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# Spelling in the Elementary School

Orin Colbert

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SPELLING IN THE ELEMENTARY SCHOOL

by

Orin Colbert

An extended paper submitted in partial fulfillment of the  
requirements for the degree of Master of Education,  
in the Graduate School of the Central  
Washington College of Education

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APPROVED FOR THE GRADUATE FACULTY

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Eldon Jacobsen

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## Chapter I

### INTRODUCTION

The purpose of this paper is to increase the knowledge and background of the writer in the area of spelling. By using a documentary form of research the writer attempts to bring together under one source some of the more important investigations in several different areas of spelling. No attempt is made to include all the research in these various areas. Instead the author attempts to present investigations that are representative of the research completed in spelling. The latest research is not always presented, for in some sections the more recent research merely confirms or strengthens the conclusions of investigations completed earlier. In some areas it is impossible to leave out some of the earlier research, for this would present an incomplete picture of the situation. Also in certain areas of spelling there has been little, if any, research completed recently. For example, in determination of the adult writing vocabulary, little has been accomplished since 1926.

In some areas of spelling there have been various disagreements among educators and investigators. The writer does not attempt to present one point of view in these disagreements but tries to present both sides and will let the reader draw his own conclusions.

Spelling is one of the fundamental subjects of our elementary school curriculum. Many investigations have been carried on in spelling which have contributed to the improvement of teaching methods and techniques. There are few subjects in the curriculum in which the objectives can be as clearly defined as in spelling. This does not mean that there is no need of more research, but much progress has been made in the past thirty years.

When educators start discussing any subject of the curriculum, perhaps one of the first topics brought up is the objectives of that subject and how well the schools are meeting these objectives. The first or primary objective is to provide the necessary words used in everyday writing.

The immediate objective of spelling is to impart a knowledge of the words most commonly used in writing. This is, of course, only one of the aims which the subject strives to attain, but it is the objective which comes immediately to mind whenever spelling is considered. In all written work there is a social necessity for correct spelling and but little toleration of mistakes. Both in school and in later life spelling is necessary whenever thoughts are committed to writing. Besides the necessity of correct spelling for all writing, the ability which makes possible such accuracy eliminates some of the impediments in the way of ideas.<sup>1</sup>

The second objective of the teaching of spelling is to clarify word meanings and to promote ability in expression. As students

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1. Foran, Thomas George. The Psychology and Teaching of Spelling. Washington, D. C., The Catholic Education Press, 1934, 1.

learn new words and their meanings, they have new tools for written expression and gain in their ability to use the proper word in the proper place. The ability to use the right words and being able to spell them easily or almost unconsciously minimizes the forces that inhibit expression. The necessity of substitution of words with less definite meanings or stopping to consult a dictionary in the middle of a written expression tends to also inhibit the use of the appropriate expression.

The job of developing vocabulary should begin in the kindergarten and continue through all the grades. Care must be taken, however, to see that the words presented at any stage are only those which are needed to talk or write adequately about experiences contacted by the child. This means that the teaching for words must not be in advance of the acquisition of their meaning through experience, and that a given word should be taught when needed to express a familiar idea more fully.<sup>1</sup>

A third objective in the teaching of spelling is to provide the techniques of learning new words. The English vocabulary is so large that it is an impossibility to teach all of the words or even all of the most commonly used words. The teaching of spelling not only includes the teaching of the three or four thousand most common words in our vocabulary but also to provide the techniques for learning other new words that they will need to know. Dolch brings this point out quite clearly when he states:

From a broad point of view, it is evident that a good speller is not merely one who has a certain stock of

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1. McKee, Paul. Language in the Elementary School, New York: Houghton Mifflin Company, 1939, p. 304.

spelling knowledge. For even if that stock was quite large, he would be certain to come to the end of it and then have to spell more and more words that he had never spelled before. Instead a good speller is a person who is equipped to learn spelling under all the varying conditions he will meet in school and out. If we teach children how to learn to spell, they will learn spelling in all their school subjects and in their life work outside of school. To do this we must teach right attitudes towards spelling and a set of habits that we may call "habits in learning spelling." These attitudes and these habits, once learned will function in school and out, in high school, in college, in business and wherever words are dealt with.<sup>1</sup>

A technique for the learning of new words is as important as the establishment of habits for the spelling of the common words. Beyond the first two or three thousand words each individual's writing vocabulary becomes more and more diversified. Those who will have the most need for spelling are the ones who have the greatest need to learn by their independent study words which were not included in the common lists taught them in the elementary school.

A fourth objective of teaching spelling is the development of awareness of correct spelling. McKee<sup>2</sup> suggests that it is the entire school's responsibility to inculcate this responsibility in the student. A teacher of geography, English or any other subject should instill in the pupil the habit of having words

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1. Dolch, Edward William. Better Spelling. Champaign, Illinois: The Garrard Press, 1942, 52.

2. McKee, Paul, op. cit.,

spelled correctly in his written work. Serious effort should be made to prevent children from taking the attitude that spelling is important only during the spelling period. In all written work children need to be taught to proofread their material and to look up doubtful words in the dictionary.

Dolch makes this suggestion in regard to correct spelling:

Not only should all teachers cooperate in getting the children to care about correct spelling, but should know about the habits of (1) check your guesses, (2) proofread for spelling, and (3) make a spelling analysis of new words. Not every teacher need set out to teach these habits herself, but every teacher can act as a reminder when her work gives the children opportunity to use these habits. She will chiefly function as a reminder. If she says only a word at the right time, the children will practice what they have learned in their spelling lesson and they can do so without taking time from the subject they are working on.<sup>1</sup>

These objectives are by no means all the objectives of teaching spelling. Instead these objectives are the ones which are related to spelling specifically and the ones discussed most frequently in spelling texts and courses of study.

Following the determination of objectives, the question arises which of the approximate 600,000 words in the English language are we going to teach. The investigators were confronted with the problem of selecting words most commonly used in adults' and children's written vocabulary. Realizing the impossibility

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1. Dolch, Edward William, op. cit., p. 90.

of children's ever learning a large number of words, these investigators set up criteria for the selection of the most commonly used words. First of these criteria as suggested by Horn<sup>1</sup> is the word's permanence. This means there must be some evidence of the words remaining in the English language and being used frequently in most everyday writing. Horn<sup>2</sup> made a study of the words' permanency in his Basic Writing Vocabulary, and found that less than 4 per cent of these words have come into the language since 1849 and less than 10 per cent since 1749. Many of these words are such words as "airplane," "radio," "telephone," etc.

A second criterion used in weighing one word against another is the word combination geographical distribution. For a time many schools were compiling their own spelling lists so as to be sure the children were taught how to spell words peculiar to their own locality. Horn<sup>3</sup> found in his study where he had samples of writing from every state of the Union, that in comparing these samplings, there were very few words which were peculiar to any one locality. From this study Horn concludes there is little, if any, need for local lists.

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1. Horn, E., "Spelling." Encyclopedia of Educational Research. Macmillan Publishing Company, New York, 1942, p. 1176.
  2. Horn, E., "The Validity and Reliability of Adult Writing Lists." Elementary English Review, 16, 1939, pp. 129-34.
  3. Horn, E., "Spelling." Encyclopedia of Educational Research. Macmillan Publishing Company, New York, 1942, p. 1179.

A third criterion used in vocabulary studies in determining the most commonly used words in adults' and children's writing is the word's spread. Other things being equal, a word which is used in all important types of writing is more important than one used only in one type of writing. Whether the writing is a personal letter or a business letter, the minutes of a meeting, or children's themes, words found to be used most frequently by all of these types are the words children will need to know how to spell. Investigators must take this into consideration when compiling word lists. If important areas are not sampled, or if the sampling from one area is much more extensive than others, the validity of the data collected is questioned.

The word's frequency of usage is a fourth criterion used in the selection of spelling lists. Word's frequency is perhaps used more than any other, in word selection. The largest proportion of words in the English vocabulary are not often used. Ayres<sup>1</sup> appears to have been the first to call attention to this principle of word usage. In his investigation he found that as frequency of use diminishes, the proportion of words in the total vocabulary rapidly increases. Horn<sup>2</sup> found that a very few words

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1. Ayres, Leonard P., A Measuring Scale for Ability in Spelling. New York: The Russell Sage Foundation, 1915.
  2. Horn, Ernest, "The Curriculum for the Gifted," Twenty-Third Yearbook of the National Society for the Study of Education. Bloomington, Illinois. 1924, Part I, p. 87.

do nearly all the work in any writing that most persons are likely to do. His study covered 1,000,000 running words and he found the following results:

Table I

Contribution of the Most Used Words to the  
Total Number of Running Words

Different Words	Percentage of total	Different Words	Percentage of total
100	58.83	3,500	98.30
500	82.05	4,000	98.73
1,000	89.61	4,500	99.00
1,500	93.24	5,000	99.33
2,000	95.38	5,500	99.46
2,500	96.76	6,000	99.49
3,000	97.66	6,500	99.53

Table I shows that the first thousand words include nearly 90 per cent of the total number of words recorded according to frequency. The addition of the next 500 words adds only about 3 per cent to the total. Some of the earlier investigations did not record the frequency of usage of the various words in their list although all selected their words according to frequency.

The fifth criterion is the cruciality of the word as evidenced by the severity of the penalty attached to its misspelling, and the sixth is quality or desirability of the word as determined by the quality of the writing in which it is used.

These last two are not usually taken into consideration by most investigators when compiling their word counts. Emphasis has been placed more upon frequency of usage, geographical distribution, and the word's spread, although all of these criteria are used to some degree in selecting the most common words to be taught to everyone in the elementary school.

## Chapter II

### THE SELECTION OF A WRITING VOCABULARY

Of the numerous studies completed in spelling, a large number of them have been concentrated in the area of word counts and compilation of word counts. Interest in this area was stimulated by Rice,<sup>1</sup> who attempted to show the impracticability of the large group of words being taught in various elementary schools of that day. Words were being taught for which children had no apparent need in their everyday writings at school and later in adult life. In many different school systems over the country Rice carried on a wholesale testing of the ability of children to spell. Conclusions drawn from his data were startling. In a general sense he found that the school had little to do with the child's ability to spell, that pupils who spent only ten minutes a day on spelling could spell as well as those who spent forty minutes a day, and that drill work in the direct teaching of spelling was futile. This started investigations which attempted to find the most common words used in adults' writing. These word counts have been concentrated into several different areas. The first sources of word counts were such things as the Bible,

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1. Rice, J. M., "The Futility of the Spelling Grind." Forum, 23, 1897, pp. 163-172.

classics, newspapers, and, finally, social and business correspondence of adults.

Among the pioneers of spelling vocabulary investigations who used social and personal correspondence of adults for their word studies was Ayres.<sup>1</sup> In this study he took 2,000 letters which had a total of 23,629 words of which 2,000 were different words and composed a word list of 532 words. The way he determined his list was that each word in the list had to appear at least six times in the total number of words. His research was one of the first to use objective methods for determining his word list and in later investigations his methods were used. Also in the compilation of various lists the Ayres List has almost always been included. There were various other similar studies published shortly after the Ayres' investigation but their results are relatively similar.

In 1914 Cook and O'Shea<sup>2</sup> published the results of their word count. This had a rather large total number of words--200,000--but the source of their letters was very small as these letters were written by only thirteen people. There were 5,200 different words used in these letters and they did not try to compose a shorter list from them. Instead they merely used all 5,200 words as a list. It is evident that this research has many limitations

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1. Ayres, Leonard P., The Spelling Vocabulary of Personal and Business Letters. New York: The Russell Sage Foundation, 1915.
  2. Cook, W. A., and O'Shea, M. V., The Child and His Spelling. Indianapolis: The Bobbs Merrill Co., 1914.

but at that time it was one of the largest word counts ever completed.

Anderson<sup>1</sup> completed his list in 1917. This was one of the first making use of a large number of words and was followed by a series of investigations which used an increasingly larger number of letters involving many more words. Anderson compiled his list from 3,723 letters of people in 35 different occupations in the state of Iowa. The total number of different words was 9,223 from which he made a list of 3,087 words. This list was one which was used very frequently in later studies for comparison and compilation. Houser's<sup>2</sup> research followed shortly after, but was neither so large nor the sources so varied as Anderson's. His list was restricted to word usage of farmers writing about farming.

