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Study of eighth grade spelling in the Lincoln School Livingston Montana

Frederick Lloyd Posey

The University of Montana

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A STUDY OF EIGHTH GRADE SPELLING IN
THE LINCOLN SCHOOL, LIVINGSTON, MONTANA

by

FREDERICK POSEY
B. A., Montana State University, 1949

Presented in partial fulfillment
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James E. Short
Chairman, Board of Examiners

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CHAPTER I

INTRODUCTION

Although the three R's no longer adequately describe the curriculum of America's schools, they still remain the basis of our education. Spelling, an auxiliary tool to reading, is also a fundamental which must be mastered to some degree if formalized education is to continue. The ability to read is still the most common means of gaining knowledge, both in the classroom and out. To read, one must be able to recognize the letters and syllables that comprise the words; this is spelling. Writing requires the same ability to combine letters properly. If this fundamental ability is lacking, neither reading nor writing can continue with any marked degree of competency; therefore the entire process of education is slowed to a minimum. Spelling is a tool, but tools are necessary in the building of all structures.

The following statements illustrate the philosophy in one spelling textbook.¹

1. All man's ideas, ideals, and achievements are recorded in words.
2. There are in the life of us many situations which demand written expression.
3. Spelling is of value whenever one has a need to write something.
4. Therefore, spelling is an important phase of education.

Spelling for spelling's sake is gradually being eliminated from the modern school. The goal of champion speller of the class, the school, or the county is no longer looked upon as being desirable or worthwhile. The spelling teacher of today seldom mentions such a reward as being worthy of the effort required. Instead, many schools look upon spelling as merely an auxiliary to grammar rather than as a fundamental skill. This modern trend shows validity in the respect that the memorization of uncommon multi-syllabic words without the knowledge of definition or use is of little practical value in the school or in everyday living. The use of many common words that will benefit the greatest number of students in school and out is a step in the right direction. This shift of emphasis is verified by Esther J. Swenson and Charles G. Caldwell in their article "The Content of Children's Letters." They state:

The prestige of the champion speller is somewhat less than it was when the winner of a community spelling bee was an individual to be envied, both socially and educationally. Today, most persons regard spelling as a practical tool of written expression, and for the past few decades, educators have been fairly well agreed that a practical view of spelling favors a trend toward (1) teaching fewer and more commonly used words and (2) teaching those words better.²

In Lincoln school, Livingston, Montana, this lack of emphasis on spelling has, however, tended to result in less attention to spelling as such, and consequently, a lower

level of achievement in that subject. The desire to raise the spelling achievement level of the Lincoln school eighth grade by bringing about a better understanding of the words, resulted in the present project.

SETTING OF THE PROBLEM

Previous methods: (1) In determining previous methods used in teaching spelling to eighth graders, the superintendent was consulted and a course of study set up by the school was inspected, but the fact that previous eighth grade spelling teachers had gone elsewhere made a complete account of their methods impossible. However, it is known that a spelling text had been followed. (2) Another reported method used in previous years consists of assigning an arbitrary number of words per week, and then evaluating the amount of learning by a test covering the assignment. (3) Other teachers have made use of frequent spelldowns and other contests, but no one known method was discovered that centered entirely around a program of word understanding, such as the one used for this study.

Test data: (1) The figures quoted from the Stanford Achievement Test are given by years and months, thus indicating exactly where each student stands in regard to the group, the class as a whole, and the national norm. (2) The overall achievement of the eighth grade groups being tested

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\(^3\)Truman L. Kelley, Giles M. Ruch, and Lewis M. Terman, "Stanford Achievement Test, Advanced Battery Form E," (New York: World Book Company, 1940)
was seven months above the national norm as computed by the Stanford Achievement Test. The achievement level of the same groups for spelling alone was four months below the national norm.

STATEMENT OF THE PROBLEM

In the past few years, eighth grade pupils of Lincoln School have scored average or slightly below the national average on the Stanford Achievement Tests, while the total achievement in all subjects was from six to eight months above the national norm. In 1952, the national norm for total achievement on the eighth grade level was 8.1 as compared to a total achievement of 8.8 for the Lincoln School eighth grade group. The comparable national spelling norm was also 8.1, but the spelling achievement of the eighth grade class of Lincoln School was only 7.7. This seems to indicate a deficiency in methods of teaching spelling, rather than a lack of capacity on the part of the pupils. This inability to spell has often been noted by teachers of other subject matter courses, such as history and English, where essay tests and other forms of composition are required.

The problem is, therefore, how to teach spelling in the eighth grade so that the achievement level might approximate that of the Pupil's overall achievement, and give them a better tool for use in other subject matter areas.

