

THE EFFECT OF A VERBAL STIMULUS ON READING RATE
AND COMPREHENSION FOR SECOND GRADE STUDENTS

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By
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The writer wishes to take note of the fact that this study was jointly done with Mr. Ken Hudepohl, the procurement of the data was shared directly and the related research cooperatively done. The analysis of the data is at different grade levels, namely second and fifth. For more specific information on the outcome of each study, it is recommended to consult both studies.

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CHAPTER I

INTRODUCTION

Throughout the professional literature concerning reading, authorities refer to the complex skills of reading rate and comprehension. Agreement has been reached that:

In general, rate and comprehension are highly related. Rapid readers may attain greater achievement in comprehension than slower readers.¹

and also further stated:

The purposes for which reading is done dictate the rate of reading and control the depth and accuracy of comprehension.²

Along with rate and comprehension, motivation, stimulation and direction are important factors of a child's success in reading.

Reading authorities agree that in order to check rate of reading, comprehension is a necessity. Also a purpose must be stated before the reading selection is read in order to receive an accurate measure of a child's ability.

¹Emmett Betts, Foundations of Reading Instruction (New York: American Book Co., 1946), p. 465.

²Ibid, p. 503.

Since there is a variety of ways to prepare a child to read, one must examine the effectiveness of those ways. Close examination of different ways to set a child's direction should be made. This paper examines one of those ways, namely an oral direction before oral and silent reading commences and a check on its effect as it relates to rate and comprehension.

Statement of the Problem

The purpose of this study was to investigate the effect a verbal stimulus had on oral and silent reading rate and comprehension.

Specifically, this study analyzed and compared the effect a verbal stimulus had upon 136 second grade children. These children were asked to read orally and silently.

Delimitation

This study was to investigate the effect a verbal stimulus had on oral and silent reading rate and comprehension. Two grade levels were used. The writer chose second grade while the co-worker chose fifth grade. All testing was done individually by the writer and co-worker. The co-worker tested one half of the population in this study.

The children involved in this study were in the second grade. They were in the Harper and Row Basic Reading Program.

The population was selected from the Livermore Valley Unified School District, Livermore, California, and the Pleasanton Joint School District, Pleasanton, California. Testing involved 136 second grade children.

The age and the sex of the children involved in this study were not determining factors for the data.

Justification of the Study

Present literature describes rate of reading. The various testing devices such as The Durrell Reading Analysis³ and The Gilmore Oral Reading Test⁴ emphasize rate for proper reading placement. Studies also reveal that if rate of reading is checked, comprehension must also be checked.

The intent of this study was to show that regardless of a child's purpose for reading, may it be independent, instructional, or any other, rate and

³Donald Durrell, Durrell Analysis of Reading Difficulty (New York: Harcourt, Brace and World, Inc., 1955).

⁴John V. Gilmore and Eunice C. Gilmore, Gilmore Oral Reading Test (New York: Harcourt, Brace and World, Inc., 1968).

comprehension will change; i.e., purpose does change rate of oral and silent reading for elementary school children.

The following are questions that were asked in developing the study:

A. Will rate of oral and silent reading increase with a verbal stimulus?

B. Will comprehension of oral and silent reading increase with a verbal stimulus?

C. When using a verbal stimulus, will reading rate change? If so, to what degree?

D. When using a verbal stimulus, will reading comprehension change? If so, to what degree?

E. Can the effect of a verbal stimulus on oral and silent reading rate be measured?

F. Can the effect of a verbal stimulus on oral and silent reading comprehension be measured?

G. Will the statistics show that a verbal stimulus does not affect the rate of oral and silent reading and comprehension?

H. What effect will the sequence in which a child is tested have upon his rate and comprehension; i.e., if the procedure calls for verbal stimulus first vs the verbal stimulus second?

Sources of Data

A. Primary data:

1. Harper and Row Basic Reading Series, Strand I, second reader, All Through the Year.⁵
2. Selected pages for verbal stimulus vs non-stimulus reading from the above reader will be used for oral and silent reading at the second grade.
3. Prepared comprehension questions for both verbal stimulus vs non-stimulus for All Through the Year.⁶
4. The population of 136 second grade children who were properly placed in the Harper and Row material.

B. Secondary data:

1. Related research and literature.
2. Albert Harris' How to Increase Reading Ability tables on rate of reading.⁷
3. Criteria used for proper placement in Betts' Foundations of Reading Instruction.⁸
4. The Durrell checklist of oral and silent reading errors.⁹

⁵Mabel O'Donnell and Byron H. Van Roekel, All Through the Year (Evanston, Illinois: Harper and Row, Publishers, Inc., 1966).

⁶Ibid.

⁷Albert Harris, How to Increase Reading Ability (New York: David McKay Co., 1961), pp. 507-508.

⁸Emmett Betts, Foundations of Reading Instruction (New York: American Book Co., 1946), pp. 445-53.

⁹Donald Durrell, Durrell Analysis of Reading Difficulty (New York: Harcourt, Brace and World, Inc., 1955).