Horn<sup>3</sup> published the first of his numerous lists shortly afterwards. In this one he used the vocabulary of bankers' letters, so this first study was not very representative of all adult writings.

Following these various word lists, there appeared many others using adult correspondence as the source of their word lists. In

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1. Anderson, W. A., "Determination of a Spelling Vocabulary based upon Written Correspondence." University of Iowa, Studies in Education, 2, No. 1, 1921.
  2. Houser, J. D., "An Investigation of the Writing Vocabulary of Representatives of an Economic Class." Elementary School Journal, 17, 1917, pp. 708-18.
  3. Horn, Ernest, "Vocabulary of Bankers' Letters." English Journal, 12, 1923, pp. 383-97.

Table II  
Principal Investigations of Words  
Used by Adults in Writing

Author	Date	Source	Running Words	Word List
Ayres	1913	Personal and business letters	23,629	2,001
Cook & O'Shea	1914	Personal letters of 13 people	200,000	5,200
Anderson	1917	Letters of residents of Iowa	361,184	9,223
Houser	1917	Letters written by farmers	65,555	1,869
Clarke	1921	Letters written to Chicago Newspaper	28,292	3,360
Horn	1923	Bankers' Letters	67,581	2,623
Crowder	1924	Business Letters	200,000	5,088
Curtis	1924	Letters written by school superintendents	235,093	6,512
Horn	1924	Excuses written to teachers	30,984	892
Horn	1924	Minutes of Meetings	126,459	5,728
Horn	1925	Letters of application	157,069	5,012
Horn	1925	Vocabulary of writers	704,837	23,581
Horn	1925	Personal letters of adults	86,000	13,300
Horn	1926	Compilation of previous studies	5,138,816	10,000

1926 Horn published his Basic Writing Vocabulary,<sup>1</sup> which was a compilation of the numerous investigations up to that time. Over five million words were involved in this study of which 36,373 were different words. From this he compiled a list of 10,000 words. This list is the best of its kind and is considered the standard for the importance of words as far as adult spelling needs are concerned. Although there have been a few investigations of adult correspondence since 1926, none had appreciable effect on Horn's Basic Writing Vocabulary. Horn's publication served as a termination of the investigations involving the vocabulary of adults' social and business correspondence.

A second area of concentration was writing done by children. Investigators took children's compositions written in school, letters written by children, and word lists compiled by children for these investigations. The reasoning behind this was that children should be taught words they need to know for their everyday writing in and out of school. Researchers thought that children would soon forget words from an adult list because they would have little use for them in their everyday writing. The surprising thing found by these investigators was that there was very little difference in these word lists and the first 2,500 words of the Horn Basic Vocabulary List.

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1. Horn, Ernest, "A Basic Writing Vocabulary." University of Iowa: Monographs in Education, First Series, No. 4.

Many educators believe that children need to know between 4,000 and 5,000 words in order to express themselves well in writing. There is very little disagreement among researchers on the first 2,500 words of the Horn's list, as most investigations got similar results. From 2,500 words on up to 4,500 words has provoked most of the disagreement, for as frequency of use diminishes it is much more difficult to make the selection. Spelling textbooks of today which are based upon various investigations show marked disagreement in what these second 2,000 words should be. For example, Wise<sup>1</sup> made an investigation of twenty well-known spelling books, each claiming to include the 3,500 to 4,000 most common words. Each book was an attempt to solve the child's spelling problem by including those words the child needed to know in writing. From these spelling textbooks he found there was a total of 13,641 different words. There were only about 1,000 words that were common to all twenty texts. In compiling word lists of the most common words there is little agreement among educators as to which ones are the most common after the first 2,000 words have been selected.

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1. Wise, Carl T., "Selection and Gradation of Words in Spelling." Elementary School Journal, 34, 1934, pp. 754-66.

Among the first investigators of children's writings was Jones.<sup>1</sup> He tabulated the frequencies of the words occurring in approximately 75,000 compositions written by 1,050 pupils. There was a total of approximately 15,000,000 running words of which he made a list of 4,532 words used by at least 2 per cent of the pupils. Jones had the children continue writing themes until no new words appeared. He published this list according to grades in which they appeared instead of by frequency of usage. It is surprising that he only found 4,532 different words in all of those tabulated, but one must keep in mind that in this study the words had to be used by at least 2 per cent of the pupils. This helps to explain why later investigations found a much larger number of different words in much smaller word counts.

For example, Bauer<sup>2</sup> found 19,000 different words in 18,000 themes which had a gross total of 2,500,000 words. From this group he compiled a list of 3,037 words which occurred 40 or more times in the children's themes. Numerous other studies followed using the same methods as Bauer. Then in 1924, McKee<sup>3</sup> developed a

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1. Jones, W. Franklin, Concrete Investigation of the Material of English Spelling. Vermillion: University of South Dakota, 1913.
  2. Bauer, Nicholas, The New Orleans Public School Spelling List. New Orleans: F. F. Hansell & Brothers, 1916.
  3. McKee, Grace M., "Children's Themes as a Source of Spelling Vocabulary." Elementary School Journal, 25, 1924, pp. 197-206.

Table III  
Principal Investigations in Determining the Writing  
Vocabulary of Children

Author	Date	Source	Running Words	Word List
Jones	1915	Themes written by pupils	15,000,000	4,532
Tidyman	1921	Themes of grade school pupils	538,500	3,850
Bauer	1916	Themes	- - - -	19,000
Brown	1920	Themes	2,500,000	5,174
McKee	1924	Themes	18,058	3,329
French	1924	Children's Letters	150,000	- - -
Dolch	1927	Free Association--16,206 children	2,312,245	12,622
Shambaugh	1928	Association method--1,815	230,631	1,309
Simpson	1929	522 letters	17,142	3,735
Garrison	1930	Themes and Letters	2,174,820	13,496
Fitz- gerald	1931	Letters	461,321	7,340
Hall	1932	Themes of eighth grade children	102,000	4,333
Smith	1935	Papers written in school on different subjects	238,654	9,416
Burdine	1936	Children's letters	54,750	3,003
Gunn	1937	Fourth grade children's themes	61,432	3,454
Fitz- gerald	1938	Letters of third grade children	100,800	2,928
Rinsland	1945	Many different kinds of children's writing	6,000,000	25,000

rather new method. By providing a list of topics representing valuable experiences judged to be familiar to sixth grade children, the study indicated that previous theme investigations had not succeeded in getting an adequate sampling of children's writing vocabulary. This study of the writing vocabulary of sixth grade children covered an analysis of 180 themes. There were only 18,958 running words examined which had a total of 2,329 different words.

Another method of determining the writing vocabulary of children was carried on by Dolch.<sup>1</sup> He had over 16,000 children write all the words they could think of in a specified time. The 16,206 children wrote a total of 2,312,215 words, of which over 12,000 were different words. Approximately a quarter of these appeared but once and were omitted from the grading. Dolch compared his findings with fourteen other word studies and found that approximately one quarter of the 9,583 words that he graded did not occur in any other list examined.

A third area of concentration in determining the words needed by adults and children in their everyday writing was in the compilation of previous word studies. Ayres<sup>2</sup> was one of the first to make a compilation of previous studies. He included his own

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1. Dolch, Edward W., "Grade Vocabularies." Journal of Education Research, 16, 1927, pp. 16-26.
  2. Ayres, Leonard P., op. cit.

study of personal and business letters along with other studies, such as those made by Knowles,<sup>1</sup> Eldridge,<sup>2</sup> and Cook and O'Shea.<sup>3</sup> From these he compiled a list of 1,000 words most common to all the investigations. In 1926 Horn<sup>4</sup> compiled the "Commonwealth List," which is a compilation of all the lists including his own previous lists up to that time. Shortly following this, the Basic Writing Vocabulary was published which gives the 10,000 most frequently used words in adult writing. This list is a compilation of adult writing vocabulary studies completed up to that time.

Following this investigation, McKee<sup>5</sup> attempted to determine the words used commonly in children's themes by compiling a list from which, at that time, seemed to be the most extensive theme investigations available. Because a reliable compilation could not be made on the basis of word frequency, the investigator attempted

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1. Knowles, J., The London Point System of Reading for the Blind. London, 1904.
  2. Eldridge, R. C., Six Thousand Common English Words. Niagara Falls, New York: 1911.
  3. Cook, W. A., and O'Shea, M. V., op. cit.
  4. Horn, Ernest, "The 3,009 Commonest Words in Adult Writing." The Fourth Yearbook of the Department of Superintendence of the National Education Association, 1926, pp. 146-72.
  5. McKee, Grace M., op. cit., p. 197.

to determine the most important words by listing those reported in four of the five studies. In spite of the large number of running words reported, McKee found only 1,475 words which were common to four of the five theme studies. This shows a lack of agreement among the early theme investigations. Other investigations of children's themes followed McKee's with similar results. This turned investigators to new sources of children's writing vocabularies. An example of this is the research done by Fitzgerald,<sup>1</sup> who took 3,184 friendly letters written by children in the fourth, fifth, and sixth grades and compiled a list of 2,016 words appearing eight or more times. The letters were actual correspondence rather than themes written at the direction of the teachers. The total number of words was approximately 460,000 which contained 7,340 different ones.

These studies continued and are still going on although in 1945 Rinsland<sup>2</sup> completed a gigantic study by making an analysis of over six million words. This study is the most complete up to the present time. In this research he had different kinds of children's writing sent to him from all over the United States.

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1. Fitzgerald, James A., "The Vocabulary of Children's Letters Written in Life Outside of School." Elementary School Journal, 35, 1934, pp. 358-70.
  2. Rinsland, H. D., A Basic Vocabulary of Elementary School Children. New York: The Macmillan Company, 1945.

Such children's writings as the following were included: personal notes, stories, poems, compositions in many school subjects, examination papers in nontechnical subjects, articles for school papers that were not corrected by teachers, reports of various kinds, etc. From the six million running words the total of 25,632 different words were found. These were tabulated according to frequency and grade in which they were used.

He found that the first 2,000 most frequently used words in Grade I make up a total of 98 per cent of the total writing vocabulary, but in Grade VIII the first 2,000 words make up only 90 per cent of the total writing vocabulary. There is a fairly consistent increase of percentage from the first 100 most frequently used words in Grade I to the first 2,000 words in Grade VIII. This evidence shows there must have been near uniform sampling from grade to grade. Until Rinsland made this study there had been no study that had broadly sampled the writing vocabulary of children from all sections of the United States in all grades in large numbers that was comparable to Horn's<sup>1</sup> count of adult words. Also there had been no study published that gave the actual times a word occurred in each grade. This is a great help in determining the grade placement of these words.

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1. Horn, Ernest, op. cit.

Another source used to determine the children's spelling needs is in the compilation of both adult and children's lists in order to determine what words to teach. Breed<sup>1</sup> and Coleman<sup>2</sup> were among the outstanding contributors in this area. In 1931 Breed made a compilation of five theme studies along with other studies of adult writings and made a list of 3,818 words which occurred most frequently in both areas. This was followed by Colman, who compiled a list of 3,017 words from thirty-three lists, among which are such studies as *The Basic Writing Vocabulary*, *Thorndike's Teacher's Word Book*,<sup>3</sup> and from many other sources. The list Colman consisted of words after the elimination of all words which occurred in less than fifteen of the thirty-three lists. Colman found a marked disagreement among the many lists. For example, there were 12,781 different words listed. It is evident that all of these words could not be the most common words needed by children and adults. Some of this disagreement can be accounted for by the various methods by which the lists were compiled. Some investigators listed plurals and derivatives as separate words, others did not. Many of these early investigations were restricted

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1. Breed, Frederick S., How to Teach Spelling. Danville, New York: F. A. Owen Publishing Company, 1930.
  2. Coleman, William H., A Critique of Spelling Vocabulary Investigation. Colorado Teachers College, 1931.
  3. Thorndike, E. L., The Teacher's Word Book. Teachers College, Columbia University: Bureau of Publications, 1921.

to only a few sources. Children were not properly stimulated to obtain a wide range of words, others limited their areas to certain geographical location, or occupation of the people whose writings were used.

