aize | $\pm$ | merchandise | 2 | noetumal | 1 |
| kisser | 2 | \#erge | 1 | notinee | 1 |
| kluez | 2 | 7ermaid | 3 | noodle | 3 |
| koala jeass | 2 | merriness | 1 | no one | 4 |
| Korean | 1 | messas | 1 | nope | 5 |
| kung siu | 2 | receorite | 3 | notsh's | 1 |
| Lab | 5 | macer | 1 | North Ameraca | $\pm$ |
| Labrador rectelver | $!$ | Mexican | 3 | Moreh Casolina | 2 |
| ladybug | 4 | Yexico | 14 | Norch Dakoca | 1 |
| Lake Erout | 1 | Machigan | 1 | Notway | 9 |
| lampshades | 1 | midwascern | 1 | Xornay's | 1 |
| Landings | 1 | nilaage | 1 | Notvegians | 1 |
| Laplanders | 1 | militant | 1 | notices | 2 |
| Laser | $!$ | militants | $\pm$ | nuclear | - |
| lasars | : | nilitary polica | 1 | nuclear energy | 1 |
| !aundromat | $!$ | milkman's | 1 | nuclear :eactor | : |
| lawn nower | 7 | Milikyay | 1 | aude | i |
| lamm mowers | 1 | minding | 1 | nuzsery school | $\underline{1}$ |
| taagues | 3 | mini-siasilighe | 1 | nursing homes | $i$ |
| lait fleld | 1 | mini-sociecy | :5 | aylons | 1 |
| leit Eielder | $!$ | uriai-coma | 1 | obvious ly | 2 |
| leprechaun | 3 | miniacura gole | 1 | scean liner | $\pm$ |
| lesser | $\div$ | minibike | 3 | odds and ends | 1 |
| lifenses | 1 | minibikes | 5 | oḟ-season |  |
| 1iEz-stze | $!$ | Mnnesoca | 4 | Ohio | $j$ |
| 1ife-styles | - | wisincerpreced | ! | Ok1 ahoma | $9$ |
| lifaruare iffe jackecs | ! | missila | 3 | outer space | 13 |
| life jackecs iffelike | 1 | ajssiles | $\vdots$ | sutifeld | 3 |
| iffescile | 1 | Mississippt | : | vucran | ! |
| İft-oti | 1 | aiserest | $!$ | overhand | : |
| lity pad | 3 | modeling mole's | $i$ | overpopulaced sverpupulacion | 1 |
| 1imousine | 1 | mous | 227 | jverpovered | 1 |
| line drive | 1 | 70¢'3 |  | overtime | 5 |
| 1Evers <br> lobbed | 1 | tummy | 5 | oversoric | $:$ |
| lobbed locker :oom | $\frac{1}{1}$ | nows | $2$ | ow | 1 |
| locker :oom Loudspanker | 1 | zoakey's | $\frac{1}{2}$ | ozone | $2$ |
| loudspeakers | 1 | fronser's | $\frac{2}{1}$ | ?A PaciEtc | $i$ |
| Loulsiana | 6 | mocing | 2 | ?aciEic Pacific Jeana | 2 |
| lounge. | 1 | moral | 4 |  | 2 |
| lounge's | 1 | mozel | $1$ | pajama ${ }_{\text {pajam parcy }}$ | 2 |
| love seac | 2 | mocier | 1 | panda | 1 |
| is. | 1 | sotorbike | 1 | panicked | 2 |
| !utiry | 2 | zouse's | $\pm$ | panicking | : |
| -urched | $\underline{1}$ | mph | 2 | paper dolls | 2 |

Table 5 continued

| Aord | Erequency | Word | Erequencr | Nord | Esquenc: |
| :---: | :---: | :---: | :---: | :---: | :---: |
| parables | 1 | probational | 1 | rcokia | $j$ |
| parachuced | 1 | processing | 1 | zoot beer | 2 |
| parachucing | 1 | prodding | 1 | rosebush | 1 |
| paragraphs | 1 | prociessionals | 1 | coughen | 1 |
| parakuec | 2 | prohibiting | 1 | roughese | 1 |
| parallel bars | 1 | projecsors | 1 | routine | 1 |
| parene's | 1 | propincy | 1 | coyalty | 1 |
| parenes' | 3 | pros | 1 | subber bauds | 1 |
| parking lot | 2 | psychiacrist | 2 | rubbing alcohol | - |
| part-cime | 1 | PT boac | 1 | cunting wheel | 1 |
| peacocks: | 1 | peerodacey 1 | 2 | sacratitced | $\pm$ |
| pees | 1 | public library | 1 | saddle horses | ! |
| pelisan | d | puify | 1 | sažars | 1 |
| panalcy | 1 | pul1-ups | 1 | salesmen | 1 |
| penguia | 1 | pup's | 1 | salasperson | $\div$ |
| Penasylvania | 5 | puppy lave | 1 | sale racer | : |
| Feriotmers | ! | pusin-ups | 1 | samoyedic | 1 |
| periodicaily | 1 | quadrillion | 1 | sandbox | 1 |
| perishad | 1 | quarter horsa | 2 | sandirs | : |
| >ecm | 1 | quarser horses | 1 | sarcaseically | $\div$ |
| penos | 1 | quickaned | 1 | savings accouns | $!$ |
| 03. | 3 | rabbie's | 3 | scabbed | 1 |
| phony | 2 | rabbic ears | $t$ | Scandinavia | 2 |
| pickup | 5 | zackets | 1 | scaredy-cas | $!$ |
| pienicicing | 2 | radar | 1 | scariest | 2 |
| Ftnball | 2 | :adiacion | $!$ | schoolwork | 2 |
| piaball machine | 1 | cainbow ezour | 1 | Scocland | 1 |
| pinball machines | 1 | min check | 1 | scram | $\underline{-}$ |
| plakie | 1 | cainseorm | $!$ | scrapers | 1 |
| pinning | 2 | tamp | 2 | scuida | : |
| p122a | 4 | ramps | 2 | sculocures | : |
| pizzas | 1 | cay | 2 | scurzted | 1 |
| pf's | 1 | 534 3um | 2 | seance | 2 |
| planers' | 1 | ray 3 uns | 1 | seashell | 1 |
| plasets | 4 | re-bandage | 1 | seashells | 1 |
| plasforms | $\pm$ | re-bandaged | 1 | seasoning | : |
| playday | 1 | -eacsor | 3 | seat belts | 2 |
| plumbing | 1 | -eappearad | 1 | second base | 3 |
| Plueo | 8 | recovary coort | 1 | seesawing | 1 |
| Pluca's | 1 | fed alert redharded woodpecker | 1 | sel riale | 1 |
| pluconium | 1 | redheaded woodpecker -eduoods | 1 | semi | $!$ |
| poachers | 1 | cedwoods | 1 | semıEInal | 1 |
| police dogs | $=$ | seeling | 1 | sensed | 1 |
| polica forca | 1 | reis | 1 | sensictve | 1 |
| police officer | 2 | refill | 1 | saivals, | 1 |
| poilce stacton | 2 | refilled | $\frac{1}{2}$ | servancs' | $!$ |
| polio | 1 | cegistered aurse telayed | 2 | sarvicasble | 1 |
| poliuced | 3 | cancing | 1 | sessions |  |
| pollures | $!$ | rancing |  | sha't | 1 |
| polluting | 1 | report cards | 2 | she'Il | 4 |
| pollution | 3 | rescored | 1 | 3he's | 26 |
| poisargeist | 1 | Eest room rest rooms | 2 | siteepishly | $!$ |
| poncoon | $\div$ | Fest cooms perains | 7 | shoelaces | $!$ |
| ponycatis | 1 | tesains zavoluing | 1 | shoestryags | ; |
| jo0: popper | $\frac{1}{2}$ | Shode Is land | $:$ | 3hoot-out shorecut | 1 |
| possibility | 1 | Eighe sield | 2 | shorsy | 2 |
| possum | 1 | rigic whale | 2 | stocpus | 1 |
| postmark | 1 | rapples | $!$ | sinow oris | 3 |
| pocaco chip | 1 | riverboar | 1 | show oi̇s | $!$ |
| pocaco chips | 5 | $3 N$ | 1 | 3hrank | : |
| jounced | 1 | coadrunner | 1 | shrug | ! |
| pow | 5 | robous's roboe | 1 | stużled | $!$ |
| powar plancs prankser | 1 | -oboes | 3 | snueforn | : |
| prediceion | 1 | coliar-skated | 1 | sinuetela Sicsiy | 5 |
| pregnane | 1 | coller-skatas | 3 | 3sasenta: | ! |
| prima ballardaa | 1 | -oller-skating | 3 | 3ingles | 1 |
| princess' | 2 | :cllar coaster | 5 | itrens | 1 |
| privata dececsive | $!$ | collas coascers -211さng ois |  | stacers' | $?$ |
| ¢rirate eye | 1 | :obing pin | 1 | 31:-ups | 2 |

Table 5 continued

| 'riord | Ereauency | 3iord | Frequancy | Jord | Erecuency |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 312\%1年g | 1 | spookier | 1 | Eerrain | $\vdots$ |
| skateboars | 2 | spookisast | 1 | tercifying | 3 |
| skareboarding | 1 | sprayar | 1 | Texas | 27 |
| 3kareioazさt | 3 | soringer spaniel | 1 | chat'11 | 1 |
| skidding | 1 | spriakler | 1 | Shereaiter | 1 |
| 3laming | 1 | squashed | 2 | ehird basa | 3 |
| slapping | 1 | 3quid | 1 | thiref-ixrst | 1 |
| 3leak | 1 | 3quirs 3 uns | 1 | -hirey-ehree | 1 |
| sleaping bag | 5 | 394izeins | 2 | cicking | 1 |
| sleaping bags | 2 | 3quise3 | 1 | cidal rave | 1 |
| slos | 1 | squished | 1 | sie breaker | 1 |
| sloc machine | 1 | St. Bermard | 3 | Eighter | 2 |
| shot rachines | 3 | stabbing | 1 | eighezope | 3 |
| slumier parcies | 1 | stallions | 7 | Eilsed | 1 |
| 3macked | 1 | stand by | 1 | ciles | 1 |
| smarcer | 2 | starship | $:$ | etme ous | 1 |
| smartly | 1 | 3cation ajgon | ! | cengie | : |
| snack | 1 | stealar | 2 | esuging | 1 |
| snack bar | 1 | sceed | 2 | eipping | 1 |
| snag | 1 | sterring wheel | 3 | cieled | 1 |
| 3napping curtia | 2 | 3tereo | 5 | soe shoes | 1 |
| sueakars | 1 | stechoscop* | 1 | combs 0 anas | : |
| sueaky | 1 | scawed | 1 | coorhed | L |
| sneered | 1 | scock car | $\pm$ | cornado | 1 |
| maezed | 2 | storm's | $\frac{1}{7}$ | coraliy | 2 |
| snoring | 1 | grzeaking | 3 | coucsa | 1 |
| snorkeling | 1 | stroller | 1 | coughest | 3 |
| snocty | 1 | stubs | 1 | courssu | 1 |
| snuek | 5 | 3 cud | 1 | cownspeople | 3 |
| soap operas | 1 | scunk | 1 | cou eruck | - |
| social seudies | $?$ | sub. | 1 | eracker | $\div$ |
| sodaurater | 1 | subscribe | 1 | srailer sour= | : |
| sodium | 1 | sucked | 1 | Erailars | 1 |
| sodium chioride | 1 | suction cups | 1 | crampling | 2 |
| sodium phosphace | 1 | summer school | 1 | crampoisne | 2 |
| soťeball | 12 | sunbarka | 1 | Erampolines | 1 |
| solas pancis | 2 | sundae | 3 | Erance | 1 |
| solar syscem | 3 | sunshade | 2 | teansiormed | $?$ |
| solves | $\frac{1}{2}$ | suncan | 3 | crapdoors | 1 |
| son's | 2 | suparduper | 3 | erapeze areist | 1 |
| sophiscicated | ! | supermariket | 3 | Erapeze areises | : |
| sorearer | 1 | supersonic | 1 | Erash can | 1 |
| Soundproot South Dakoea | 1 | suppertime suring | 1 | cread | $\frac{1}{1}$ |
| south Dakoea | 1 | susting | 4 | creasured treacs | 1 |
| spaceman | 2 | suarming | 1 | eree house | $i$ |
| spacemen | 4 | Sweden | 1 | crick-or-creac | 7 |
| эpaceship | 30 | swimming pool | 16 |  |  |
| spaceships | :1 | swimming pools | 1 | ericicles | 1 |
| space suit | $\pm$ | swimsuits | 1 | cillions | 1 |
| soace suits | 1 | swished | 1 | -raple | $\vdots$ |
| Spain | $\frac{1}{1}$ | Swiezerland | 4 | ceiples | i |
| spares spactered | $\frac{1}{1}$ | swoosh | 1 | eriplecs | $?$ |
| spayed | 1 | gynonyms | 1 | erolis | 5 |
| speckled $=$ zouc | 1 | :aco | 3 | crucking | $\div$ |
| 3pecsaeor | 1 | eacos | 2 | cuffets | $i$ |
| speedboat | 4 | tailgate | 1 | eugging | $i$ |
| spueded | $\frac{1}{1}$ | capped | $\pm$ | tummy | 1 |
| зpern unale | 1 | cascy | 3 | tuna | 1 |
| splc-3nc-saza | 3 | ceammates | 2 | Eurbulence | $!$ |
| spydaz's 'res spider's 'asios | 3 | ceenager | $\frac{1}{3}$ | cursecs | $\vdots$ |
| spider 3 aros spiked | 1 | Ceenagers | $\pm$ | cucei-tuaced | ? |
| soikes | 1 | eelevision sets | 1 | -reak | 1 |
| 3picball | 1 | cemptacions | $!$ | Ewenty-gauge | 1 |
| 30125 | 1 | Tenn. | i | 6win-Angine | : |
| sponges | 2 | Tennessee | $j$ | corn jed | : |
| 300nsored | 1 | Eeanis shoe Eemnis sioes | 3 | Ewirl | : |
| 3000k | 1 | cemnis snoes | J | ericching | : |

Table 5 continued on next page

Table 5 continued

| tiond | Erequency | Hord | Erequency | Word | Erequency |
| :---: | :---: | :---: | :---: | :---: | :---: |
| UFO | 12 | visuailze | 1 | Ciest Garmany | 2 |
| uglyness | 1 | voodoo | 2 | , Whacked | 1 |
| uh | 2 | vow | 1 | - Sham | 2 |
| \% | 4 | v5. | 1 | Wheelchatr | 2 |
| \% | 2 | wagging | 1 | sheeiers | 1 |
| unbelievable | 2 | yaicar's | 1 | - h izzed | : |
| undertand | 2 | uaken | 1 | uhoosh | 1 |
| understandable | 1 | walkie-calkia | 1 | shopping | 1 |
| underwatar | 2 | walking horses | $!$ | -ildife | 3 |
| unexpaceedly | 2 | ualicover | 1 | Waner's cricle | 1 |
| unicorn | 1 | valkway | 1 | wincertime | 1 |
| unicycle | 1 | valleges | 1 | risconsin | 2 |
| United Scaces | 14 | walloped | 3 | Witch's | 5 |
| universes | 1 | wallow | 1 | womenĩolk | 1 |
| unlikely | $\pm$ | -7a | 1 | joodsman | 2 |
| 'sumarked | $\div$ | -darped | $\pm$ | work 3neats | 1 |
| unpacking | 1 | washhousa | 1 | X-rays | 1 |
| 'spdraft | $\div$ | 'ashingeon | 2 | jank | 1 |
| Tranus | 3 | Meshingeon, D.C. | 10 | 7amned | 1 |
| tSSR | 1 | wacchers | 1 | yean | -5 |
| Usah | 1 | wiser-ski | 1 | yelp | 1 |
| racased | 1 | wacer-skitng | 2 | yep | 1 |
| vampize | 3 | aracec bed | 2 | \%Appee | 2 |
| rampires | 1 | uacer boctle | 2 | Yorkshize Tertiar | 1 |
| vanishing eream | 2 | wacer bugs | 2 | you've | 3 |
| vans | 2 | wacerskis | 1 | Yugoslavia | : |
| varmine | 2 | weakest | 1 | \%ua-yum | 1 |
| Venus | 9 | vearings | 1 | 7umy | 1 |
| Varmone | 2 | - Jeas out | $i$ | eap | 2 |
| versus | 3 | reek' 3 | 1 | ETp | 1 |
| vat | 1 | weeixends | 4 | zombie | 1 |
| vecmrinstian | 4 | raighcles3 | $\vdots$ | zoom | 2 |
| video | 1 | wairdest | ; | zoomed | 1 |
| videotape | 3 | welcoming | 1 | zoomins | $i$ |
| vincage | 1 | uerewolf | 1 | 2009 | 2 |
| 71rginia | 1 |  |  |  |  |