CHAPTER II

REVIEW OF THE LITERATURE

This study is concerned with rate and comprehension of oral and silent reading. Since specific studies dealing with the topic of this paper were limited, this paper will discuss those topics relative to the problem:

1. Motivation and purpose for reading.
2. Rate and comprehension.
3. Oral and silent reading.

Motivation and Purpose for Reading

Since the 1920's and 1930's when questions to improve comprehension came into wide use, nearly all authorities on the teaching of reading advocated that teachers guide the initial reading of pupils. A widely accepted instructional procedure for developing these and other abilities is the use of a variety of guiding or motivating questions followed by discussion and further questions. These specific abilities were outlined by Witty, Koch, Lindahl, and Cadwallader, in that,

The reading program is to promote specific reading abilities such as locating information, following directions, remembering important ideas and significant details, drawing conclusions, getting the main idea of the selection, and adjusting reading rate to purpose.¹⁰

The psychological basis for making reading or any other endeavor purposeful as a means of improving the efficiency of the learning process is well established. Concerning the psychology of reading McCullough, Strang, and Traxler assert that:

The reader's background, intention, and purpose in reading the passage determined the ideas that he selects as important, the interpretation that he gives to the meaning of the writer's statements, and the weight or emphasis that he assigns to each idea in its relation to the whole.¹¹

Many teachers do not understand how important the quality of their questions is to the child's comprehension. Experiments have shown that intelligent questioning improves the quality of comprehension in both immediate and delayed recall. Children should have a purpose which the reading will satisfy; otherwise, their interest is not properly motivated. Questions which come after the reading are too late to help the child in comprehension. His reading is already done and

¹⁰Paul Witty and others, Teachers Guide for Luck and Pluck (Boston: D. C. Heath and Co., 1950), p. 11.

¹¹Constance M. McCullough, Ruth Strang, and Arthur E. Traxler, Problems in the Improvement of Reading (New York: McGraw-Hill Book Co., 1946), p. 43.

his comprehension task is completed. It might well be said that the quality of comprehension will not be much better than the quality of questions set to guide the reading. Only the knowledge that such questions are coming will serve to keep the child alert during the reading.

Reading with a purpose is more efficient than reading without one. The active reader has a problem to solve; the passive reader has no directions or interest. On the other hand, Bond and Tinker emphatically state:

A general direction such as "Read the first two lines (or the paragraph)" has little justification.¹²

In general, the procedures for guiding pupils' reading should vary. Materials designed for third grade and below should be guided at a rate of one or two pages at a time. At fourth grade and above, questions are usually asked at the beginning and end of a selection read. The more experience a child has in reading longer units, the less direct questions are needed. Betts is a strong advocate of this method. A similar opinion is expressed by Yoakam who states that:

¹²Guy L. Bond and Miles A. Tinker, Reading Difficulties, Their Diagnosis and Correction (New York: Appleton-Century-Crofts, 1957), p. 505.

Various degrees of guidance are needed with children on different levels of development.¹³

Theoretically, then, any teaching technique which helps to establish purpose for the learner tends to improve reading. Modern programs of reading by developing interest in each new topic, by adjusting the program to the needs of the learner, by relating new material to the learner's experience, and by establishing immediate and specified purposes for each reading selection.

All motivation in the teaching of reading should have as its fundamental purpose a systematic increase in the child's desire to read.¹⁴

Rate and Comprehension

Since World War II there has been a tendency in the United States to stress rate increase in reading. At the elementary school level there is some evidence that practices designed primarily to stress rate do not produce as much growth in comprehension as developmental reading programs in which rate is not stressed.

Recognition of the complexity of the relationship between rate and comprehension brought about the view that pupils should learn to vary reading rate. In 1928,

¹³Gerald A. Yoakam, Basal Reading Instruction (New York: McGraw-Hill Book Co., 1955), p. 98.

¹⁴Donald D. Durrell, Improving Reading Instruction (New York: Harcourt, Brace and World, Inc., 1956), P. 136.

Gerald A. Yoakam distinguished skimming, rapid reading, normal reading, and slow, careful reading as the four main rates.¹⁵ Since then, hardly anyone has questioned the idea that an efficient reader should vary his rate of reading according to his purposes and the kinds of materials he reads.

Research indicates, however, that most readers are rigid rather than flexible in their reading rate. One reading authority studied more than 6,000 readers at elementary, secondary, college, and adult levels, and found that more than 90% tended to maintain a relatively invariant rate with all types of reading tested, despite instructions for differentiation of purpose.

It has been emphasized recently that rate is only one of the characteristics of reading which expert readers should vary according to circumstances. McDonald has written:

The flexible reader as the result of his attention to purpose, difficulty of material, complexity of theme, and background knowledge, makes many adjustments of reading approaches and specific techniques.¹⁶

¹⁵Gerald A. Yoakam, Reading and Study (New York: McMillan Co., 1928), p. 64.

¹⁶Albert Harris, "Research on Aspects of Comprehension," The Educational Digest, Vol XXXIV, No. 1, March, 1969, p. 49.