Textbooks written using either Rinsland's<sup>1</sup> or Horn's<sup>2</sup> study or a combination of these two should include the most important 3,000 words used by both adults and children for there is a significantly large overlapping between the two. For example, McKee<sup>3</sup> made a comparison of his compiled list and that of Horn and found less than 900 words different from Horn's first 5,000 words. Other investigators, in comparing their children's lists and that of Horn's Adult list, have not agreed quite as favorably as McKee although even these agree on the first 2,000 words.

The data from these various investigations provide reasonable assurance of what words we should teach children in the elementary school. Of course we need more research or compilations on a wider scale in order to reduce the disagreement among educators on the last 2,000 words of this list. An excellent study would be to compile Horn's Basic Writing Vocabulary for adults with Rinsland's

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1. Rinsland, H. D., op. cit.
  2. Horn, Ernest, A Basic Writing Vocabulary, op. cit.
  3. McKee, Paul, Language in the Elementary School, New York: Houghton Mifflin Company, 1939, pp. 350-51.

list of words common to children and record those that were found in both lists, or to compile a list using all previous lists of both adult and children's writing. This surely would be representative enough for the spelling needs of children in the elementary school. This would bring up several problems but perhaps they could be worked out. The first problem is, should the various investigations be given equal weight in dictating the inclusion of a given word in the final compiled list? The second problem is, should the speaking and reading vocabulary of children be included in the list? Such a list should take care of both the present and future needs of children in the elementary school.

The authors of the most recently published spelling texts have many extensive word lists from which to choose their words. Words chosen from the more extensive lists will include most of the commonly used words of children and adults. Spelling texts which are based on some of the older investigations will contain inadequacies which are obvious. Many of these older investigations were limited and the sources few in number. If children are to benefit from spelling instruction, those words taught must be the words that children and adults need and use. Only then will these words be remembered and used.

## Chapter III

### GRADE PLACEMENT OF WORDS

The previous chapter considered the selection of those words which should be taught in spelling. This brings up the question, how is the selected list going to be allotted to the grade levels? This may seem to be a very simple procedure, but investigations of spelling textbooks in the past have proven otherwise. For example, Selke<sup>1</sup> selected ten spellers which contained 1,080 words common to all ten. He found two-thirds of the words are placed in two or three successive grades but there was very little agreement on the grade placement of the other one third. Of the 1,080 words common to all spellers, Selke found only three words in which there was unanimous agreement of its grade placement. In one speller the word may be placed in the second grade, in another it may be found in the sixth.

Another study carried on by Betts<sup>2</sup> showed even less agreement. By checking on the grade placement of words in seventeen spellers published since 1930, Betts found that in grade placement there

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1. Selke, Erich, "A Study of the Vocabulary of Ten Spellers." Elementary School Journal, 29, 1929, pp. 767-70.
  2. Betts, E. A., Spelling Vocabulary Study, Grade Placement of Words in Seventeen Spellers. New York: American Book Company, 1940.

was unanimous agreement in the case of only one of the words. For example, the word "ability" was found in sixteen of the seventeen spellers and was placed from the fifth grade through the eighth with a median grade placement of seven.

Investigators have set up a group of principles to aid in the grade placement of words. These principles allow a great deal of choice, for there is little evidence to determine how much emphasis to place on each principle. The first of these is the word's difficulty as educators have attempted to assign words to grades in which they can be spelled with a certain degree of accuracy. One of the first to attempt to place words according to difficulty was Ayres.<sup>1</sup> He devised a scale whereby the words of his list were placed in grades where they could be spelled with 75 per cent accuracy. Buckingham<sup>2</sup> made an extension of the Ayres Scale, and this scale is still used today by some schools for testing spelling ability and also grade placement of words to be taught. A more recent scale has been set up by Bixler.<sup>3</sup> He tabulated the word frequencies of 3,679 words in twenty-seven word lists and spellers.

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1. Ayres, Leonard P., A Measuring Scale for Ability in Spelling. New York: The Russell Sage Foundation, 1915.
  2. Buckingham, B. R., The Buckingham Extension of the Ayres Spelling Scale. Bloomington, Illinois: Public School Publishing Company.
  3. Bixler, H. H., The Standard Spelling Scale. Atlanta: Turner E. Smith and Company, 1940.

After the words had been selected, the percentage of pupils who could spell the word was determined for the grade in which it was commonly placed as well as for the grade below and the grade above. For example, the words "bullet," and "camp," show the following percentages of correct spelling.

<u>Word</u>	<u>Grade Level</u>						
	2	3	4	5	6	7	8
bullet			35	73	79		
camp			64	85	93		

Bixler says that his scale can be used to act as a check list to determine whether the words pupils misspell in their writing should be learned or left until a later grade.

The use of difficulty alone to determine the grade placement of words tends to overburden the lower grades. Foran<sup>1</sup> says it is desirable to place the heaviest spelling load in the middle and upper grades. Care must be exercised so that the number of words in the primary grades does not exceed the children's ability or to take too much time from the other subjects. Another disadvantage of grade placement by difficulty alone is the fact that the words tested for difficulty are often not ones needed by children. For example, words used in the Ayres Spelling Scale show only 58.3 per cent agreement with the first 1,000 words of the Rinsland

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1. Foran, Thomas George, op. cit., p. 34.

list. Another disadvantage is that a few gifted children would dictate the spelling words taught to all the children whether they need them or not. It would also tend to introduce the words prematurely before children had a need to use them.

A second method of grading words is based on the frequency which children use the words in their written work. Frequency of use by children is regarded as an indication of interest and need.

The modern teaching of spelling requires that words be ranked according to frequency of use rather than according to sheer ease or difficulty of learning. "Map" is an illustration of a word that is frequently included in primary-grade lists because it is easy to learn. Actually it is seldom used by children of any age. Similarly "cup" is easier than "could" but often less used in children's writing. Cumulative practice through the grades should fall on the most frequently used words at all times until these words are learned, then, in any remaining time, less frequently used words may be studied.<sup>1</sup>

This places in any given grade those words which are used or needed in the vocabulary activities of children in that grade. Some of these words may be rather difficult but children use them frequently and are always asking how to spell them. Examples of this are such words as "Hallowe'en," "Christmas," etc. Children are using these words quite frequently in the lower grades but they are still rather difficult to spell for primary children.

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1. Hildreth, Gertrude, Learning the Three R's. Minneapolis: Educational Publishers, Inc., 1947, p. 499.

Horn<sup>1</sup> states that frequency of occurrence of words in children's writing must be given primary consideration in the grade placement of words. A word commonly written by children motivates the learning of its spelling and this helps to insure that children will understand the meaning of the word. Also if the children are using the word quite often it aids retention and habituates its use. Another advantage is that it lessens the amount of time necessary for review. On the other hand children will not use words in their writing if they do not know how to spell them or do not understand the words' meaning.

When the writing vocabulary of children at any grade level is compared with that of adults, it is found that a large number of the words are identical and the higher up the grades one goes the number of words that are identical becomes greater. If words are placed in grades according to frequency of use by children in their writing, the list is bound to include most words commonly used by adults.

Foran<sup>2</sup> suggests that use involves experience as well as need and children will not use a word with which they have no experience.

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1. Horn, Ernest, "Spelling" Encyclopedia of Educational Research. (Monroe, Walter S., editor.) New York: The Macmillan Company, 1941, pp. 1166-83.
  2. Foran, Thomas George, The Psychology and Teaching of Spelling, Washington, D. C.: The Catholic Education Press, 1934, p. 33.

He concludes that frequency of use as a method of grade placement has value, but it should not be employed as the only basis upon which words are graded.

It is easy to carry the principle of children's interest to extremes, and it is always necessary to supplement such a method by other bases in grading words. It is more important to guide such interests than to permit interests to dominate instruction. Words commonly used by adults and only rarely by children are usually placed in the higher grades in order that they may be learned near the time of their expected use. Children's usage is at best an indirect indication of children's interests. But no better method of ascertaining interests has been as yet used in grading words.

Rinsland<sup>1</sup> gave the frequency of and the grade level of all the different words found in that study. This would be very helpful in determining the grade level of words. Gates<sup>2</sup> also provides data pertaining to the difficulty of words by calculating the per cent of recognition of a word at different grade levels. Most recent spelling texts have graded their words on the basis of these principles: difficulty, frequency of childhood usage, interest, and need. Horn and McKee<sup>3</sup> state that the grade arrangement of words in spelling can be made with a smaller degree of

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1. Rinsland, H. D., op. cit.
  2. Gates, A. I., A List of Spelling Difficulties in 3876 Words, Bureau of Publications, Teachers College, Columbia University, New York, 1937.
  3. Horn and McKee, "The Development of Ability in Spelling," National Society for the Study of Education 38th Yearbook, Part I, p. 247.

error than probably exists in the grade arrangement of any other school subject.

A third principle to be used in grade placement of spelling words is that which places the most important words in the lower grades and those of less importance in the later grades. McKee<sup>1</sup> says that in this way the more important a word is in writing, the sooner it will be taught. This is necessary in order to get the most important words taught before the child is eliminated from school.

Norton and Norton<sup>2</sup> gives these principles to be used in the grade placement of words:

1. The spelling words of a particular grade should be those which are most likely to be used in the vocabulary activities of that grade. The child's need for a word is the most important factor in determining the grade in which it should be taught. He should learn to spell words at approximately the time when he is going to use them in writing.
2. Spelling should be correlated with reading, particularly in the lower grades. Data showing the words most commonly found in primers and first-, second-, and third-grade readers are helpful in determining the degree to which correlation between reading and spelling may be serviceable in a given grade.

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1. McKee, Paul, op. cit.

2. Norton, J. K., and Norton, M. A., Foundation of Curriculum Building, New York: Ginn and Company, 1936, p. 285.

3. Those words which are used most commonly and frequently and which are most crucial should be taught first.
4. Other things being equal, words with greater spelling difficulty should be taught in the later grades. While the question of difficulty as a principle of grading is secondary to that of use, no word should be placed in a grade for which it presents little or no difficulty.

Research of words most frequently misspelled has also aided grade placement. Some words introduced in the primary grades are still misspelled by pupils in the upper grades. This indicates that these words must be constantly reviewed as they are common words used by children in their everyday writing. These lists of misspelled words measure the difficulty of words as well as their importance. One of the most comprehensive studies of spelling errors was done by Fitzgerald.<sup>1</sup> By using letters of correspondence written by children, Fitzgerald compiled a list of words most frequently misspelled. The total number of running words was approximately 400,000, among which there were 7,340 different words. The number of spelling errors was 20,142 of which 9,375 were made in spelling only 148 words. His study was of children's letters written in the fourth, fifth, and sixth grades. Not only did he give the frequency of use of each word in the three grades but also

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1. Fitzgerald, James A., "Words Misspelled Most Frequently by Children of the Fourth, Fifth, and Sixth Grade Levels in Life Outside the School." Journal of Educational Research, 26, 1932, pp. 213-18.

the number of times each was misspelled.

Horn<sup>1</sup> gives the following plan which provides reasonably well both for the child's present needs and for his future needs.

1. In each of the first six grades the basic word lists should be chosen from the words which are most important in the writing done by children of that grade and which are also important in the writing of adults. However, in selecting the words for later grades words previously taught will be omitted unless they still give considerable difficulty in those grades. The data on probable difficulty are provided by spelling scales and by counts of errors made in children's writing.
2. Words frequently written by children but which are of marginal value to adults should either be placed in supplementary lists or left to incidental learning.
3. Words of great importance in the writing of adults but which are infrequently written by children should be placed toward the end of the period of systematic instruction in spelling.
4. The amount of review of words within a grade and in subsequent grades should be determined by the degree and persistence of their difficulty.

After a decision has been made on the grade placement of words the problem arises of how to group these words according to spelling lessons. A spelling text which uses random grouping of words is ignoring the evidence of research. One approach to word grouping is according to their phonetic similarity. It is easy to carry such grouping to extremes but this plan is used by many.

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1. Horn, Ernest, "Spelling," Encyclopedia of Educational Research, (Monroe, Walter S., Editor.) New York: The Macmillan Company, 1941, pp. 1166-83.

