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AN EXPERIMENT IN THE TEST-STUDY METHOD OF SPELLING

Submitted by

Donald D. Black

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ABSTRACT

The purpose of this study was to determine the effectiveness of the test-study method of teaching spelling as opposed to the effectiveness of the study-test method. Also, it was the desire of this writer to find which method of spelling instruction would work best with primary students and which method would be better suited to students in the intermediate grades.

An examination of literature concerning the teaching of spelling revealed a need for improved techniques. This examination also exposed the opinion that there are possibly better known methods of spelling instruction than are presently in general use. The available literature seemed to point toward a somewhat more efficient spelling program at all elementary grade levels when the test-study method of instruction is used. However, the review of literature seemed to show that there is inconclusive evidence as to which method of teaching spelling should be advocated in the primary grades.

To test the validity of these two methods of teaching spelling this writer organized students into a control group and an experimental group. The experimental group, using the test-study method, consisted of 52 second grade students and 47 fourth grade students. The control group, using the study-test method, consisted of 61 second grade students and 47 fourth grade students. The experiment extended over a period of 22 weeks. Students were given mental ability tests; the medians of the test-study group were matched against the medians of the study-test group. Students were also given spelling tests at the beginning, during, and at the conclusion of the experiment. There did not seem to be any significant difference in spelling achievement in grade five between students who used the test-study method and students who used the study-test method. However, in grade two the experimental group ranked higher in spelling achievement than did the control group.

The experiment seemed to offer evidence, altho not conclusive, that students using the test-study method learned their words more quickly and retained them longer than did students using the study-test method. There does not seem to be any evidence to show that the test-study program is better adapted for use in the intermediate grades than in the primary grades.

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CHAPTER I

INTRODUCTION

Public schools, in order to meet the needs of the students, the community, and the general welfare of the state and the nation must, from time to time, either adjust their curriculums or change their philosophy.

People in education, as in other areas, agree that change should not be made just for the sake of change. Educators believe that change, in order to serve, must come about through experimentation. The results of this experimentation must offer proof that what is being suggested is a better way than that which has been used in the past.

Educators have, for some time, been concerned with efficient methods of teaching in the various content areas. Research has uncovered many new methods which will often, when used as suggested, improve instruction. However, not all of the useful material which has been uncovered through research has undergone experimentation on the local level. Therefore, much valuable material which might improve the curriculum is often passed over.

This writer feels that spelling is one area that has suffered a "clean miss" as far as application of proven methods is concerned.

In recent years a new and proven, but still unaccepted process of teaching spelling has emerged—the test-study method. In this method the corrected test is used as the chief learning tool. Students are tested on a new list of appropriate words before they study them. They

then correct the test and study the words missed. This process is repeated three or more times each week. Only words that have been missed are studied. The missed words are studied immediately after the test is corrected and also during the days of the week when no test is given.

This writer has felt that the test-study method has failed to "catch on" chiefly because it has not been experimented with locally. Instead the traditional study-test method is generally being used.

In function the study-test method differs fundamentally from the test-study method. The study-test method employs the test as an evaluating device rather than as a learning tool. When using the study-test method a student studies all of the words from an appropriate list before he is tested on them. The words are often studied in context. The chief difference between the two methods is the emphasis placed on the corrected test.

Statement of Problem

The purpose of this study was to determine if the test-study method of teaching spelling can be as efficient as the study-test method. Also, it was the desire of the writer to find out if the test-study method would work as well with primary as with intermediate students.

Procedures

The first procedure was to review literature to determine the recent findings of research in the field of spelling in the elementary grades. The second procedure was to experiment with the test-study and

the study-test methods of teaching spelling by using an experimental and a control group of students. Finally, this writer hoped to draw some specific conclusions and to be able to make some specific recommendations on the basis of the experiment with the two methods of teaching spelling.

Limitations of Study

The review of literature contained in this study was made in the library at Montana State College. The experiment was conducted with 6 second grade and 4 fourth grade classes of approximately 21 students each, or a total of 210 students. The experiment was conducted locally using various classes in the Glasgow, Montana, school system as experimental and control groups.

The review of literature contained in Chapter 2 presents findings and recommendations in the field of spelling at the elementary level.

CHAPTER II

REVIEW OF LITERATURE

"The difficulties and inconsistencies of English spelling have long been recognized. They are precisely what one should expect from the nature and history of the language and the inadequacies of the alphabet with which its words are spelled."¹ Yet,²

Today's world is a reading and writing world. Ability to read is needed at every turn. Similarly, ability to write is required—at home, at school, at work and at play. The day of writing an X rather than signing a name has long passed. Anyone who cannot read and write is truly out of step.

Objectives of the Elementary Spelling Program

With the two above statements clearly in mind, it is not difficult to see that definite objectives must be set if English speaking children are to learn to spell words in a language known to be difficult.

"The most widely accepted objectives for teaching spelling are to help children learn to spell words they will need to write as adults and the words needed in their present writing, both in and out of school."³ It should probably be added that the "lists of words to be learned should

¹Ernest Horn, "Spelling," p. 1337, Encyclopedia of Educational Research, Macmillan Co., New York, 1960.

²Russell G. Stauffer, "The Relationship Between Reading and Spelling," Education, (December, 1953), 79:206.

³Ernest Horn, op. cit., pp. 1388-1389.

be limited to the pupil's abilities, needs, and interests."¹ Perhaps further stress should be put on the writing aspect of spelling. It is not necessary to learn to spell for the sake of spelling—"the purpose of spelling instruction is to guide the child to employ necessary words correctly and effectively in expressing thought in writing."²

Teacher and Student Attitude

The teacher's attitude toward the stated objectives and toward her students is an important factor in learning to spell. "The enthusiasm and the ability of the teacher will be reflected in the enthusiasm of the members of the class."³ "Enthusiastic, sympathetic classroom teachers often get good results even though they do not otherwise make use of the most efficient learning procedures."⁴ There is no reason why enthusiasm, sympathy, and efficiency should not be combined. It has been successfully proven that "children who are not mentally retarded actually can spell. All that is necessary is the motivation so they will become aware that

¹Maida W. Sharpe, "Comparison of Three Approaches to Teaching Spelling," Elementary English, (May, 1960), 37:320.

²James A. Fitzgerald, The Teaching of Spelling, Bruce Publishing Company, Milwaukee, 1951, p. 7.

³James Fitzgerald, op. cit., p. 43.

⁴Ernest Horn, What Research Says to the Teacher, "Teaching Spelling," Department of Classroom Teachers, American Educational Research Association of the National Education Association, Washington, D.C., 1954, p. 20.

they can spell."¹

Thomas Horn² states the following about motivation:

Students must be shown that spelling is personally important to them, that the words they are learning are those most likely to be needed in both the present and the future, that study methods being used are efficient, that spelling is used in practically all writing situations and not just the spelling period, that they are making progress in spelling as a class and as individuals, and that satisfaction and pride in good spelling are worthwhile.