Table 6

100 Most Frequently Used Words in

First and Second Grades

| riste Grade |  |  |  |  |  | Sacoud Grade |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Mandebame |  | Enslagad |  |  |  |  |  | Rtasland |  |  |
| 9anax | Hord | Praquency | $\xrightarrow{\text { Ranaig }}$ | Hord | Pegueper | 3 | Hord | Esequency | Rank | 2lord | Peeguencr |
| 1 | 2 | 405 | 5 | I | 64,749 | 1 | and | 883 | $\underline{5}$ | ${ }^{4}$ | 18,972 |
| 2 | acd | 398 | 2 | 1 | 14,330 | 2 | : | 952 | 2 | 1 | 14,725 |
| 3 | the | J61 | 3 | chan | 10,226 | 3 | eha | 780 | 3 | the | 16,701 |
| 4 | 4 | 296 | - | $\mathrm{c}_{0}$ | 9.669 | + | c | 605 | 4 | sa | 12,984 |
| 5 | 18 | 300 | 3 | and | 8.360 | 5 | co | 590 | 9 | and | 12,942 |
| 6 | 5 | 198 | ${ }_{6}$ | 1 L | 7,617 | 3 | $\square$ | 428 | 6 | ${ }^{4}$ | 9,364 |
| 7 | n7 | 177 | t | 2 | 7.501 | 7 | 4 | 113 | 7 | you | 3,128 |
| \% | was | 106 | 3 | rou | 3.929 | 4 | be | 276 | 8 | 14 | 7.781 |
| 9 | 15 | 93 | 9 | 9 | 6,305 | 9 | 15 | 265 | 9. | she | 5, 307 |
| 10.9 | +180 | 17 | 10 | turve | 6.362 | 10.5 | 18 | 260 | 10.5 | He | 1,10 |
| 10.5 | w | 17 | 11 | [1I | 3.960 | 10.5 | - | 250 | 10.5 | in, | 5,410 |
| 12 | $\sim 11$ | 80 | 12 | ve | 3,897 | 12 | 24 | 249 | 12 | 近 | 6,757 |
| 13 | he | \% | 13 | $3{ }^{\text {a }}$ | 3,754 | 4 | 3 a | 161 | 13 | ve | 6.031 |
| 14 | play | 78 | 14 | 2 z | 3.883 | 14 | ehes |  | 14 | hand | 4,001 |
| 15 | 12 | 10 | 19 | 1400 | 3,649 | 15 | 30 | 645 | \% | tika | 3,569 |
| :6 | uhen | 65 | 16 | ethas | 3.2.6 | 66 | chay | $1: 2$ | 16 | gave | 3,521 |
| $: 7$ | 3 | 61 | 17 | ¢ | 2,361 | 17 | yenc | 112 | 17 |  | 3, 365 |
| 2 | $8{ }^{\circ}$ | 59 | 13 | see | :,996 | 18 | ot | 122 | 18 | dear ${ }^{4}$ | 3,486 |
| $: 9$ | wed | 88 | 19 | esar | 2,361 | 69 | like | 118 | 19 | -12 | 3,426 |
| 30 | sta | 57 | 20 | exis ${ }^{2}$ | , 1.618 | 20.3 | she | 19 | 20 | ticte | 1,003 |
| $\stackrel{11}{29}$ | ${ }^{51}$ | 96 | $\frac{17}{12}$ | 08 | 2.393 | 20.5 | wreth | 117 | $\stackrel{31}{4}$ | 18. | 3.379 |
| 22 | exay | 31 | 22 | 9as | 2,988 | 22 | 15\% | 103 | \% 2 | ehay | 2,909 |
| 29 | vare | $\pm 8$ | 23 | 112ele | -3.315 | 23 | \%ou | 103 | 3 | cetool | 2,332 |
| ${ }^{24} 8$ | 700 | 4 | 364 | 4 | 2,399 | 25 | oue | 102 | 3 |  | 2,7\%8 |
| 39.5 | ous | -3 | 15 | gotas | 2,177 | 25.3 | when | ${ }_{98}$ | 5 |  | 2.739 |
| 27 | ar | 42 | 27 | 06 | :,135 | 25.5 | jee | 98 | 27 | usas | 2,320 |
| 23 | Cund | \$1 | 13 | zoctar ${ }^{2}$ | 2.003 | 28 | bave | 9 | 28 | cac | 2.507 |
| 29 | texaed ${ }^{\text {d }}$ | 19 | 29 | do | 1.968 | 30 | bat | 91 | :989 | play | 2.697 |
| 11.5 | yeas b | 16 | 10 | vtac | 1,732 | 30 | $30^{3}$ | 91 | 30 | a | 2, 388 |
| 31.5 | have | 36 | 31 | ${ }_{\text {2Lat }}$ | !,986 | 30 | 6has | 91 | 31 | Sor | 2,394 |
| 31.9 31.5 | setheol | 36 | 32 | $\stackrel{\text { Par }}{ }$ | 6,379 | 32 34 | Nos | 96 96 | 32 | vout | 2, 362 2,276 |
| 34 | $\pm \mathrm{cs}$ | 39 | 36 | uab | 1,366 | 34 | out | 34 | 346 | yeut | 2,212 |
| 39 | ext | 34 | 35 | 12 | 1,i33 | 36 | play | 34 | 15 | $3_{0}$ | 2,216 |
| 37 | Sad | 33 | 36 | :Eare | 1.702 | 36 | tad | ${ }^{32}$ | 36 | sochar | 2,22s |
| 37 | cosuetaras: | 133 | 37 | 30 | 6.586 | 37 | touse | 31 | 37 | 3 cod | 2.117 |
| 37 | very ${ }^{1}$ | 13 | 38 | 4ne | 1,570 | 38.5 | 14 | 80 | 38 | cra* | 1. 366 |
| 40 | 3\% | 32 | 39 | Sor | 1. 063 | 38.5 | some | 90 | 39 | some | 1,366 |
| $\bigcirc$ | Sers | 32 | :0 | sue | 3, 5127 | 40 | :riend ${ }^{3}$ | 73 | 40 | novi* | :. 319 |
| \% | ener | 12 | :1 | ${ }^{\text {sagas }}$ : | 1.526 | 61.5 | $\mathrm{day}_{3}$ | 77 | 4 | $30 \pm 85$ | 1,315 |
| $\bigcirc$ | Sar ${ }^{\text {c }}$ | 31 | 2 | 4ere ${ }^{\text {che }}$ | $\cdots$ | 41.3 | 4nd ${ }^{3}$ | 7 | -2 | \% | 1.306 |
| 46 | cen | 30 | $\cdots$ | 40 | 1,:001 | 4 4 4 4 |  | \% 7 | - ${ }^{-3}$ |  | - |
| 14 | 4 sr | 30 | :3.5 | 306 | :. 391 | is | sasd ${ }^{3}$ | ; 4 | 4 | H | 1.i:0 |
| 4 | Sar | 39 | -3.3 | :hay | 1. 391 | 26.5 | $b$ | if | - | 312: | 1.934 |
| 9 | sev | 39 | -7 | :14 | 1. 366 | 46.5 | Atar! | 3 | \% | \%ax | -. 591 |
| : | chars | \%9 | - | nis | 1,177 | 4 | varaj | :0 | 4 | งt | 1.575 |
| 31 | 10 | 39 | 59 | sctoot |  | 49 | vary | 9 | 4 | atac | :0id |
| 31 | 3 nc | 3 | 50.5 50.5 | soma | $\cdots$ | 50.3 | tor | ja | 30 | 46 | :. 396 |
| 5 | up | \% | 32.5 | 30y | -, 198 | 52.5 | 4, | 96 | 52 | - | $\cdots$ |
| 31 | -ase | -9 | 52.5 | fog | +.178 | 52.3 | wouid ${ }^{3}$ | 95 | 33 | :nts | 4, 302 |
| 54.5 | car |  |  |  |  | 36 | 45 | 45 | 34 | jeac | :-d8 |
| ${ }_{56}^{54.5}$ | ${ }_{35}^{30 c^{1}}$ | 37 | 33 86 | ${ }_{25} \mathrm{SH}^{\text {a }}$ | :.179 | 53 56 | :man | i1 | 35 <br> 6 | zatce | :659 |
| 37.9 | ata | 29 | 37 | sav | 1,196 | 57 | could ${ }^{3}$ | 50 | 37 | 508 | $\because .081$ |
| 57.5 | =hea | 15 | 58 | 50 | 1. 230 | 58.5 | $\bigcirc \mathrm{cos}$ | 83 | 83 | dais* | :. 304 |
| 50.3 | ${ }^{\text {Suc }}$ | 24 | 59 | jue ${ }^{\text {2 }}$, | -709 | 38.5 | $\mathrm{tan}^{3}$ | 38 | ${ }^{39}$ | cara, | $\bigcirc 278$ |
| 50.3 | 3013! | 35 | 50 | zake ${ }^{-1}$ | 1. 201 | 50.5 | :zace | 36 | 50 | 3-2 | :,2S4 |

Table continued on next page

Table 6 continued

| Thrst Grade |  |  |  |  |  | Sesoud Grad. |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Masil abaum |  | Rtanland |  |  | Magdlabuex |  |  | ckasland |  |  |
| Rank |  | Pravancy | Renk | Plasd | Trequems | Eank |  | Praquener | 3 3nk | Hora ${ }^{\text {P }}$ | Fequencz |
| 60.5 | 505 | 26 | 61 | Tur | 1.039 | 60.5 | cang ${ }^{3}$ | 56 | 61 | bea | 1,256 |
| 60.5 | beene | 26 | 62 | vanc | 1,043 | 62 | 005 | 53 | 62 | ball ${ }^{4}$ | 1, 212 |
| 63.3 | Sot | 23 | 63 | $\mathrm{his}^{2}$ | 1,067 | 63.5 | boae | 51 | 63 | did | 1,202 |
| 63.9 | whet | 23 | 64 | dover ${ }^{2}$ | 1.046 | 63.5 | $13^{3}$ | 31 | 86 | 205 | 4.196 |
| 65 | 500 1 | 32 | 65 | whery | 1.000 | 65 | $4^{43}$ | 90 | 65 | boea | 1.283 |
| 67.5 | צeenusa | 21 | 66 | -ur ${ }^{2}$ | 943 | 66 | Can | 49 | 66 | boule | 1,171 |
| 47.3 | hard ${ }^{2}$ | 21 | 67 | $\mathrm{Cos}^{2}$ | 923 | 64 | sav | 48 | 67 | chas | 6. 169 |
| 57.5 | sise | 21 | 68 | ball $1^{3}$ | 909 | 6 | school | 48 | 68 | tine | 1,166 |
| 67.5 | wruld | 21 | 69 | 410 | 908 | $6{ }^{6}$ | ceo | 43 | 69 | zoe | 1,167 |
| 70.3 | 11 | 20 | 70 | boulc | 900 | 70 | anes ${ }^{3}$ | 46 | 70 | bea | 1.131 |
| 70.5 | cres | 20 | 71 | covi | 387 | 72 | best ${ }^{3}$ | 45 | i1 | boy | b, 128 |
| 72.3 | good | 19 | 32 | 50 | 383 | 72 | do | 43 | 72 | ast | 1.089 |
| 72.5 | arme | 19 | 73. | your ${ }^{2}$ | 370 | 72 |  | 45 | 73 | 1 p | 1.976 |
| 74.5 | Love ${ }^{\text {b }}$ | 18 | 74.3 | barat | 356 | 74.5 | because ${ }^{3}$ | 44 | 74 | vase | ¢.075 |
| 74.5 | soese | 18 | 74.3 | how 2 | 356 | 74.5 | algbe ${ }^{3}$ | 44 | I5 | Esee ${ }^{\text {- }}$ | 1.038 |
| 75.5 |  | 57 | 76 | has | 353 | 76 | see | 43 | 76 |  | 1.029 |
| 76.5 | playea $^{\text {a }}$ | 17 | 77 | ctan? | 351 | 77 | 28]a, | 42 | 77 | 2114 ${ }^{-}$ | 1.027 |
| 79 | 48, | 16 | 7 7 .3 | baby ${ }^{2}$ | 337 | 79 | back ${ }^{3}$ | 40 | 78 | oue, | 1,008 |
| 19 | boc ${ }^{\text {c }}$ | 16 | 78.5 | sald | 337 | 79 | boy | 10 | ;9 | zrade ${ }^{\text {a }}$ | 393 |
| 79 | 5ed | 16 | 30 | 300d | 331 | 79 | br ${ }^{3}$ | 40 | 30 | Sanes Crame | - 785 |
| 31.3 | bury | 15 | 31 | S09, | 790 | a | ded ${ }^{3}$ | 37 | 32 | 590, | 982 |
| 81.5 | pre: | 15 | 82 | fres ${ }^{2}$ | 715 | 83 | good, | 37 | 52 | \%urs | 951 |
| 36.3 | nome | 14 | 33 | krow, | 158 | 83 | Love ${ }^{3}$ | 37 | 33 | likas: | 924 |
| 96.3 | bouse | 14 | 34 | doll ${ }^{2}$ | 761 | 33 | -ut ${ }^{\text {a }}$ | 37 | 36 | Eswo | 920 |
| 34.3 | ¢ | 14 | 35 | $3181{ }^{-1}$ | 746 | 93 | -3ast | 37 | 35 | gade: | 309 |
| 36.5 | 800- | 14 | 36 | aver | 964 | 96.5 | 118 | 36 | 36 | Pac* | 996 |
| 90 | dld | 13 | 37 | [123 | 114 | 36.5 | $30{ }^{3}$ | 36 | 37 | bring: | 389 |
| 90 | Hes | 13 | 38 | =aka ${ }^{2}$ | 102 | 39 | 3 bouc ${ }^{3}$ | 35 | 88 | 'taice: | 371 |
| 90 | much ${ }^{\text {d }}$ | 13 | 39.5 | bus | 700 | 89 | door ${ }^{3}$ | 35 | 89 | bar | 320 |
| 90 | orue | 13 | 99.5 | cimm | 700 | 89 | ctars | 15 | 90 | 482, | 316 |
| 90 | sumer ${ }^{1}$ | 13 | 31 | anam | 581 | 91.5 | ase, | 34 | 92 | Sed ${ }^{2}$. | 309 |
| 90 | Steat | 13 | 92 | vould | 577 | 92.5 | 3ouna ${ }^{3}$ | 34 | 92. | taike: | 306 |
| 90 | 40rs | 13 | 33 | ches | 675 | 93 | bur ${ }^{3}$ | 32 | 93.5 | bue, | 300 |
| 96 96 | 60\% ${ }^{\text {ces }}$ | 12 | 96 | hrome | 566 | 74.5 | $14 \mathrm{c}=\frac{1}{3}$ | 31 | 93.5 | ㅍas: | 300 |
| 96 | ces- | 12 | 95 | 3 max 2- | 662 | 96. 5 | $540{ }^{3}$ | 31 | 95 | etare | -90 |
| 96 | 518 | 12 | 76 | chersere: | 690 | 96.5 | eat | 30 | 96 | $84^{-9}$ | 757 |
| 96 | 196 | 12 | 77 | made ${ }^{2}$ | 367 | 96.3 | sochar, | 30 | 97 | black ${ }^{4}$ | 196 |
| 96 |  | 12 | 78 | pratey ${ }^{2}$ | i24 | 98.5 | 9e0pla ${ }^{3}$ | 29 | 98.5 | preces ${ }^{\text {c }}$ | it2 |
|  |  |  |  |  |  | 98.5 | whate, | 29 | 98.5 | wety | 122 |
|  |  |  |  |  |  | 100 | - ${ }^{3}$ | 38 | 100 | ['\# | i14 |