Table IV

List of One Hundred Words Most Frequently Misspelled by Children  
of the Fourth, Fifth, and Sixth Grades

Word	Composite frequency of error	Rank	Word	Composite frequency of error	Rank
too	550	1	Sunday	61	51
you	312	2	coming	59	52
received	309	3	Halloween	58	53.5
teacher's	295	4	isn't	58	53.5
don't	225	5	school	56	55
it's	183	6	well	55	57
write	181	7	for	55	57
friend	170	8	letter	55	57
to-day	162	9	Dec.	54	59.5
haven't	154	10	pretty	54	59.5
I'm	148	11	we	53	61.5
your	144	12	will	53	61.5
our	135	13	we're	51	64
know	125	14	anything	51	64
good-by	123	15	Mr.	51	64
didn't	117	16	sincerely	50	67.5
good-bye	113	17	fourth	50	67.5
suppose	111	18	Nov.	50	67.5
Feb.	109	19	going	50	67.5
writing	108	20	down	49	71.5
there	102	21	hello	49	71.5
am	98	22.5	right	49	71.5
Mrs.	98	22.5	think	49	71.5
that's	96	24	Thanksgiving	48	74.5
getting	95	25	to-morrow	48	74.5
their	94	26	through	47	77.5
guess	90	27	thought	47	77.5
because	89	28.5	already	47	77.5
two	89	28.5	awhile	47	77.5
have	88	30	Friday	46	80.5
to-night	86	31.5	sometimes	46	80.5
Jan.	86	31.5	name	45	83
now	85	33	they're	45	83
I'll	84	34	can't	45	83
all right	81	35	hear	44	86
cousin	78	36.5	very	44	86
from	78	36.5	afternoon	44	86
won't	76	38	daddy	42	88
Saturday	75	39	cannot	41	89
Oct.	74	40.5	birthday	40	92
stationery	74	40.5	close	40	92
here	73	42	her	40	92
and	70	42	some	40	92
sometime	69	44.5	them	40	92
sure	69	44.5	something	39	95.5
everybody	68	46	want	39	95.5
schoolhouse	67	47.5	address	38	98.5
to	67	47.5	are	38	98.5
o'clock	63	49	Mar.	38	98.5
quite	62	50	teacher	38	98.5

Tidyman and Johnson<sup>1</sup> made a study in which eighty words were divided into two lists of equal difficulty. Forty of those words were taught without any grouping by similarity. The other forty were taught in the same way except that they were grouped by similarity instead of at random. From this investigation Tidyman and Johnson state that grouping words having similar difficulties is almost 10 per cent more effective than a procedure of presenting the words in chance order.

The opposition to grouping of words which are similar maintains that such a method of grouping causes interference in the spelling of homonyms. This is a class of words that causes considerable difficulty in spelling. Teaching them together and teaching them separately are both used. If the words are in the same grade it is a good idea to teach them together. Otherwise if the words are placed in separate grades the teaching of the second of the pair should include a review of the first word.

Another plan often used in grouping words is by some association in their meaning. The words are associated with some experience or a group of experiences. Foran<sup>2</sup> gives a sample lesson which uses the association method of word grouping.

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1. Tidyman and Johnson, "The Value of Grouping Words According to Similar Difficulties in Spelling." Journal of Educational Research, 10, 1927, pp. 297-301.
  2. Foran, George Thomas, op. cit., p. 37.

1	2	3	4
oak	root	ripe	brown
once	stem	pie	grass
tiny	grew	bake	lend
only	rain	green	drag
leaf	helped	yellow	pick

This method presents many opportunities for using the words in context form and in this way spelling can be related to other activities. By presenting these words in paragraphs or in sentences it is hoped that children will acquire a better understanding of the words and do better in their spelling. This is the context method of teaching spelling and is described more fully in a later chapter. Grouping by similarity and by association of meaning are the two methods most often used in the grouping of words into spelling lessons.

## Chapter IV

### METHODS OF TEACHING SPELLING

Children learn new words by many different techniques. Some children seem to learn more easily by one process than by another, but when all these processes are used they tend to reinforce one another. One way in which children learn new words is through the visual image they get from seeing the words. Visual images are extremely important. Reed<sup>1</sup> maintains that it is doubtful if ability in any other school subject depends as much on visual perception as spelling does. This suggests that the most important condition of learning to spell is an accurate and strong impression of the letters in that word. Therefore, it seems reasonable to assume that any method that would increase the frequency or increase the vividness of the presentation should help a pupil in learning to spell. Fernald<sup>2</sup> suggests that no two individuals have the same imagery forms and most of our poor spellers fall in one of the following groups:

1. Individuals whose visual images are too vague and indistinct to give the details necessary for a correct

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1. Reed, Homer B., Psychology of Elementary School Subjects. New York: Ginn and Company, 1927, p. 230.
2. Fernald, Grace M., op. cit., p. 191.

reproduction of the word, though they visualize with sufficient clearness for any situation that does not require detailed reproduction.

2. Individuals who get little visual imagery at first but gradually develop it after the word has been partly learned in terms of some other imagery.
3. Individuals lacking, or almost lacking, in visual imagery.

Those children who do not visualize words must think about them in some other form. Perhaps they depend more strongly on the auditory image they receive when they hear the words pronounced. This is made up of the sound of the word, of the letters or syllables, or of the phonetic sounding of the word. This means that the teacher must be very careful of her pronunciation when she is introducing new words to the children. Also, she must study the errors made by children to see whether they reflect incorrect auditory images.

A third sense which children use in the learning of spelling is called the kinaesthetic image. This is the image which is developed from writing the word. Some children who have poor visual or auditory discrimination appear to learn predominantly by this method. Fernald<sup>1</sup> found that by tracing words with their finger these pupils were able to make remarkable gains in spelling achievement.

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1. Fernald, Grace M., op. cit., p. 196.

The last sense to be employed in the learning of spelling is the vocal motor image. By saying the letters as one writes the word it seems to aid recall. It is quite common for a child to get an auditory image of the word at the same time that he expresses the word in terms of lip, throat and hand movements. That is he may say the word to himself, concomitantly "think" the sound, and feel the movements the hand would make in writing the word.

From this it would seem reasonable to assume that a method of teaching which would appeal to as many senses as possible would get the best results from all the students. But the evidence employed to prove the worth of this principle is of questionable validity. Stroud<sup>1</sup> has this to say about appealing to various sensory modes:

In the absence of valid experimental data to the contrary, it is suggested that there is no good reason to suppose there should be any very important systematic differences in the relative effectiveness of different sensory modes of presentation, except perhaps those dictated by habits of work. Learning appears to be accomplished by the making of responses. One form of sensory excitation should be as satisfactory for purposes of eliciting the putatively requisite responses as another. However, differences in interest value and differences in development of mechanical means of presenting material, may make one method more available than another.

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1. Stroud, James B., Psychology in Education. New York: Longmans, Green and Company, 1946, p. 445.

Perhaps the time spent in determining which method of presentation should be used with various children could better be used to improve the pupils' study habits. Stroud maintains that within broad limits one can learn or not learn as he chooses. A study was made by Freese<sup>1</sup> to determine the basic proficiency of intermediate and junior high students in the basic study skills. The Iowa-Every Pupil Tests of Basic Skills was given to 465 students of one public school. From this study Freese concludes that students encountered rather great difficulty in all levels in the work-study skills. All educators and teachers must realize that students must have adequate skills and study habits.

From this study one can see the need for teaching basic study skills in all subjects including spelling. Unless a child knows how to study his spelling, his achievement is likely to be rather low, for these basic study skills are the means by which students learn new words. Rather than tell a child to study his spelling, we need first to teach him how to study his spelling.

Fernald<sup>2</sup> gives these steps which should be used in the teaching of spelling:

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1. Freese, Eleanor R., Study of Proficiency in Basic Study Skills of Intermediate and Junior High School Students. Master's Thesis. Central Washington College of Education, 1951.
  2. Fernald, Grace M., op. cit., p. 199.

1. The word to be learned should be written on the blackboard by the teacher.
2. The teacher pronounces the word very clearly and distinctly; the children pronounce the word.
3. Time is allowed for each child to study the word.
4. When every child is sure of the word, the word is erased or covered and the child writes it from memory.
5. The paper should be turned over and the word written a second time.
6. Some arrangement should be made so that it is natural for the child to make frequent use, in his written expression, of the word he has learned.
7. Finally it is necessary that the child be allowed to get the correct form of the word at any time when he is doubtful of the spelling.

There have been various techniques developed of how children should learn to spell their words. One spelling textbook gives these techniques to use in learning a new word. Other textbooks have many variations of this technique, but the essential characteristics are the same.

1. The first thing to do in learning to spell a new word is to pronounce it correctly. Look at the word. Say it. Look at each part as you say the word. Then say the letters.
2. Close your eyes. Say the word. Then try to remember how it looked on the board as you say the letters.
3. Open your eyes and look at your book to see if you said the letters right.
4. Now try to write the word without looking at the board. Then look at the board to see if you spelled it right. If you did not, go through the first three steps again. If you spelled it right, cover the word with your hand so that you cannot copy and write it again. If you spelled it right this time, write it one more time.

5. If all three trials are right you may say that you have learned the word for the day. If you make a single mistake begin with step one and go through each step again.<sup>1</sup>

The question which always confronts a teacher of spelling is, which method shall she use to get the best results? One of the oldest methods still in use is the study test method. There are many variations used but the essential characteristics of the study test method are these:

Monday. The words are presented to the children, either by writing them on the board, or placing the list in the hands of the pupils. The teacher pronounces the words and the children repeat the words orally in unison. Children then practice writing the words.

Tuesday. The entire period is spent in study of the words.

Wednesday. A test is given to determine which words need additional study. The teacher pronounces the word, uses it in a sentence, and pronounces it a second time. The children make no attempt to write the word until it has been repeated the second time.

Thursday. Entire period is spent by pupils in studying words misspelled on Wednesday's test.

Friday. Final test. The procedure is the same as that used for the test on Wednesday.<sup>2</sup>

A second method used in the teaching of spelling is called the pre-test or test study method. Its general characteristics are these, although there are many variations:

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1. Wickey, Rose and Lambader, Spelling Goals. Los Angeles: Webster Publishing Company, 1945.
  2. Rogers, Deer and Gordon, Learn to Spell. New York: Rand McNally and Company, 1947.

Monday. Words are presented to the pupils by writing them on blackboard or by placing a list in the hands of each pupil. As the pupils observe the words the teacher pronounces each word and the students repronounce each one in unison. This is followed by a pre-test. The teacher pronounces each word, uses each word in a sentence, and then pronounces it for the second time. At the second pronunciation the students write the word. The pupils correct their own papers as the teacher spells the word orally.

Tuesday. The entire period is utilized in studying the words missed on the pre-test Monday.

Wednesday. On Wednesday a second test is administered in which all children participate. The words are again corrected by the students, and the remaining time used for study.

Thursday. The entire period is utilized in studying the words missed on Wednesday. Those children who made a perfect score on Wednesday are excused from studying on Thursday.

Friday. Each student participates in the final test. Each child corrects his paper as the teacher spells the words verbally. The teacher rechecks for accuracy of scores.<sup>1</sup>

A number of investigators have carried on experiments to determine which of these two methods is the most effective. Woody<sup>2</sup> conducted a study of these methods in the sixth, seventh, and eighth grades. The differences in every instance were negligible whether they favored the study test or the test study method.

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1. Louis, Richard, A Study of Spelling Growth in Two Different Teaching Procedures. Master's Thesis, Central Washington College of Education, 1950.
  2. Woody, Clifford, "The Evaluation of Two Methods of Teaching Spelling." Fifteenth Yearbook of the National Society of College Teachers of Education, 1926, pp. 155-71.

A comparison of errors showed that there were just as many errors resulting from one method as the other. The time saved by the pre-test method is one advantage of it for such time saved can be used by pupils to study other subjects. A more recent and extensive study of the pre-test and study test methods was carried on by Gates.<sup>1</sup> The experiment was carried on for eighteen weeks with the classes alternating at nine week periods in the method used. The pupils were enrolled in ninety-eight classes from the second to the eighth grade. Intelligence tests were given so the classes could be arranged for general ability. The same fifty words were given in the first and final tests.

Although the results were not conclusive in favor of either method, the differences were consistently in favor of the pre-test method in grades four through eight. In the lower third and second grades the differences were consistently in favor of the study test method. In the lower grades the dull pupils made better gains by using the study test method, but in the upper grades the pupils did equally as well by using either method.