"If spelling instruction presents words that children do not need or with which they are unfamiliar it is likely to be uninviting and unproductive. When spelling is presented only as a job or drill it will not be interesting."³

Punishment in any form is a most undesirable motivation for learning to spell. "Generally the admonition to 'practice the spelling of these ten words until you know them by heart,' is not helpful to spelling progress. Ridicule or harsh criticism by the teacher endangers real learning of spelling."⁴

Fitzgerald⁵ says in part:

¹Dorothy P. Wells, "Today's Children Can Spell," Elementary English, (March, 1958), 35:182.

²Thomas D. Horn, "Research in Spelling," Elementary English, (March, 1960), 37:176.

³James A. Fitzgerald, op. cit., The Teaching of Spelling, p. 29.

⁴Ibid.

⁵Ibid.

Spelling may be motivated upon the basis of needs; the child may need spelling to justify his position socially. Learning to spell may be motivated by guiding the child to recognize the need for writing a letter to a friend, or the need for proofreading an editorial or a news item for a school paper. He is, in such a situation, ready to learn to spell because he realizes how important such learning is.

The importance of student interest should not be underestimated, "perhaps no other factors impede learning in spelling as much as does a lack of interest or the presence of undesirable attitudes."¹ "Success is achieved through guided effort and interesting activities, and awareness of success is pleasant and motivating."²

How Many and Which Words Should Be Taught?

The objectives of an elementary spelling program have lead partially to the answers of which words should be taught as well as how many of them should be taught—"A child should study in spelling the words which he needs for writing and cannot spell correctly."³

Horn⁴ pointed out that after 2000 words have been learned, the returns from teaching each additional 1000 diminish rapidly. Two thousand words make up 95.05 percent of the running words in adult writing; 3000 words make up 96.09 percent; 4000, 97.08 percent; and 10,000, 99.04 per-

¹Ernest Horn, op. cit., Encyclopedia of Educational Research, p. 1347.

²James A. Fitzgerald, op. cit., The Teaching of Spelling, p. 9.

³James A. Fitzgerald, "What Words Should Children Study in Spelling," Education, (December, 1958), 79:226.

⁴Ernest Horn, op. cit., What Research Says to the Teacher, p. 6.

cent. By increasing spelling vocabulary between 4000 and 10,000 words, a gain of 6000 words, a person increases his writing vocabulary by only 1.6 percent. It would seem that the conclusion to be drawn from this study is that as much as is possible should be done to teach students the 2000 basic words by the time they are ready to leave high school.

Fitzgerald¹ states that:

Three general hypothesis concerning the words needed for spelling have been developed; (1) one suggests childish words without regard for adult needs; (2) another offers for spelling, words needed in adult life; (3) a third begins with overlapping of child and adult usage and considers the needs of both childhood and adulthood.

"It is evident that the overlap of child and adult spelling needs is significant for word selection."²

"A well-selected word list is an important part of the spelling curriculum."³ However, this writer feels that most lists developed by reputable publishing companies have been quite thoroughly investigated and are generally acceptable. A great deal of time and effort may be spent in the development of a word list which has a possibility of being no better than published lists presently in use.

"In recent years there has been an increasing tendency to attach primary importance to frequency of occurrence in children's writing as a

¹James A. Fitzgerald, op. cit., The Teaching of Spelling, p. 5.

²Ibid.

³Ibid.

principle of gradation."¹ Fitzgerald² has expressed this opinion about graded lists:

Many attempts have been made to grade the course of study in spelling, but the results have not been highly reliable. Nevertheless, it may be said that the words taught children in the very beginning should be the most useful words of low difficulty which the child needs in writing and incidentally uses in speaking, recognizes in reading and understands orally. The most important spelling words in the English language, words which the child will need in writing all his life, should be mastered sooner or later.

Betts³ also seems to feel that meaning is the most valuable criteria for word selection and learning to spell:

The very first step in helping a child learn to spell a given word is to make sure he knows how it is used--its meaning! In the first place he is not going to use a word in his spontaneous writing until he knows its meaning. There is no point in forcing a child to spell a word which he cannot use. In fact, learning to spell meaningless words is a sure way of teaching a child--especially a highly intelligent one--to hate spelling.

Often, teachers, who use the unit system of teaching, teach the spelling words commonly used in the unit or make up a spelling list from various words in the unit. Fitzgerald⁴ says, "Such a practice should be carefully evaluated because many of the words used in a unit of work

¹Ernest Horn, op. cit., Encyclopedia of Educational Research, p. 1349.

²James A. Fitzgerald, op. cit., The Teaching of Spelling, p. 14.

³Emmett Albert Betts, "What About Spelling," Education, (January, 1956), 76:318-319.

⁴James A. Fitzgerald, op. cit., The Teaching of Spelling, p. 13.

or even in a unit of experience may seldom if ever be written by many of the children."

One commonly overlooked factor in the selection of words from a spelling list is that many words are learned incidentally. "Many common words would unquestionably be learned by the end of the eighth grade without being studied in spelling lessons. It might be more significant to ask, 'What words are likely to be misspelled if untaught?' than merely to ask, 'What words are most likely to be written?'"¹

"One may hazard the guess that no study-test or test-study plus review of isolated words plan now in use will alone achieve really permanent learning unless the words are used at least occasionally in writing letters and other composition."²

Other Curriculum Areas and Their Relationship to Spelling

"Spelling achievement is influenced by the student's experiences in reading, handwriting, speech, and written composition in addition to what he does in periods specifically devoted to spelling."³

Gudridge⁴ has this to say concerning spelling in correlation with

¹Ernest Horn, op. cit., Encyclopedia of Educational Research, p. 1340.

²Arthur I. Gates, "Developing the Basic Spelling Techniques in the Language Arts Program," Education, (January, 1956), 76:278.

³Ernest Horn, op. cit., Encyclopedia of Educational Research, p. 1342.

⁴Beatrice Gudridge, "Spelling: No Cinch," Chapter 3, p. 11, How To Help Your Child Learn, Department of Elementary School Principals, National School Public Relations Association, Washington, D.C., 1960.

the other language arts:

Spelling is one of the language arts, closely associated with listening, speaking, reading, creative writing, and handwriting. So in learning to spell a word, Johnny will listen to its pronunciation, pronounce it to himself, read it, use it in written work, and use it in handwriting in forming the word on paper.

Spelling and reading.—"The correlations that have been reported between reading and spelling are relatively high—almost as high as between intelligence and reading."¹ "Studies show that children spell words they can read with much more accuracy than those they cannot read. This is true at all levels."²

Stauffer³ has the following to say about reading-spelling correlations: "The more efficient one is in reading, the more recognition of words becomes so facile that almost all words are read as sight words. This in turn means increased spelling ability, even at higher levels."

These views are further supported by Peake:⁴

There is a tendency for high scores in spelling to accompany high scores in word meaning. The relatively high positive correlation between test scores in spelling and reading in most of the grades examined is evidence that abilities in these two subjects tend to accompany each other.

¹Ernest Horn, op. cit., Encyclopedia of Educational Research, p. 1342.