Reading specialists have long proclaimed that the reader's purpose is an integral part of reading. Systematic instruction, different kinds of purposes, adjustment of approach and rate have been heavily discussed. Confusion has resulted from the literature related to purposeful reading as stated by Smith in her paper, Reading for Different Purposes. He states three reasons for such confusion:

Although researchers and experts in reading frequently use the term, purpose for reading, and give examples as they perceive it, they rarely define purpose such as uses of reading, reading "sets," comprehension skills or abilities, aspects of reading, or motives for reading. Furthermore, some authorities use several terms interchangeably without giving any explanations. Included in many lists are extraneous factors which may be important in reading, but are not readers' purposes per se, such as writers' purposes, style of writing, and evaluation of materials read.¹⁷

Rate of reading as defined by the Dictionary of Education is "speed of reading; usually measured in terms of the number of words or letters recognized and comprehended per minute or per second."¹⁸

¹⁷Helen K. Smith, "Reading for Different Purposes," Reading Research Quarterly, Vol. III, No. 1, (1967), p. 57.

¹⁸Carter V. Good (ed.), Dictionary of Education (2d ed.; New York: McGraw-Hill Book Co., 1959), p. 445.

Although some authors use the term speed interchangeably with rate, they agree that comprehension is of the utmost in importance when dealing with rate.

Dawson and Bamman state that:

Rate of reading does not exist in and of itself; if this were so, we would have to select a new definition for reading.¹⁹

Harris states:

There is a voluminous literature on the relation between rate of reading and comprehension, much of which was completed before 1940. The degree of correlation was found to range all the way from low negative to high positive. The results varied with the age of the readers, with the kinds of materials employed, with the methods used in measuring the two characteristics, and with the purpose for reading.²⁰

Also, Betts reveals that:

. . . rate and comprehension are highly related, . . . purposes dictate rate of reading and control the depth and accuracy of comprehension.²¹

To quote the number of words read per minute does not have any more actual significance than to quote one driving speed for all types of traffic. To paraphrase an excellent summary by Heilman:

¹⁹Mildred A. Dawson and Henry A. Bamman, Fundamentals of Basic Reading Instruction (New York: Longmans, Green and Co., 1960), p. 187.

²⁰Albert Harris, "Research on Aspects of Comprehension," The Educational Digest, Vol. XXXIV, No. 1, March, 1969, p. 48.

²¹Emmett Betts, Foundations of Reading Instruction (New York: American Book Co., 1946), p. 465.

The factors on which rate of reading depend include the reader's background knowledge of content, the reader's purpose, his physiological and psychological states, the amount of time at the reader's disposal, the size of the print, the glare or lack of light, surrounding noises or other distracting stimuli, and the readability of the book.²²

Rate of silent reading should be measured on material which is of the same level of difficulty throughout.

There are two methods commonly used in measuring rate.

One is to use a test containing a large number of short paragraphs of equivalent difficulty, with a question to be answered on each paragraph. Such tests employ a time limit. The rate is determined from the amount read in the time allowed. Sometimes the score is called "rate of comprehension." It is based on the number of correct answers, rather than on total number of answers. This is neither a pure rate score nor a very good comprehension measure. The other method presents a fairly long selection of several hundred words. The time required to finish is recorded, or time is called and the child marks the last word read. Informal teacher-constructed rate tests as well as standardized tests can be built on this basis.

²² Arthur Heilman, Principles and Practices of Teaching Reading (Columbus: Charles E. Merrill Books, Inc., 1961), p. 283.

Accuracy in silent reading is measured in terms of the proportion of correct answers to the total number of answers. Although few standardized tests provide norms for accuracy, the person scoring tests should make note of a test paper in which unusually high or low accuracy is shown, as this characteristic often has diagnostic significance.²³

The fact has been recognized for years that children and adults read for many purposes. Experiments have established the fact that rate and comprehension are accompanied by changes in the processes involved. These changes are recognized through testing devices, usually comparing rate and comprehension at some specified level, and determining what the effect might be. Edith G. Germane, as reported by Hilliard, concluded from her study that:

There is a positive correlation between speed and comprehension.²⁴

that:

Some rapid readers are poor in comprehension while some of the slow readers are good in comprehension.²⁵

²³Albert Harris, How to Increase Reading Ability (New York: David McKay Co., 1961), pp. 161-62.

²⁴George Horatio Hilliard, "Probable Types of Difficulties Underlying Low Scores in Comprehension Tests, *Studies in Education*, II (1924), 518-19.

²⁵*Ibid.*

and that:

The majority of students who comprehend well are rapid readers and the majority who do not comprehend well are slow readers.²⁶

The general fact revealed is that:

High rate and good quality are commonly related and that low rate and poor quality are commonly related.²⁷

Oral Reading

At the elementary level, two types of reading are practiced, namely, oral and silent reading. The emphasis of oral reading at the primary grades is evidenced and practiced. After third grade, oral reading begins to become secondary to silent reading.