PURPOSES OF THIS STUDY

The purposes of this study were: (1) To evaluate the
methods of teaching spelling of the author. Complete originality, of course, is impossible; and the overlapping of techniques and methods is evident. The prime objective of the method employed is to combine compatible techniques into a system that would help perpetuate the letter sequence of the words in the minds of the pupils as well as displaying some variety in meaning and usage. (2) To discover the amount of success derived from this method of teaching. Such a small sampling taken over so short a period of time can only be indicative, and must in no sense be construed as representing a final analysis. (3) To determine how effective this method was by comparison on a basis of the Stanford Achievement Test. In making this comparison, Form E of the Stanford Test was the only form used. A different form of the test has been used by Lincoln School each year.

**Delimitations of the field of study:** (1) Restricted to 118 students of the eighth grade classes of Lincoln School, Livingston, Montana. (2) Evaluation of results restricted to norms set up by Form E of the Stanford Achievement Test.

**Importance of the study:** (1) To find if the level of achievement of eighth grade pupils in Livingston schools can be raised sufficiently by this method in the light of comparison with the Stanford Achievement Test. (2) To give other educators a sample plan which they may adopt, or which may aid them in the construction of a more efficient method of teaching spelling.
CHAPTER II

REVIEW OF RELATED LITERATURE

Concern over the ability or inability of school children to spell properly, is evidenced by the great amount of literature that has been published in recent years. Some of this literature is purely critical, but a great amount represents numerous research studies conducted for the purpose of discovering methods that will bring positive results. To date, no single method has been devised that meets the needs of every spelling teacher, nor is there such a method to which all authorities will subscribe in its entirety. However, progress does seem evident. This statement is based upon the fact that many of the recent experiments in this field have produced synonymous results and conclusions. Long lists of "dos" and "don'ts" in the teaching of spelling are merging into a smaller set of positive rules which seem to have the approval of most persons concerned with the teaching of spelling. Discord as to the specific techniques can always be expected, but a general agreement on basic needs and processes appears to be reaching a point of convergence. William Stegeman\(^1\) confines these techniques to six factors which he believes, if handled properly, will form a complete spelling program. These six factors are: (1) vocabulary, (2) teaching procedure, (3) incidental learn-

ing, (4) efficient methods of learning, (5) diagnosis of ability, and (6) functional spelling.

Mr. Stegeman points out the fallacy of depending upon spelling rules as an answer to the problem of teaching spelling. His contention is that any method must include personal needs and individual instruction. He believes that most teachers sacrifice spelling time for use in other subjects. To him the allotment of time for each subject should be based upon the need for training in that area. He further asserts that any teaching procedure must include: (1) an initial method of learning words, and (2) a procedure of word maintenance. His following statements seem to summarize his program quite adequately.

"Using and learning the words as they are needed in writing should be the guide for teaching procedure. Learning a list of words is not a spelling program."

Such a statement bears out the idea that spelling is not something we teach during a thirty or forty-minute period each day and then forget. Whenever children write, they have a need for spelling. Whenever the need for spelling arises, the teacher should seize the opportunity to develop proper attitudes and habits of fulfilling the need; for much time is needed to help each child develop the habit of checking all of his written work for misspellings. This idea is also brought forth by Evelyn Wenzel, who says:

\[2\] Ibid., p. 20.
Let spelling become a habit, but not a habit in the sense of simple unthinking stimulus-response. Let the spelling of a doubtful or unfamiliar word be approached as a problem. English is an experimental rather than a phonetic language anyway.\(^3\)

Wenzel approaches the concept of spelling as a social asset, or as a tool to interpret one's self more accurately and adequately to others. This concept, she implies, can be brought about by teaching the child to think out spelling rules, sounds, and problems. The child must accept spelling as a skill instead of a drill. She also adds a common sense word of caution to all teachers by reminding them that they cannot expect perfection from children, and should not consider it as a goal.

The various scientific studies that have been conducted in recent years to determine the causes of good or poor spelling follow similar procedures and have reported very similar findings. A typical example of this type of research took place in South Bend, Indiana. A summary of Byron C. Kirby's\(^4\) article describing the experiment is as follows:

After administering a spelling test that did not meet an expected standard, the spelling committee of the South Bend, Indiana, Public Schools set out to remedy the situa-


tion. The group adopted six lines of procedure, which were: (1) conducted research to find rooms making lowest per cent of errors, and rooms making highest per cent of errors, (2) conducted a study to find and analyze methods used by fourteen teachers who had the lowest per cent of errors, (3) compiled a list of causes of poor spelling, (4) worked out suggestions for improving spelling, (5) analyzed a similar study, and (6) studied other known methods. The methods used by the more efficient spelling teachers were very similar to the methods stressed in the research reports they analyzed. Using these combined reports, the committee formulated a plan for teaching spelling.

The major steps of their plan read as follows: (1) Create a desire on the part of the child to improve his spelling. (2) Spelling should be taught five days per week. (3) Observe the daily time allotments suggested. This was from eighteen to twenty minutes per day. (4) Applied spelling should be used as much as possible. (5) Formulate procedures that should be used in teaching spelling. (6) Give frequent, systematic, and continuous reviews. There should be review words in each lesson. (7) Rules and exceptions should be taught when they are necessary.