²Russell G. Stauffer, op. cit., p. 207.

³Russell G. Stauffer, op. cit., p. 209.

⁴Nellie L. Peake, "Relation Between Spelling Ability and Reading Ability," Journal of Experimental Education, (December, 1940), 9:193.

The correlations between spelling and reading as reported by Peake¹ were quite high. The average correlation for grades 4-8 was .814. The highest correlation, .933, was in grade 4.

"Since most high frequency words in writing are also high frequency words in reading, it is to be expected that frequent reading of common words contributes to spelling success."² A rule of the thumb that might be declared is: "Always avoid asking a child to spell a word he cannot read, regardless of the curriculum area in which it occurs."³

Spelling and writing.--Eleanor Johnson⁴ made the following observations about the relationship between spelling and writing:

The urge to communicate with others in writing involves spelling, facility in handwriting skills and meaningful vocabulary. Since spelling and writing are used together, they should be taught together. Experience in written expression is essential to learning to spell. If a child uses in written expression the words he is learning to spell, he will master spelling more quickly. The more opportunities the child has for writing items of interest to him, the more readily he learns to spell.

"By merely writing in meaningful situations children learn some words."⁵

¹Nellie L. Peake, op. cit.

²Russell G. Stauffer, op. cit., p. 209.

³Ibid., p. 210.

⁴Eleanor M. Johnson, "Two Key Factors in Spelling Success, "Education, (January, 1956), 76:272.

⁵Alvina T. Burrows, "Spelling and Composition, "Education, (December, 1958), 79:213.

A study by Sharpe¹ using four schools in three Illinois towns and 460 fourth grade students revealed the following:

Many writing situations, utilizing pupil interests, should be provided. When children write about their own interests, rather than assigned topics, writing becomes a challenge to express ideas, which in turn leads to a need for correct spelling and to a desire to proof-read written expression.

There are other correlations that can be drawn between spelling and other areas in the curriculum. However, this writer feels that the correlation between spelling, reading, and writing are of primary importance and other correlations, even though important, are secondary.

The point this writer wishes to stress here is, "It is clear that children learn to spell many words outside the spelling period."² "Pupils who constantly discover that they can spell many words they have not studied are motivated to try to spell and write more."³ "Incidental learning does occur and should be fully utilized in connection with other curriculum areas."⁴

Spelling Rules

In the past there have been numerous rules devised to help build spelling power. However, "the number of rules for teaching spelling

¹Maida W. Sharpe, op. cit., p. 320.

²Ernest Horn, op. cit., Encyclopedia of Educational Research, p. 1343.

³Russell G. Stauffer, op. cit., p. 210.

⁴Ernest Horn, ibid.

has been materially reduced in recent years."¹

Betts² expressed this view on spelling rules: "There is no justification for a blind faith in spelling rules. Certainly, any sensible parent or teacher knows that rules learned by rote (by heart) are soon forgotten. In spite of popular opinion there is no magic in a spelling rule."

"About 20 percent of the English words Johnny is expected to spell don't follow the regular alphabetical rules, and these are apt to be the ones giving him trouble."³ "Most rules have limited usefulness because of their exceptions."⁴

Horn⁵ suggests the following methods in teaching spelling rules:

(a) Each rule should be taught inductively rather than deductively and should be developed in connection with the words to which it applies. (b) Only one rule should be introduced at a time. (c) In teaching a rule, it is important to emphasize both the positive and the negative aspects. (d) When the rule has been taught, it should be systematically reviewed and applied. (e) Both in original teaching and in reviews the emphasis should be upon the use of the rule rather than upon the mere memorizing of its verbal statement.

"Children should be referred to rules as such only when they are

¹Eleanor Johnson, op. cit., p. 274.

²Emmett Albert Betts, op. cit., p. 320.

³Beatrice Gudridge, op. cit., p. 11.

⁴Emmett Albert Betts, op. cit., p. 320.

⁵Ernest Horn, op. cit., Encyclopedia of Educational Research, p. 1345.

at the point of needing to do more generalization for independent spelling and are mature enough to understand the application."¹

In summation, Betts² presented the following questions in regard to teaching spelling rules: "First, to how many words can the rule be applied? Second, how many exceptions to the rule must be made? Third, when is the child ready, or mature enough to make the generalization and apply it?"

Phonics--An Aid to Spelling?

Which and how much phonics will aid the student in learning to spell? "Both theory and evidence suggest that some kind and amount of phonetic instruction, as yet undetermined, may be of substantial benefit to spelling."³

Thomas Horn⁴ has made the following observations concerning phonetic generalizations in relation to spelling:

Although some recent studies have explored the possibilities of teaching phonic generalizations, it is clear that only those generalizations which have few exceptions and apply to many words should be used. There is little doubt that the numerous sound-to-letter relationships, with their consistencies and inconsistencies, should be a part of spelling instruction. However, the role of phonics in spelling instruction should be supplemental to the direct study of needed words, not a substitute for direct study.

¹Eleanor Johnson, op. cit., p. 274.

²Emmett Albert Betts, ibid.

³Ernest Horn, op. cit., Encyclopedia of Educational Research, p. 1345.

⁴Thomas D. Horn, op. cit., Elementary English, p. 175.

Ernest Horn¹ adds support to the above statement by writing:

...the letter e has at least ten vowel sounds, as well as possessing consonant values in combination with certain letters. It is frequently silent. Moreover, sounds which could be consistently spelled even with our inadequate alphabet are spelled in many ways. The long e is spelled 14 ways in common words and only about one fifth of the time with e alone.

Cook,² after reviewing two methods of teaching spelling, had this to say about findings in phonics related to spelling:

Jackson reports a controlled experiment in which the experimental group used word analysis through phonetic blending and the study of root relationships. The group did not, however, achieve significantly better on words studied or on a neutral list than did the control group which used a textbook not including this training.

"A system of spelling that does not provide for training in pronunciation and dictionary use is inadequate."³ However, "the evidence seems to give additional support to the belief held by many that in learning spelling major dependence must be on learning each word as an individual problem."⁴

¹Ernest Horn, op. cit., Encyclopedia of Educational Research, p. 1388.

²R. C. Cook, "Evaluation of Two Methods of Teaching Spelling," Elementary School Journal, (October, 1957), 58:27.

³Douglas F. Dickerson, "Misleadings vs. Actualities in Spelling," American School Board Journal, (February, 1950), 120:34.

⁴Walter T. Petty, "Phonetic Elements as Factors in Spelling Difficulty," Journal of Educational Research, (November, 1957), 51:214.

In summarizing the relationship between phonics and spelling Horn¹ presented the following observations:

The available evidence, altho inadequate on some important matters, seems to warrant the following tentative conclusions: (a) Teaching the consistancies and inconsistencies of sound-to-letter relationships should be an integral part of spelling instruction. (b) The teaching of phonetic generalizations, whether based on the most common spelling or on word patterns, should be limited to generalizations which apply to a large number of words and have few exceptions. (c) It is possible that instruction in sound-to-letter and letter-to-sound relations may at times be profitably combined. (d) Since most words that are difficult to spell contain sounds that are spelled in a variety of ways, phonics instruction should be utilized as an aid to spelling rather than as a substitute for the direct study of these words.