Although comprehension is emphasized with both types of reading, the notable changes in rate are evidenced more as the youngster makes the transition to silent reading. The rate of oral reading tends to lend itself to consistent rate of speed whereas silent reading is more in tune with various rates and speed. Bond and Tinker state that:

²⁶Ibid.

²⁷Ibid.

Many children who lack ability in oral reading attempt to read too rapidly or have a poor sense of timing. They may start out reading at a reasonable rate but go continually faster until little of what is read can be understood. . . One of the most helpful means of aiding the poor oral reader is to devote attention to his rate and timing.²⁸

Silent Reading

In defining silent reading, it is generally regarded as a complex skill made up of subordinate skills. These skills function in an integrated manner to produce efficient reading. Durrell discussed the most important factor as being the level at which an individual can read with attention and persistence. Silent reading is the moment when a child links his own experiences with the content of his reading at a more independent level. Once silent reading has been established, greater emphasis is placed upon the various rates of reading and levels of comprehension. An individual's degree of comprehension should be noted in his ability to answer questions as well as give a coherent, oral account of what has been read. Adjustment of reading rate to purpose should be considered along with comprehension.

²⁸Guy L. Bond and Miles A. Tinker, Reading Difficulties, Their Diagnosis and Correction (New York: Appleton-Century-Crofts, 1957), pp. 345-46.

Summary

In summary, the sources reviewed generally agreed that motivation and purpose are important for the child's success in his rate and comprehension of oral and silent reading. However, the degree of purpose and the importance of skills stressed go hand in hand for a balanced and successful program.

CHAPTER III

THE PLAN OF THE STUDY

The purpose of this study was to investigate the effect a verbal stimulus had on oral and silent reading rate and comprehension.

Specifically, this study analyzed and compared the effect a verbal stimulus had on 136 second grade children when they were asked to read orally and silently.

Permission to Conduct the Study

Permission to conduct this study was granted by the Director of Elementary Instruction, Mr. Jack Waggoner, of the Livermore Unified School District, Dr. William F. Schrech, Assistant Superintendent of the Pleasanton Joint School District, and Dr. David H. Carlisle, Director of Research, Pleasanton Joint School District, to make preliminary plans and decisions relative to the study.

Since the collection of data had taken place in two districts, namely Pleasanton and Livermore, this writer, along with Kenneth Huedepohl, received permission to combine the data. The attached letters of permission are from the Livermore Unified Schools since this writer represented that district. (See Appendix.)

Description of the Community

Livermore and Pleasanton are located in the Livermore-Amador Valley, thirty five miles southeast of Oakland, California. Although being a bedroom community of the San Francisco Bay Area, some light industry does prevail. The socio-economic status of both cities is basically a middle class commuter population. The ethnic breakdown is ninety percent Caucasian with the remaining ten percent other.

Description of the Test Population

The Livermore and Pleasanton School Districts encompass an enrollment of approximately 10,000 and 6,000 elementary children respectively. Schools selected for this study are representative of the district's socio-economic, ethnic, and linguistic ranges. The subjects selected for this study were at the second grade reading level as determined by the Harper and Row Reading Readiness Placement Test²⁹ and teacher inventory. The subjects were capable of reading Harper and Row materials.

²⁹Byron H. Van Roekel, Harper and Row Second Year Readiness Test (New York: Harper and Row, Publishers, Inc., 1968).

Methodology

The children involved in this study were in the second grade in school. All children lived in Pleasanton and Livermore. Their age and sex were not factors since the writer was only interested in grade placement. There were 68 second graders from the Pleasanton Joint School District and 68 second graders from the Livermore Unified School District. The total population of second graders involved in this study was 136 children.

Another criteria involved in this study was establishing consistent materials and procedures. Since the writer and co-worker conducted the testing of this study themselves in the two neighboring school districts, it was imperative that the procedures and materials be identical.

The testing materials for this study were developed from the Harper and Row Basic Reading Series, Strand I, All Through the Year, second grade reader. The stories used were: "The Grand Idea," pages 80-85; "Lights Out," pages 91-93; "I Don't Like the Looks of Things," pages 86-90; and "Mystery and No Mystery," pages 94-97.³⁰

³⁰Mabel O'Donnell and Byron H. Van Roekel, All Through the Year (Evanston, Illinois: Harper and Row, Publishers, Inc., 1966), pp. 80-97.

Each selection was typed exactly as it appeared in the textbook, including the primary type and line length. This was done to eliminate the factor of story recognition due to textbook usage.

Eight comprehension questions of basic recall of information were constructed to follow each of the above mentioned selections. Any questions that gave indications of inconsistency in responses and were of the interpretive nature were eliminated in a pilot study.

Since the purpose was to investigate the effect of a verbal stimulus on reading rate and comprehension, the following directions were used:

Stimulus

1. Oral: "Read this story aloud to me. When you are finished, I will ask you some specific questions about the story you have just read."
2. Silent: "Read this story silently to yourself. When you are finished, I will ask you some specific questions about the story you have just read."