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1. Gates, Arthur I., "An Experimental Comparison of the Study Test and the Test-Study Methods in Spelling." Journal of Educational Psychology, 22, 1931, pp. 1-19.

Foran<sup>1</sup> gives the alleged advantages and disadvantages of the pre-test method. One advantage claimed for the pre-test method is that it saves time for many pupils. Another is that it aids motivation for children study more diligently so they can be excused from the study of spelling on Tuesday and Thursday. A third advantage is that children acquire techniques for studying words independently.

Some of the disadvantages claimed of the pre-test method are:

(1) The failure of a single test to reveal whether pupils have the ability to spell words in the assignment, (2) Pupils and teachers are apt to fail to detect errors in the pre-test, and (3) that the preliminary test causes pupils to misspell words they do not know, therefore making it more difficult to learn the correct spelling of the words. So far as the writer was able to detect there are no studies which have proved any of these disadvantages to be true. They stand merely as claims, not evidence.

When selecting which of these two methods gets the best results, research slightly favors the pre-test method in grades four through eight. The study test method appears to get slightly better results in the second and third grades. Although the

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1. Foran, Thomas George, op. cit., p. 71.

findings of various studies did not prove conclusively which method is superior, the findings were consistently in favor of this arrangement.

A third method of teaching spelling which has not been put into general use but appears to have possibilities is the flash card method of teaching spelling. Gilbert<sup>1</sup> photographed the eye movements of good and poor spellers and found that good spellers seem to study the word as a unit or as a whole made up of related parts. The records of the mature speller shows a small number of fixations, more or less in orderly arrangement while the pauses are short and the unit is broad. The poor speller tended to study the words in small sections, apparently seeing only small unrelated details instead of the words as a whole. This led Gilbert to experiment with the flash card method of teaching of spelling as he hoped to develop better perceptual habits which would aid in spelling.

The words were put on cards and shown to pupils from two to five seconds; then they were asked to write the word. Although this experiment lasted only five weeks and the number of subjects was limited, the results were surprising. The pre-tests given indicated that in the beginning the three groups were approximately

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1. Gilbert, L. C., "Experimental Investigation of Flash-Card Method of Teaching Spelling." Elementary School Journal, 32, 1932, pp. 337-51.

equal in spelling ability. At the end of the study the experimental group surpassed the other two groups in learning efficiency and in time of study. One advantage of this method is that interest and attention were much better in the experimental group than in the other two groups. While this experiment was limited, it does demonstrate a new method which could have possibilities in the teaching of spelling.

A more recent method of teaching spelling is the "learning by listening" method. It evolved from the study made by Horn<sup>1</sup> on the effect of the corrected test on learning to spell. In this study Horn found that the corrected test alone will contribute from 90 to 95 per cent spelling achievement. The learning by listening method brings into effect the corrected test and the auditory approach of learning.

There are several variations but the essential characteristics of this method are:

Monday, the pupils are given a test over the week's lesson without having advantage of seeing or studying the words. The instructor pronounces each word, uses it in a sentence, pronounces it again, and on the second pronunciation the students write the word. Upon completion of the test the pupils score their own papers as the teacher spells them orally. Immediately after the words were scored a re-test using the same procedure is given. This same procedure is administered on Wednesday and Friday. No time is devoted to spelling on Tuesday and Thursday.

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1. Horn, T. D., "The Effect of the Corrected Test on Learning to Spell." Elementary School Journal, 47, 1947, pp. 277-85.

Louis<sup>1</sup> carried on this experiment with fifty-six students of the fifth grade for a period of six weeks. These fifty-six pupils were in two classes of similar ability. One group studied spelling by the test-study method five days a week. The experimental group using the learning by listening method had spelling only three days a week. The children in the experimental group spent no time studying the words. They never saw the words except as they were attempting to write them and in correcting their papers as the teacher spelled them orally. As soon as the papers were corrected the second time they were handed in to the teacher.

Louis found that students do as well in spelling by devoting only three periods a week using the learning by listening method as children did by the pre-test method studying five days a week. The learning by listening procedure increases spelling consciousness and therefore aids motivation. The pupils enjoy this method for there is no drill and individual study. The recall value of the learning by listening method was equal to that of the test study method.

Since the primary purpose of teaching spelling is to develop in pupils the ability to spell those words needed in writing, educators reasoned that the most effective method would be to

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1. Louis, Richard, op. cit.

present words to children in meaningful sentences and paragraphs rather than the usual list or column form. One of the first to investigate the merits of these two methods was Hawley and Gallup.<sup>1</sup> This study was carried out in grades three through eight and include 1,100 children. The children did a little better in most grades where the list form was used, but the differences were so little that they are rated insignificant.

Another study carried on by McKee<sup>2</sup> found similar results.

McKee drew these conclusions and implications from his experiment:

1. In the column-phrase experiment, pupils who used the column form secured results superior to those obtained by pupils who used the phrase form in the amount of spelling ability acquired during the learning period, and in ability to return words previously studied.

These experiments seem to indicate that presenting words in list or column form is superior to context form for it not only gets equally good results but is a much simpler method to teach.

A number of years ago many educators were advocating that spelling be taught in conjunction with other subjects. For example, in the instruction of language or history, where words were encountered that children could not spell, instruction in the

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1. Hawley, W. E., and Gallup, J., "The List versus Sentence Method of Teaching Spelling." Journal of Educational Research, 5, 1922, pp. 306-10.
  2. McKee, Paul, "Teaching Spelling by Column and Context Forms." Journal of Educational Research, 15, 1927, pp. 246-55.

spelling of these words was conducted. The words to be taught were selected at the discretion of the teacher. This method was violating the main objectives of teaching spelling for often as not words were selected for children to study which they very seldom, if ever, would have occasion to use.

As a result of early investigations which attempted to prove that a direct method of teaching of spelling was useless, it was proposed that incidental instruction replace the direct method of instruction. One method of teaching spelling incidentally was in connection with writing compositions. By having children check all mistakes and learn how to spell words they misspelled in their written compositions it was planned that an adequate spelling would be obtained. Cooper<sup>1</sup> says that spelling can be taught by creative story writing with individual vocabularies. For this assures that the words being learned are important to the individual child. Furthermore, she claims it probably develops general spelling ability just as well as practice in spelling of an artificially imposed vocabulary.

Horn<sup>2</sup> maintains that if children are to learn much spelling

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1. Cooper, Jane, "Developing Spelling Ability Through Individual Vocabularies." Elementary English, 28, 1951, pp. 281-86.
  2. Horn, Ernest, "The Incidental Teaching of Spelling." Elementary English Review, 14, 1937, pp. 3-5.

from writing compositions the course of study in compositions must be highly efficient. It should be planned first to deal with those situations in which children frequently need to write. Another limitation is that a systematic provision for the correcting and elimination of spelling errors must be made. The proof reading ability of both teachers and children needs to be increased. If these procedures are carried out, a great amount of spelling can be learned from writing compositions.

Another way in which children learn a large amount of spelling incidentally is through reading. Gilbert<sup>1</sup> made a study to determine whether reading has any effect upon spelling. In this experiment he used three hundred and eighty students from the upper classes of college levels. He was trying to answer these questions:

1. Does reading for the purpose of being able to answer questions on the context result in the improvement in spelling for words encountered in the selection?
2. Do good spellers surpass poor spellers in the amount of learning in spelling acquired through reading?
3. Is improvement in spelling effected by virtue of a slow reading rate?

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1. Gilbert, L. C., "A Study of the Effect of Reading on Spelling." Journal of Educational Research, 28, 1937, pp. 570-76.

The findings of this study indicated clearly that students do improve their spelling through reading. Also good spellers are able to pick up much more spelling through reading than poor spellers. The rate of reading speed made little difference in the amount of spelling acquired.

Cutright<sup>1</sup> proposes that children who begin their school writing experiences with print seem to spell a larger number of words correctly than do children who begin with cursive writing. Also children who begin writing experiences with print write more freely, that is, use a larger number of different words than children with cursive form of writing.

The incidental method, in its emphasis on integration, learning by wholes, learning through experience, purposeful and meaningful activity, and so on is in harmony with the principles of modern education. These principles are supported by research in the fields of psychology and education. The most reliable studies do support the incidental or informal method of teaching spelling.<sup>2</sup>

One would conclude from this research that there is little value in teaching spelling by the formal method for children could learn quite as well incidentally. Investigators have made several studies comparing the results of the two methods.

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1. Cutright, Prudence, "Script-Print and Beginning Reading and Spelling." Elementary English Review, 13, 1936, pp. 139-41.
  2. Saucier, W. A., Theory and Practice in the Elementary School. New York: The Macmillan Company, 1951, p. 257.

Gates<sup>1</sup> conducted a study for a year in two first-grade classes. One class was given formal instruction in spelling, the other class attempted to have the children learn spelling incidentally. The main score in spelling for the class taught by the systematic procedure was 8.9 points, for the incidental class it was 6.2. The difference seems to indicate the superiority of the systematic method of teaching spelling. Other investigators have made similar studies, and their findings were always in favor of the systematic method of teaching spelling. A great deal of spelling is learned incidentally but evidence definitely favors the more direct method.

Incidental learning should be supplemented by direct, systematic teaching especially in the case of difficult words. This systematic teaching should be planned to begin where incidental learning leaves off. Incidental learning does occur and should be fully utilized in connection with other curricular areas.<sup>2</sup>

In devising a curriculum in spelling one of the questions which must be answered is, in what grade is spelling instruction to begin? Should the direct teaching of spelling start in the second or the third grade? Rinsland<sup>3</sup> maintains that there is a need for investigations to determine spelling readiness just as there

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1. Gates, A. I., "A Modern Systematic Versus an Opportunistic Method of Teaching." Teachers College Record, 27, 1926, pp. 679-700.
  2. Horn, Ernest, "Spelling." Encyclopedia of Educational Research. New York: The Macmillan Company, 1941, p. 1179.
  3. Rinsland, Henry D., "Readiness for Spelling." Elementary English, 27, 1950, pp. 189-19.

has been in determining reading readiness.

Russell<sup>1</sup> carried on a study to determine the spelling readiness of students. This study involves four first-grade classes from average districts of Vancouver, Canada. One hundred and sixteen pupils were given a series of six tests, which attempted to measure the children's reading ability, letter recognition, visual perception, auditory perception, and mental ability. These classes were picked because two of them had a reading program involving considerable work in phonetics, the other class had a program using little phonics.

From this study Russell concludes that spelling readiness seems to be acquired in the high first grade by most pupils involved in this study. Also, a first grade program of direct instruction in phonics produced better achievement in spelling than the incidental first grade program. He also says that habits of attention directed to parts of words, and recognition of word families, are conducive to initial success in spelling.

Some schools start the direct teaching of spelling in the third grade. Others begin teaching it in the second. It seems reasonable to begin instruction as early as possible so children

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1. Russell, D. H., "A Diagnostic Study of Spelling Readiness." Journal of Educational Research, 37, 1943, pp. 276-83.

will know how to spell words used in their writing. In schools where children spend considerable time carrying on activities which are suited to their physical and mental maturation, they learn to spell many words without being aware that they are learning a new skill.

As soon as a child learns to write he begins to learn to spell by copying various things. Hildreth<sup>1</sup> says that by the end of the primary grades the children have learned from five hundred to seven hundred words with little apparent effort. Because they have used them so frequently in their writing, the children soon learn such words as "she," "am," "mother," and other such words.

The first spelling lessons for young children consists of copying their names and a few additional words from a copy placed on the board by the teacher. The next step is the copying of a letter, or a report of a trip, or some similar activity in which all the words are familiar and meaningful to the children. By the second grade a child has acquired considerable skill in spelling.

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1. Hildreth, Gertrude, op. cit., p. 505.

Gunderson<sup>1</sup> described an experiment in which second graders learned to spell in connection with free writing. These were the procedures that she followed:

1. Post a list of words asked for most frequently.
2. Provide each child with a workbook for the words on which he asks help.
3. Show children how to help themselves through using a picture dictionary, or, with older children, the regular dictionary.
4. Spend the time usually given in group spelling in helping children individually.

By the end of the second grade the child will have acquired a basic writing vocabulary which has been developed from various classroom activities. Along with these activities a few words can be taught directly by the last part of the second grade. From this grade on, the number of words can be increased to where a child has fifteen to twenty new words each week.