Under such headings as applied spelling and procedure in teaching spelling were listed the common beliefs that all teachers should stress spelling, spelling and writing should be checked carefully in all written work, familiarity with words increases with plenty of practice in seeing,
hearing, and saying these words. Meanings should be stressed, children should be taught to divide words into syllables and children should be able to use the words in sentences.

The first semester that the committee worked on spelling, the amount of error for the eighteen elementary schools of South Bend was reduced seven per cent.

A variation of the South Bend experiment was carried on in the public schools of Tulsa, Oklahoma. A major difference in approach is noted, however, in that the method to be employed was pre-determined. This method was based upon a remedial auditory and visual program that was a supplement to the regular spelling program, rather than a part of it. In an article by Jess S. Hudson and Lola Toler, the process was explained. They stated:

Many pupils often fail to hear basic sounds in words. Others fail in visual discrimination of letters or combinations of letters. Pupils who have either deficiency are unable to associate adequately the sounds within words with the visual patterns which represent those sounds. Consequently, in learning to spell, these pupils must depend almost wholly on memorization of letter sequence.

Work on the Tulsa experiment began by selecting a group of poor spellers by means of an initial test. This group was given a systematic program of instruction in auditory discrimination and visual analysis. Fourteen teachers in grades four, five, and six were selected for participation.

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The work on auditory and visual analysis was done entirely apart from the regular spelling lesson, and no effort was made to associate in the pupils' minds this remedial work with spelling. At the close of the instruction period, two final tests were administered. These tests were reasonably phonetic, so the gains were in terms of spelling words that could easily be sounded out. All but six of the groups made gains within a range of 4.4 and 7.7 per cent. These figures demonstrate that an awareness of the sight and the sound of words does improve one's ability to spell.

Although the mental association connecting the sight of a word with its corresponding sound does seem to be a major factor in the learning process, it must not be considered the only element in the spelling program; for a good spelling program must be complete and comprehensive enough to fulfill the needs of all the pupils. Of course, there are probably as many ways of teaching spelling as there are spelling teachers; nevertheless, there are some common methods, rules, techniques, and procedures that are a part of every effective spelling program. Sooner or later this conclusion is reached by almost everyone who studies the techniques of teaching spelling. Mr. Artley⁶ not only arrived at the same decision, but also concluded that he should do something to alleviate the situation. Because

he believed that the spelling ability of modern children was decreasing, Mr. Artley decided to find the cause of the deficiency and a means of improvement. He studied many previous experiments and presented five generalizations which he believed could aid many teachers having difficulty in the teaching of spelling. These five generalizations are:

(1) Each child develops at his own individual rate, and spelling instruction must be differentiated in terms of his rate of development. (2) A spelling vocabulary grows out of the need for expression rather than from a prepared spelling list. (3) Spelling, like any other subject in the curriculum, has to be taught. (4) Spelling has been effectively taught to the extent that the learner has been made independent in his spelling ability. (5) Spelling instruction is more effective when the child has a favorable attitude toward spelling—when he has the desire to spell acceptably.7

Mr. Artley also believes that the classroom teacher has a great amount of scientific data relating to spelling available if the teacher is willing to make use of former research, but his conviction is that the average teacher is either ignorant of these data or is unwilling to put forth enough effort to incorporate these findings in an already established program. This position is strongly supported by Orville Nordberg8 who carries the point even further. Mr. Nordberg asserts that most teachers are unaware of the scientific research that has been carried on, and should be taught the proper methods of teaching spelling. In his

7Loc. cit.
opinion, training in methods of teaching spelling should be an integral part of every teacher-training program. He concludes that spelling cannot be taught successfully in a hit-or-miss fashion. He also states that a combination of many methods is not necessarily good unless it is the right combination. In his own words:

Spelling, as a perceptual learning, demands efficient teaching. It cannot be learned well if it is taught haphazardly or with disregard for the known implications of research. It now appears that the training of secondary-school language-arts teachers may require a more forceful attention to the teaching of basic skills.9

By the foregoing descriptions and quotations, the author of the present project has attempted to substantiate his personal views regarding the proper methods of teaching spelling. The culmination of the several general conclusions drawn from previous research into a practical program is the goal that this study is trying to attain.

9 Ibid., p. 155.
CHAPTER III

BACKGROUND AND PROCEDURE OF STUDY

Livingston, Montana. Livingston, Montana, the county seat of Park county, is a small city with a population of 7,683, as numbered in the 1950 census. The city government is of the mayor-counsel form. Livingston is situated in the Yellowstone valley where, due to its geographic location, it is often described as the "Gateway to Yellowstone Park."

Highway number eighty-nine connects Livingston with Gardner 56 miles to the south and Great Falls 173 miles to the north. The major cities that are connected with Livingston via highway number ten are Bozeman, 26 miles to the west and Billings, 116 miles to the east.