Footnotes

${ }^{2}$ Worde in the lirut arade Rimalend liat but mot in the firat grade Hat from thin aeliny



Table 7
100 Most Frequently Used Words in
Third and Fourth Grades

| Thered Gexde |  |  |  |  |  | Pourek Grade |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Fadietama |  | genstand |  |  | Yanallabaum |  |  | Runslend |  |  |
| Rack | Hoed | 18еgumer | 3 3ank | \＃ord | 7enusent | ，Rank | Yord | greauency | 3ank | 3 c | Erequeticy |
| $\frac{1}{2}$ | cha | 2，146 |  | che | 31，540 | $\frac{1}{2}$ | che | 1924 | $\frac{1}{2}$ | ena | 36， 502 |
| 2 | and | 1， 379 | 2 | 5 | 29，236 | 2 | and | 1467 | 2 | 5 | 30，431 |
| 3 | 1 | 920 | 3 | and | 28.340 | 3 | I | 1297 | 3 | and | 29，323 |
| 4 | 2 | 730 | 4 | ${ }^{0}$ | 22，956 | 4 | ， | 1063 | $\stackrel{3}{4}$ | ：0 | 25，106 |
| 9 | eo | 686 | 3 | － | 22，333 | 5 | so | 1004 | 5 | 1 | 20，162 |
| 6 | د1 | ${ }^{6} 60$ | 6 | Hou | 26，039 | 6 | vas | 723 | 6 | you | 16，059 |
| 7 | vas | 386 | 7 | va | 16， 547 | 7 | te | 967 | 7 | vary | 16，176 |
| 8 | 8 | 364 | 8 | 15 | 12.317 | 8 | sa | 333 | 9 | we | 13，027 |
| 9 | vo | 357 | 9 | 18 | 10，976 | 9 | in | 506 | 9 | La | －0．908 |
| 10 | ： | 297 | 10 | 5 | 10，157 | 10 | 97 | 429 | 10 | is | 10，229 |
| 3 | $\underline{18}$ | 299 | 11 | 3 | 8，922 | $\frac{11}{12}$ | $\cdots$ | 397 | 11 | ot | 9，308 |
| 12 | 4 | 337 | 12 | of | 7，748 | 12 | esher | 380 | 12 | 15 | 9，392 |
| 13 | ot | 199 | 13 | ebay | 7.351 | 13 | ot | 365 | 21 | uas | 3，460 |
| 14 | chey | 188 | 14 | have | 1.370 | ${ }^{6}$ | reac | 293 | 14 | have | 3．162 |
| 15 | coser | 136 | 15 | －3 | 6，863 | 13 | 08 | 280 | 15 | are | 7，937 |
| 16 | ethe | 182 | 15 | ay | 6．992 | 16 | 13 | 279 | 15 | ha | 7，334 |
| 17 | the | 177 | 17 | on | 9.510 | 17 | etera | 177 | 17 | ay | 5，597 |
| 13 | $\stackrel{0}{0}$ | 162 | 18 | sehool | 3，430 | 14 | sald | 275 | 18 | ehay | 5，393 |
| 49 | you | 157 | 19 | ta | 3，299 | 19 | bue | 257 | 19 | sor | 3，337 |
| 20 | whem | 2.36 | 20 | tor | 5，257 | 20 | 30 | 253 | 20 | or | 9，269 |
| 21 | sadd | 1.51 | 23 | －14 | 4，957 | 21 | she | 250 | 22 | －18 | 3，882 |
| 22.5 | 20 | 146 | 22 | had | 4.697 | 3 | 806 | 342 | ：2 | schogi ${ }^{\text {－}}$ | －， 999 |
| 22.5 |  | 1.6 | 23 | chat | 4，578 | 23 | गheo | 240 | 2 | your＊ | －，389 |
| 26 | bave | 145 | 26 | am | ＋，396 | 24 | ctac | 231 | 26 | chat | － 631 |
| 29 | 305 | 14. | 29.5 | 30 | 4.092 | 23 | aue | 226 | 29 | and | ¢，500 |
| 36.3 | for | 14 | 29.3 | reb | 4.092 | 26 | $3 \times$ | 126 | 26 | 300 | －，503 |
| 24.9 | 30 | 158 | 27 | 308 | 4，076 | 37 | you | 213 | 27 | 30 | ＋，186 |
| 23 | weh | 150 | 28 | 4 | 3， 343 | 28 | enare | 209 | 23 | vent | ：，293 |
| 39，5 | Se | 125 | 29 | 1axe | 3，332 | 39 | 11 | 293 | 29 | 2m＊ | －，138 |
| 29.5 | bue | 125 | 30 | 3015 | 3.649 | 30 | $4{ }^{4}$ | ：99 | j0 | whea | ：130 |
| 31 | Sud | 129 | 31 | desm | 3.647 | 31 | －rica | 186 | 31 | teas： | $\bigcirc, 09$ |
| 32.5 | stie | 150 | 32 | vere | 3， 308 | 32 | Yud | 190 | 32 | ge | 1，366 |
| 32.5 | up | 220 | 33 | Ses | 3，336 | 33 | tre | $1: 9$ | 33 | －rch | 3，769 |
| 4 | 411 | 118 | 34 | cas | 3， 309 | 14 | cue | 177 | 36 | งac | 3，74 |
| 35 | a | 117 | 35 | scas | 3，509 | 35 | 8 | 152 | 35 | 30103 | 3，572 |
| 13 | vill | 114 | 36 | 30 | 3， 323 | 17 | vare | 150 | 16 | Shere | 3.530 |
| 37 | chers | 109 | 37 | 4 tman | 3.293 | 17 | ser | 157 | 17 | ssa | 3.503 |
| 38 | world | $\underline{108}$ | 38 | unan | 3，931 | 38 | ！ | 155 | 29 | \％ | 3，592 |
| 19 | day | 109 | 19 | she， | 3，227 | 39 | befm | 153 | 19 | 200 | 3.537 |
| $\bigcirc$ | Lika | －02 | $\div$ | your－ | 3.196 | $\triangle 0$ | up | 165 | $\leq 0$ | 1 | 3，470 |
| －1 | plat | 99 | 4 | sure | 3.17 | 4 | Bua | ：44 | ： 1 | ¢ue | 3，263 |
| 4 | 3tar | 98 | 4 | ${ }^{\text {ous }}$ | 3，383 | －2．3 | 35 | ： 29 | 42 | ：12． | 3．299 |
| 0 | צoue | 33 | ${ }_{6}$ |  |  | \＄2．3 | sav | ： 29 | 4 | at | 3，204 |
| －4．3 |  | 37 37 | 4 | mould | 2，362 | 44 | soze | 26 | $\stackrel{-}{-}$ | 3ut | $\therefore 773$ |
| 2.6 | Sog | 35 | 46 | very | $\because 2.342$ | 86.5 | ba | 120 | 65 46 | \％ $30 \times$ |  |
| －6． 5 | 30108 | 35 | 47 | zue | 2， 3.37 | 46.5 | mould | 120 | 8 | －bs | 2，323 |
| ＋8 | 近 | 33 | ：8 | ：184 | 2， 69 | ¢8 | zec | ！ | 8 | 40 |  |
| 9 | رars | 30 | 4 | Lictse | 2，0is | －9 | $3^{\text {maxa }}$ | 117 | $\rightarrow$ | 枵 | －$\because 12$ |
| 30 | －urs | \％ 9 | 50 | 30 | － 3.512 | 30 | exam | $\cdots$ | 30 | Laska | 331 |
| 51 | 45 | 78 | 51 | chere | 2． 539 | 5 | $4{ }^{\text {a }}$ | 102 | 51 | some | 1，3i3 |
| 92.5 | Same | 77 | 52 | joad | 2．358 | 52 | boas | 121 | 32 | ¢0 | －，599 |
| 92．5 | ： | 7 | 53 | 3 ez | ， | 53 | 13 | 32 | 53 | － | ：， 533 |
| 14 | sau | ； | 34. | 95 | 2．958 | 5 | had ${ }^{3}$ | э0 | 34 | \％ | －， 593 |
| 33 | sack | 3 | 33.5 | socter | ：． 363 | 35.5 | צocausa： | 39 | 33 | ＝ame | ：．309 |
| 38.5 | could | i3 | ${ }_{57} 38$ | seem | －$-1,363$ | ${ }_{57} 5$ | $\cos ^{3}$ | 39 | 36 | ＝har | $\cdots$ |
| 88 | 边 | 12 | 58 | ：30 | 2，336 | 88 | houne ${ }^{3}$ | ${ }_{35}$ | 58.5 | 3ur | $\because \cdot 662$ |
| 89 | some | \％ | 59 | aer | 2，322 | 39 | vers | 36 | 98.3 | chea | こ， 66 |
| 50 | L： 6 ！e | 48 | \％0 | play | 2． 203 | 60 | 30185 | 32 | 50 | 4ay＊ | ：．， 384 |

Table continued on next page

Table 7 continued

| Thied Grade |  |  |  |  |  | Pouret Srade |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Mandlebatus |  | Enslated |  |  | Yandlebacus |  |  | R1analat |  |  |
| 3maix | Hoxd | Prequaney | ？${ }_{\text {ank }}$ | Hosd | Fequatac | 䍖员 | 第品 | Esturacy | 害者 | H0res | Fraquesy |
| 61 | by ${ }^{1}$ | 66 | 61 | up | 2，175 | 52 | people ${ }^{3}$ | 81 | 61 | Hot | 2，348 |
| 62 | becruse | 65 | 62 | vare | 2，173 | 62 | 9Eazeed ${ }^{3}$ | 81 | 62 | write4 | 2.335 |
| 63 | cheen | 60 | 53 | d14 ${ }^{2}$ | 2.152 | 62 | Look ${ }^{3}$ | 81 | 63 | free | 2，298 |
| 66 | ouce ${ }^{1}$ | 59 | 64 | etren， | 2.103 | 64 | aoc ${ }^{3}$ | 78 | 66 | 30084 | 2，248 |
| 65 | toan | 58 | 65 | fros： | 2.085 | 85.5 | do | 77 | 65 | Chriscmasa | 2．224 |
| 86 | whet | 58 | 66 | day | 2，083 | 65.5 | down | 77 | 66 | ware | 2.190 |
| 57.5 | har | 53 | 67 | do | 2，078 | 67.5 | man | 16 | 67 | mochar | 2，141 |
| 67.5 | 5se ${ }^{\text {a }}$ | 53 | 68 | $\mathrm{cov}^{2}$ | 2，060 | 67.5 | $5 \mathrm{ma}^{3}$ | 76 | 68 | sasd | 2，064 |
| 69.9 | do | 52 | 59 | be | 2.036 | 69 | 9var ${ }^{3}$ | 14 | 69 | be | 2，033 |
| 69.9 | chis | 52 | 70 | 14 | 1.366 | 70 | bay ${ }^{\text {d }}$ | 12 | 70 | did | 2，007 |
| 13.3 | triead ${ }^{1}$ | 51 | 71 | bean， | b， 315 | 71.5 | aborap | 11 | 71 | rames | 1，386 |
| 7.5 | 005 | 52 | 72 | rade： | 1．782 | 71.5 | zean | 71 | 72 | a | 1． 308 |
| 73 | metrer | 49 | 73.5 | can ${ }^{2}$ | 1.771 | 73 | Lesele | 69 | 73 | dos | 1． 902 |
| 74 | b18 ${ }^{2}$ | 48 | 73.9 | uthes | 1.771 | 74.5 | jure | 68 | 74 | aboue | 1.393 |
| 75 | 4 | 57 | is | sald | $\pm .748$ | 74.3 | told | 68 | 75 | deva | 1，331 |
| 76 | 4 bout | 46 | 76 | －${ }^{\text {che }}{ }^{2}$ | 1.725 | 76.5 | 4 | 57 | 76 | triand | 1．322 |
| 77.3 | ${ }^{18}$ | 49 | 77 | house 2 | 1.138 | 76.5 | － | 57 | 77 | coun | 2．315 |
| 77.3 | vart | 45 | 48 | Chysemas ${ }^{2}$ | 6.727 | \％9 | could | 56 | 78 | Eneis： | 1．794 |
| 30 | dad ${ }^{\text {a }}$ | 44 | 79 | bis， | 6.679 | 79 | tidra＇ $\mathrm{e}^{3}$ | 56 | 79 | lacear ${ }^{\text {a }}$ | 1．584 |
| 30 | tathar | 46 | 30 | velt | 1.673 | －9 | dos | 56 | 90 | cane ${ }^{-1}$ | 1．509 |
| 30 | f＇z1 | 4 | 31 | 组边 | 1.533 | 31.5 | atear | 65 | 31 | 340 | 1． 663 |
| 83 | 307 | 43 | 32 | ovar | 1.532 | 81.5 | sachar | 55 | 32 | play | 1.650 |
| d3 | 3tibe | 43 | 93 | htar | 1．530 | 85.3 | amat ${ }^{\text {d }}$ | 84 | 93 | 24\％ | ：． 547 |
| 93 | sea | 43 | 96 | dove | 1．904 | 35.3 | －15 | 54 | 34 | $4{ }^{10}$ | L． 514 |
| 36 | down | 5 | 35 | abous | 1，002 | 95.5 | 014 | 54 | 35 | Sope： | 1．625 |
| 46 | 3an ${ }^{1}$ | $\pm 2$ | 36 | －save | 1.308 | 83.5 | play | 34 | 56 | vali ${ }^{\text {a }}$ | 1．617 |
| 36 | suma | ：2 | 37 | hopen ${ }^{2}$ | 1.184 | 35.5 | 49 | 64 | 37.3 | 15 | 1.580 |
| $\stackrel{38}{70.5}$ | 30re ${ }^{\text {b }}$ | 41 | 38 | pue ${ }^{\text {a }}$ | 1． 56.57 | 35.5 | vill | 64 | 37.5 | 14 | － 5.580 |
| 70.5 | torsa ${ }^{2}$ | 40 | 39 | grade＂ | 1，552 | 89.5 | 37 ${ }^{3}$ | 52 | 99，5 | 4 4ear | 1，527 |
| 90.5 | mome | 40 | 90 | aso | 1． 540 | 89.3 | 40. | 52 | 39.5 | 48 | 1． 327 |
| 90.5 | ovar | 40 | 91 |  | 1.454 | 71 | $\mathrm{LaO}_{3}$ | 51 | 91 | han： | 1.519 |
| 90.3 | school | 40 | 92 | chatr ${ }^{2}$ | 1.911 | 92.5 | $318{ }^{3}$ | 3a | 32 | ras ${ }^{\text {c }}$ | 1，697 |
| 33.5 | cost | 19 | 93 | becaule | 2.381 | 72.5 | f＝0m | 98 | 73 | 4土a＊ | 1.474 |
| 93.5 | 501 | 39 | 34 | 39\％4 | 1，380 | 94 | 41d | 57 | 96 | 1094＊＊ | 1．970 |
| 95 | Or ${ }^{\text {a }}$ | 38 | 35 | dos | 1． 321 | 95.5 | SO4 | 96 | 95.5 | Just | 1，46d |
| 37.5 | atees | 37 | 76 | back | 1.316 | 95.3 | once ${ }^{3}$ | 96 | 95.5 | 500 ${ }^{-}$ | －． 468 |
| 97.5 | Hedt | 37 | 97 | 31805 | 1． 103 | 77 | 6xis | 53 | 97 | buek： | 1． 231 |
| 97.3 | grod | 17 | 98 | yares | ：， 250 | 48.5 | helleapear ${ }^{3}$ | 54 | 78 | Sushes． | 1，：23 |
| 77.3 | Lot ${ }^{\text {d }}$ | 37 | 99 | －2at | 1． $2 \leq 1$ | 98.5 | ortar ${ }^{\text {c }}$ | 54 | 99 | $\pm 0^{-1}$ | 1，：18 |
|  |  |  |  |  |  | 200 | asan ${ }^{3}$ | 31 | ：00 | sould | 1， 407 |