In the past any method of teaching spelling included the teaching of many rules or generalizations. There are groups of words having common features and rules were constructed to aid in the spelling of these words. The difficulty of making rules is that there are many words of a group that are exceptions to most

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1. Gunderson, Agnes G., "Writing Vocabularies of Seven-Year Olds." Elementary School Journal, 43, 1943, pp. 590-600.

rules which have been devised. Wheat<sup>1</sup> made an extensive study of four rules. These four were chosen because they covered a very large group of words. Each contained a sufficient number of words to promise wide usefulness for any rule that could be written to cover the words of the group with a low percentage of exceptions. The following kinds of words were studied: (1) root words ending in e and derivatives of such words, (2) root words ending in y and derivatives of such words, (3) root words ending in a single consonant preceded by a vowel and derivatives of such words, and (4) words containing in sequence ie or ei.

From his study Wheat revised the former rules so as to better cover the above word groups. His revision of the four rules are:

1. Words ending in silent e drop the e when adding a suffix beginning with a consonant.
2. Words ending in y preceded by a consonant, change y to i when adding any suffix except one beginning with i; but words ending in y preceded by a vowel leave the base form unchanged when adding any suffix.
3. Monosyllables and words of more than one syllable with the accent on the last syllable which end in a single consonant preceded by a single vowel double the final consonant when adding a suffix beginning with a vowel.
4. In the same syllable i before e except after g or when sounded like a as in neighbor and weigh.

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1. Wheat, Leonard B., "Four Spelling Rules." Elementary School Journal, 32, 1932, pp. 697-706.

This first rule covers 631 root words and 260 derived forms, or about 23 per cent of the list which it was checked against. Only twenty-nine words or about .75 per cent are exceptions. Wheat believes that this rule is perhaps the best to teach, for it covers many words and is relatively simple to learn. The second rule covers 237 base words and 69 derived forms. He suggests that probably this rule could be learned and used with profit by school pupils if a speller should be prepared with this group of words carefully graded and grouped for study in connection with the rule. The third rule covers an even 200 words and has only three exceptions. The value of it is uncertain for it is rather difficult to learn. The last rule covers 101 words with eleven exceptions. Wheat recommended this rule be reduced to "i before e" or discarded all together for there are too many exceptions.

Pupils are not taught rules in a formal way as in the past. Instead they are encouraged to discover the few rules that are really helpful to them.

Rules are not now taught as axioms to be memorized and the applied whenever they fit, but are developed by the pupils first word building activities, so that from the outset direct practice in the rule results. Half a dozen rules will suffice ordinarily, and these should be taught late rather than early in the child's school career in order to insure sufficient mental maturity for application of the rules when spelling is used in writing. The fourth grade is early enough for

the introduction of spelling rules.<sup>1</sup>

Foran's<sup>2</sup> conclusions regarding spelling rules are:

1. Only a few rules be taught.
2. Some rules should be taught because children will generalize what they have learned, and such generalizations should be directed as far as the spelling of English permits.
3. Only one rule should be taught at a time.
4. A rule should be taught only when there is need for it.
5. The teaching of rules should be integrated with the arrangement or grouping of the words in the textbook.
6. Rules should be taught inductively rather than deductively.
7. There should be ample reviews of the rules, both in the grades in which they have been learned and in the following grades.
8. Tests of knowledge of the rule should stress not so much logical precision as comprehension and ability to use the rule.

The teaching of homonyms presents considerable difficulty and the best method of teaching them is hard to define. Some educators believe they should be taught separately. Others believe that teaching them together gets the best results. Such words as "there" and "their," "eight," and "ate" occur in the early grades and are a source of much confusion.

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1. Hildreth, Gertrude, op. cit., p. 538.

2. Foran, Thomas George, op. cit., pp. 144-45.

The problem of teaching homonyms is that in some cases the two words of the pair occur in the same grade. In other cases one word may be placed in one grade and the other one in a different grade. They were placed there because one of the words is used more frequently than the other, and as frequency of usage is an important criterion for grade placement, it was felt that they should be separated.

Foran<sup>1</sup> believes that had the gradation of words been practical the two words will likely be placed in the same grade. If they are so placed they should be taught together. In teaching homonyms special emphasis must be devoted to the spelling of each of these words. It is also important that children understand the meaning of each. In some cases assistance is provided by some feature of the words which helps retention. For example, in the teaching of "their," children can be taught the partial similarity between it and "they." These devices are all right but the best method seems to be careful attention to the sequence of the letters and a large amount of practice to get lasting results.

Using this same principle of grade placement the root word and its simple derivatives should be taught together. For the spelling of the roots and the derivatives is so similar it would seem to be a mistake not to teach them together.

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1. Foran, Thomas George, op. cit., p. 41.

A discussion of methods would be incomplete without bringing up the question of time allotment. Lantham<sup>1</sup> made a study of the amount of time spent on spelling in sixty cities. The average time devoted to spelling was 78 minutes a week. Foran<sup>2</sup> maintains that between fifteen and twenty minutes a day will prove ample to secure spelling proficiency if suitable texts are used with proper methods of teaching. Methods of teaching spelling are more important than the time devoted to the subject. Horn<sup>3</sup> states that the time allotted for the study of spelling in excess of sixty minutes a week may be spent more advantageously in other areas. He feels that, in classes of pupils with better than average ability, the time allotted to the study of spelling may be further reduced.

One of the most discouraging aspects of teaching is the ease with which pupils forget material that has been taught. The curve of forgetting indicates that a large share of what is learned is soon forgotten. Stroud states that the amount of forgetting per constant unit of time is highly variable, depending on these conditions: the peculiarities of the subject, the nature of the material, the degree of learning, the method of learning, and the

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1. Lantham, Ray, "Time Allotment in Grades 1-6 in the Elementary Schools of 60 Cities." The Second Yearbook of the Department of Superintendence of the National Education, 1924.
  2. Foran, Thomas George, op. cit., p. 49.
  3. Horn, Ernest, "Spelling." Encyclopedia of Educational Research. New York: The Macmillan Company, 1941, p. 1181.

activities of the subject between learning and the making of the retention test.

Stegeman<sup>1</sup> made a study to determine the rate of forgetting in spelling. The speed with which the pupils forgot the words they had learned was measured. He found that the amount of time which had elapsed between the learning and forgetting varied from thirty minutes to thirty days. Each pupil seemed to have a different average rate of forgetting. The pupils who had been receiving the highest marks in spelling were the ones found to have the slowest rate of forgetting. Pupils who were classed as poor spellers had the quickest rate of forgetting. In this study he found that there was a very low correlation between spelling success and intelligence. Instead the rate of forgetting appeared to be more significant than intelligence in the process of learning to spell.

It was found that words repeated before the average time of forgetting were retained with less effort and with more accuracy than those words which were repeated after the average time for forgetting.

From this one can see the necessity of planning for reviews in the teaching of spelling as in any other subject. Adequate provision for frequent review may mean the difference between getting poor and superior results in the teaching of spelling.

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1. Stegeman, W. H., "That Spelling Problem Can Be Licked." American School Board Journal, 67, 1949, pp. 19-20.

Some reviews may be classified as incidental reviews. When a child uses the word in writing a story for some class or a letter to a friend, he is incidentally reviewing the word.

It is obvious that the amount of review of a word will depend upon the word's difficulty. Words which are frequently misspelled by children should be reviewed quite often. The modern way of teaching spelling provides for several reviews following the initial presentation. By using an entire week in learning a group of words, at least one study period and two testing review periods are provided.

Most textbooks provide additional review by giving in each spelling lesson a group of new words plus four or five review words. These review words have been selected from those which appear to be the most difficult of the words that were presented in previous lessons. Also many textbooks provide review lessons following five or six lessons. During this review lesson the entire week is spent in reviewing those words learned previously.

Besides the systematic reviews over the words learned previously, the teacher should encourage the pupil to keep a spelling notebook in which he will list those words needing review. Words which the child has particular difficulty in learning to spell and which are frequently misspelled should be placed in this list and the child should be encouraged to spend some of his spare

time in the attempt to learn these words.

Some teachers use dictation lessons as a form of review. The words are placed in sentences and paragraphs and the children write the sentences as the teacher reads them orally. Even though research has demonstrated the inferiority of context exercises as a means of learning new words, there may be some value of using it in review.

## Chapter V

### REMEDIAL SPELLING

In spite of the amount of research done on the various methods and techniques of spelling more is needed before teaching procedures become so effective that there is no need for remedial spelling. All schools have certain children which are classified as poor spellers. One of the first steps in remedial instruction is to discover why the child is a poor speller. There are many reasons why pupils fail to learn to spell. Some of these play important roles in the case of one pupil but are unimportant in other cases.

Perhaps one of the most frequent causes of spelling disability is poor teaching. The child has never been taught how to study his spelling.

Spelling failures are due to bad habits that are forced upon the child by the school in the attempt to teach him to spell. The means by which the school produces this result are as follows:

1. It uses methods by which it is impossible for certain children to learn and then insists that these children write words incorrectly over and over again.
2. Children are forced to write words in a limited period of time before the writing has become habitual.
3. Well established laws of learning are disregarded.
4. Negative emotions are aroused, due in part to the blocking of voluntary activity when the child fails to learn, and in part to the treatment he receives because of his failure. The entire activity of writing is negatively conditioned.<sup>1</sup>

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1. Fernald, Grace, Remedial Techniques in Basic School Subjects. McGraw-Hill Book Company, Inc., 1943, p. 183.

Several investigations have shown quite clearly that lack of efficient methods of study is one of the important causes of failure to learn to spell. Atkins<sup>1</sup> made a study of two groups of children. One group was high in spelling achievement, the other was very low. By giving a test of fifty words, scoring them and then giving the children ten minutes in which to study the list of fifty words, Atkins was able to determine the learning indices of each pupil. In order to study the work habits of pupils he selected some pupils with very high and some with very low indices and made a careful clinical study of how they studied their spelling. From his investigation he made these conclusions:

1. The outstanding characteristics of the study methods of children in spelling at the very high learning level are the presence of a very systematic and well organized plan of study. All these children used a number of the following techniques in studying their spelling, visualization, vocalization, transfer, syllabication, writing down the words on paper while looking at the mimeographed form and writing down the words on paper from memory.
2. The study methods of children having low learning indices reveals these weaknesses. There is a marked lack of systematic method, organization, and self-direction in the study of spelling in this group. Most of the cases show lack of concentration, lack of organized study, and lack of effective self-direction. Such devices as vocalization, syllabication, visualization and transfer were used but seldom, and then not very effectively.

As a result of having never learned the correct methods of study a pupil becomes indifferent and develops a bad attitude toward spelling. Through repeated failure the child is convinced

that he cannot spell, so there is little use of putting forth much effort in trying to learn new words. Dolch<sup>1</sup> suggests that the best way to get motivation is to get some success. Instead of using punishment for failure the teacher should attempt to motivate the child through self-competition. Also reduce the number of words in each spelling lesson to where the child can learn to spell them with a reasonable degree of success. To locate possible use of incorrect methods of spelling, one must discover how a child tries to study. Dolch<sup>2</sup> lists three ways in which this may be determined.

1. Asking the pupil how he studies his spelling lesson.
2. Inspect his spelling papers.
3. Have the pupils spell some words orally.