The direct study of the spelling words to be learned is the chief point of interest to this writer. It is the intention of this writer to attempt to recommend a method of instruction which will best meet the objectives of the spelling program.

Two Methods—Opposed

The traditional study-test method and the progressive test-study method are, in essence, the only two generally accepted methods of teaching spelling being practiced at the present time.

Horn² recommends the following weekly program which is generally considered to be the test-study method:

¹Ernest Horn, op. cit., Encyclopedia of Educational Research, p. 1345.

²Ibid.

Monday—a preliminary test is given over the words to be studied during the week and is followed by immediate study of words missed.

Tuesday—a study of the words missed on Monday.

Wednesday—a second test followed by immediate study of words missed.

Thursday—a study of words missed on Wednesday.

Friday—final weekly test followed by the immediate study of words missed.

The preceeding is a basic program to which many things must be added to make it complete.

Fitzgerald¹ recommends the following essential principles which include many of the details quite necessary to the operation of the test-study program:

(1) By means of a preliminary-term test the spelling achievement of each class is determined. (2) A pre-test on each weekly assignment is made before teaching. (3) Each child identifies the words misspelled in the pre-test and writes them correctly in his study list. (4) Each child studies with the five steps of learning to spell a word the words he misspelled in the pre-test. (5) Each child uses in his written work the words he learned to spell. (6) By means of a final test of each weekly unit or lesson, the degree of mastery by each child is determined. (7) The child keeps a record of each weeks achievement on his progress chart. (8) Words misspelled in the final test of the week are recorded by each child in his hard-word list. (9) Each child applies the steps of learning to spell a word to his own hard words. (10) A review of these hard words should be made before the test two weeks later. (11) A test of the words of "two weeks ago" (included in the final test of the week) is administered to measure degree of mastery of his hard words by each child. (12) Mastery of review words misspelled in the final test of the week, if any, is made the individual responsibility of each child. (13) Achievement and progress may be measured by a final-term test comparable to the preliminary-term test.

¹James A. Fitzgerald, op. cit., The Teaching of Spelling, p. 42.

The basic differences between test-study and the study-test programs can be seen when we compare Kilzer's¹ description of the study-test program to the previously discussed test-study program:

The old method of teaching spelling is known as the study-test method. The pupils are required to study a given list of words on which they are later tested, and they usually apportion their time about equally among the words in the list. The pupils spend almost as much time studying the words which they can spell correctly without study as they spend studying the words which they cannot spell correctly without study.

Incidental learning of spelling words which does take place is not recognized when the study-test method is used. "Incidental learning must be utilized, and systematic study started where incidental learning ceases."²

Petty³ has some searching questions in regard to incidental learning: "How much interest do any of us have in 'learning' something which we already know? 'Not very much.' Why do we dwell on what we already know when there's a world full of learning beckoning to us?"

Some research has shown that "the test-study method was significantly superior to the study-test method for the better speller, and it was at least as good as the study-test method for the poorest spellers."⁴

¹L. R. Kilzer, "The Test-Study Method Versus the Study-Test Method in Teaching Spelling," School Review, (September, 1926), 34:521.

²James A. Fitzgerald, op. cit., Education, p. 227.

³Walter T. Petty, "Challenging Superior Spellers," Elementary School Journal, (December, 1958), 59:154.

⁴L. R. Kilzer, op. cit., p. 523.

"Because of the differences in needs, abilities, and difficulties of children, the test-study plan of instruction may be employed either at the beginning of instruction or later when children are capable of profiting by its provision for individual learning and progress."¹

While some of the earlier evidence seemed to show, "the study-test plan of instruction is an effective procedure in instructing the retarded or slow-learning pupils, and the test-study plan is an effective procedure for accelerated pupils,"² more recent findings have indicated, "the test-study method is superior to study-test procedures even in the lower grades."³

The corrected test.--As a part of the test-study approach, "the corrected test technique, in which each pupil corrects his own spelling test while the teacher spells each word orally, has been shown to be the most efficient single procedure for learning to spell."⁴

Horn⁵ further states: "It is through the use of the test-study method, utilizing the corrected test, that words already known through incidental learning are identified and pupil study is applied to only those words which they do not know how to spell."

It is often recommended that "...teachers excuse children from spell-

¹James A. Fitzgerald, op. cit., The Teaching of Spelling, p. 51.

²Arnie E. Richmond, "Children's Spelling Needs and the Implications of Research," Journal of Experimental Research, (September, 1960), 29:19.

³Ernest Horn, op. cit., Encyclopedia of Educational Research, p. 1346.

⁴Thomas A. Horn, op. cit., Elementary English, p. 175.

⁵Ibid.

ing instruction if they do exceptionally well on a pre-test that covers the words to be presented in the spelling lesson."¹ These students may learn to spell even more words incidentally through reading, writing, or doing dictionary work during the regular spelling period.

Thomas Horn² after testing 268 sixth grade students reached the following conclusions concerning the corrected test:

1. As measured either by the final Friday test or by recall tests after an interval of seven days, the corrected test alone will contribute from 90 per cent to 95 per cent of the achievement resulting from the combined effect of the pronunciation exercise, corrected test, and study.
2. In some cases the corrected test alone is sufficient for mastery or near mastery of the typical spelling lesson by the upper third of the class.
3. The corrected test appears to be the most important single factor contributing to achievement in spelling.

After the spelling difficulties have been identified through the corrected test the following procedure, based on extensive research by Eichert,³ is recommended as one of the most effective ways of learning to spell misspelled words:

(1) look at the word and say it (2) close your eyes and try to recall it to mind (3) look at the word again and check on the

¹Walter T. Petty, op. cit., p. 154.

²Thomas D. Horn, "The Effects of the Corrected Test on Learning to Spell," Elementary School Journal, (January, 1947), 47:285.

³Dr. Magdalen Eichert, "Let's Spell," Grade Teacher, (September, 1959), 77:68.

correctness of mental image (4) write the word from memory (no copying of the word) and (5) check on the accuracy of the written form. This procedure should be repeated as often as necessary to master each new word.

The corrected test and study method is also efficient because of the time involved in the program. "An allotment of seventy-five minutes a week, fifteen minutes a day, is sufficient to carry out the spelling program in a normal situation."¹

Horn² has the following to say about time allotments:

A number of early studies showed that schools with large time allotments in spelling secured little or no better results than schools with more moderate allotments. The data from more recent investigations support this conclusion. Heavy time allotments may encourage dawdling on the part of both teachers and students. However, weekly time allotments are still larger than can be justified either by relative value and difficulty of spelling as compared with other subjects or by the results obtained. What is needed is not more time but spirited, efficient use of instructional procedure.