The greatest single source of revenue, as well as the chief means of livelihood in Livingston, is the Northern Pacific railroad. Being a division point on that railroad, Livingston has many large maintenance and repair shops located within the city. These shops offer employment and training in such jobs as riveting, welding, various forms of steel and iron work, and other jobs that apply to railroad construction. The extensive yard forces, telegraph operators, warehouse crews, and depot personnel employed by the Northern Pacific railroad, give the local school children an indication of the employment possibilities of that area. Much of the common labor force, such as section crews and -1-
other gang laborers, is composed of transient workers.

Another primary source of livelihood in the Livingston area is agriculture. Many small irrigated farms can be seen in the valleys close to the city, but the large sheep and cattle ranches of the neighboring vicinity produce greater monetary returns.

From June to September, the tourist trade thrives in Livingston. The proximity of Yellowstone Park and the extension of two highways and a railroad through the city make it an excellent site for motels, service stations, and curio shops. Some of the local attractions include a trout derby held the second Sunday in August, saddle and chuck wagon tours, rodeos, natural hot springs, and big game hunting.

Although the state law prevents school children under the age of eighteen years from being employed in many of the local industries, the variety of occupations represented serves an educational function. The formal educational institutions of Livingston include four elementary schools with a fifth under construction, Lincoln school, and Park County High School. Each elementary school is composed of grades one through five, except Lincoln school which is composed of grades six through eight. St. Mary's, a Catholic parochial school in Livingston, includes all grades from one through eight.

**Lincoln School.** Lincoln School has an enrollment of 375 students, and a teaching staff of fifteen teachers who
represent both the elementary and the secondary levels. The building is not connected to any other structure within the school system, and, consequently, avoids the usual problems that arise whenever a junior high school group is located in the same physical plant that houses an elementary or high school group. Due to the fact that the school includes grade six as well as grades seven and eight, it cannot be termed a true junior high school; however, Lincoln School is fully accredited by the State Department of Public Instruction. The influx of students from all of the elementary schools in the city has increased to such proportions, that the Lincoln building can no longer adequately accommodate the large enrollment. To remedy this critical situation, plans are being made to leave one group of sixth grade children in another building next year and, sometime in the future, the entire sixth grade may be removed.

Because Lincoln is a departmentalized school, the curriculum follows the traditional subject matter fields quite closely. The subjects of grammar, reading, spelling, arithmetic, history, civics, science, and penmanship are supplemented by courses in home economics, shop work, physical education, music, dramatics, and newspaper work. The time assigned to each class period may range from twenty to fifty minutes in length.

A system of home room grouping is established to carry on the necessary functions of checking attendance, keeping individual records, and directing group social and
recreational activities. The three grades occupying the building are divided into twelve home room groups. From thirty to thirty-five pupils are assigned to each home room teacher. This does not mean that each teacher instructs the home room group in all subjects. Actually, few teachers in the entire school teach more than two or three courses of study; and a few of the more specialized teachers, such as the music teacher and the shop teacher, confine their instruction to one subject matter field.

Procedure. At the time this study was being made, no other known study of spelling was being made in Montana. The only other known study of spelling made in Montana previous to the present project was conducted by Merle W. Tate in 1944. Mr. Tate's thesis, the Factor Analysis of Spelling Ability, was not concerned with any method or combination of methods that might constitute an entire spelling program. Instead, the theme of his project was devoted to the process of analyzing the individual factors that make up the intangible faculty known as ability. The present study is primarily concerned with the methods and techniques that can be successfully combined to form a good spelling program.

The data treated in the present study include methods employed in the teaching of spelling to eighth graders in Lincoln school, Livingston, Montana, over the 1952-53

school term. The statistics compiled from test results were obtained by administering Form E of the Stanford Achievement Test on October 6, 1952, and repeating the same test on May 25, 1953.

The spelling program explained in this study is based upon a five-day school week, and embraces seven major techniques, which are: (1) word selection; (2) sight and sound acquaintance with words; (3) division of words into root, prefix, and suffix; (4) definition, synonyms, and homonyms; (5) word games; (6) tests and corrections; and (7) the keeping of a notebook. The following day-by-day plan was used.

Monday program. The program each Monday was primarily concerned with the selection of the words that were to be used for the weekly spelling lesson. The most common sources were the spelling text, Webster Speller Grade Eight, words that the pupils or the spelling teacher found misspelled in the students' daily work, and The 2000 Commonest Words for Spelling.