Non-Stimulus

1. Oral: "Read this story aloud to me."
... (child reads story) ...
"Now I'm going to ask you some specific questions about the story you just read."
2. Silent: "Read this story silently to yourself." ... (child reads story) ...
"Now I'm going to ask you some specific questions about the story you just read."

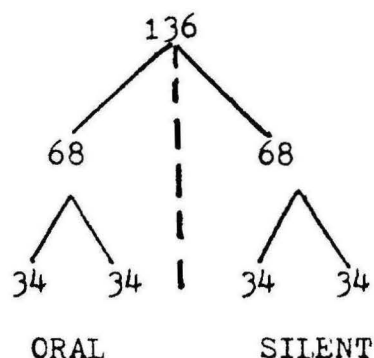
In administering the selections, the writer chose the following method:

- A. Establish their instructional reading level.
 1. Initial selection -- the teachers of the classrooms selected were asked to choose those children that had taken the Harper and Row Reading Readiness test.³¹
 2. The children reading above and below the second grade level were initially eliminated by the classroom teacher.
 3. To insure the initial grade placement done by the classroom teachers, the procedure suggested by Betts in his book entitled Foundations of Reading Instruction was followed.³²
- B. Sixty-eight children read orally.
- C. Sixty-eight children read silently.
- D. The two sub sets of 34 children in each set of 68 were rotated, meaning 34 children were given the verbal stimulus first and non-stimulus second; the remaining 34 children

³¹Byron H. Van Roekel, Harper and Row Second Year Readiness Test (New York: Harper and Row, Publishers, Inc., 1968).

³²Emmett Betts, Foundations of Reading Instruction (New York: American Book Co., 1946), pp. 445-53.

were given the non-stimulus first and the verbal stimulus second. This method was used on the entire population.



- E. Each child was timed as he read.
- F. All children were tested orally.
- G. The selections used were rotated in the following manner:
 1. Each selection was lettered A,B,C, or D.
 2. One hundred thirty six markers were labeled A, B, C, or D on an equal basis (34A, 34B, 34C, 34D) randomly selected.
 3. The markers were drawn and their corresponding letters were plotted on the data sheet in the sequential numerical order in which they were drawn.
 4. Each child read either selections A and B, or C and D. The first selection read out of each pair of selections was determined by the random selection, plus the numerical order upon entering the room.

EXAMPLE

a. Give each selection a letter

A - Oral	Verbal Stimulus - Non-Stimulus
B - Oral	Non-Stimulus - Verbal Stimulus
C - Silent	Verbal Stimulus - Non-Stimulus
D - Silent	Non-Stimulus - Verbal Stimulus

b. Put selections on the data sheet in the sequential numerical order in which they were drawn.

1 - A

2 - B

3 - B

4 - C

5 - A

6 - D

H. Data Sheet

The attached is an example of the data sheet (Table 1) established with the following information:

1. Story identification
2. Numerical order
3. Random selection order

TABLE 1
DATA SHEET

GRADE _____

N.C. ORDER	NAME	S.O.	SEX	SCHOOL	A		CRAL		B		C		SILENT		D	
					STIMULUS		NON-STIMULUS		STIMULUS		STIMULUS		NON-STIMULUS		STIMULUS	
					TIME	COMP	TIME	COMP	TIME	COMP	TIME	COMP	TIME	COMP	TIME	COMP
1		B														
2		C														
3		D														
4		D														
5		B														
6		D														
7		B														
8		A														
9		C														
10		E														
11		C														
12		C														
13		D														
14		A														
15		C														
16		D														
17		D														

Pilot Study

The purpose of the pilot study was to test the following:

1. The difficulty and range of the story selections.
2. The validity and consistency of the comprehension questions.
3. The noted differences in rate of reading as related to accuracy in comprehension when the verbal stimulus was used.

The outcome of the pilot study administered on ten percent of the population to be tested was as follows:

- A. The difficulty and range of the story selections were validated on the basis that 12 of the 14 children selected read without exceeding five errors per 100 running words as established in Betts' Table of Ability Placement.³³
- B. There were eight comprehension questions written from the story by the writer. It was the writer's judgment that if 50 percent of the children involved in this pilot study

³³Emmett Betts, Foundations of Reading Instruction (New York: American Book Co., 1957), pp. 445-53.

missed the same specific question, that question was eliminated from the entire study. Using the above criteria, six questions out of the original eight questions remained.

- C. In applying a verbal stimulus to both the oral and silent selections, an appreciable difference in rate was noted as opposed to the non-stimulus treatment. Also, the number of correct comprehension responses by the pilot group was greater when using the verbal stimulus selections as opposed to the non-stimulus selections.

Procurement of the Test Data

All children were tested individually by the writer and co-worker. The procedure in selecting and testing the children at their respective levels was:

- A. Establish their instructional reading level.
1. Initial selection -- the teachers of the students in the classrooms selected were asked to choose those children who were reading at their respective grade level.
 2. The children reading above and below the second grade level were initially eliminated by the classroom teacher.