The end result of our spelling program and "the only reason for learning to spell is the necessity for correctly transmitting our ideas on paper."³ "The real proof that Johnny has mastered the spelling comes when he uses the words properly and often in his written work."⁴

¹James A. Fitzgerald, op. cit., The Teaching of Spelling, p. 43.

²Ernest Horn, op. cit., Encyclopedia of Educational Research, p. 1346.

³Paul R. Hanna and James T. Moore, Jr., "Spelling-From Spoken Word to Written Symbol," Elementary School Journal, (February, 1953), 53:335.

⁴Beatrice M. Gudridge, op. cit., p. 12.

Spelling, as we have come to know it "is a part of life, a skill which, if properly mastered, facilitates written expression and makes living more pleasant and more adequate."¹

The next step in this study was to conduct an experiment using the test-study and the study-test methods of teaching spelling. The experiment and the results are discussed in Chapter III.

¹James A. Fitzgerald, op. cit., The Teaching of Spelling, p. 1.

CHAPTER III
EXPERIMENTATION WITH THE TEST-STUDY AND THE STUDY-TEST METHODS
OF TEACHING SPELLING

The experimentation with the test-study and study-test methods of teaching spelling was conducted in 6 second grade and 4 fourth grade classes in the Glasgow Elementary School System. The experiment involved 113 second grade students and 94 fourth grade students—a total of 207 students.

Homogeneous Class Groups

No attempt was made to group these students in any way. They were assigned to their classrooms at random. The control groups, using the traditional study-test method, were located in 2 fourth and 3 second grade classrooms in the South Side School. The experimental groups, using the test-study method, were located in the Irle Elementary School. The experimental groups also consisted of 2 fourth grade and 3 second grade classes.

Method of Weekly Instruction

Test-Study Method.—Each of the teachers using the test-study method in grades two and four were given the following outline to use for their weekly spelling programs:

Monday:

- Step 1. Introduce words included in the weekly list.
 - a. Pronounce each word carefully.

- b. Ask the students if they are familiar with, and understand the meaning of, each word.

Step 2. Give the students a pretest.

- a. Include all of the "new words".
- b. Include "review words" listed in Fitzgeralds 800 Very Useful Words (grade 2).
- c. Include "little helpers", (grade 2) which are listed in Fitzgeralds 800 Very Useful Words.
- d. Give the word in a sentence first, then pronounce the word by itself.

Step 3. Correct the test immediately after the test has been given.

- a. Each student must correct his own paper.
- b. The teacher will say the word and then spell it orally while the student corrects it.

Step 4. Students are to study words missed immediately after they have been corrected.

- a. Students are to use the following method in studying words missed:
 - (1) Look at the word and say it to yourself.
 - (2) Close your eyes and try to picture the word.
 - (3) Look at the word again.
 - (4) Write the word from memory (do not copy the word).
 - (5) Check the accuracy of the word you wrote.
 - (6) If you spelled the word correctly, write it twice more for retention.
 - (7) Repeat this procedure as often as necessary to master each new word.

Step 5. Students getting all of the required words correct may be dismissed from regular spelling class the rest of the week.

- a. These students should be directed to use the time normally allotted for spelling to improve their skill in using the dictionary, reading, or doing written composition.

Tuesday:

- 1. Study the words missed on Monday. Use the suggested study method.

Wednesday:

- 1. Repeat steps 2, 3, 4, and 5 from Monday's procedure.
- 2. Dismiss students from their regular spelling class for the rest of the week if they get all of the required words correct.

Thursday:

1. Study the words missed on Wednesday. Use the suggested study method.

Friday:

1. Repeat steps 2, 3, 4, and 5 from Monday's procedure.
2. Put the words missed in a hard word list to be studied as time permits.
3. Students are to graph their grades for the week (grade 4 only) on a chart similar to the one listed on the back pages of the Ginn Spelling Series, Learning to Spell.¹

TIME ALLOTTED FOR THIS PROGRAM SHOULD NOT EXCEED 75 MINUTES PER WEEK.

Study-Test Method.--Teachers using the study-test method used the weekly lesson plan and teaching procedure suggested in the teachers manual, Learning to Spell,² for grades two and four. The following is a summary of the weekly procedure:

Monday:

1. Study and discuss the picture which introduces the spelling lesson.
 - a. Make up sentences about the picture.
 - b. Tell what you see in the picture.
2. Read the title of the story.
 - a. Teacher read the story to the students.
 - b. Each student read one sentence aloud.
3. Pronounce each of the new words carefully.

¹Gerald A. Yoakam, and Seward E. Daw, Learning to Spell, (Grade 4), Ginn and Co., New York, 1956.

²Gerald A. Yoakam and Seward E. Daw, Learning to Spell, (Manual-Grades 2 and 4), Ginn and Co., New York, 1959.

4. Find each "New Word" as it is used in the story.
5. Check to be sure each child knows the meaning of each word.
6. Copy each of the "New Words" on a sheet of paper.
 - a. First say each word to yourself.
 - b. Write each word saying the letters softly as you write.
 - c. Be sure that you copy the word correctly and make each letter carefully.

Tuesday:

Students are to do "Fun With Words" (grade 2) and "Working With Words" (grade 4).

These exercises are designed to train pupils in seeing the peculiarities of words and their likenesses and differences, in forming plurals, in adding prefixes and suffixes, and in mastering word meanings. Such rules as are useful are developed inductively. Synonyms and homonyms are taught, and the use of the dictionary is constantly stressed.¹

In grade 2 special emphasis is put on letter formation.

Wednesday:

Students are given a pretest.

1. The teacher pronounces the word; uses it in a sentence, and then pronounces it again.
2. The students then check their own papers as the teacher either spells the words aloud or writes them on the board.
3. Words missed on the pretest are put in a "Hard Word List" to be studied Thursday.

Thursday:

Students study the words they missed on their Wednesday test by using the following method:

¹Gerald A. Yoakam and Seward E. Daw, Learning to Spell, (Manual-Grades 4, 5, and 6), p. 16, Ginn and Co., New York, 1959.

1. Look at the word.
2. Say it softly to yourself.
3. Say each letter.
4. Close your eyes and think how the word looks. Say each letter.
5. Copy the word.
6. Look to see whether your word is correct.
7. Write the word once more.
8. Repeat this procedure as often as necessary to master each word.

Friday:

Students are given their final weekly test.

1. Use steps one and two from Monday's procedure.
2. Put words missed in a hard word list to be studied as time permits.
3. Students are to graph their grade for the week (grade 4 only) on a chart similar to the one listed on the back page of the Ginn Spelling Series, Learning to Spell.¹

These two methods of weekly instruction were used by the two participating groups during the entire experiment. Teachers in each group were required to turn in for inspection and recording each student's test paper each week.

Testing

Mental ability test.—Students in the ten classes chosen for the

¹Gerald A. Yoakam and Seward E. Daw, Learning to Spell, (Grade 4), Ginn and Co., New York, 1956.

experiment were given I.Q. tests¹ to determine the degree of similarity of abilities on a test of mental ability. The tests were administered to second grade students in February, 1962, and to the fourth grade students in January, 1963. The results of these tests are presented in tables 1 and 2.