The weekly list of words included twenty new words and the five most commonly misspelled words of the previous lesson. The five review words were selected from all four eighth grade groups. If any or all of the same words were

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2 May B. Lambader, William Kottmeyer, and Rose Wickey, Webster Speller Grade Eight (St. Louis: Webster Publishing Company, 1940)

included in the review list the following week, they were repeated again and with additional emphasis. When the weekly list had been compiled, each pupil was required to write the list on a sheet of paper. The teacher pronounced and spelled each word in turn, keeping close check with a dictionary for complete accuracy. Selecting the words from the list by number, the teacher called upon one individual at a time to pronounce and spell the word orally. If the pupil made an error, he was immediately corrected by the teacher and required to repeat the word until he was correct. This procedure was continued until each student had recited. Then, with the help of a dictionary, the pupils were required to look up the words and divide them into syllables. Care was taken in the correct placement of accent marks. The purpose of this entire procedure was to create an auditory and visual association.

**Tuesday program.** The Tuesday program consisted of reducing words to their component parts. The written list from the previous day was again used. A dictionary was also employed. The word was divided as to root, prefix, and suffix. Since some prefixes and suffixes are common to many words, tests covering these beginnings and endings of words were sometimes substituted for the regular assignments.

When the class appeared to have a reasonable understanding of the root words and their additional parts, the members were required to create new meanings by an interchange of the composite parts of the various words.
Wednesday program. The Wednesday program was built around the meanings and the uses of words. To teach spelling words without their corresponding definitions is little better than teaching any combination of nonsense syllables. Words are tools with uses that are necessary and real. To possess the tool and be ignorant of its use is a waste of time, effort, and material; therefore, meanings of words are an essential part of this program.

The plan of finding definitions may vary with the text, the sequence of weekly lesson plans, or the desire of the teacher or class. Since some textbooks are organized with study-help plans, the use of synonyms or definitions might be included. Such books usually contain a dictionary section that includes all spelling words listed in the text. If this is not the case, almost any standard school dictionary will suffice; and for the sake of variety, a change in the type of meaning is helpful. That is, a regular definition could be used one week, a synonym the next, a homonym the following week, and so on. The sole purpose of such an assignment is to develop in the pupils an understanding of words, word meanings, and their uses in sentences.

When all of the words of the weekly lesson had been properly defined in accordance with their various meanings, the pupils were again called upon individually. Each was asked to give a synonym, an antonym, or a homonym, or to use the word in a sentence that demonstrated the meaning of the word. Each member of the class was given an opportunity
to recite, and many misunderstandings were discovered in this manner. The students retained their lists of words and definitions for further study.

**Thursday program.** During the time that this study was in progress, Thursday was set aside for game day in the eighth grade spelling class of Lincoln School. Any other day could have been chosen, or the day could have been changed from week to week, but the teacher found that the children enjoyed a change from the usual lessons more when it came just before the test, which was given every Friday.

The games used were not all original. Some were very common, but others require a word of explanation. Some of these spelling games were: (1) the spelldown. This device was not used very often, and was most effective when one class could be pitted against another or when the boys competed against the girls.

(2) The spelling race. This seemed to be the most popular game over the longest period of time. The group was divided into two sections. The division was usually made by captains who were selected from the group and who chose their teams alternatingly. One member from each group would go to the blackboard, the teacher would pronounce a word, the contestants would write the word as rapidly as possible, and the first one finished would win, provided the word was spelled correctly. The winner would then spell the word orally. If the winner misspelled the word, the other contestant would win provided that he or she had spelled the
word correctly. If neither spelled the word correctly, no point was given to either side.

A variation of this game provided for individual competition rather than team competition. Under this system, the winner remained at the board until defeated. The loser had the privilege of choosing the winner's next competitor.

(3) "Spelling baseball." Teams were chosen by captains as previously explained. Each team selected a score keeper who stood at the board. The team that was up to bat did the spelling, while the other team pitched the words. The words were selected from the weekly list or previous lists. Each person who misspelled a word had one strike, and three strikes constituted an out. When one team incurred three outs, the opposing team did the spelling. If the word was spelled correctly, however, the person spelling the word moved ahead one base. When four words had been spelled correctly, the first person would reach home, giving his team one point. Each additional word correctly spelled from then on added another point until the opposing team got up to bat.

(4) Matching words and definitions. The spelldown and this game differed only in the respect that the person opposite the one spelling a word had to give the definition of the word if his competitor spelled it correctly.

(5) "Toss words." Thirteen cubes with a letter on each facet and a box for shaking the cubes were used for this game. The cubes were shaken in the box and released upon a desk. The letters that were facing upward were written on
the blackboard. The students were then required to construct as many words as possible from the letters given, but no letter was to be repeated in any one word unless it appeared more than once on the blackboard. A time limit of three or five minutes was set, at the end of which all stopped working. The one with the greatest number of meaningful words at the end of the time limit was the winner. The cubes were then recast, and the game was repeated with the new letters.

(6) Cross word puzzles. This technique was not used very often due to the time consumed and the difficulty of finding puzzles of a suitable level.

The foregoing games and variations thereof were the most common spelling devices constituting the Thursday spelling periods.