Foalnotes


${ }^{3}$ worde in the fourth geade ilat frome thin atody but not in the fourth grade minalinat lige


Table 8
100 Most Frequently Used Words in
Fifth and Sixth Grades

| Y1Fct Geada |  |  |  |  |  | Stren Grade |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Yaxadienum |  | R1asland |  |  | Yandlabaura |  |  | 3insland |  |  |
| Ranic | Hoed | Prgumacz |  | ford | Froquast | Rant | Hard | Erequgacy | R2nk | Yord | 7 Pequancy |
| 1 | che | 6.738 | 1 | 5 | 40.324 | 1 | the | 2,615 | 1 | cha | -5,530 |
| 2 | and | 1.56\% | 2 | ethe | 27.767 | 2 | and | 1,919 | 2 | and | 28,956 |
| 3 | I | 1.512 | 3 | 50 | 26,254 | 3 | 1 | 1,306 | , |  | 27,008 |
| 1 | E | 4.192 | 4 | amb | 24.519 | 6 | 4 | 1.4.36 | 4 | E0 | 25,599 |
| 9 | a | 1,092 | 5 | \%ou | 21,000 | 5 | co | 1,509 | 3 | $\stackrel{1}{ }$ | 22, 336 |
| 6 | vas | 660 | 6 | 4 | 19,42 | 6 | vas | 843 | j | you | 17,459 |
| 7 | - 9 | 583 | 1 | $\cdots$ | [5,357 | 7 | : | 693 | 7 | 15 | 15,6\% |
| 3 | f | 337 | 8 | 15 | 12.925 | 3 | 15 | 663 | 3 | is | 14,582 |
| 9 | be | 531 | 9 | fs | 4.188 | 9 | 04 | 651 | 9 | Ot | 14,062 |
| 10 | we | 922 | 10 | Erimad | 10, 741 | 10 | 37 | 538 | 10 | - | 12, 503 |
| 11 | 15 | 486 | 11 | have | 10,726 | 11 | he | 527 | 15 | $\cdots$ | 1. 627 |
| 12 | Of | 437 | 12 | 15 | 10,478 | 12 | they | 696 | 12 | bave | 10,938 |
| 13 | ehay | 363 | 13 | 25\% | 9,673 | 13 | vo | 424 | 13 | are | 6, 373 |
| 16 | 13 | 346 | 14 | of | 9.321 | 14 | chate | 396 | 14 | -3 | S. 38 |
| 15 | you | 310 | 13 | Sor | 7,739 | is | rould ${ }^{\text {j }}$ | 384 | 15 | chay | 5, 290 |
| 16 | sald | 293 | 16 | 'sat | 7,509 | 16 | os | 180 | 16 | Sor | 5,is |
| 17 | viect | 296 | 17 | 9\% | 7.300 | 17 | 15 | 374 | 17 | 08 | 5.283 |
| 18 | 94 | 280 | 48 | youe* | 6,304 | 18 | When | 145 | 19 | chen | 5,339 |
| $: 9$ | etane | 269 | 19 | cril | 6.291 | 19 | tor | 329 | $: 9$ | thas | 3. 359 |
| 20 | 50 | 268 | 30 | school | 5,246 | 20 | you | 313 | 32 | yous: | -. 358 |
| 23 | 80 | 250 | 9 | deqe | 5.348 | 12 | 20 | 312 | 11 | $\boldsymbol{7}$ | -. 792 |
| 22 | she | 246 | 22 | 2n- | 5.063 | 12 | the | 311 | :2 | Hena | 4, 179 |
| 23 | ate | 239 | 23 | etac | 4,967 | 23 | bue | 303 | 23 | 20 | -, 365 |
| 38 | cheo | 333 | 34 | 305 | 4,956 | 24 | bave | 102 | 25 | -11 | -. 333 |
| 29 | vece | 230 | 29 | $s 0$ | 4.829 | 29 | 21 | 231 | 25 | 3*6 | $\therefore$ ¢ -62 |
| 26 | 20 | 229 | 25 | had | -, 586 | 26 | be | 376 | 25 | he | 4.052 |
| 27 | dey | 222 | 27 | weisa ${ }^{\text {a }}$ | - 389 | 27 | 11k* | 274 | 27 | scruoul | $\therefore: 53$ |
| 19 | \%ould | 230 | 29 | 30 | $\therefore$-,076 | 29 | ze | 272 | 33 | 415 | 3, 395 |
| 29 | for | 219 | 29 | O4 | 6,008 | 29 | Flek | 271 | 19 | 084 | 3.367 |
| 30 | buse | 218 | 10 | 21 | 3,970 | 30 | had, | 259 | 30 | pue- | 1,953 |
| 32 | 800 | 213 | 31 | She | 3, 352 | 31 | $9 \times 14^{3}$ | 259 | 12 | rad | 3.375 |
| 32 | thera | 215 | 32 | aur | 3,311 | 12 | 30 | 392 | 32 | -sesic ${ }^{4}$ | 3,373 |
| 33 | have | 206 | 33 | -ren | 3,906 | 33 | har | 150 | 32 | 20c | 3,77* |
| js | had | 202 | 34 | coc | 3,176 | 34 | aue | 3:7 | 34 | hav: | 3.:93 |
| 15 | wich | S01 | 15 | has | 3.110 | 35 | thara | 25 | 35 | chase | 1,5is |
| 36 | 4 p | 188 | 16 | bow ${ }^{2}$ | 3,687 | 36 | day | 30 | 36 | sue | 3.375 |
| 37 | 414 | 130 | 17 | chis | 3,524 | 37 | 9 m | 319 | 37 | ous | 1,4. ${ }^{\text {d }}$ |
| 38 | Nara | 173 | 38 | bike | 3,280 | 38 | goc | 238 | 98 | some | 3, $0 \cdot 0$ |
| 39 |  | Sis | 19 | unen | 3,934 | 39 | yene | 238 | 19 | Mes | 3.009 |
| 50 | jac | 173 | 40 | - ta 9 | 3,432 | $\bigcirc 0$ | than | 212 | 20 | 20045 | 3.315 |
| 4 | suc | :70 | 41 | thars | 3.412 | 41 | 4 P | 206 | 41.5 | je | 3,2: |
| -2 | 勺¢, | 167 | 4 | tars | 3,369 | 42 | vare | :99 | -i.3 | Juc | 3,272 |
| \% 1 | hai | :56 | $\therefore 3$ | 305 | 3,330 | $\div 3$ | 35 | :97 | -3 | 30 | 3,243 |
| 4 | her | 1.5 | 4 | 30178 | 3, 299 | $\stackrel{4}{4}$ | 3es | 195 | 44 | am; | 3.312 |
| 45 | 30ta | :59 | \%5 |  | 3,296 | -9 | mis | : 31 | -5 | $\square 7$ | 1, $\times 1.3$ |
| 46 | ar: | :48 | : 6 | 300: | 3,2:0 | 46 | 14 | 679 | 26 | de | -, 395 |
| 27.3 | 15 | 142 | 4 | \% | 3,270 | 47 | 3xa | : 73 | 4 | jos | $\div 300$ |
| 47.3 | beczuat |  | $\pm 3$ | 45 | 3,15i | 4 | sauid ${ }^{3}$ | :12 | - 6 | ver | 2,3i\% |
| - 9 | 1 | 135 | 47 | juc | 3, $=99$ | 49 | ¢hem | :5i | $\therefore 7$ | : \% | -. 335 |
| 50 | 石 | 132 | 30 | to | 3.399 | 50 | a 00045 | - 59 | 30 | :418 | - 3 325 |
| 31 | - | 125 | 31 |  | 2,999 | 31 | न11 | 154 | 51 | 45 | -, 315 |
| 32 | bouse ${ }^{\text {a }}$ | 124 | 52 | כue | 2, 316 | 32 | because | 151 | 8 | :5m | -32: |
| 33 | to | 123 | 33 | lectar ${ }^{2}$ | 2,889 | 33 | 45 | :4\% | 33 | tex5 | :193 |
| 54 | abaue | $1 \cdot 3$ | 54 | - 211 | -1,740 | 36 | 5\% | :17 | 54 | do | : $\cdot 31$ |
| 55 | Smis | 124 | 55 | 970 | 2.705 | 5 | some | 131 | 53 | = | $\cdots,: 7$ |
| 56 | :nam | 113 | 56 | yare | 2.366 | 56 | rome ${ }^{3}$ | :30 | 96 | sthe |  |
| 37.3 | came | :01 | 57.5 | some, | 4,569 | 33 | 4 | 129 | 57 | ว | -,33; |
| 37.5 | ctact | 101 | 57.5 | $345{ }^{2}$ | 2,369 | 53 | housej | 199 | 58 | 50129 | 7, 32 |
| 59 | 57 ${ }^{2}$ | 99 | 39 | her | -,506 | 53 | -190 | 129 | 59 | caxe | ?..0c6 |
| 52.5 | Sect | 97 | 50 | Shem | $2,+81$ | 50 | scnool | 2\% | 30 | Lexa | 2.308 |

Table continued on next page

Table 8 continued

| 72feh Grada |  |  |  |  |  | Streh Grade |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Mandlebaum |  | Manoland |  |  | Mandicbaun |  |  | 3eneland |  |  |
| Rank | ciord | Erequeacr | Ranak | 3ovd | Prequaner | Ragk | Horas | Esqueacy | 3ank | Hord | Itaquencr |
| 61.3 | down | 97 | 61 | be | 2,468 | 61 | juat | 49 | 51 | 15 | 2,275 |
| 61.5 | cose | 97 | 62 | abous | 2.389 | 62 | gotag | 43 | 52 | - | 2,292 |
| 61.3 | \$00 | 91 | 63.9 | Sasm | 2,359 | 63 | etis | 116 | 63 | can | 2.12\% |
| 54 | 184 ${ }^{1}$ | 96 | 63.9 | coutd | 2,399 | 64 | -2 | 45 | 64 | C1780 | 2,084 |
| 65 | hese | 94 | 63 | tara ${ }^{2}$ | 2.326 | 65.5 | ovat | 113 | 65 | vane | 2.061 |
| 66 | sebool | 91 | 66 | ver* | 2.310 | 65.5 | $\mathrm{sac}^{3}$ | 113 | 86 | verset | 2.053 |
| 67 | fire | 88 | 47 | 44 | 2,303 | 67 | srou | 12 | 67 | anke | 2.014 |
| 68 | very | 87 | 60 | ${ }_{4}{ }^{2}$ | 2.258 | 68 | dova | 41 | 88 | hasi | 1,978 |
| 69 | our. | 85 | 69 | did ${ }^{2}$ | 2,241 | 69.3 | $4 \mathrm{SaO}^{3}$ | 109 | 59 | deve | 1,937 |
| 70 | cani | ${ }^{36}$ | 70 | whase | 2,177 | 69.5 | peopla ${ }^{3}$ | 109 | 70 | $3000{ }^{6}$ | 1.389 |
| 7 | 50 | 32 | 15 | fust, | 2,173 | 71 | buek, | 107 | 76 | 50 | 1.378 |
| 73 | could | 81 | 72 | Sucela | 2,157 | 72 | :neit ${ }^{3}$ | 104 | 12 | 6sze | 1,363 |
| 73 | juse | 31 | 73 | soon ${ }^{\text {a }}$ | 2.103 | 73.5 | see | 102 | 13 | cov | 1,765 |
| 73 | ovat | 31 | 74 | metrer ${ }^{-1}$ | 2.086 | 73.5 | coid | :02 | 74 | Afear | :.759 |
| 75 | 40 | 79 | 15 | 'mov | 2.982 | :6 | do | 102 | 75 | Lesele | i.,540 |
| 76.3 | 2081 | 74 | 75 | 3004, | 2,023 | 76 | hoses | :02 | ; 6 | beesusa | 1,:2: |
| 76.5 | stele ${ }^{-1}$ | 14 | 79 | hope? | 2,002 | 76 | var? | -02 | ;7 | shoula | - 3 joi |
| 78 | 5mas | 13 | 78 | day, | 1.396 | 78.3 | 140er | 99 | :9 | day | -.j38 |
| 90 | ause ${ }^{1}$ | 71 | 19 | hus ${ }^{2}$ | 1.963 | 38.5 | cran ${ }^{3}$ | 99 | ; 9 | 4012- | 3.925 |
| 30 | Play | 31 | 30 | close- | 1.319 | 30 | -char | 38 | 30 | H18 | !,j08 |
| 30 | samare | i6 | 31 | 14. 2 | 1.301 | 31 | Can ${ }^{3}$ | 32 | 31 | seher | i. 506 |
| 32 | pmople ${ }^{\text {b }}$ | \% 0 | 82 | 3axd ${ }^{2}$ | 1.395 | 32 | atarced ${ }^{3}$ | 90 | 32 | د9* | b. 309 |
| 33 | Griead | 69 | 33 | E90\% | 1.390 | 33 | Fround ${ }^{\frac{1}{3}}$ | 89 | 33 | tor | 1. 398 |
| 34.5 | alear | 58 | ${ }^{\text {g }}$ | don'c | 1,378 | 84.5 | dida' ${ }^{\text {d }}$ | 38 | 96 | Sexas | :, 162 |
| 94.9 | f=tands ${ }^{1}$ | 58 | 35 | 勺ecause | 1.370 | 34.5 | 205 | 38 | 35 | latear | 1, 3.3 |
| 39 | big ${ }^{1}$ | 67 | 36 | call ${ }^{2}$ | 1.346 | 36 | our | 36 | 36.3 | oune | :, 3 , 31 |
| 99 | Suri | 57 | 87 | satd | 1,340 | 37 | 38\%\% | 33 | 36.3 | suea: | -. 331 |
| 39 | $\underbrace{+3}$ | 57 | 38 | dova 2 | 1.329 | 38 | t12014 | 31 | 38 | by | :1.495 |
| 39 | 305 | 67 | 39 | E3fax | 1.738 | 39 | :4-3s | 30 | 39 |  | 1.430 |
| 39 | sem | 57 | 90 | bome | 1.709 | 90 | Sor' $\mathrm{E}^{\text {, }}$ | 79 | 70 | -abl ${ }^{6}$ | ! - 3 |
| 89 | 50Le ${ }^{1}$ | 57 | 91.5 |  | 1.664 | 31 | :nrea | is | 31 | aere* | $\therefore .035$ |
| 39 | cane ${ }^{2}$ | 57 | 31.5 | 48* | 1.664 | 92.5 | $213 \mathrm{ac}{ }^{3}$ | 77 | 92 | tome | $\therefore .612$ |
| 93 | knoy | 65 | 93 | cher | 1, 532 | 92.5 | act | 77 | 93 | :17a | -, 388 |
| 75 | end ${ }^{1}$ | 54 | 98 | Over | 1.622 | 34.5 | ['3 | 76 | 44 | ¢taced | 1,37\% |
| 95 | same: 1 | 64 | 95 | :90, | 1,595 | 94.5 | 'mov' ${ }^{\text {che }}$ | \% 8 | 95 | -14* | $\therefore .368$ |
| 75 | scarim ${ }^{\text {- }}$ | 54 | 96 | bear: | 1.588 | 76.5 | terends ${ }^{3}$ | 7 | 76 | don's, | -, 2 20 |
| 97.5 | dot's | 32 | 97 | Lest | 1.374 | 36.5 |  | 76 | ${ }^{77}$ | racer* | 1,261 |
| 97.5 | 3rod, | 52 | ${ }^{78}$ | atcer | 1.536 | 38 | 20rs ${ }^{3}$ | 73 | 98 | seon* | 4,326 |
| 99.5 | inco | 51 | 99.5 | could | 1. 344 | 39 | ary | :1 | 99 | =14.0 | 1.3:3 |
| 79.5 | rall | 61. | 39.3 | zuen ${ }^{2}$ | $\therefore .544$ |  |  |  |  |  |  |