Davis<sup>3</sup> made a study of the difficulties encountered by pupils and the frequency of each difficulty. There were 275 pupils in grades three through six involved in the study. Remedial classes were held for these pupils and each pupil worked individually with a diagnosis of his difficulties in front of him. Each teacher

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1. Dolch, Edward William, Better Spelling. Champaign, Illinois: The Garrard Press, 1942, p. 52.
  2. Dolch, Edward William, op. cit.
  3. Davis, Georgia, "Remedial Work in Spelling." Elementary School Journal, 27, 1927, pp. 615-26.

maintained a record of practices that were found most helpful in assisting pupils to overcome their difficulties. The list of difficulties and remedial practices which proved most helpful are:

1. Has not mastered the steps in learning to spell the word.
  - a. Teach steps until every child knows them and uses them.
  - b. Study each word with the children.
2. Writes poorly.
  - a. Discover particular letters or combinations of letters that are difficult and practice on these letter combinations.
  - b. Practice words containing writing difficulties.
3. Cannot pronounce the words being studied.
  - a. Go over the words before the children study them so that every child will know what he is studying.
  - b. Help the child unlock words for himself.
4. Has a bad attitude toward spelling.
  - a. Supervise study closely so that the child will get into the habit of studying words correctly without wasting time.
  - b. Try to show need for study.
  - c. Give study work under time pressure.
  - d. Try to appeal to pride.
  - e. Try to work up competition with self.
  - f. Give reward.
5. Does not associate the sound of the letters or the syllables with the spelling of the word.
  - a. Teach letter sounds.
  - b. Listen to careful pronunciation.
  - c. Teach the child to syllabify words.
  - d. Say words slowly again and again to hear sounds.
6. Needs more time than can be devoted to spelling in the regular class.
  - a. Give more time after school or during the day when other work is finished.
7. Is discouraged because he misspelled so many words in the Monday test.
  - a. Take a few words at a time.
  - b. Study at odd times during the day.
  - c. Have the pupil stay longer in the afternoon than the others.

8. Has speech defect.
  - a. Listen to pronunciation.
  - b. Look at word carefully.
  - c. Teach difficult combinations.
9. Does not mark paper correctly.
  - a. Teach the child how to check.
  - b. Insist on rechecking.
  - c. Always check paper.
10. Interchanges letters.
  - a. Study words carefully.
  - b. Underline difficult part.
  - c. Try to spell by syllables.
11. Copies words incorrectly when studying.
  - a. Check the child closely during study until he acquires the habit of checking with correct form each time.
  - b. Give the pupil hectographed copy for comparison during study.
12. Is unable to remember a word for any length of time.
  - a. Go over words more frequently during study.
  - b. Review during spare time words previously studied.
13. Has poor hearing.
  - a. Move the child to the front of the room.
  - b. Stress steps in study other than those based on writing from hearing.
14. Writes so slowly that he cannot keep up with the class.
  - a. Write the word being dictated, leaving out the words missed.
  - b. Encourage the child to write faster.
15. Has poor vision.
  - a. Move the child to the front of the room.
  - b. Encourage the child to listen carefully as the teacher pronounces the word carefully.
16. Does not know the meaning of words.
  - a. Try to show the child the reason for knowing the meaning.
  - b. Go over words carefully during introduction.
17. Seems to learn only through eye.
  - a. Give special attention to steps involving the use of the eye.

The pupils remained in the remedial classes until they had made a perfect score on spelling tests for two successive Fridays. In follow up tests given after a short period of time all groups showed marked improvement.

Besides those disabilities which are caused by deficiencies of training, there are various physical deficiencies which may cause poor spelling achievement. The first two of these are classified by Gates<sup>1</sup> as defects of connecting mechanisms. Some children have poor visual perception and fail in discrimination of letters or combinations of letters. Other pupils have poor auditory discrimination and often fail to hear basic sounds in words. Pupils who have either deficiency are unable to associate the sounds within words with the visual patterns which represent those sounds. These students must depend almost wholly on memorization of the letter arrangement of words.

Hudson and Toler<sup>2</sup> made a study to determine what effect a remedial program of auditory discrimination and visual analysis might have on the spelling ability of poor spellers. A group of poor spellers was selected by means of a test. These pupils were given a systematic program of instruction in auditory discrimination and visual analysis. This program was not connected with the pupils' regular spelling period. At the end of four months another test was given and the words spelled correctly on the second test was almost double that on the first. Incidental learning no doubt

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1. Gates, Arthur I., "A Study of Reading and Spelling with Special Reference to Disability." Journal of Educational Research, 6, 1922, pp. 12-24.
  2. Hudson and Toler, "Instruction in Auditory and Visual Discrimination as a Means of Improving Spelling." Elementary School Journal, 49, pp. 466-69.

accounted for some of this gain but not all. One thing that should be remembered is that words on both tests were reasonable phonetic and the spelling gains were, therefore, in terms of spelling words that are reasonably phonetic. From this study they conclude that perhaps there should be increased emphasis placed on the association of auditory and visual patterns which make up words in order that children may generalize in trying to spell words for which they do not have clear images.

Gilbert's<sup>1</sup> flash card method of drill is a good example of how visual perception can be improved. By giving children only a few seconds to see the word and then having them write it, he got exceptionally good results. Another reason given for poor visual discrimination is stated by Blair.<sup>2</sup>

Newer methods of teaching reading do not require as much letter analysis as formerly. Children today are frequently taught in their reading classes to recognize words by their general configuration rather than by the "Spelling out Method." The word automobile, for example, is recognized because of its length and general shape rather than because it is spelled a-u-t-o-m-o-b-i-l-e. Formerly, pupils learned to spell practically every word they learned to read. Today pupils recognize words on the basis of just a few cues rather than by means of analyzing all letters involved. This is undoubtedly a superior method of teaching reading, but it leaves much to be desired so far as spelling instruction is concerned.

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1. Gilbert, L. C., "Experimental Investigation of Flash-Card Method of Teaching Spelling." Elementary School Journal, 32, 1932, pp. 337-51.
  2. Blair, Glenn, Diagnostic and Remedial Teaching in Secondary Schools. New York: The Macmillan Company, 1947, p. 267.

It seems from these studies that to help a child with poor visual perception, a teacher must either give the child instruction in visual discrimination or change the method which is used to teach the child spelling to one that uses the other senses more predominantly than visual perception.

One other cause of spelling disability which fits into this category is mental ability. For intelligence tends to aid a pupil in spelling as in any other school subject. Although by no means should one think because a pupil is a poor speller he is low in mental ability. Investigators have found that the correlation of spelling ability and intelligence is much lower than that found between intelligence and most other school subjects. Spache<sup>1</sup> made a study and located fifty-seven correlations which had been worked out between intelligence and spelling ability. He found the median correlation to be .44. This means that there are many poor spellers who are average or above in mental ability and vice versa. McGovney<sup>2</sup> made a study of superior children who had spelling deficiencies and they had I.Q.s ranging from 111 to 126.

One other group of defects or deficiencies which may cause spelling disability is defects of motor mechanism. Examples of

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1. Spache, George, "Characteristic Errors of Good and Poor Spellers." Journal of Educational Research, 34, pp. 182-89.
  2. McGovney, Margarita, "Spelling Deficiency in Children of Superior General Ability." Elementary English Review, 7, 1930, pp. 146-48.

these are poor handwriting, defective articulation and inappropriate eye movements.

Poor handwriting can account for some pupils' low spelling achievement. There is a tendency on the part of poor spellers to write the word poorly in order to cover up as many misspellings as possible. The procedure of writing illegibly to cover up spelling errors has the effect of increasing the number of words misspelled as they do not get the practice of the correct visual and kinaesthetic cues for the future writing of the word. Foran<sup>1</sup> states that the precision required in noting the letters of a word is greatly aided by the hand movements that are required in writing the word. By writing it so poorly that it is practically illegible, the child is losing part of his kinaesthetic experience from writing the word. Hildreth<sup>2</sup> suggests using printing outfits of the stamp type and the typewriter in helping children whose poor handwriting impedes progress in spelling.

Defective articulation or mispronunciation can cause spelling difficulty. Pupils who misspell words on the basis of sound rather than how they look often miss words which they mispronounce.

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1. Foran, Thomas George, op. cit., p. 201.

2. Hildreth, Gertrude, Learning the Three R's. Educational Publishers, Inc., 1947, p. 572.

For example, the pupil may spell the word "family" "famley," or "children" "childern." Kay<sup>1</sup> found that students who misspell and mispronounce such words quickly improve in spelling ability once the exact pronunciations have been learned. Children who have speech defects do not get the correct image of the word and it may be possible for children with speech defects to develop a technique of learning in which such images play only a minor part. Accurate pronunciation by the teacher, if repeated correctly by the child before he attempts to spell the word, helps call attention to word parts and their sound.

Inappropriate eye movements can cause difficulty in spelling as well as in reading. The investigation carried on by Gilbert,<sup>2</sup> where he photographed the eye movements of good and poor spellers, is an example of this. This study has been explained in some detail in Chapter IV. Drill by using flash cards, which had the words printed on them, was used to help remedy such cases by Gilbert with good results.

Once the child's spelling difficulty has been determined a remedial program may be set up. An example of how this has been carried out in one school is the remedial program set up by Davis,

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1. Kay, Marjorie E., "The Effect of Errors in Pronunciation Upon Spelling." Elementary English Review, 7, 1930, pp. 64-66.
  2. Gilbert, Arthur I., op. cit. p. 378.

mentioned earlier in the chapter. Another remedial program which was very successful was carried on in a school under the direction of Otto.<sup>1</sup> After selecting the children which were below their grade in spelling ability, each pupil was tested individually to determine what grade level he was to start working. The basic text used was the Horn Ashbaugh Speller.<sup>2</sup> Each child studied words at the grade level of his spelling achievement. As soon as he had learned all the words in one grade he moved on to the words in the next grade. This procedure was followed until the pupil had learned all the words up to the point at which the pupils in his own grade were studying; then he continued on with his class. If a sixth grade pupil started his remedial work with the words of Grade IV, he learned all the words listed in Grade IV and V and also that part of the sixth grade list that had been learned by his classmates during the regular spelling period. More than 87 per cent of the pupils were able to make measurable gains and many of them made progress which covered the work of several grades. More than 87 per cent also showed permanent gain over the summer vacation. The procedure used for this program was as follows:

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1. Otto, Henry J., "Remedial Instruction in Spelling." Elementary School Journal, 28, 1928, pp. 743-47.
  2. Horn and Ashbaugh, Spelling We Use. New York: J. B. Lippincott Company.

Monday. Twenty words were dictated by the teacher. After the words were corrected each pupil studies what he had misspelled. The method of study was that suggested in Lippincott's New Asbaugh Speller. When the pupil had studied the misspelled words until he thought he knew them, he was again tested on these words.

Tuesday. The twenty words of Monday's lesson and twenty new words were dictated by the teacher. The words were corrected and each child again studied the words he had misspelled and was tested on them.

Wednesday. The twenty new words of Tuesday's lesson and twenty additional words were dictated by the teacher. Correcting, studying and testing followed.

Thursday. The twenty new words of Wednesday's lesson and twenty additional words were dictated by the teacher. Correcting, studying and testing followed.

Friday. Each pupil was given the words he had misspelled at any time during the four preceding days. This furnished a final check on misspelled words. If any words were misspelled on Friday, they were carried over into the lessons of the following week.

A procedure which has been used with considerable success in teaching the most difficult cases to spell is known as the "Fernald Keller Kinaesthetic Method."<sup>1</sup> It is really a tracing method. The teacher writes the word which is to be learned in blackboard size script on a sheet of paper using a crayola for this purpose. The pupil is then told to trace the word with his finger, spelling out the letters as he traces it. He keeps repeating this until he can write it himself on another sheet of paper without looking at the copy. After he has mastered the word he writes it in a sentence. At first the child should use his fingertip to trace the word rather

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1. Fernald, Grace M., Remedial Techniques in Basic School Subjects. New York: McGraw-Hill Book Company, Inc., 1943.

than use a pencil. Fernald says that after a certain period of tracing, pupils are able to learn a new word merely by writing it out while looking at the written word.

The directions which Fernald gives to children whenever they are learning new words are:

1. Look at the word carefully and say it over to yourself.
2. See if the word can be written just the way you say it.
3. Shut your eyes and see if you can get a picture of the word in your mind. If you cannot get a clear picture of the word, you can remember the parts that are written the way you say them by pronouncing the word over to yourself or feeling your hand movements of writing the word.
4. When you are sure of every part of the word, shut your book or cover the word and write it, saying each syllable to yourself as you write it.
5. If you cannot write the word correctly after you have looked at it and said it, ask the teacher to write it for you with crayola on a strip of paper. Trace the word with your fingers. Say each part of the word as you trace it. Trace the word carefully as many times as you need to until you can write it correctly. Say each part of the word to yourself as you write it.
6. If the word is difficult turn the paper over and write it again.
7. Later in the day try writing the word from memory.
8. Make your own dictionary.

There are many other techniques and remedial procedures which are used but these should give the reader an idea of how to set up a remedial program.