Friday program. A test covering the words and meanings of that particular week was usually given each Friday. Often, students would exchange papers, and correct each other's tests by checking their weekly word lists or by listening to the teacher who gave the correct answers. The test papers were then handed in to the teacher, who again checked them for additional errors or errors in correction. Errors in correction were subtracted from the score of the student who had failed to make the correction, thus keeping the students alert and aware of mistakes. This practice also discouraged cheating on the part of persons wishing to help their friends.
On the following Monday, the test papers were returned to the owners. Each pupil was required to keep a spelling notebook, in which he or she entered each misspelled word correctly with its corresponding definition. The notebook served as an additional review of the words that were the most difficult for each student. Occasionally, review tests were administered to discover the words that were the most frequently forgotten.
CHAPTER IV

PRESENTATION OF FINDINGS

The Stanford Achievement Test: All data used in this study were determined by the use of form E of the Stanford Achievement Test. Alternate forms of this test have been used from year to year by Lincoln school to determine achievement in the various subject matter fields measured by the test. The merits of the Stanford Tests as measuring instruments are discussed by Ralph C. Preston for The Third Mental Measurements Yearbook. Following are his analyses of the tests.

The care with which the Stanford Achievement Tests have been constructed places them among the very best of comparable tests. Most of the items in this second revision are new and have survived a rigorous scrutiny. Schools that contemplate the use of the Stanford Achievement Tests at the intermediate or junior high school levels are strongly urged to procure the Partial Batteries. These have not been surpassed as tests of the skill subjects and do not include the content subjects with their questionable clarity, emphasis and scope.¹

To understand these tests more thoroughly, one must know something of the history, research, type of items used, standardization, and type of construction that compose the Stanford Tests. These details are also described in The Third Mental Measurements Yearbook by Walter W. Cook.

These tests constitute the second extensive revision of the pioneer among standardized achievement test

batteries.
The second revision (Form D, E, F, G, and H) may more accurately be described as five new forms. Approximately eighty per cent of the items are new. Some changes have been made to facilitate administration and scoring, but the nature of the tests is not essentially changed. Six of the tests, Word Meaning, Language Usage, Literature (acquaintance), Social Studies I (History), Social Studies II (Geography), and Elementary Science, are completely objective and scored with a perforated key. Four of the tests, Paragraph Meaning, Spelling, Arithmetic Computation, and Arithmetic Reasoning, require the writing of words or numbers, and are not completely objective, and are scored with a panel key.

No information is given regarding the sources of the material other than the Library of Congress and the Library of the Office of Education were utilized in making an analysis of curricula, courses of study, and textbooks and that the items were evaluated by subject-matter specialists.

The difficulty and discriminating power of the items selected for the tests were determined by administering the original tryout items to over two hundred pupils in each of grades two through ten. Increase in per cent passing from grade to grade was the criterion. This procedure resulted in highly reliable tests in the skill areas (mostly above .90), but in content areas (literature, social studies, and science) the reliabilities are low, ranging from .71 to .84.

National age and grade norms based on an adequate sampling of schools are provided but with an innovation which should receive attention. The norms are based on pupils who are making normal progress through school, that is, at grade for age. They are particularly suited for those schools in which regular promotion is the rule. However, age and grade norms of the traditional type are also furnished for comparative purposes.

The section of the manual dealing with the interpretation of test scores is well done. The authors have never made extravagant claims regarding the use of the tests.

**Periods of Testing:** Form E. of the Stanford Test was first administered to the eighth grade pupils of Lincoln school on October 6, 1952. At that time, no mention was

made to the students that they would later be required to repeat the same test. Testing took place in the homeroom of each group in an atmosphere that rigidly followed the dictates of the testing procedure as formulated by the administration booklet for this specific form. In general, these regulations required a short explanation of each test by the teacher, absolute quiet, and an exact time limit.

When all tests in the testing booklet had been completed, the tests were corrected and scored according to the equated scale that accompanies each separate test. The equated scores were then converted to year and month standings by means of a table of norms that appears on the second page of each test booklet. According to the mentioned table of norms, the group tested belonged at the eighth year, one month level; but in the total achievement of all subjects, the class reached the eighth year, eighth month level. The achievement level of spelling, however, was seven years, seven months, or one year and one month below the total achievement level.3

A difference in the abilities of each of the four groups that ranged from the seventh year, second month to the eighth year, first month was discovered.4 This represented a difference of nearly one school year which seems quite large when one considers the fact that the classes

3 Graph 1, p. 28.
4 Table I, p. 29.
GRAPH 1
GRADE-EQUIVALENTS OF EIGHTH GRADE STUDENTS IN LINCOLN SCHOOL, LIVINGSTON, MONTANA, AS EVALUATED BY THE NORMS FOR THE STANFORD ACHIEVEMENT TEST, FORM E