Footnoter

${ }^{2}$ Words in the fifth grade Rineland liac but noe in the fifth arade list from thth etudy
 SHorde in the atath grode kinaland list mit not in the otath grade line trom thin neudy




CHAPTER V<br>DISCUSSIONS, CONCLUSIONS, AND RECOMMENDATIONS


#### Abstract

The purposes of this chapter are to discuss the findings presented in Chapter IV, draw conclusions from those findings, suggest educational implications, and make recommendations for future research. The first three sections provide discussions of the research questions and the words deleted from the computer. The final three sections contain the educational implications, suggestions for future research, and the conclusions.


## Compilation and Comparisons of Word Lists

When interpreting the lists compiled from the stories written by the students in this study, the reader should remember that only one sample of writing was gathered from each participating student and the samples were gathered during a short period of time. In addition, only 13 of the 50 states are represented. If more than one sample had been taken, a different type of writing examined, the sample taken over the span of a year, or all 50 states represented, the results might have been different.

Care should be taken in interpreting both the Method 1 and Method 2 lists. In the Method 1 list some words are ranked higher in
the list than others that were used by a larger number of students. In the Method 2 list no word was used by more than $87 \%$ of the students; therefore, the assumption could be made that no word is ever used by all of those who write. However, if more than one writing sample from each student had been analyzed, in all likelihood, several words would have been used by all of the individuals in the sample. This would be particularly true of words such as $\mathfrak{a}, \mathrm{I}$, and, the, to, etc. which might be described as "utility" words. These words are probably used by all writers at one time or another.

## Method 1 and Method 2 Lists Compared

The two lists compiled using Methods 1 and 2 comprise words from the first through sixth grades and include a total of 269 different words. For each word, three possibilities existed: (a) the word occurred in both lists as 243 words (90.33\%) did; (b) the word occurred in the Method 1 list but not in the Method 2 list (13 words or $4.83 \%$ ); or (c) the word occurred in the Method 2 list but not in the Method 1 list (13 words or 4.83\%).

The fact that over $90 \%$ of the words occurred in both lists indicates that both methods are fairly accurate measures of the importance of these words. The differences in the methods only become apparent when the words which are not common to both lists are examined. A discussion of the differences follows.

As an initial step, the words in only the Method 1 list (i.e., Mr., horse, Mrs., dollars, monster, teacher, children, fish, million, trip, bike, animals, kids) were compared with the words only in the Method 2 list (i.e., almost, together, getting, story, than, yes, hope,
everything, knew, many, anything, everybody, life). The words appearing in the Method 2 list tended to be words which were the topic or focus of the stories and would be expected to be used more than one time in the story. The words occurring only in the Method 2 list, however, tended to be words which would not serve as a focus or topic for a story. These were words which would be likely to be used only one time in a story.

One explanation of why a word might appear in the Method 1 list but not in the Method 2 list is the tendency of some students to use a word repeatedly. For example, the word monster was ranked 219.5 in the Method 1 list but does not appear in Table 4 in the Method 2 list. If the cutoff had been 520 instead of 256 , the word would have appeared since monster was ranked 516 in the Method 2 list. The word monster was used a total of 99 times by 27 students, an average of almost four times per student.

On the other hand there are words which appeared in the Method 2 list but not in the Method 1 list. These words were used by several students but were usually used only one time in a story. For example, the word almost was ranked 227 in the Method 2 list but did not appear in Table 4 in the Method 1 list. If the cutoff had been 275, the word would have appeared since almost was ranked 266.5 in the Method 1 list. The word almost was used a total of 81 times by 75 students.

Further evidence of the differences in Methods 1 and 2 can be seen by comparing the two sets of 13 words. The ranks of the 13 words which appeared only in the Method 1 list were compared with their ranks in the Method 2 list by extending that list beyond the 256 words in

Table 4. The total difference in ranks was $1,273.5$, an average of 97.96 ranks per word. When the ranks of the 13 words from the Method 2 list were compared with their ranks in the extended Method 1 list, the total difference in the ranks was 349.5 , an average of 26.88 ranks per word. The conclusion could be drawn that Method 2 provides a more stable measure than Method 1 since the average difference in ranks in the Method 2 list was much smaller than the average difference in ranks in the Method 1 list.

In a study of this size, the method of counting the words (i.e., counting the number of times a word occurs or counting the number of students who use a word) does not appear to make much difference for approximately the first 200 words. At about this point, perhaps the method of counting the number of students who used a word is the more accurate method since counting the number of times a word occurs seems to give a somewhat inflated appearance to the importance of some of the words. In a count as large as the one by Rinsland (over $6,000,000$ words), the point at which there would have been a difference probably occurred much later in the list since the number of students involved in such a large count would counteract a handful of students using a word several times.

Method 1, Method 2, and the Rinsland Lists Compared
The two lists developed using Methods 1 and 2 each have at least $66 \%$ of the words in common with Rinsland's list. In every instance except two, the words which appeared in only one or two of the three lists were ranked in the remaining list(s) between 251 and 500. For instance, the word end was ranked 71 and 44.5 respectively in the

Method 1 and 2 lists, was ranked 386 in the Rinsland list.
The two exceptions were the words mom (appearing only on the Method 1 and 2 lists) and Christmas (appearing only in Rinsland's list). The word mom was apparently not in common use at the time Rinsland conducted his study since it is not in his list. Christmas was ranked 78 on the Rinsland list, but it was not entered into the computer for this study since it was in a category of proper nouns to be deleted. Even if it had been entered, Christmas probably would not have been a frequently used word in this study. This is to be expected because the papers for this study were written in the spring, a time when Christmas is not of particular importance to students. However, Rinsland may have gathered many of his papers right before or after Christmas when students were thinking about it which would account for it being a frequently used word in his study.

Although only the top 256 words were reported in this study, there were four words ranked between 251 and 500 which were not reported by Rinsland. These were helicopter, no one, spaceship, and TV. No one may not have been considered an open compound word during the time of Rinsland's study, or he may not have made an effort to identify all open compound words even though he did list several (e.g., corn bread, dining car, infantile paralysis). The remaining words (i.e., helicopter, spaceship, TV) are of recent origin and would not have been in use at the time Rinsland conducted his study.

## Word Lists by Grade Level

As could be expected, the higher the grade level, the more words the students used in their compositions. First grade students
used an average of 28 words per story; second grade students, 58 words per story; third grade students, 99 words per story; fourth grade students, 138 words per story; fifth grade students, 127 words per story; and sixth grade students, 160 words per story.

The number of words the students used was reflected in the word lists for each grade level. The most frequently used word by first grade students occurred 405 times and the least frequently used word (as reported in Table 6) appeared 12 times. A gradual increase in these figures is evident until they reach a peak at the sixth grade in which the most frequently used word occurred 2,415 times while the least frequently used word (as reported in Table 8) appeared 71 times.

Another difference between the grades was the number of different words used by the students in the grade levels. First grade students used a total of 890 different words; second grade students, 1,624 different words; third grade students, 2,020 ; fourth grade students, 2,792; fifth grade students, 3,091; and sixth grade students, 3,802 different words. The variance could be accounted for by: (a) the larger vocabularies of the older students; (b) the number of words the older students are able to spell and, therefore, write more readily; (c) the time allotted for the activity; or (d) chance because of the relatively small number of students from each grade level.

## Words Not Reported by Rinsland

The discussion in this section is focused on the words used by the students in this study which were entered into the computer as part of the word count but were not reported by Rinsland in his list (see Table 5). Three areas are covered: (a) proper nouns; (b) words
probably occurring in Rinsland's study but which he did not report; and (c) words of recent origin. A discussion of these areas follow. Proper Nouns

Of the 1,363 words entered into the computer count of this study that were not reported by Rinsland, 119 were proper nouns (see pages - for the criteria for entering and deleting proper nouns). Although detailed information on how many proper nouns were deleted from Rinsland's count is not available, apparently Rinsland's basis for selecting which proper nouns to count was inconsistent. According to Rinsland (1945), all proper nouns were deleted "except very well known terms" (p. 8). Using this as a guideline, Christmas, Santa Claus, Angora, Alpine, and Alps were included while the names of states, oceans, and countries were apparently deleted or not used by the students. American, Americans, and U.S. are listed; but there is no listing for America or United States. That at least one of the over 200,000 students in Rinsland's study did not refer to a state or country is unlikely; therefore, the assumption is made that Rinsland must have deleted those terms.

Among the proper nouns which were counted in this study were the names of several states, especially California, Texas, and Florida. An interesting aspect of this was that the students who mentioned states usually were not discussing the states in which they lived. Generally, these students were writing about states in which they had taken a vacation, were planning to take a vacation, or in which they had a friend or relative living.

Of the remaining proper nouns which were entered into the computer, four were counted more than 10 times (United States, 14 times; Mars, 29 times; Martian, 18 times; Martians, 13 times). Other nations and planets were mentioned; however, all occurred less than 10 times. That planets appeared fairly often is not surprising since they would be likely to appear in stories about spaceships; and spaceships were frequently mentioned.

Words Probably Occurring in Rinsland's Study
Rinsland's study contained 25,632 different words; however, he only reported 14,571 words. The 11,061 different words which occurred only one or two times at any grade level were not included in his published list. Some of the words in this study probably occurred in those words Rinsland counted but did not print. The word adjustments is an example of a word which Rinsland probably counted but did not report. Adjust, adjusting, and adjustment were all reported by Rinsland, and if adjustments had occurred at least three times in a grade level, Rinsland would have published it. The point being made here is that most of the words which occurred in this study but which Rinsland did not publish are not new words; they were in use at the time of Rinsland's study but were probably not frequently used.

## Words of Recent Origin

Rinsland used Webster's New International Dictionary of the
English Language (1934) as a reference. Several of the words in this study probably did not appear in that edition of the dictionary, and are words which have been added to the vocabulary since 1934. Of those words, 14 (i.e., antigravity, black hole, $C B$, day-care center, dune
buggies, dune buggy, kung fu, minibike, minibikes, skateboard, skateboarding, skateboards, solar panels, videotape) appeared in the addenda of Webster's Third New International Dictionary, Unabridged (1976) which means that they are additions to the language since approximately 1966.

Some of the words used by students in this study but not reported by Rinsland refer to new technological advances in recent years (e.g., computer, laser, ballistic missile, videotape). Since students are exposed to these terms in their daily lives (e.g., parents discussing their work, reports in the newspaper and television, movies incorporating these terms), they are likely to use them in their own forms of communication.

The vast majority of the words which appear in this study but not in Rinsland's could not be considered frequently used words because they were used only one or two times. Thirty-four words occurred ten times or more; and of those, only ten words (i.e., California, Florida, Hawaii, helicopter, Mars, mom, no one, spaceship, Texas, TV) appeared more than 25 times. While authors of curriculum materials should consider using new words which appear, they would not want to include all new words students use. Perhaps an effort should be made to include those which appear to be gaining in popularity since they would be relevant to the students' needs.

## Words Deleted from the Computer

This section provides a discussion of the words written by students but not entered into the computer count (see Table 9). The
discussion is divided into four sections: (a) names of people; (b) names of places; (c) names of things; and (d) other deletions.

## Names of People

Over one-third of the words deleted from the computer count were names of people. Although names of famous people were mentioned several times, most of the names were of friends, relatives, and other people apparently important to the students' lives. A wide variety of groups were also mentioned (e.g., sports teams, rock music groups, scouting groups).

## Names of Places

The names of states, countries, and oceans were entered into the computer and are not included in this category. The names of commercial establishments, tourist attractions, real cities, and miscellaneous locations (e.g., lakes, hills) were the most frequently used categories in this division.

## Names of Things

In this division, the names of animals were the most frequently mentioned category. The names were generally those of pets. Students often used the generic name (e.g., cat, dog, horse, guinea pig, gerbil) as well as the name given to the pet. Other frequently mentioned categories were transportation (e.g., cars, motorcycles, trains, airplanes), miscellaneous objects, and holidays.

## Other Deletions

Arabic numerals were the most frequently used items in this category, while Roman numerals and fractions were rarely used. Also infrequently written were concatenated and dialect influenced words.

Usually when these types of words were used, they were in the conversations of characters in the story. This may be an indication that students realize spoken language is somewhat different than written language. Although concatenated and dialect influenced words were deleted, substitutions for them were entered into the computer count. For example, going to was substituted for gonna.

## Educational Implications

The educational implications drawn from the results of this research are presented in this section. They have been divided into two areas: educational implications for teachers and educational implications for textbook authors. Naturally, they are tentative and subject to additional research.

Educational Implications for Teachers
Three suggestions for classroom teachers are discussed here. They include: (a) evaluating the vocabulary in spelling programs; (b) individualizing the spelling vocabulary for all students; and (c) coping with the needs of students who have problems in spelling. A discussion of these suggestions follows.

Evaluating the vocabulary in spelling programs. Teachers
should determine that the vocabulary included in a spelling program is relevant to his/her students by comparing the words in the program to the list of words from this study. In the researcher's opinion, the Method 2 list would be the preferred list for this comparison since it seems to be a more stable measure; however, only the 256 words used by the greatest percentage of students are included in Table 4. Therefore,

[^1]If the words in the spelling program are among those in Appendix $E$, the vocabulary is probably relevant to the needs of today's students. Needless to say, the vocabulary of a spelling program is not the only area to evaluate; additional evaluation should be done to determine that the methods used to teach the spelling of the words are effective.