3. To insure the initial grade placement done by the classroom teachers, the procedure suggested by Betts in (his book entitled) Foundations of Reading Instruction was followed.³⁴
- B. Selection and development of the testing devices:
1. Select the pages for oral and silent reading for second graders.
 2. Develop verbal stimulus and non-stimulus comprehension questions for both oral and silent reading for the second grade level.
- C. Establish criteria for oral and silent reading:
1. Each child at the second grade level read the same selections as the other second graders in this study.
 2. Each individual time of the second graders was recorded.
 3. The second graders were asked the identical comprehension questions.
 4. The number answered correctly out of the total number of questions given was recorded for each second grader.

³⁴ Betts, Ibid.

Post-Pilot Test

A post-pilot test was established by using eight percent of the testing population. This was done to insure that the verbal stimulus selections for both oral and silent reading (Selection A and Selection C) were of equal difficulty in both reading and comprehension responses. The writer therefore substituted the two non-stimulus selections (namely B and D) in place of the verbal stimulus selections. The purpose of this procedure was to determine whether the results of rate and comprehension would show the change in the hypothesis being tested. The outcome of the post-pilot test showed:

- A. A verbal stimulus had an effect on both Selections B and D.
- B. Rate increased in both selections.
- C. The comprehension responses were equal to the two verbal stimulus selections being tested.

The following chapter on Analysis of Data will bear out the results of this entire study.

CHAPTER IV

ANALYSIS OF THE DATA

The four variables being tested in the study were as follows:

1. The effect a verbal stimulus had on the rate of oral reading.
2. The effect a verbal stimulus had on the rate of silent reading.
3. The effect a verbal stimulus had on comprehension of oral reading.
4. The effect a verbal stimulus had on comprehension of silent reading.

Comparing the scores and computing the value of the four variables was done by using the formula $\chi^2 = 4 D^2 \frac{n_1 n_2}{n_1 + n_2}$, found in Siegel's book, Non-parametric Statistics for the Behavioral Sciences.³⁵

A probability of .05 was determined as the statistical success for any of the variables being tested.

³⁵Sidney Siegel, Non-parametric Statistics for the Behavioral Sciences (New York: McGraw-Hill Book Co., 1956), p. 249.

The following information on the four variables was computed by using the above formula and information shown on Tables 2, 3, 4 and 5.

Rate of Oral Reading

Sixty eight children of the experimental and sixty eight children of the control resulted in a D score of .615 in favor of the experimental group. The value of χ^2 was 17.40 with a probability of .001. (Refer to Table 2.)

Rate of Silent Reading

Sixty eight children of the experimental and sixty eight children of the control resulted in a D score of .360 not in favor of the experimental group. The value of χ^2 was 2.312 with a probability of .20. (Refer to Table 3.)

Oral Reading Comprehension

Sixty eight children of the experimental and sixty eight children of the control resulted in a D score of .455 in favor of the experimental group. The value of χ^2 was 20.7 with a probability of .001. (Refer to Table 4.)

Silent Reading Comprehension

Sixty eight children of the experimental and sixty eight children of the control resulted in a D score

of .255 in favor of the experimental group. The value of χ^2 was 8.82 with a probability of .02. (Refer to Table 5.)

Result

All but one of the variables tested resulted in favor of the experimental group. The silent reading rate score showed much less of a result than the other three. The concluding chapter (on conclusion) will attempt to explain the results of the analysis.

TABLE 2

ORAL READING RATE

Verbal Stimulus

TIME	FREQUENCY	CUMULATIVE FREQUENCY
0	0	0
1	0	0
2	1	1
3	5	6
4	9	15
5	11	26
6	12	38
7	15	53
8+	15	68

Non-Stimulus

TIME	FREQUENCY	CUMULATIVE FREQUENCY
0	0	0
1	4	4
2	15	19
3	26	45
4	11	56
5	9	65
6	1	66
7	1	67
8+	1	68

TABLE 3

SILENT READING RATE

Verbal Stimulus

TIME	FREQUENCY	CUMULATIVE FREQUENCY
0	0	0
1	0	0
2	1	1
3	6	7
4	15	22
5	21	43
6	11	54
7	8	62
8	7	67
9	1	68

Non-Stimulus

TIME	FREQUENCY	CUMULATIVE FREQUENCY
0	0	0
1	2	2
2	7	9
3	20	29
4	17	46
5	10	56
6	4	60
7	3	63
8	2	65
9	3	68

TABLE 4

ORAL READING COMPREHENSION

Verbal Stimulus

SCORE	FREQUENCY	CUMULATIVE FREQUENCY
1	0	0
2	0	0
3	5	5
4	8	13
5	24	37
6	31	68

Non-Stimulus

SCORE	FREQUENCY	CUMULATIVE FREQUENCY
1	1	1
2	5	6
3	18	24
4	20	44
5	20	64
6	4	68

TABLE 5

SILENT READING COMPREHENSION

Verbal Stimulus

SCORE	FREQUENCY	CUMULATIVE FREQUENCY
1	6	6
2	6	12
3	15	27
4	22	49
5	12	61
6	7	68

Non-Stimulus

SCORE	FREQUENCY	CUMULATIVE FREQUENCY
1	13	13
2	10	23
3	21	44
4	15	59
5	6	64
6	4	68

CHAPTER V

CONCLUSIONS

On the basis of the data obtained in this study, the following conclusions about the effect a verbal stimulus had on rate and comprehension of oral and silent reading were reached by the writer:

1. Rate of oral reading with a stimulus resulted in favor of the experimental group.

2. Rate of silent reading with a stimulus resulted in favor of the control group determined by the statistical success of .05.