The two second grade groups seemed to be homogeneous in nature. The difference in the mean was .735 and in the medians 1.125. The two fourth grade groups, although similar in nature showed a much wider variation. The difference in the mean was 7.553 and the medians 6.195.

Pretest.—Each second grade student was given a fifty word pretest at the beginning of the school term (1962). Forty of the fifty words were selected at random from the first nineteen weekly lessons in the Ginn² spelling series, which is used throughout the Glasgow Elementary School System. No more than three and no less than two words were taken from each of the nineteen lessons used. Each of the forty words were to be taught, along with the other words in the lessons, to the two groups of students participating in the experiment, after the pretest was administered. Each of the forty words in the pretest were checked against words included in Fitzgerald's³ list of 800 "Very Useful Words".

¹Otis Quick-Scoring Mental Ability Tests, World Book Company, New York, 1939.

²Gerald A. Yoakam and Seward E. Daw, Learning to Spell, Ginn and Company, New York, 1956.

³James A. Fitzgerald, op. cit., The Teaching of Spelling, p. 21.

Table 1. Comparison of Ranges, Medians, and Means of I.Q. Scores (Grade 2).

I.Q. Scores	Test-Study f_1	Study-Test f_1
136-140	0	0
131-135	2	1
126-130	3	3
121-125	4	7
116-120	11	12
111-115	15	12
106-110	6	10
101-105	6	9
96-100	3	6
91-95	1	1
86-90	0	0
81-85	0	0
76-80	1	0
71-75	0	0
Total	52	61
Range	79-134	94-133
Median	114.000	112.875
Mean	112.865	113.600

Table 2. Comparison of Ranges, Medians, and Means of I.Q. Scores (Grade 4).

I.Q. Scores	Test-Study f_1	Study-Test f_1
136-140	0	0
131-135	2	0
126-130	1	0
121-125	6	4
116-120	5	1
111-115	9	10
106-110	13	10
101-105	9	7
96-100	1	5
91-95	0	5
86-90	1	3
81-85	0	0
76-80	0	1
71-75	0	1
Total	47	47
Range	90-134	74-124
Median	112.945	106.750
Mean	111.915	104.362

Fitzgerald states:¹ "The eight hundred words comprise with their repetitions approximately 90 percent of the running words of the Fitzgerald vocabulary of child letter writing and account for nearly 66 percent of spelling mistakes made by the children in writing letters basic to this study."

Ten of the fifty words were selected at random from Fitzgerald's² list of 800 "Very Useful Words" but were not taught in any of the weekly lessons presented to either group of students.

Each grouping of words was used to check a specific spelling skill when compared to the post test which contained exactly the same words as the pretest administered 22 weeks earlier.

The first forty words were chosen to evaluate the ability of groups of students with similar I.Q.'s, to learn and retain the words when taught by two different spelling methods. The last ten words, chosen at random from Fitzgerald's³ list of 800 "Very Useful Words", were used to evaluate the incidental learning ability of comparable groups of students when exposed to two different methods of teaching spelling.

The following list of words were administered to the participating second grade students as a pretest and as a posttest:

mother
to

fly
work

pretty
dolls

¹Ibid.

²Ibid.

³Ibid.

fat	some	cakes
day	summer	thinking
come	baby	taking
eat	when	staying
like	two	airplane
back	good	being
horse	made	cross
apple	after	doctor
pie	time	eyes
nice	bread	floor
one	cold	grade
egg	sun	Indian
new	play	light
jump	live	present
bird	into	

Students in grade four were also given a fifty word pretest and post test. The first forty words selected for the fourth grade test were selected at random from the first nineteen weekly lessons in the Ginn¹ spelling books used in the fourth grade. The first forty words were used to evaluate spelling retention of groups of students of similar ability. The last ten words in the test were chosen at random from the fifth grade Ginn² spelling books and were used to evaluate incidental learning. The experiment with the fourth grade groups also took 22 weeks.

The following is the list of words used to pretest and post test the fourth grade groups:

beside	riding	enough
burn	ahead	instead
meat	picture	everything
early	awhile	hurry
belong	enjoy	fourth
lonesome	animals	thought
everyone	trip	welcome

¹Gerald A. Yoakam and Seward E. Daw, op. cit., Learning to Spell.

²Ibid.

beautiful	already	happiest
valley	telephone	laughed
during	board	studying
through	meet	traveled
tired	main	area
spent	walked	greatest
growing	tomorrow	United States
mostly	mountain	highways
different	forgot	begun
possible	alike	

The results of these tests are shown in tables 3, 4, 5, 6, 7, and 8.

The mean gain of the second grade test-study group showed 8.5% more improvement than did the mean gain of the study-test group in spelling retention, 20.8% more improvement in incidental learning, and 12.6% more improvement on the total spelling comparison. The mean final score made by the test-study group was higher on all three comparisons than was the mean final score made by the study-test group. The mean final score was 14.7% higher on spelling retention, 20.5% higher on incidental learning, and 15.4% higher on the total spelling comparison.

The mean gain made by the fourth grade test-study group showed 10.2% less improvement than did the mean gain of the study-test group in spelling retention, 2.6% more improvement in incidental learning, and 8.7% less improvement on the total spelling comparison. The mean final score made by the test-study group was higher on all three comparisons than was the mean final score made by the study-test group. The mean final score was 2.4% higher on retention, 13.5% higher on incidental learning and 4.3% higher on total spelling comparison.

In addition to the I.Q. test, the pretest, and the post test students

Table 3. Comparison of Spelling Retention (Grade 2).

Test-Study					Study-Test				
Number of Students	I.Q.	Initial Score (mean)	Final Score (mean)	Gain (mean)	Number of Students	I.Q.	Initial Score (mean)	Final Score (mean)	Gain (mean)
2	140-136	26.50	94.00	67.50	1	140-136	50.00	98.00	48.00
3	135-131	41.00	79.30	38.30	3	135-131	32.00	73.00	46.00
4	130-126	42.75	95.75	53.00	7	130-126	35.28	83.71	48.43
11	125-121	38.00	90.80	52.80	12	125-121	32.42	89.00	56.58
15	120-116	36.80	95.40	58.60	12	120-116	25.33	75.08	49.75
6	115-111	24.83	87.00	62.17	10	115-111	21.10	71.80	50.70
6	110-106	11.33	79.50	68.17	9	110-106	20.78	58.55	37.77
3	105-101	20.33	62.00	41.67	6	105-101	17.17	58.50	41.33
1	100-96	3.00	78.00	75.00	1	100-96	3.00	20.00	17.00

Table 3 (Continued).

Test-Study					Study-Test				
Number of Students	I.Q.	Initial Score (mean)	Final Score (mean)	Gain (mean)	Number of Students	I.Q.	Initial Score (mean)	Final Score (mean)	Gain (mean)
1	90- 86					90- 86			
	85- 81					85- 81			
	80- 76	65.00	100.00	35.00		80- 76			
	75- 71					75- 71			
Mean Initial Score . . . 32.1					Mean Initial Score . . . 26.0				
Mean Final Score . . . 88.5					Mean Final Score . . . 73.8				
Mean Gain. 56.3					Mean Gain. 47.8				

Table 4. Comparison of Spelling Retention (Grade 4).