If most of the words in the spelling program are not among those in Appendix E, or if a large number of the frequently used words are not included, teachers should consider altering the vocabulary by adding or deleting words. Adopting another program would be a second alternative.

Individualizing the spelling vocabulary. Perhaps the key to an effective spelling program is flexibility in vocabulary selection. One suggestion might be that half of the spelling words be selected on the basis of a study such as this one and the other half be divided between words selected by the class as a whole and words selected by individual students. The selected words could include names of people, places, and things as well as seasonal words.

One problem that occurred during the course of this study and that will be faced by teachers from time to time is how to spell words which are new to the vocabulary and are not found in the dictionary. An example of this problem was the word tennies, slang for tennis shoes. By applying spelling principles, a logical spelling for the word can be developed. In the classroom, the teacher could use this opportunity to
demonstrate how spelling principles can be used to determine a spelling. This could be accomplished not by telling the students how s/he thinks the word should be spelled, but by allowing the students as a class to determine the spelling. This would also help students to see the importance of standard spellings for words.

Coping with the needs of problem spellers. As was mentioned in Chapter $I$, some students do not appear to learn the spelling of words incidentally (Horn, 1937; Smith, 1980) or they cannot learn all that is in texts. For these students, particular care should be taken to see that their spelling vocabulary contains words which they are most likely to use when writing. For students who have trouble learning to spell, teachers might want to concentrate only on the most frequently used words beginning with the 57 words listed in Appendix D since these appear to be used frequently throughout grades 1-6. These words could be followed by the words in Table 4 that are not among the 57 words. Since the total word count was larger than that for individual grades, Table 4 is a more reliable list than Tables 6-8. The Method 2 list is recommended as the preferred list.

## Research Implications

Based on the information from this study, six suggestions for further research are offered.

1. Future word counts should include approximately the same number of words per grade level rather than try to include the same number of students per grade level. By providing students with the spellings of any words they choose to write and by allowing them as much time as they want to complete their papers, further research
could: (a) confirm that there is a difference in the number of different words that students at various grade levels use; (b) demonstrate that the differences actually lie in the ability of the younger students to spell and write; or (c) demonstrate that the differences are an indication of the amount of time the students are allowed for such an activity.
2. Future research should employ technological advances, such as the computer, to allow the words to be analyzed on the basis of as many variables as possible (e.g., race, gender, geographic location). By analyzing the data using these variables, important differences may be discovered which can be used in the development of curriculum materials. For example, some words may be used frequently by students in one geographic location that are infrequently used by students in other geographic locations. Based on this information, authors of spelling programs might offer suggestions for words which should be included in one location but not another.
3. Future research should not rely on a single type of paper nor on a single sample of writing from the participating students. By including several examples of writing from each student gathered over a span of several months, a vocabulary list somewhat more representative of the broad spectrum of words which students know could be compiled. Many of the studies on written vocabulary, including this one, drew their data from only one type of paper (e.g., stories, letters); and therefore, may have limited the vocabulary used. The same problem occurs when the sample is gathered over a short period of time. Many seasonal words (e.g., reindeer, valentine, fire crackers) occur frequently
at one time of the year which are rarely used during other times. Although no seasonal words appeared to be frequently used in this study, some seasonal words (e.g., Christmas, Santa Claus) were frequently used in Rinsland's study.
4. As was mentioned in Chapter I, students may use a word frequently at one time during their lives and not during another. This study has examined written vocabulary only in grades 1-6. Future research should extend from the seventh grade through adulthood.
5. Future research should continue to include counts using both Methods 1 and 2. Although it appears that Method 2 may give a more realistic picture of the importance of words than Method 1 , additional research is needed to confirm this.
6. Many words were misspelled by students in this study. No indications of why the words were misspelled could be determined. Future research employing tapes of students reading their stories might demonstrate that word pronunciation (or mispronunciation) is related to misspellings. Such information could provide clues to remediation procedures.

## Conclusions

The problems of this study were: (a) to compare two methods of determining the frequency of words used in the written vocabulary of students, (b) to compare the results of this research with that conducted by Rinsland (1945), and (c) to compare the 100 words used most frequently at each grade level (1-6) of this research with corresponding lists from the Rinsland study. Four conclusions related to the problems and resulting research are presented in the following paragraphs.

First, additional research needs to be conducted comparing the two methods of determining the frequency of the words used in writing before deciding which is preferable. However, Method 2 appears to give a more stable measure of the use of words than does Method 1. Some words were highly ranked in the Method 1 list which were used by few students while some words used by many students were ranked much lower. Although this is a debatable issue, a word which is used by many students would seem to be more important to teach than one which is used by fewer students.

Second, although Rinsland's research is valuable, it does not reflect the changes which have occurred during the past 40 years. Some of these changes should be incorporated into current spelling and other language arts programs.

Third, the word count in this study was too small to determine that there have been changes by grade levels. (Except for the word mom which was apparently not used by students during Rinsland's study, all words which appeared in the 100 most frequently used lists appeared in both studies. Christmas and Santa Claus which appeared in one or more of Rinsland's grade level lists were not entered into the computer count, however, they were written by some of the students in this study.) Further research needs to be done in this area.

Finally, the most important finding of this research was the occurrence of words which are new to the vocabulary since Rinsland's study. Although the majority of these words were not frequently used, their appearance indicates that educators and authors of curriculum materials should not rely solely on older studies for vocabulary lists.

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APPENDIX A
INITIAL MAILING TO SCHOOLS

University of Oklahoma at Norman
College of Education

Dear Superintendent,

The research on which commercial spelling programs base their vocabulary is over forty years old. In an effort to update this research we are gathering samples of stories written by students throughout the country. Your school district is one of only two from your state to be asked to participate in the study. We hope you will participate since it is important that each state be represented.

Papers written by students from grades $1-12$ will be included in the computer-based study which will determine the frequency of words used in the compositions. Identity of the students involved is not needed; however, information about grade, gender, and race is requested on individual students as well as information about the school such as estimated socioeconomic level of the patrons.

We would like for one teacher at each grade level (1-12) to be asked to have his/her students write a story on a topic of the student's own choice. This is an activity many teachers already do on a regular basis and since no marking or correcting of the papers is needed, it should take very little time to complete. Specific directions for each teacher are included.

If your district is willing to participate in this study, we will forward a summary of the findings to you. Also, if you or any of your teachers have particular questions, please feel free to contact us. Thank you in advance for your cooperation.

Sincerely,


Linda Higbee Mandlebaum, M. Ed. Instructor


Gave Nut, Ph.D. Assistant Professor (405) 325-4842

## Teacher Directions for Participation in the Vocabulary Study

The research on which commercial spelling programs base their vocabulary is over forty years old. This study is an attempt to update that research by determining the frequency of words found in students' free writing.

Please do not hesitate to send samples of writing from all of your students regardless of their ability or the quality of their writing. We will not be grading them in any way nor comparing papers from one school with papers from another school. We only want to know what words students are currently using and how frequently those words occur.

If you should have questions regarding any aspect of this study, you can contact us at (405)325-4842 or at the address listed below. Thank you for your help in this study.

Please follow the steps below:

1. Duplicate and send home parental permission forms. Only students with parental permission should participate.
2. Ask your students to write a story about anything they like. Student's own choice of topics is preferred; therefore, use the enclosed list of story starters only in an emergency.
3. Do not mark or correct the papers in any way.
4. Ask students not to put their last names on the papers.
5. Staple one of the enclosed forms to each story and indicate the grade, gender, and race of the author.
6. Compositions from students of all ability levels are needed; therefore, please send stories written by all of your students regardless of the quality of the writing.
7. Forward stories to: Linda Higbee Mandlebaum College of Education University of Oklahoma 820 Van Vleet Oval Norman, OK 73019

## Dear Parents:

Our class has been asked to participate in a study to determine what words students use when they write. Each student will write a story on a topic of his/her own choice. Students will not write their names; however, grade level, sex, and race will be indicated on the stories. Please indicate in the space below whether or not your child has your permission to participate in this study.

Yes, my child may participate in the study.
$\qquad$ No, my child may not participate in the study.

The following story starters are to be used only when the student is unable to arrive at a topic on his/her own.

1. In 100 years . . .
2. When I have children of my own . . .
3. If I could be anything . . .
4. In my free time . . .
5. The trip I took (or would like to take) . . .
6. I once imagined . . .
7. If I could change people . . .
8. From the top of a tree . . .
9. Late one evening . . .
10. My invention . . .
11. Once upon a time . . .
12. When I'm 21 . . .
13. My favorite time of day . . .
14. I'm always too young . . .
15. The holiday I like best . . .
16. If I could have three wishes . .
17. Haven't you always wanted to . . .
18. The happiest (or saddest) time . . .
19. I thought I would never . . .
20. With a million dollars . . .
21. Dear Grandma (or other person),
22. Just the other day . . .
23. When school is out . . .
24. My best friend . . .
25. Every once in awhile . . .

Please fill out one of these forms for each class and attach to the papers from the class.

Name of School District $\qquad$
City $\qquad$ State $\qquad$

Which term most accurately describes your school setting: Urban $\qquad$
Suburban $\qquad$
Rural $\qquad$

What would you estimate the socioeconomic level (general income level) of your students' parents to be:

Mostly upper class $\qquad$
Upper and middle class $\qquad$

Mostly middle class $\qquad$

- Middle and lower class $\qquad$
Mostly lower class $\qquad$

Mixed

Cut the sections apart on the solid lines and attach one to each student's story.

| Grade $\qquad$ <br> Sex: Male $\square$ <br> Female $\square$ <br> Race: White $\square$ <br> Black $\square$ <br> Native <br> American $\square$ <br> Hispanic $\square$ <br> Asian $\square$ <br> Other $\square$ | Grade $\qquad$ <br> Sex: Male $\square$ <br> Female $\square$ <br> Race: White $\square$ <br> Black $\square$ <br> Native <br> American $\square$ <br> Hispanic $\square$ <br> Asian $\square$ <br> Other $\square$ | Grade $\qquad$ <br> Sex: Male $\square$ <br> Female $\square$ <br> Race: White $\square$ <br> Black $\square$ <br> Native <br> American $\square$ <br> Hispanic $\square$ <br> Asian $\square$ <br> Other $\square$ | Grade $\qquad$ <br> Sex: Male <br> Female $\square$ <br> Race: White $\square$ <br> Black $\square$ <br> Native <br> American $\square$ <br> Hispanic $\square$ <br> Asian $\square$ <br> Other $\square$ |
| :---: | :---: | :---: | :---: |
| Grade $\qquad$ <br> Sex: Male <br> Female $\square$ <br> Race: White $\square$ <br> Black $\square$ <br> Native <br> American $\square$ <br> Hispanic $\square$ <br> Asian $\square$ <br> Other $\square$ | Grade $\qquad$ <br> Sex: Male <br> Female $\square$ <br> Race: White $\square$ <br> Black $\square$ <br> Native <br> American $\square$ <br> Hispanic $\square$ <br> Asian $\square$ <br> Other $\square$ | Grade $\qquad$ <br> Sex: Male <br> Female $\square$ <br> Race: White $\square$ <br> Black $\square$ <br> Native <br> American $\square$ <br> Hispanic $\square$ <br> Astan $\square$ <br> Other $\square$ | Grade $\qquad$ <br> Sex: Male <br> Female $\square$ <br> Race: White $\square$ <br> Black $\square$ <br> Native <br> American $\square$ <br> Hispanic $\square$ <br> Asian $\square$ <br> Other $\square$ |

APPENDIX B
DIRECTIONS FOR PROOFREADING STUDENT STORIES

## Directions for Proofreading Student Stories

1. Only words which are "real" words will be entered into the computer. The basis for deciding whether or not a word is "real" will be whether or not it is an entry in Webster's Third New International Dictionary of the English Language, Unabridged (1976).
2. Correct words which have been misspelled by writing the correct spelling above the misspelled word. For example: The student wrote, "The dog came running whin I got home from school." Cross out whin by drawling a line through it and write when above it: when
3. Correct errors in the choice of homonym. For example: The student wrote, "I walked by there house." Cross out there by drawing a their there.
4. Do not correct errors in grammar including incorrect verb tense. For example: The student wrote, "I saw a elephant." Do not correct $\underline{a}$ to an. The student wrote, "I seen an elephant." Do not correct seen to saw.
5. Correct nonwords if there is a possible substitution. For example: The student wrote, "I runned away." Cross out runned by drawing a line through it and write ran above it: If a possible substitution for the nonword cannot be determined, cross it out by drawing a line through it and do not enter it into the computer. For example: The student wrote: "He ate a zzyog for dinner." Cross out zzyfg by drawing a line through it and do not enter it into the computer.
6. Correct words spelled according to dialect for entry into the computer and tally these on the tally sheet. For example: The student wrote, "He was eatin' the fried chicken with his fingers." Cross
out eatin' by drawing a line through it and writing eating above it: eating. On the tally sheet in the Miscellaneous: Dialect Influenced Words" column, write the dialect influenced word, the standard English word. which was substituted, and a tally for each occurrence.
7. Correct concatenated words for entry into the computer and tally these on the tally sheet. For example: The student wrote, "I'm gonna do it tomorrow." Cross out gonna by drawing a line through it going to and uriting going to above it: On the tally sheet in the "Miscellaneous: Concatenated Words" column, write the concatenated word and a tally for each occurrence.
8. Correct words which are supposed to be written as compound words according to Webster's Third New International Dictionary of the English Language, Unabridged (1976) and which the student did not compound. For example: The student wrote, "we built a dog house." Join the two words in this manner: doghouse.
9. Join words as described in number seven which are open compound words (i.e., they must be written together to express an idea). Webster's Third New International Dictionary of the English Language, Unabridged (1976) will be consulted to determine if two or more words are considered an open compound word. For example: nervous breakdown, hermit crab, and cast iron are each two-word enteries which must be uritten together to express the intended meaning. These terms should be joined as in number seven: nervousbreakdown, hermit crab, castiron. These words are then entered on index cards for ease in alphabetizing. This procedure will allow open compound words to be entered into the computer as single words. They will also appear on the computer print-out
as single words and can be typed with the correct spacing on the final typed list.
10. Cross out all numerals and enter a tally on the tally sheet. This includes numerals by themselves as well as time ( $4: 15$ ), money ( $\$ 5$ ), Roman numerals (IV), and fractions ( $\frac{1}{2}$ ). For example: The student wrote, "I earned \$5 for mowing the lawn." Cross out \$5 by drawing a line through it: \$5. Then make a tally mark on the tally sheet in the column labeled "Things: Numerals and Letters: Money".
11. Cross out all individual letters and enter a tally on the tally sheet. For example: The student wrote, "I got an "A" on my report card." Cross out A by drawing a line through it: A. Then make a tally mark on the tally sheet in the column labeled "Things: Numerals and Letters: Single Letters".
12. Cross out proper nouns (names of people, places, and things) and enter a tally in the proper column on the tally sheet. For example: The student wrote, "My teacher is Miss Caldwell." Cross out Caldwell by drawing a line through it: Then enter one tally in the column labeled "People: Real or Plausible Fiction: Last Name Only". Any names that include both first and last names should receive a tally for each name.
13. Cross out sound effects that are not words and enter a tally on the tally sheet. For example: The student wrote, "The owl in the tree went wo-0-0-0-0." Cross out wo-0-0-0-0 by drawing a line through it: Then enter one tally on the tally sheet in the column labeled "Miscellaneous: Sound Effects".
14. Names of days of the week, months of the year, and geographic locations with the status of state or larger will be entered into the computer.
15. All standard abbreviations will be entered into the computer.
16. If two people determine that a word is illegible, cross it out by drawing a line through it; the word will not be entered into the computer.
17. Hyphenated words or words which should be hyphenated will be entered into the computer as a unit if they follow the criteria given by Vivian and Jackson (1961):

Hyphenate two or more words which function together as one adjective modifier of a noun they precede: a well-known theory, an eight-hour day, an up-to-date laboratory, fortyeight end-of-the-month reports.
Hyphenate compound numbers from twenty-one to ninety-nine, inclusive: thirty-three (thirty-third), sixty-two (sixtysecond).
Ordinarily hyphenate fractions unless either the numerator or the denominator already contains a hyphen: one-third, five thirty-sixths, twenty-one fortieths. Hyphenate a compound made up of a prefix and a proper noun or derivative thereof: anti-Asiatic, pro-Canadian, nonEuropean. (p. 383)
18. Ampersands will be crossed out, the word and written above them, and a tally entered on the tally sheet. For example: The student wrote, "My friend \& I went to the dance." Cross out the \& by drawing a line through it and writing the word and above the ampersand: $\%$. Then enter a tally on the tally sheet in the column labeled, "Miscellaneous: Ampersands".