<table>
<thead>
<tr>
<th>Subject</th>
<th>Note</th>
<th>Stanford Norm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paragraph Meaning</td>
<td></td>
<td>10.5</td>
</tr>
<tr>
<td>Word Meaning</td>
<td></td>
<td>10.4</td>
</tr>
<tr>
<td>Arithmetic Reasoning</td>
<td></td>
<td>10.3</td>
</tr>
<tr>
<td>Arithmetic Computation</td>
<td></td>
<td>10.2</td>
</tr>
<tr>
<td>Literature</td>
<td></td>
<td>10.1</td>
</tr>
<tr>
<td>Social Studies I</td>
<td></td>
<td>10.0</td>
</tr>
<tr>
<td>Social Studies II</td>
<td></td>
<td>9.9</td>
</tr>
<tr>
<td>Elementary Science</td>
<td></td>
<td>9.8</td>
</tr>
<tr>
<td>Spelling</td>
<td></td>
<td>9.7</td>
</tr>
<tr>
<td>Language Usage</td>
<td></td>
<td>9.6</td>
</tr>
<tr>
<td>Total Score</td>
<td></td>
<td>9.5</td>
</tr>
</tbody>
</table>

NOTE: Stanford norms are based on a nine-month school year, and indicate the month of grade-placement as well as the National norm.

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TABLE I

DIFFERENCES IN ACHIEVEMENT OF THE FOUR EIGHTH GRADE GROUPS IN LINCOLN SCHOOL, LIVINGSTON, MONTANA, ON FORM E OF THE STANFORD SPELLING LIST ADMINISTERED OCTOBER 6, 1952

<table>
<thead>
<tr>
<th>Group</th>
<th>Number of boys in each group</th>
<th>Number of girls in each group</th>
<th>Total boys and girls in each group</th>
<th>Mean age in each group</th>
<th>Mean achievement in each group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group I</td>
<td>16</td>
<td>14</td>
<td>30</td>
<td>13.7</td>
<td>8.1</td>
</tr>
<tr>
<td>Group 2</td>
<td>18</td>
<td>12</td>
<td>30</td>
<td>13.2</td>
<td>8.0</td>
</tr>
<tr>
<td>Group 3</td>
<td>18</td>
<td>11</td>
<td>29</td>
<td>13.6</td>
<td>7.2</td>
</tr>
<tr>
<td>Group 4</td>
<td>15</td>
<td>14</td>
<td>29</td>
<td>13.5</td>
<td>7.5</td>
</tr>
<tr>
<td>Total</td>
<td>67</td>
<td>51</td>
<td>118</td>
<td>13.5</td>
<td>7.7</td>
</tr>
</tbody>
</table>

NOTE: The achievement in this table is based on the Stanford achievement norms. The decimal point is used to separate the years from the months.
were not grouped homogeneously as to age, sex, race, intelligence, or achievement.

For the remainder of the school term, the teaching procedures and learning devices described in the text from pages fourteen to twenty were applied to all four groups. Words from the test list were not available to the students, so study of the test as such was impossible. No conscious effort was made on the part of the teacher to coach the pupils for the test. Attention must be given to the fact, however, that all of the words composing the test were introduced to the students at some time during the course of study, although many words were not completely new to the class.

On May 25, 1953, Form E of the Stanford Achievement Test was again administered to all four groups, and the same instructions were followed as before. Again group differences were evident, but to a lesser degree.\(^5\) A difference of scarcely two months achievement separated the highest group from the lowest. The greater rise on the part of the lower groups may have been due, in part, to the upper limit of the table of norms; since the eleventh year is the top of the scale, and all papers that contained forty-four or more correct answers received the same score. The test was composed of fifty words.

The comparison of the results of the fall and spring

\(^5\) Table II, p. 31.
TABLE II

DIFFERENCES IN ACHIEVEMENT OF THE FOUR EIGHTH GRADE GROUPS
IN LINCOLN SCHOOL, LIVINGSTON, MONTANA, ON FORM E OF THE
STANFORD SPELLING LIST ADMINISTERED MAY 25, 1953

<table>
<thead>
<tr>
<th>Group</th>
<th>Number of boys</th>
<th>Number of girls</th>
<th>Total boys and girls</th>
<th>Mean age of each group</th>
<th>Mean achievement of each group</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>16</td>
<td>14</td>
<td>30</td>
<td>14.3</td>
<td>10.0</td>
</tr>
<tr>
<td>2</td>
<td>18</td>
<td>12</td>
<td>30</td>
<td>13.10</td>
<td>10.0</td>
</tr>
<tr>
<td>3</td>
<td>18</td>
<td>11</td>
<td>29</td>
<td>14.2</td>
<td>10.1</td>
</tr>
<tr>
<td>4</td>
<td>15</td>
<td>14</td>
<td>29</td>
<td>14.1</td>
<td>9.9</td>
</tr>
<tr>
<td>Total</td>
<td>67</td>
<td>51</td>
<td>118</td>
<td>14.1</td>
<td>10.0</td>
</tr>
</tbody>
</table>

NOTE: The achievement in this table is based on the Stanford achievement norm. The decimal point is used to separate the years from the months.
test yielded some interesting and encouraging information. All four groups had made sufficient achievement to score above the national norm which was eight months higher by that time. The average rise of achievement in spelling for the entire eighth grade was two years and three months. Although the groups with the lower scores made the greater progress, the group showing the least rise had advanced one year and nine months on the norm scale. The group with the greatest rise had advanced two years and nine months. The increase was almost as consistent for individual pupils as it was for the groups. No eighth grade student received a lower score on the second test than on the first, but two persons showed an increase in achievement of four years and six months. The only pupils not showing an increase were those who reached the top of the scale on both tests.