3. Oral reading comprehension with a stimulus resulted in favor of the experimental group.

4. Silent reading comprehension with a stimulus resulted in favor of the experimental group.

All but one of the variables tested resulted in favor of the experimental group. The silent reading rate score showed much less of a result. It is felt that a possible reason for this would be that second grade pupils are more used to oral reading practice and that the transition to silent reading usually comes later on in

a child of this age, program. Therefore, it is felt that the silent reading rate may not represent a true picture using the methods provided in this study.

Summary

It was the purpose of this study to investigate the effect a verbal stimulus had on oral and silent reading rate and comprehension.

For this study, 136 second graders enrolled at Pleasanton and Livermore Unified Schools were divided randomly into sub sets of 34 each. The two sub sets of 34 children in each set of 68 were rotated, meaning 34 children were given the verbal stimulus first and non-stimulus second; the remaining 34 children were given the non-stimulus first and the stimulus second. This method was used on the entire population.

The testing materials for this study were developed from the Harper and Row Basic Reading Series, Strand I, All Through the Year. Questions were developed from the series and used consistently with all groups tested. All testing was done by the writer and co-worker and the statistical data computed and analyzed.

Suggestions for Further Study

As a result of the information obtained from this study, the following recommendations are made:

1. Different grade levels could be used.
2. Different stimuli as well as a comparison of stimuli.
3. Different materials for testing purposes.
4. Age and sex factors might be used.
5. Pre and post test results using stimuli at different times of the year.
6. Test only high achievers and low achievers.
7. Use different populations.

BIBLIOGRAPHY

BIBLIOGRAPHY

Betts, Emmett. Foundations of Reading Instruction. New York: American Book Co., 1946.

Bond, Guy L., Cuddy, Marie C. Teacher's Guide for Meeting New Friends. Chicago: Lyons & Carnahan, 1951.

Bond, Guy L., Tinker, Miles A. Reading Difficulties, Their Diagnosis and Correction. New York: Appleton-Century-Crofts, 1957.

Carlson, Thorsten R. The Relationship Between Speed and Accuracy of Comprehension, Journal of Educational Research, Vol. 42, March, 1949.

Dawson, Mildred A., Bamman, Henry A. Fundamentals of Basic Reading Instruction. New York: Longmans, Green and Co., 1960.

Durrell, Donald. Durrell Analysis of Reading Difficulty. New York: Harcourt, Brace & World, Inc., 1955.

Durrell, Donald D. Improving Reading Instruction. New York: Harcourt, Brace & World, Inc., 1956.

Gilmore, John V., Gilmore, Eunice C. Gilmore Oral Reading Test. New York: Harcourt, Brace & World, Inc., 1968.

Golden, Sister Mary Laurentia. Reading Guided by Questions versus Careful Reading Followed by Questions, Journal of Educational Psychology, Vol. 33, September, 1942.

Good, Carter V. (ed). Dictionary of Education. Second Edition. New York: McGraw-Hill Book Co., 1959.

Harris, Albert. How to Increase Reading Ability. New York: David McKay Co., 1961.

Harris, Albert. Research on Aspects of Comprehension, The Educational Digest, Vol. XXXIV, No. 1, March, 1969.

Harris, Albert J. Research on Some Aspects of Comprehension, Rate, Flexibility, and Study Skills, (paper prepared for I.R.A. Second World Congress on Reading, August, 1968, Copenhagen).

Heilman, Arthur. Principles and Practices of Teaching Reading. Columbus: Charles Merrill Books, Inc. 1961.

Hilliard, George Horatio. Probable Types of Difficulties Underlying Low Scores in Comprehension Tests, Studies in Education, II, 1924.

Holmes, Eleanor. Reading Guided by Questions versus Reading and Re-reading Without Questions, School in Review, Vol. 39, May 1931.

Leston, Charles T. Speed and Comprehension in Reading, Journal of Educational Research, Vol. XL2, October, 1958.

Malone, J. F. The Relative Effectiveness of Controlled Reading versus Regular Classroom Instruction in Rate and Comprehension with Selected Eighth Grade Students. Doctoral dissertation, 1964.

McCullough, Constance M., Strang, Ruth M., Traxler, Arthur E. Problems in the Improvement of Reading. New York: McGraw-Hill Book Co., Inc., 1946.

McKee, Paul. The Teaching of Reading in the Elementary School. Boston: Houghton-Mifflin Co., 1948.

Monroe, Walter S. (preface ed.) Encyclopedia of Educational Research. New York: The Macmillan Co., 1950.