APPENDIX C
THE COMPUTER PROGRAM

## Progran for Total Counts

NOTE: THE JUB LINCA MAS UEEN RUN UNOER RELEASE $75.4 E$ CF SAS AT TMF UNIVEEStTY CF EKLAHCMA (GAGI.

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I CATA A: NONGTH WGROS20;
    ID: INPUT/IDEN !-7 SEX & RACE O SETG 10 SES 11 i
    WD: INPUT WORD : $20.बa:
    IF WORO=, ONQQG. THEN GC TC IC: ELSE GO TO ho:
NCTE: INFILE VWOACS IS:
    SNNAMEZLINOA.V
    UNIT=TARE,VOL=SER=OO4OOB,OISPEOLO,
```



```
ACTE: DATA SET NOFKAA MAS IG7ASS OESENVATIONS ANO G VARIAELES. 2OI OES/TIFK
& PFOC SCFT: तY wCRO:
NCTE: DATA SET ACFK.A HAS 167435 CgSERVATIONS ANO G VAF IABLESS. 2OJ UE:S/TEK.
s PrCC FREI; TAELES WCRC/CUT = G;
```



```
10 FIADC SOAT CATA =C: BY PEKCENT:
NLTE: OATA SET NGKK.G HAS GACG OESERVATIUNS ANO S VAFIABLES: 46S GF:S/TRK.
~TF: THE MADGE:JNE SONT USEC O.04 SECORNS ARNO 12HK.
10
                                    fRCC PRINT:
11 PFCC SOFT: GY IDEN WORO:
```



```
12 วFこC F#Eつ: BY IOEN; TABLES WJRO /OUT=E NJFFINT;
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```
la PROC SORT DATA x F;-GY PERCENT:
NOTE: OATA SET WCRK OF HAS 625O OESERVATIONS ANO 3 VAR!ABLESY . GGS OES/TRK.
NOTE-THE PROCEDURE SORT USEO'S.7B SECONOS ANO ITEK:-
14 PROC PRINT
NGTE: THE PROCEDURE PRINT USEQ 2OGGS SECONOS AND 1O&K ANDEPRINTED PAGES ! TO 112.
NOTE: SAS USED 48OK MEMORY.
NCTE: 'SASTINSTITUTE INC.
    SAS CIRCLE
    CAPY. N.C. 2751:
```


## Program for Individual Grade Counts

nCte: The jub linda has aegn gun under reléase $79.4 E$ (if sas at tre university of oklahoma (bug).

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l
    IF WOKO=`QOOOR, THEN GO TO IO; ELSE GO TO NO
NCTE: INFILE VWUROS IS:
    OSN YE=LINOA. VWRIOOS
    UNIT=TAPE,VCL=SER=004O6B,OISP=OLD.
NCTL: 1:45a LINES MEFE NEAC FROM INFILE VWCROS.
MLTI: TATA SET NCFK.A HAS 1674JS OASERVATIUNS AND g VARIAGLES. 1OZ OES/TFK.
NLCTE: THE DATA STATEMERTTUSED 79. 35 SECONOS ANO COK.
9 PROC SOFT OATA=A; EY GRADE SCHC SNO;
```



```
g NRUC FFED; GY GRADE SGHU SNC; TAELES WCFO/LUT=G INUPFINT:
```



```
10 DKOC FREC DATA = B; GY GRADE: TMBLES WOND/NOPKINT CUT =F:
NOTE: DATA SET WORK.F HAS 14SSG EESEFVATICNS AND G VARIABLES. 3EI OGS/TRK.
11 DFOC SORT DATA = F; GY GFACE PEFCEMT:
NCTE: DATA SET NCFK.F HAS :455O}\mathrm{ CESEAVATICNS AND & VARIADLES. IGI OGS/TRK.
NOTE: THE PROCEOURE SORT USED 12.g3 SECONOS AND 132K.
11 PROG PRINT; EY GRADE:
NOTE: THE PROGEDUGE PRIMT USEO 5E.71 SEGONOS AND IOEK.ARO PRINTEO PAGES 1 TC 27I.
12 PROC SORT DATA=A; BY GRAOE WCRO;
NOTE: OATA SET WORK.A HAS 16743S OGSERVATIONS AND B VARIAELES. IEZ OES/TFK.
NOTE: THE PROCEDURE SORT USEO 187.31 SECONOS AND 132K.
12 PROC FREQ: BY SRADE; TAELES WORO/CUT=M LIST NOROW NOCOL NONEFEENT NCPRINT:
NCTE: OATA SET WORK.H HAS }14799\mathrm{ OESERVATIONS IND & VAFIABLES. 3E1 OES/TFM.
NUTE: THE PROCEDURE FFEG USED 96.73 SECCNOS AND 356K.
1a PROC SORT CATA=H; SY GRADE WORD;
```



```
15 PROC PRINT: AY GRADE;
NUTE: THE PROCEOURE FFINT USED 64.1: SECENDS AND LOEK AND PKINTEE PAGES 272 TO 54G.
f.CTE: SAS USED 3SEK MENGFY.
NOTE: SAS INSTITUTE INC.
    SOX 9000
    CARY.N.C. 27E1!
```


$\square$


RDI OUTPUT: fil YU ID:

OSNAME ELINHA. VWUNUS







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APPENDIX D
WORDS COMMON TO ALL GRADE LEVEL LISTS

When the 100 most frequently used words at each grade level
(1-6) in this study were compared with equivalent lists from Rinsland's study, the following 47 words appeared in all 12 lists.

| a | home | that |
| :--- | :--- | :--- |
| all | I | the |
| and | in | then |
| are | is | there |
| at | it | they |
| be | like | time |
| but | me | to |
| do | not | up |
| for | of | was |
| go | on | we |
| going | one | when |
| got | out | see |
| had | she | will |
| have | some | with |
| her | hou |  |

The following 10 words appeared in 11 of the 12 lists.

| day | little | them |
| :--- | :--- | :--- |
| get | school | this |
| him | so | very |