Test-Study				Study-Test					
Number of Students	I.Q.	Initial Score (mean)	Final Score (mean)	Gain (mean)	Number of Students	I.Q.	Initial Score (mean)	Final Score (mean)	Gain (mean)
	140-136					140-136			
2	135-131	85.00	99.00	14.00		135-131			
1	130-126	80.00	100.00	20.00		130-126			
6	125-121	86.83	97.16	10.33	4	125-121	72.50	95.25	22.75
5	120-116	73.80	91.20	17.40	1	120-116	80.00	100.00	20.00
9	115-111	64.55	86.11	21.56	10	115-111	72.90	91.90	19.00
13	110-106	52.69	85.38	32.69	10	110-106	47.40	86.20	38.80
9	105-101	58.67	83.22	24.55	7	105-101	46.00	79.86	33.86
1	100-96	50.00	93.00	43.00	5	100-96	27.60	74.60	47.00
	95-91				5	95-91	33.20	70.80	37.60

Table 4 (Continued).

Test-Study					Study-Test				
Number of Students	I.Q.	Initial Score (mean)	Final Score (mean)	Gain (mean)	Number of Students	I.Q.	Initial Score (mean)	Final Score (mean)	Gain (mean)
1	90- 86	73.00	95.00	22.00	3	90- 86	16.66	47.66	31.00
	85- 81					85- 81			
	80- 76				1	80- 76	23.00	65.00	42.00
	75- 71				1	75- 71	5.00	40.00	35.00

Mean Initial Score . . . 61.1
Mean Final Score . . . 83.1
Mean Gain. 22.0

Mean Initial Score . . . 48.4
Mean Final Score . . . 80.7
Mean Gain. 32.3

Table 5. Comparison of Incidental Learning (Grade 2).

Test-Study					Study-Test				
Number of Students	I.Q.	Initial Score (mean)	Final Score (mean)	Gain (mean)	Number of Students	I.Q.	Initial Score (mean)	Final Score (mean)	Gain (mean)
	140-136					140-136			
2	135-131	10.00	35.00	25.00	1	135-131	0	40.00	40.00
3	130-126	6.67	46.67	40.00	3	130-126	6.66	33.33	26.67
4	125-121	10.00	42.50	32.50	7	125-121	5.71	21.42	15.71
11	120-116	6.36	41.81	35.45	12	120-116	13.33	25.83	12.50
15	115-111	4.00	40.66	36.66	12	115-111	4.16	10.83	6.67
6	110-106	5.00	30.00	25.00	10	110-106	3.00	17.00	14.00
6	105-101	0	23.33	23.33	9	105-101	1.11	5.55	4.44
3	100-96	0	13.33	13.33	6	100-96	1.67	6.67	5.00
1	95-91	0	10.00	10.00	1	95-91	0	0	0

Table 5 (Continued).

Number of Students	Test-Study			Study-Test		
	I.Q.	Initial Score (mean)	Final Score (mean)	Gain (mean)	Number of Students	I.Q.
	90- 86					90- 86
	85- 81					85- 81
1	80- 76	10.00	80.00	70.00		80- 76
	75- 71					75- 71

Mean Initial Score . . .	4.6	Mean Initial Score . . .	4.9
Mean Final Score . . .	38.5	Mean Final Score . . .	16.0
Mean Gain.	31.9	Mean Gain.	11.1

Table 6. Comparison of Incidental Learning (Grade 4).

Test-Study					Study-Test				
Number of Students	I.Q.	Initial Score (mean)	Final Score (mean)	Gain (mean)	Number of Students	I.Q.	Initial Score (mean)	Final Score (mean)	Gain (mean)
	140-136					140-136			
2	135-131	70.00	80.00	10.00		135-131			
1	130-126	60.00	90.00	30.00		130-126			
6	125-121	83.33	95.00	11.67	4	125-121	55.00	67.50	12.50
5	120-116	40.00	86.00	46.00	1	120-116	80.00	80.00	00.00
9	115-111	41.11	57.78	16.67	10	115-111	57.00	73.00	16.00
13	110-106	30.77	47.69	16.92	10	110-106	32.00	44.00	12.00
9	105-101	40.00	51.11	11.11	7	105-101	28.57	45.71	17.14
1	100-96	50.00	70.00	20.00	5	100-96	6.00	30.00	24.00
	95-91				5	95-91	10.00	32.00	22.00

Table 6 (Continued).

Test-Study					Study-Test				
Number of Students	I.Q.	Initial Score (mean)	Final Score (mean)	Gain (mean)	Number of Students	I.Q.	Initial Score (mean)	Final Score (mean)	Gain (mean)
1	90- 86	50.00	60.00	10.00	3	90- 86	6.67	00.00	-6.67
	85- 81					85- 81			
	80- 76				1	80- 76	00.00	30.00	30.00
	75- 71				1	75- 71	00.00	00.00	00.00

Mean Initial Score . . . 42.6
Mean Final Score . . . 59.6
Mean Gain. 17.0

Mean Initial Score . . . 31.7
Mean Final Score . . . 46.1
Mean Gain. 14.4

Table 7 (Continued).

Test-Study					Study-Test				
Number of Students	I.Q.	Initial Score (mean)	Final Score (mean)	Gain (mean)	Number of Students	I.Q.	Initial Score (mean)	Final Score (mean)	Gain (mean)
1	90- 86					90- 86			
	85- 81					85- 81			
	80- 76	54.00	96.00	42.00		80- 76			
	75- 71					75- 71			
Mean Initial Score . . . 24.6					Mean Initial Score . . . 21.8				
Mean Final Score . . . 77.7					Mean Final Score . . . 62.3				
Mean Gain. 53.1					Mean Gain. 40.5				

Table 8. Total Spelling Comparison (Grade 4).

Test-Study					Study-Test				
Number of Students	I.Q.	Initial Score (mean)	Final Score (mean)	Gain (mean)	Number of Students	I.Q.	Initial Score (mean)	Final Score (mean)	Gain (mean)
	140- 136					140- 136			
2	135- 131	82.00	95.00	13.00		135- 131			
1	130- 126	76.00	98.00	22.00		130- 126			
6	125- 121	86.00	96.66	10.66	4	125- 121	82.50	91.00	8.50
5	120- 116	71.60	90.00	18.40	1	120- 116	80.00	96.00	16.00
9	115- 111	61.55	80.22	18.67	10	115- 111	69.40	88.00	18.60
13	110- 106	49.00	77.38	28.38	10	110- 106	44.40	78.20	33.80
9	105- 101	41.00	58.17	17.17	7	105- 101	42.28	72.85	30.57
1	100- 96	52.00	86.00	34.00	5	100- 96	22.40	65.20	42.80
	95- 91				5	95- 91	29.20	63.20	34.00

Table 8 (Continued).