O'Donnell, Mabel, Van Roekel, Byron H. All Through the Year. Evanston, Illinois: Harper and Row, Publishers, Inc., 1966.

Siegel, Sidney. Nonparametric Statistics for the Behavioral Sciences. New York: McGraw-Hill Book Co., 1956.

Smith, Helen K. Reading for Different Purposes, Reading Research Quarterly, Vol. III, No. 1, 1967.

Spache, George D. Toward Better Reading. Champaign, Illinois: Garrard Publishing Co., 1963.

Tinker, Miles A., McCullough, Constance M. Teaching Elementary Reading. New York: Appleton Century Crofts, 1962.

Traxler, Arthur E. Ten Years of Research in Reading. New York: Educational Records Bureau, 1941.

Traxler, Arthur E., Townsend, Agatha. Another Five Years of Research in Reading. New York: Educational Records Bureau, 1946.

Van Roekel, Byron H. Harper and Row Second Year Readiness Test. New York: Harper and Row, Publishers, Inc., 1968.

Walton, Howard N. Vision and Rapid Reading. American Journal of Optometry and Archives of the American Academy of Optometry, Vol. 34, February, 1957.

Witty, Paul and others. Teachers Guide for Luck and Pluck. Boston: D. C. Heath and Co., 1950.

Yoakam, Gerald A. Basal Reading Instruction. New York: McGraw-Hill Book Co., Inc., 1955.

Yoakam, Gerald A., Reading and Study. New York: Mcmillan Co., 1928.

APPENDIX

LIVERMORE VALLEY UNIFIED SCHOOL DISTRICT
Alameda School

January 25, 1972

Mr. John Waggoner
Director of Elementary Instruction
Livermore Valley Unified School District
71 Trevarno Road
Livermore, California 94550

Dear Jack,

I am presently involved in my master's program at Cal State at Hayward. One of the requirements of the master's program is a thesis project that involves the collection of data. Specifically, the testing of a group of pupils that will provide the basis for my thesis project.

The purpose of this study is to investigate a stimulus vs a non-stimulus approach and their effect on rate of oral and silent reading and comprehension. Specifically, this study will analyze and compare the data of 65 second grade and 65 fifth grade children when asked to read orally and silently for a specific purpose and orally and silently for no specific purpose.

Your consideration of permission to conduct this study in Livermore would be greatly appreciated.

If you or your staff would like more information concerning the study, I would be happy to explain it in more detail.

When the study is complete, I would be more than happy to share the results with you or any staff member in the district.

Thank you for your consideration.

Sincerely,

Les Imel

LI/bk

P.S.

This study is also being conducted by a teacher in Pleasanton who is also a master's candidate. His data will be combined with mine.

LIVERMORE VALLEY UNIFIED SCHOOL DISTRICT
Livermore, California

M E M O R A N D U M

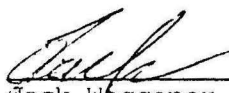
To: ✓ Les Imel
From: Jack Waggoner
Date: January 26, 1972
Re: Master's Thesis

Les, thank you for your letter regarding your intent to investigate a stimulus versus non-stimulus approach with 120 pupils in our district. It appears to be an excellent proposal for you, and possibly one which could be utilized in the district later on.

As per our discussion yesterday, may I suggest that you list the specific activities necessary to implement and carry out your proposal. Consideration should be given to the amount of time needed to identify and contract teachers, discuss the program with personnel involved, and test two sets of children on a pre and post basis. As we agreed, this should be done in the very near future.

After the development of this sort of event-chart, the next step would probably be for both of us to discuss it with Walt Capri.

Thanks for your request. Let's get started on it as soon as possible.


Jack Waggoner

cc: Walt Capri
Reading file

LIVERMORE VALLEY UNIFIED SCHOOL DISTRICT
Alameda School

January 27, 1972

TO: Jack Waggoner
FROM: Les Imel
RE: Consideration for released time to complete
thesis project

Dear Jack,

The attached information reflects my thinking so far as a possible solution to collection of data.

I've talked with Mr. Capri and his suggestion was to discuss this possibility with you.

Your reactions and consideration of this proposal would be greatly appreciated.

Thanks Jack,

Les

LI/hk

The following flo-chart represents a possible avenue to follow in consideration for data collecting.

<u>February 2nd</u>	<u>February 3rd</u>	<u>February 7th</u>
Review with Mr. Capri	Review with Mr. Waggoner	Identify possible schools for testing
<u>February 21st - 28th</u>		<u>March 6th - 10th</u>
Start testing Use population at Rincon/Alameda Second Grades - 32 pupils		Request 5 1/2 days of substitute time
<u>March 13th - 17th</u>		<u>March 20th - 24th</u>
Request 5 1/2 days of substitute time Second Grade/ Start 5th Grade		Request 5 1/2 days of substitute time Fifth Grade
<u>April 3rd - 21st</u>	<u>April 24th - 25th</u>	<u>May 1st</u>
Continue testing-----Complete all testing		
Total substitute time requested - 7.5 days		