his

APPENDIX E
COMPLETE LIST OF WORDS ENTERED
INTO THE COMPUTER

Complete List of Words Entered into the Computer

| gers | Firse | sacond |  | Pouten | Fiteh | Steen | Tocal | 2ord | Ptrse | Sacond |  | Foures | Ftath | Stam | Soeal |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 4 | 296 | 305 | 170 | 1,065 | 1.081 | 1,436 | 5.211 | sir presuure |  |  | 3 |  |  |  | ; |
| a.a. |  | , |  |  | 2 | 3 | 3 | Alabam |  |  |  |  | 3 | 1 | ! |
| a-Efame |  |  |  |  | 1 |  | : | alare |  |  |  |  | 2 | 1 | 3 |
| 2bendoo |  |  |  | 2 |  |  | 2 | alare clock |  |  |  | : |  |  | $\frac{1}{4}$ |
| aberdaned |  |  |  | 2 |  | 3 | 5 | Aluak |  |  |  |  | 2 |  | 2 |
| 4b11t5 |  |  |  |  |  | 2 | 2 | Alaticm |  |  |  |  |  | 1 | $t$ |
| able |  |  | 1 | 3 | 6 | 8 | 18 | albua |  |  |  | 1 |  |  | $!$ |
| aboard |  | 1 |  |  | 1 | 2 | 4 | albuas |  |  |  | 1 |  |  | 1 |
| abous | 3 | 39 | 46 | 71 | 128 | 195 | :13 | alare |  | 1 |  |  | 1 | 1 | 3 |
| above |  |  | 2 | 2 | 1 | 1 | 6 | alian |  |  |  | 1 | 1 |  | 2 |
| abracedabra |  |  |  |  |  | 1 | 1 | alsens |  |  |  |  | 5 |  | $\stackrel{+}{4}$ |
| abmoluealy |  |  |  |  | 2 |  | 2 | aliva |  | 3 |  | 13 | 5 | ${ }^{\text {a }}$ | 15 |
| accout |  |  |  |  | $\frac{1}{2}$ |  | 1 | 411 | 20 | 80 | 118 | 195 | 190 | 281 | $37 \%$ |
| accepp |  |  |  |  | 2 |  | 2 | 41107 |  |  |  | 2 | 1 | - | ; |
| accescorkes |  |  |  |  | 1 |  | 1 | aliey cata |  |  |  | 2 | 1 |  | 2 |
| aceident |  |  |  | 2 | 2 | 1 | 5 | alligacar's |  |  |  |  | 1 |  | $!$ |
| acesdoacally |  |  |  | : | $\frac{1}{2}$ | 6 | 7 | Aligacors |  | 1 |  |  | : |  | 2 |
| eceldents |  |  |  |  | 2 | $\frac{1}{1}$ | 3 | ablow |  |  | 1 |  |  | : | 2 |
| accomplish |  |  |  |  |  | 1 | $\stackrel{1}{4}$ | Allownce |  |  |  | 1 |  |  | ! |
| aceomplizhed |  |  |  |  |  | $\stackrel{1}{1}$ | $\stackrel{1}{4}$ | stioved |  |  | 1 | 1 |  | 1 | ${ }^{3}$ |
| aceurase |  |  |  |  |  | 1 | 1 | 211 z13 ${ }^{\text {a }}$ |  |  |  | 2 | 19 | 9 | ${ }_{80}^{16}$ |
| ectused |  |  |  | : |  |  | $\frac{1}{1}$ | almose |  | 6 | 9 | 17 | 19 | 29 | 80 |
| ace |  |  |  |  |  | 1 | 1 | closa | 1 | 1 | 6 | 4 | 9 | 11 | 12 |
| achens |  |  |  |  | 2 |  | 2 | clas: |  | 3 | 5 | 5 | 13 | 15 | 41 |
| acta |  |  |  |  |  | 2 | 2 | alraedy |  |  | 1 | 5 | 5 | 12 | 13 |
| acosis |  |  |  |  | 1 |  | 1 | sloo | 3 | 5 | 9 | 16 | 36 | 69 | 136 |
| acqualaced |  |  |  |  |  | 1 | 1 | siemred |  |  |  |  |  | $!$ | ! |
| acra |  |  |  |  |  | 1 | 1 | 41 chough |  |  |  | : |  | 2 | 3 |
| acras | 1 |  |  |  |  |  | $\frac{1}{4}$ | alcogechat |  |  |  |  |  | 2 | ${ }_{131}$ |
| acretast |  |  |  | 2 |  |  | 2 | abusy | 4 | 3 | 19 | 27 | 38 | 33 | 131 |
| acrose |  |  | 4 | 10 | 9 | 12 | 35 | 4 | 16 | 25 | 45 | 27 | 55 | 45 | 213 |
| act |  |  |  | 2 | 3 | 1 | 8 | mated |  |  |  |  | 1 | 2 | 3 |
| acted |  |  |  | 1 | 2 | 1 | 2 | arasement |  |  |  | 2 | 1 | 1 | 4 |
| accins |  |  |  |  | 2 | 1 | 2 | mariag |  |  | 2 |  | 3 | 1 | 6 |
| activieles |  |  |  |  |  | 1 | 1 | -ma |  |  |  |  |  | 2 | 1 |
| activity | 2 |  |  |  | 1 |  | 3 | marten |  |  | 2 |  | : |  | 1 |
| aceor |  |  | 1 | 1 |  |  | 2 | deartea's |  |  | 1 |  |  |  | 1 |
| acts |  |  |  |  |  | 2 | 2 | Amertens |  |  |  |  | 1 | : | 5 |
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| add |  |  | 1 |  |  | 2 | 2 | toramet park | 3 | 2 | 20 | 34 | 53 | 35 | 16 |
| added |  |  | 2 |  | 1 |  | 2 | ancestar |  |  |  | 1 |  |  | 1 |
| addrasiced |  |  |  | : |  |  | 1 | ancentor: |  |  |  | 2 |  |  | 2 |
| edjuscranes |  | 1 |  |  |  |  | 1 | anchor |  |  |  |  |  | 1 | 1 |
| sdinlre |  |  |  |  |  | 1 | 1 | anchoviea |  |  |  |  |  | 3 | $7{ }^{3}$ |
| dabe |  |  | 1 |  |  |  | 1 | and | 398 | 883 | 1,079 | 1,467 | 1.965 | 1,919 | 7.311 |
| edope |  |  |  |  |  | $\frac{1}{3}$ | 1 | angela | 1 |  |  |  |  |  | 3 |
| asopeed |  |  |  |  |  | 3 | 3 | $2 \mathrm{as} 5^{5}$ |  | 2 |  | 1 | , | 2 | 13 |
| adore |  |  |  |  | 1 |  | 1 | animal |  | 2 | 3 | 13 | ${ }^{3}$ | ${ }^{6}$ | 38 |
| sdult |  |  |  |  | , |  | 1 | animals | 3 | 4 | 4 | 37 | 12 | 28 | 88 |
| adulte |  |  |  |  | 2 | 2 | 4 |  |  |  |  |  | 3 | 2 | 5 |
| edvenced |  |  |  | 1 |  |  | 1 | ankies |  |  |  | 1 |  |  | ! |
| advencur: |  | 1 | 6 | 2 | 2 | 4 | 15 | tanouace |  |  |  |  | 1 |  | $\frac{1}{2}$ |
| sdventurat |  |  | 2 | 1 |  | 1 | 4 | sanoencins |  |  |  |  | 1 | , | 2 |
| adverrised | 1 |  |  |  |  |  | 1 | unoyed |  |  |  |  |  | 1 | 1 |
| advisil |  |  | 2 | $\frac{1}{2}$ |  |  | 1 | annoying tenochat | 2 | 3 | 6 | 12 | 20 | 28 | so |
| afford |  |  | : |  | 1 | 2 | + | mavar |  |  | 1 |  | 4 | 3 | ${ }^{9}$ |
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| Mghaniocas |  |  |  |  | 1 |  | 1 | chavers |  |  | 1 |  |  | ! | ${ }^{2}$ |
| atradd | 1 | 1 |  | 10 | \% | 4 | 23 | ant |  |  |  | 1 | 7 | 2 | 10 |
| Africe |  |  |  | 1 | $t$ | 6 | 8 | ancelapas |  |  |  |  |  | 1 | $\frac{1}{2}$ |
| nfear | 5 | 21 | 37 | 55 | 68 | 99 | 295 | anctigravsey |  |  |  |  | 2 |  | 2 |
| afearcoon | 1 | 3 | 1 | 2 | 2 | 10 | 18 | metaue |  |  |  |  | 1 |  | 1 |
| ataln | 3 | $\stackrel{3}{3}$ | 35 | 33 | 36 | 6 | ${ }^{273}$ | catlers |  |  |  |  |  | $\frac{1}{2}$ | $\frac{1}{2}$ |
| asaluac |  | : | $\frac{1}{2}$ | 3 | 6 2 | 3 | 15 | ancoarm ancoayaa |  |  |  |  | 1 | 2 | 1 |
| ereney |  |  |  |  |  | $\frac{1}{1}$ | $\frac{1}{2}$ | ents |  |  |  | 2 | 2 | 2 | 6 |
| agent |  |  |  |  |  | 3 | 3 | andil |  |  |  |  |  |  | 2 |
| ages |  |  | 1 |  |  | 2 | 3 | any |  | 1 | 7 | :3 | 19 | 98 | 9 |
| 45 | 1 | 7 | 5 | 3 | 17 | 9 | 4 | saybody |  | 1 | 3 | 2 | $!$ | 3 | 10 |
| 4treed |  | - |  | 3 | ] | 2 | 5 | saymore |  |  | 1 | 8 | 5 | 9 | 22 |
| ahead |  | ! | 3 | 11 | 1 | 7 | 33 | 2aytnias | 2 | 5 | 12 | 16 | 10 | 38 | 33 |
| aid* |  | 1 |  |  |  |  | : | anyctim |  |  |  | 2 | 1 | $!$ | 4 |
| aidat |  |  |  | 1 |  |  | $t$ | anyuy |  | 2 |  | 2 | : | 5 | 15 |
| asm |  |  |  |  | 1 | 1 | $\pm$ | snyuhars |  | 1 | : | $\vdots$ | 1 | 1 | 8 |
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| ass conditioning |  |  |  |  |  | 1 | 1 | apolosized |  |  |  |  |  | 2 | 1 |
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| alferafti |  |  | 1 | 2 |  | 1 | 2 | appast |  |  | 1 | 3 | 1 | 2 | 1 |
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| ats pocket |  |  |  |  | $\frac{1}{2}$ |  | $!$ | appliancas |  |  |  |  | 1 |  | $\frac{1}{1}$ |
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| buated |  | 3 |  |  |  | 1 | $\stackrel{-}{4}$ | escefubiy |  | 2 |  |  |  |  | $\frac{2}{2}$ |
| busy |  |  | 1 | 1 | 10 | 3 | 15 | caroleas: |  |  |  |  |  | 3 | 3 |
| bue | 26 | 91 | 123 | 297 | 218 | 103 | 1.018 | cares |  |  |  |  |  | 3 | 3 |
| butetar |  |  |  | 1 | 1 |  | 2 | earias |  |  |  | 1 | 1 | 1 | 3 |
| buecher fensta |  |  |  | 4 |  |  | 11 | carnival |  | 1 | 4 | 2 |  |  | ${ }^{3}$ |
| buther |  |  |  |  |  | 1 | $\frac{1}{2}$ | camivala |  |  |  | 1 |  |  | $\frac{1}{2}$ |
| buclers |  |  |  |  |  | 2 | 2 | catpentar |  |  |  |  | 2 |  | 2 |
| buct |  |  |  |  |  | 3 | 3 | earpensara |  |  |  |  | 1 |  | 1 |
| butead | 1 |  |  |  |  | 1 | 2 | caspas |  |  |  |  | 2 | 2 | 4 |
| buesar |  |  |  |  |  | $\frac{1}{1}$ |  | earpaced |  |  |  |  |  | 1 | 1 |
| buctertlies |  |  |  |  | 2 | 3 | 5 | car pool |  |  |  | 2 |  |  | 2 |
| butemeth | 3 |  | 2 |  |  | ! | 6 | carried |  |  | 1 | 2 |  | 4 | 9 |
| buteor | , |  | 1 | 3 | 2 | 2 | 9 | carrier |  |  |  |  | 1 |  | 1 |
| buecera |  | 1 |  | 1 | 1 |  | 1 | carrics |  |  | 1 |  |  |  | $\underline{1}$ |
| buece | $1 \frac{1}{5}$ | 32 | 11 | 17 | 32 | 57 | 164 | carrae |  |  | 1 |  | 1 |  | \% |
| buying |  |  |  |  |  | , | : | catry |  | 1 | 1 | 2 | 2 |  | 5 |
| buys |  |  |  | 1 |  |  | 1 | carsydus |  |  | 2 |  | $t$ | 3 | 5 |
| buseed |  |  |  |  |  | 1 | 1 | cars | 2 | 12 | 6 | 13 | 11 | 16 | 60 |
| buszes |  |  |  |  | 1 |  | 1 | cast |  |  |  |  |  | 1 | 1 |
| busxios |  |  | 1 |  |  |  | 1 | carcoon |  |  |  | 2 |  |  | ? |
| by | 12 | 40 | 66 | 62 | 39 | 137 | 436 | eareocas |  |  |  | 2 |  |  | 2 |
| b7* | 1 | 5 | 6 | 4 | 2 | \% | 27 | cartubeels |  |  | 1 |  |  |  | 1 |
| byobya |  | 3 |  | 1 | 2 |  | 6 | ear vash |  |  |  |  |  | $\frac{2}{5}$ | 17 |
| cab |  |  |  |  |  | 1 | 1 | case |  | 2 | 4 | 1 | 3 | 7 | 17 |
| cmbease |  |  |  |  |  | 1 | 1 | canal |  |  | 1 |  |  | 1 | 2 |
| cabla | 1 | 1 | 7 | 7 | 7 | 1 | 26 | cats |  | 1 |  |  | 1 |  | 2 |
| cabias |  |  | 1 |  |  |  | 1 | carimo |  |  |  | 1 | 1 | 3 | 7 |
| cable |  |  |  |  | $\frac{1}{2}$ |  | 2 | cast | 2 | 12 | 1 | $4{ }^{3}$ | 2 | 17 | 30 |
| cactus |  |  |  |  | $\pm$ | 1 | 3 | cricle |  | 1 |  |  |  |  |  |
| cage | 1 |  | 2 | 2 | 7 | 7 | 19 | eatualy |  |  |  |  | 1 | 1 | 2 |
| cake | 1 |  | 2 | 2 | 1 | 1 | 7 | cas | 35 | 34 | 17 | 35 | 33 | 26 | 170 |
| catha |  |  |  |  | : |  | 1 | cas's |  | 1 |  | 2 | 1 |  | - |
| caicodar |  |  |  |  |  | 1 | 1 | catch | 7 | 3 | 6 | 13 | 7 | 15 | 31 |
| calf | 2 |  |  | 1 |  | $?$ | 10 | eachar |  |  |  | ! |  | 7 | ${ }^{8}$ |
| Gallforaia |  |  | 1 | 2 | 11 | 12 | 26 | earehat |  |  |  |  | 3 |  | 3 |
| call | 3 | 5 | 8 | 9 | 16 | 21 | 52 | catchias |  |  | 1 | 4 | 3 | 2 | 10 |
| callad |  | 13 | 12 | 34 | 31 | 38 | 120 | cscachisa |  | 1 |  |  |  |  | 1 |
| calling | 1 |  |  | 1 |  | 3 | 5 | cacarpillar | 1 |  |  |  |  | 3 | 6 |
| calla |  |  |  | 3 |  | 2 | 5 | caramiliara |  |  |  |  |  | 1 | $\frac{1}{3}$ |
| calm |  |  |  | 1 | $\frac{1}{1}$ | $\frac{1}{2}$ | 3 | castish |  |  |  | 20 |  | $1{ }^{2}$ | ${ }_{62}{ }^{3}$ |
| calind |  |  |  | 2 | 2 | 2 | 3 | cats | 4 | 11 | 2 |  | 2 | 18 | 62 |
| calaly |  |  |  |  |  | 1 | 1 | cactie |  |  |  |  | 2 | $\stackrel{1}{9}$ | ${ }^{3}$ |
| calay |  |  |  |  |  | 1 | 1 | caughe |  | 14 | 17 | 21 | 12 | 19 | ${ }^{83}$ |
| calarias |  |  |  | 1 |  |  | 1 | саив |  |  |  | 1 | , |  | 2 |
| calvat | 4 |  |  | 1 | 1 |  | 6 | caused |  |  |  |  | , |  | 1 |
| Cambodis |  |  | 7 |  |  |  | 1 | Csumias |  |  |  |  | 1 | 1 | 2 |
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| camel |  | 1 |  |  |  |  | 1 | enuciously |  |  |  |  |  | 2 | 23 |
| casela | 1 |  |  |  | 2 |  | 3 | cara |  | 3 | 2 | $\mathfrak{}$ | 1 |  | 25 1 |
| camara |  |  |  | 2 |  |  | 2 | caved |  |  | 1 |  |  |  | 1 |
| emap |  | 1 | 6 | 2 | 12 | 11 | 12 | caves |  |  | 1 |  |  |  | 1 |
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| casped |  |  | 1 | 2 |  |  | 3 | caves |  |  |  |  | 2 |  | 2 |
| сепррет |  |  |  |  | 1 |  | 2 | c3 |  | 1 |  | 3 |  | : | 5 |
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| cumias |  | 1 | 2 | 1 | 5 | 8 | 17 | celebrace |  |  |  | 1 | : | 8 | $!$ |
| can | 30 | 49 | 30 | 38 | 84 | 92 | 340 | calebrated |  |  |  |  |  | , | , |
| emer | 3 | 5 | 15 | 16 | 23 | 29 | 93 | calabration |  |  |  |  | 2 | , | 3 |
| caneds |  |  |  | 1 | 3 | 3 | 7 | call |  |  |  |  |  | 1 | 1 |
| camadiana |  |  |  |  |  | 1 | 1 | csilloptane |  |  |  |  |  | , | 1 |
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| candias |  |  |  | 1 |  | 1 | 9 | cencavos | ! |  |  |  |  |  | , |
| candy | 6 | 6 | 1 | 3 | 3 | 10 | 29 | cancar | : |  |  | 3 | $\downarrow$ | $\stackrel{2}{2}$ | ? |
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| esayos |  |  |  |  | 1 |  | 1 | carcaloiy |  |  |  |  | : |  | 1 |
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| capicel | 1 |  | 1 |  |  |  | 2 | chast |  | ; | , | $\div$ | $\ddagger$ | 3 | 20 |
| capraia |  |  |  | 5 | 5 | 4 | 14 | chatrs |  | 3 |  | 1 | 3 | 3 | 10 |
| eapeive |  |  |  |  |  | 4 | $t$ | chaikbourd | 2 |  |  |  |  |  | 2 |
| capture |  |  |  |  | 1 | ! | 2 | chalked |  |  |  | 1 |  | 2 | 1 |
| caprured | 27 | 24 | 19 | 33 | 35 | 48 | 186 | challenged |  |  | 1 | 1 |  | 3 | ; |
| caraeals |  |  |  |  |  | 1 | $:$ | chanplone |  |  |  |  |  | 2 | ? |
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| carbohydrate |  |  |  | : |  |  | 1 | champloostipa |  |  |  |  | 1 |  | $t$ |
| card |  | 1 |  |  | 1 |  |  | chasp! |  |  |  | 1 |  | \% | 3 |
| cardiand | : |  |  |  | 4 |  | 9 | chance | . | 2 |  | $\frac{1}{5}$ | 7 | ${ }^{3}$ | 10 |
| carse | 3 |  | 11 | 9 | 7 | ; | 40 | chant | 2 | 2 | 1 | 5 | 7 | 3 | 12 |
| ${ }_{\text {cars }}^{\text {cared }}$ | 2 |  | 1 |  |  |  | : | changed changes |  |  |  |  |  | 2 | 2 |
| earear |  |  |  |  |  | 6 | 5 | chenging |  |  |  |  | : | 1 | 3 |
| earaful |  | $z$ | 2 |  | 2 |  | 6 | charecterizad |  |  |  |  |  | 1 | : |

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|  | Ptrge | Sacond | Third | Pours:h | Plem | sixts | Sacat | Ford | Firge | Sacona | Theat | Fonc:h | refoh | S1xch | 3 cecal |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| H1rcy |  | - | +1-2 |  | - |  | 3 | dragon |  |  |  |  |  | ? | \% |
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| disappearias |  | 1 |  |  |  | 1 | 2 | dragk | 1 | 2 | 2 | 1 | 1 |  | 7 |
| disconacted |  |  |  |  |  | 1 | 1 | dra |  |  | 2 | g |  | 1 | 3 |
| dincover |  |  |  |  |  | $\frac{1}{1}$ | 1 | cravar |  | : |  | $\vdots$ |  |  | $\geq$ |
| dimeovared |  |  | 1 | 2 | 1 | 3 | 7 | drevias |  |  |  | 2 | 1 | 1 | 4 |
| diecues |  |  |  |  |  | 1 | 1 | dravias board |  |  | 1 |  |  |  | 1 |
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| dismues |  |  |  | 1 |  |  | 1 | drave |  |  |  |  | $t$ |  | $\frac{1}{2}$ |
| dingused |  |  |  |  |  | 1 | 1 | dreaded |  |  |  |  | 1 | 1 | 2 |
| Atspust |  |  |  |  |  | 1 | 1 | dreem |  | 1 | 3 | 10 | 1 | 13 | 38 |
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| discribuea |  | 7 |  |  |  |  | 7 | drusied |  |  | 2 | s | 4 | 6 | 17 |
| diacribueioa |  |  |  |  |  | 1 | 1 | drenser |  |  |  | 1 |  | 1 | 2 |
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| divided |  |  |  |  |  | 1 | 2 | dxipplas |  |  |  |  |  | 1 | 1 |
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| divorcad |  |  |  |  |  | 2 | 2 | drives |  |  | : | 1 |  | 1 | 2 |
| disziar |  |  |  | 2 |  | 1 | 2 | ditivias | 2 | 1 | 1 | 3 | 2 | 7 | t8 |
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| dog's |  | 2 |  | 4 | 1 |  | 7 | drua |  |  |  |  |  | 1 | 3 |
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| dogboulla |  |  | 3 |  | 3 |  | 6 | drumas |  |  |  | 3 |  | $i$ | 4 |
| doge, |  | 19 2 | 3 | 5 | : 6 | 2 | 4 | druak |  | 2 | 2 | 3 |  | 1 | 3 |
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| doorbell doarknab |  | 1 |  | 1 |  |  | 1 | duption |  | 1 | 2 | $\frac{1}{3}$ | 7 | 3 | 16 |
| doors | 1 |  | 3 | 4 | 2 | 6 | 16 | durs |  |  | 2 | 1 | 2 |  | \$ |
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| dected |  |  |  | 1 | 1 | 1 | 1 | dylas |  |  | : | 1 | 2 | 1 | + |
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| spers unale spick-and-ap |  | 1 | 3 |  |  |  | 3 | searcod | J |  |  | \% | , | 1 | 5 |
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| spidar |  |  |  | 4 | 3 | 2 | 9 | seares |  |  | 3 |  | 3 | 6 | 12 |
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[^0]:    1. Directions for getting parental permission for students' participation and a sample form that could be duplicated.
    2. Information on what the students were to write and suggested topics to be used only in the event that a student could not think of a topic.
    3. Directions not to correct the papers to ensure that the vocabulary was that of the students.
    4. Information needed for each student and for the class. Student information was indicated on a small form which the teachers stapled to each story; class information was indicated on a form provided for that purpose.
    5. Instructions on where the stories were to be sent. A copy of the directions sent to the teachers can be found in Appendix $A$.

    ## Preparing the Data for Input into the Computer

[^1]:    teachers should consider using the complete list of words found in Appendix E.