Test-Study					Study-Test				
Number of Students	I.Q.	Initial Score (mean)	Final Score (mean)	Gain (mean)	Number of Students	I.Q.	Initial Score (mean)	Final Score (mean)	Gain (mean)
1	90- 86	66.00	88.00	22.00	3	90- 86	20.00	38.00	18.00
	85- 81					85- 81			
	80- 76				1	80- 76	18.00	60.00	42.00
	75- 71				1	75- 71	4.00	34.00	30.00

Mean Initial Score . . . 58.3
Mean Final Score . . . 78.3
Mean Gain. 20.0

Mean Initial Score . . . 45.3
Mean Final Score . . . 74.0
Mean Gain. 28.7

participating in the experiment were also given their regular weekly spelling tests. Both groups used the spelling words listed in the Learning to Spell¹ series for their respective grade level.

The cumulative results of these weekly tests are compared in tables 9 and 10.

The mean weekly score made by the test-study group in grade two was 8.98% higher than was the mean weekly score made by the study-test group. The mean weekly score made by the test-study group in grade four was 6.35% higher than was the mean weekly score made by the study-test group.

A summary, conclusions, and recommendations for further research are contained in Chapter IV.

¹Yoakam and Daw, op. cit.

Table 9. Comparison of Weekly Spelling Achievement (Grade 2).

Test-Study			Study-Test		
Number of Students	I.Q.	Mean Weekly Score	Number of Students	I.Q.	Mean Weekly Score
	140- 136			140- 136	
2	135- 131	97.00	1	135- 131	99.50
3	130- 126	87.90	3	130- 126	85.07
4	125- 121	98.83	7	125- 121	91.94
11	120- 116	92.99	12	120- 116	99.08
15	115- 111	98.17	12	115- 111	85.22
6	110- 106	98.83	10	110- 106	84.10
6	105- 101	89.52	9	105- 101	72.94
3	100- 96	72.13	6	100- 96	68.87
1	95- 91	66.60	1	95- 91	34.50
	90- 86			90- 86	
	85- 81			85- 81	
1	80- 76	100.00		80- 76	

Table 9 (Continued).

Test-Study			Study-Test		
Number of Students	I.Q.	Mean Weekly Score	Number of Students	I.Q.	Mean Weekly Score
	75- 71			75- 71	
Mean weekly score all groups <u>93.49</u>			Mean weekly score all groups <u>84.51</u>		

Table 10. Comparison of Weekly Spelling Achievement (Grade 4).

Test-Study			Study-Test		
Number of Students	I.Q.	Mean Weekly Score	Number of Students	I.Q.	Mean Weekly Score
	140- 136			140- 136	
2	135- 131	100.00		135- 131	
1	130- 126	91.10		130- 126	
6	125- 121	96.32	4	125- 121	98.08
5	120- 116	98.80	1	120- 116	99.70
9	115- 111	97.22	10	115- 111	98.13
13	110- 106	97.55	10	110- 106	95.81
9	105- 101	91.09	7	105- 101	91.17
1	100- 96	100.00	5	100- 96	88.56
	95- 91		5	95- 91	92.22
1	90- 86	97.90	3	90- 86	80.63
	85- 81			85- 81	
	80- 76		1	80- 76	64.80

Table 10 (Continued).

Test-Study			Study-Test		
Number of Students	I.Q.	Mean Weekly Score	Number of Students	I.Q.	Mean Weekly Score
	75- 71		1	75- 71	50.40
Mean weekly score all groups <u>97.42</u>			Mean weekly score all groups <u>91.07</u>		

CHAPTER IV

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

This study has been concerned with studying and appraising a better means of teaching spelling to elementary school students. It has been suggested by this writer that teaching spelling by using the test-study method will yield better results than have been achieved through the traditional study-test method.

Summary

This writer, after reviewing much of the recent literature available in the field of spelling, conducted an experiment using two methods of teaching spelling—the test-study method and the study-test method. Each method was taught in 3 second grade and 2 fourth grade classrooms for 22 weeks. The test-study groups used composite methods of instruction recommended by many of the writers in the field of spelling. The study-test group used the method prescribed by the authors of an accepted spelling text.

The scores made by the students on the pretest and the post test indicated that more progress had been made in grade two by the group using the test-study method than by the group using the study-test method. The mean gain made by the test-study group was 8.5% higher in retention, 20.8% higher in incidental learning, and 12.6% higher in total spelling comparison than the study-test group. The test-study group also ranked higher than did the study-test group on all three comparisons of mean

final test scores in the second grade. The mean final score was 14.7% higher in spelling retention, 20.5% higher in incidental learning, and 15.4% higher in total spelling comparison. The second grade test-study group had a higher mean weekly score than did the study-test group. The test-study group's mean weekly score was 8.98% higher than that of the study-test group.

In grade four the mean gain of the test-study group showed 10.2% less improvement than did the mean gain of the study-test group in spelling retention, 2.6% more improvement in incidental learning, and 8.7% less improvement in total spelling comparison. However, the mean final score achieved by the test-study group in grade four was higher on all three comparisons than was the mean final score achieved by the study-test group. The mean final score was 2.4% higher on retention, 13.5% higher on incidental learning and 4.3% higher on total spelling comparison. The mean weekly score made by the test-study group in grade four showed a difference of 6.35% over that of the mean weekly score of the study-test group.

This writer is of the opinion that the results obtained by the test-study group in grade four were not as high as they might have been if the pretest and the post test would have been more difficult. The students in the test-study group ranked somewhat higher (12.7% higher on retention, 10.9% higher on incidental learning, and 13.0% higher on total spelling comparison) on the mean initial scores than did the students in the study-test group. This may not have enabled the students in the test-study group to show as high a mean gain as they might otherwise have shown.

Conclusions

It is difficult, if not impossible, to measure the influence of the teachers' interest in presenting the two spelling programs. To say that there was no difference in enthusiasm and presentation would not be accurate. To say that there was a great deal of difference in teachers' attitude would be no more accurate than saying there was none. However, it should be kept in mind that there were, no doubt, as many variables as there were teachers and students.

The experiment seems to offer evidence, although not conclusive, that students using the test-study method learned their words more quickly and retained them longer than did students using the study-test method. There also seems to be some evidence that under the teachers' supervision students who are excused from regular spelling class when they attain perfect scores on the required list learn more spelling words incidentally than do those who are required to spend their time studying words they already know.

There does not seem to be any evidence to show that the test-study program works better at higher grade levels than at lower grade levels. This writer feels that the test-study method will produce better results in all of the elementary grades where spelling is taught than will the traditional study-test method.

Recommendations for Further Study

The results of this investigation suggests that the following questions would be worthy of future study:

1. What are the results of a study of this type when a larger sampling is used?
2. What are the results of a study of this type when teachers have used the test-study method for a number of years?
3. What are the results of a study of this type when different grade levels are experimented with?
4. What percent of the students using the two methods will be able to spell the words they have learned correctly when they must write them in composition?

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