## Chapter VI

### EVALUATING SPELLING ACHIEVEMENT

One purpose of a test is to evaluate instruction to determine the effectiveness of teaching methods. If tests are to serve their fullest purpose the teacher must teach, test, and then diagnose to discover the difficulties of her pupils, and then reteach in the light of the situation revealed by tests.

Few teachers are using tests to their full advantage. It is only by carefully constructing and using tests that measure accurately what has been taught that the teacher can determine the effectiveness of instruction. One of the first things to consider in either constructing a test or using a standardized test is the test's validity. By validity is meant the degree to which the test measures what it claims to measure. Validity then refers to the truthfulness of a test and is one of the most important characteristics of any test.<sup>1</sup>

A second criterion to consider in constructing a test is the test's reliability. By reliability is meant the degree to which the test agrees with itself. To what extent can two or more forms of the test be relied upon to give the same results, or the same test to give the same results if repeated.

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1. Ross, C. C., Measurement in Today's Schools. New York: Prentice-Hall, Inc., 1947, pp. 65-66.

One of the important functions of a test in spelling is to show individual differences in spelling ability which will give the teacher an indication of how to make adjustments to these differences. For example, some pupils may be able to spell all, or almost all, the words correctly on the spelling test given at the beginning of the term. Perhaps these children may be excused from the study of spelling to work on some other area.

A second function of spelling tests is to guide learning by discovering when pupils have mastered the words and when they need additional study and review of those words. A third function of the spelling test is to show what progress has been made during the semester or school term. Of these, McKee<sup>1</sup> maintains that the measurement of improvement is most important. He states that this test must be valid by testing only those things which have actually been studied and taught. This seems to be the criticism of standard tests and various spelling scales for the purpose of measuring improvement.

One of the first to attempt to construct a spelling scale was Ayres.<sup>2</sup> He made a compilation of four investigations of spelling

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1. McKee, Paul, Language in the Elementary School. New York: Houghton Mifflin Company, 1939, p. 437.
  2. Ayres, L. P., Ayres Spelling Scale. Russell Sage Foundation. New York, 1915.

vocabulary and obtained what was supposed to be the 1,000 commonest words. These 1,000 words were divided into fifty lists of twenty words each. Each list of words were spelled by the pupils of two grades in eighty-four cities. The 1,000 words were then divided into new sets of twenty words and spelled by pupils in four consecutive grades. In this way the scales have determined the difficulty of words at different grade levels. Other spelling scales have since been constructed using similar methods.

From these scales many standard spelling tests have been developed. These tests are supposed to measure spelling improvement. They do have norms for use in comparison. The scores showing the number right can be computed into approximate grade levels of achievement of each pupil in the class. This also indicated where a pupil stands according to grade when compared to average children in the public schools.

Standardized survey tests contain too few words at any level of difficulty to indicate the types of difficulty a child has in spelling. They were not meant to be used for diagnostic purposes, nor are the words the pupil missed on the test necessarily the ones he should practice in future spelling lessons.

One of the more widely used standard spelling tests is the Morrison-McCall Spelling Scales.<sup>1</sup> There are eight equivalent scales.

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1. Morrison-McCall Spelling Scale. Yonkers, New York: World Book Company.

Each is arranged in a modified sentence form. That is, the word is dictated, given in a sentence and repeated again. The pupil writes only the word, as the sentence is used merely to help clarify meaning. This test was designed for grades two through eight.

Each group or scale is made up of fifty words which were selected from the Buckingham Extension of the Ayres Scale. Both grade and age scores are included.

A second spelling test that is frequently used is the New Stanford Achievement Test.<sup>1</sup> This test has in it a dictation test for grades two through eight. It consists of 108 words arranged in sentence form with several test words in each sentence. All the words except some of the more difficult ones were taken from the spelling lists of Ayres, Buckingham, and Horn-Ashbaugh. The pupils are to write the complete sentences which are read slowly by the teacher. When dictating the harder words the teacher should encourage the pupils to do the best they can even though they cannot write all the words. Norms in terms of grade, age, and educational age are furnished.

A third standard test is the Public School Spelling Test.<sup>2</sup> This test can be used in grades two to eight. The words were

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1. New Stanford Achievement Tests (Spelling). Yonkers, New York: World Book Company.
  2. Public School Achievement Tests (Spelling). Bloomington, Illinois: Public School Publishing Company.

taken from the Iowa Spelling Scales. The words are in sentences and the pupils write the complete sentence from dictation. There is no time limit placed on the test but pupils are urged to write quickly. In scoring only the words in italics are to be counted. The misspelling of any of the other words in the sentences are disregarded. Age and grade norms are provided with the test.

These are several of the numerous survey tests which are available for testing spelling achievement in the elementary school. They are all useful in locating poor spellers and determining the extent of their retardation. They do not, however, indicate the types of errors that a pupil makes. Few spelling tests have been constructed which may be called diagnostic.

One such spelling test is the Gates-Russell Spelling Diagnostic Test.<sup>1</sup> This test has nine parts which are: (1) spelling orally, (2) word pronunciation, (3) giving letters for letter sounds, (4) spelling one syllable, (5) spelling two syllables, (6) word reversals, (7) spelling attack, (8) auditory discrimination, and (9) auditory, kinaesthetic, and combined study methods. There are grade norms for each section of the test. It can be given to only one pupil at a time but this is the best method to determine a student's disability.

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1. Gates-Russell Spelling Diagnostic Test. Published by the Bureau of Publications, Teachers College, Columbia University, New York, 1937.

Another diagnostic test is called the Diagnostic Spelling Test.<sup>1</sup> Four forms are available with one hundred words in each form. These words have been arranged so as to discover pupil difficulties in the following areas: (1) mispronunciation, (2) the ie-ei rule, (3) the y to i rule, (4) final e before a suffix, (5) double consonant before a suffix, (6) demons, and (7) English prefixes and suffixes. These are not all the difficulties that children have in spelling but the test would be helpful in these areas listed.

There has been some criticism of standardized tests because many of these tests are made up of words which are not commonly used by either adults or children. The test makers maintain that it is occasionally necessary to use words which are used less frequently in order to get a proper range of difficulty.

Lord<sup>2</sup> made a study to determine the curricular validity of the Standard Achievement Dictation Test. From this study he found that many words were included that were not found in the ten thousand words of Horn's List. Between eleven and nineteen per cent of the words, depending on the grade level, were not included in the Basic Writing Vocabulary.

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1. Diagnostic Spelling Test. Published by the Educational Records Bureau, 437 West 59th Street, New York, 1942.
  2. Lord, F. E., "Curricular Validity of the Stanford Achievement Dictation Test." Elementary English Review, 8, 1931, pp. 113-16.

Foran<sup>1</sup> states that the presence of such spelling words can only be justified on the basis of the necessity for providing words of sufficient difficulty for the most proficient spellers. Since some eighth grade pupils spell unusually well, their ability would not be accurately measured by a test on which they spelled all words correctly.

Investigations have been made on the subject of the form of spelling tests. There are many different ways in which spelling tests may be arranged. Foran<sup>2</sup> lists eight different forms which have been used in constructing tests.

1. List method. Each word is dictated separately and without illustrative sentences.
2. Sentence method. The words are included in sentences and the entire sentence is written although only the test words are scored.
3. Writing the words in blanks left in printed sentences.
4. Modified sentence method. Each word is pronounced, used in a sentence, and repeated singly for the children to write.
5. True-False form. Correctly spelled and incorrectly spelled words are listed and the student is directed to indicate whether the word is spelled correctly or incorrectly.
6. Recognition type. The correct form and several incorrect forms are presented with directions to mark the incorrect form.
7. Recognition of a misspelled word. Five or any other

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1. Foran, Thomas George, op. cit., p. 177.

2. Ibid., p. 179.

number of words are included in an item and one of the several words is misspelled. The child is directed to mark the misspelled item.

8. The misspelled words in a continuous narrative are to be checked and are to be corrected. Two scores are possible with this type of test, one for identification and the other for identification plus correction. Such tests are very seldom used for one encounters numerous difficulties, including the procedure to be employed with words that were correctly spelled but marked as incorrect by the pupil.

The form of the spelling test which has been employed most frequently in measuring the spelling ability of children is the modified sentence method. In giving this test the teacher dictates one word at a time to be written by the pupil, an illustrative sentence is used to clarify meanings of the words.

Northby<sup>1</sup> made a study of five different forms of spelling test. He selected his words from the Iowa Spelling Scales and constructed these five tests: (1) story form, (2) timed dictation, (3) list form, (4) multiple choice, and (5) oral forms. These five tests were given to forty-three pupils in the sixth grade. From this study Northby concludes that on the basis of consistency of misspelling, the list test seems to be the best for survey purposes. If a pupil knows a word, the chances are greater on this type of a test that he will spell it correctly and if he does not know the word, the chances are greater that he

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1. Northby, A. A., "Comparison of Five Types of Spelling Tests for Diagnostic Purposes." Journal of Educational Research, 29, 1936, pp. 339-47.

will spell it incorrectly. A recognition, or true-false test, gives more opportunity for guessing and the children may get many words right that they don't actually know how to spell. It may be that the results were influenced by the fact that pupils were used to taking a list form of test.

Northby found that there were considerable differences between the results on the five tests. For example, some words were found easier to spell on one form of a test than on another. In general, the timed dictation and story forms of tests appeared the most difficult and the multiple choice the easiest. Some pupils could write a word correctly but could not spell it orally. Others were able to recognize a word correctly which they could not spell. From this Northby concludes that the situation in which a child uses the word is an important factor to take into consideration.

Brody<sup>1</sup> made a similar, but more extensive, study of different forms of spelling tests. This study involved 1,200 students in grades four through nine in the Minneapolis Schools. His findings in regard to difficulty were similar to those found by Northby. But he carried his investigation further to determine the effects of variation of paragraph context upon spelling difficulty in both

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1. Brody, D. S., "A Comparative Study of Different Forms of Spelling Tests." Journal of Educational Psychology, 35, 1944, pp. 129-44.

recognition and recall tests. He found that children can detect misspellings among words he cannot spell. When most of the words are known in the paragraph context, the child fails to detect more misspellings than if the context contains many difficult words; for his proof reading ability will be reduced in proportion to the distraction provided by the situation. Brody states that the list, sentence, and paragraph tests evidently measure the same abilities, although the recall and recognition tests do not.

These studies indicate that the form of the test influences the results obtained. Foran<sup>1</sup> states that the modified sentence test has the advantage of validity, reliability and economy of administration and scoring. Under these circumstances he maintains that only in special situations would it be justifiable to use a recognition test such as a multiple choice or true-false test for any form of a recall test.

Cook<sup>2</sup> made a study to determine the reliability and validity of seven forms of spelling tests. His tests were carefully constructed and compared with one another. The criterion for checking validity was the scores of nine hundred pupils on a hundred and fifty word dictation test. The reliability was measured by the split-half method. He found that the recall tests

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1. Foran, Thomas George, op. cit., p. 183.
  2. Cook, W. W., "Measurement of General Spelling Ability Involving Controlled Comparison between Techniques." University of Iowa, Studies in Education, Vol. 6, No. 6, 1932.

were, without exception, more valid than the recognition tests. To be reliable Cook discovered that a recall test must contain at least fifty words. The recognition right or wrong tests would have to include one hundred and twenty or more words.

Horn<sup>1</sup> states that tests constructed for teaching purposes fall into three main groups. They are: (1) tests for classification and measurement of children's progress during the term, (2) those used to guide the learning of any assignment unit, and (3) those used for special diagnostic purposes.

The term test should be reliable and validity related to the term's work. Both of these are reasonably met by a fifty-word test sampled from the lessons about to be studied. Pupils who spell all or nearly all these fifty words may be excused from regular classroom work. Pupils who make a large number of errors are shown at once to be in need of special help by the teacher. The data for making the tests comparable both in range of difficulty and in average difficulty may be obtained from the standard accuracies provided in spelling scales. Tests made by sampling words from standard scales without reference to words included in the course of study are often improperly used for the measurement of growth for these reasons. (1) Many of these scales contain words of low social usefulness, (2) and the sampled words are likely to duplicate only to a small extent those taught during the term.<sup>2</sup>

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1. Horn, Ernest, "Spelling." Encyclopedia of Educational Research. New York: The Macmillan Company, 1941, p. 1182.
  2. Ibid., p. 1181.

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