No significant data were conclusive enough to determine which group benefitted the most from the method employed, but the pupils with the lower scores tended to show a slightly greater increase in achievement than did the pupils with the higher scores. This additional increase may have been due to other factors, however.

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6 Table III, p. 33.
TABLE III

GROWTH IN ACHIEVEMENT ON THE STANFORD SPELLING LIST, FORM E, AS SHOWN BY THE FOUR EIGHTH GRADE GROUPS OF LINCOLN SCHOOL, LIVINGSTON, MONTANA, BETWEEN OCTOBER 6, 1952 AND MAY 25, 1953

<table>
<thead>
<tr>
<th>Group</th>
<th>First test</th>
<th>Second test</th>
<th>Rise of Achievement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group 1</td>
<td>8.1</td>
<td>10.0</td>
<td>1.9</td>
</tr>
<tr>
<td>Group 2</td>
<td>8.0</td>
<td>10.0</td>
<td>2.0</td>
</tr>
<tr>
<td>Group 3</td>
<td>7.2</td>
<td>10.1</td>
<td>2.9</td>
</tr>
<tr>
<td>Group 4</td>
<td>7.5</td>
<td>9.9</td>
<td>2.4</td>
</tr>
<tr>
<td>Mean</td>
<td>7.7</td>
<td>10.0</td>
<td>2.3</td>
</tr>
</tbody>
</table>

**NOTE:** The figures in this table represent grade-equivalents given in school-years and months. The decimal point is used to separate the years from the months.
CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Statement of the problem. The eighth grade students of Lincoln school, Livingston, Montana, scored below the national norm in spelling on Form E of the Stanford Achievement Test, but scored above the national norm in most of the other subject matter fields. The assumption was made that this low achievement in spelling was due to poor teaching methods; and therefore, it was necessary to devise a method that would raise the spelling achievement level to a point that would more closely approximate the level of other subjects. Emphasis also was to be placed upon the usefulness of the words, instead of treating them as a mere combined group of letters.

Purposes. To evaluate the methods of teaching spelling of the author. To discover the amount of success derived from this method of teaching. To determine how effective this method was by comparison on a basis of The Stanford Achievement Test.

Procedures. On October 6, 1952, Form E of the Stanford Achievement Test was administered to the eighth grade class of Lincoln school, Livingston, Montana, and all resultant scores were recorded. A deficiency in spelling achievement was noted. The principle that "the whole child" learns only as the total faculties are stimulated to respond was the core of the procedures that followed. To supplement this
principle, many methods and techniques were examined. Phonics, syllabication, auditory and visual association, word usage, configuration, identification, and peculiarities in word structure were combined to produce the necessary program. This program was applied to the four eighth grade groups for the remainder of the school term. On May 25, 1953, Form E of The Stanford Achievement Test was again administered to the same eighth grade class. The scores were recorded as before, and a comparison was made that showed a mean rise in spelling achievement of two years and three months for the combined eighth grade groups.

The students participating in this project showed great enthusiasm for the spelling games described in Chapter II, and the spirit of competition often fostered an exuberance not normally shown for most school work. The accompanying dictionary duties were not as zealously greeted as the games, but a willingness on the part of the pupils to comply with all phases of the course of study made the project easy and pleasant to conduct.

Because of the small numerical sampling, the short period of time involved, and the lack of knowledge of other factors that may have influenced the progress or the retardation of the study, a completely accurate evaluation of the project is impossible. Nevertheless, certain generalizations appear evident. One is that the method of presenting spelling to a class does influence the amount of achievement, and that the method employed in this study did show positive
results. No doubt, a series of similar studies conducted over a greater period of time and with more emphasis upon experiment and control would yield more accurate data. Very few irrefutable conclusions can be drawn from such a limited study. In consideration of this fact, the following recommendations are made.

1. That a similar study be conducted under carefully controlled conditions to determine which factors hinder the progress of spelling achievement and which techniques and conditions contribute the most to a good spelling program.

2. That the techniques and results of similar projects be compared, and that mutual findings be used for the improvement of methods now in effect. This recommendation applies to all methods of teaching spelling.

3. That spelling be taught as a meaningful subject that will facilitate further education.

4. That spelling remain in the curriculum on a par with other subjects.
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