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A research study to determine the effectiveness of the Orton-Gillingham method of teaching reading compared to the Basal method

Deloris Hassell Rhodes

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A RESEARCH STUDY TO DETERMINE
THE EFFECTIVENESS OF THE ORTON-GILLINGHAM METHOD
OF TEACHING READING COMPARED TO THE BASAL METHOD

A Project Submitted to
The Faculty of the School of Education
In Partial Fulfillment of the Requirements of the Degree of
Master of Arts
In
Education: Counseling Option

By

Deloris Hassell Rhodes, M.A.
San Bernardino, California
1974
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Approximately one child in every ten fails to learn to read, spell, or write satisfactorily. The failure is often not due to any lack of intelligence or effort on the child's part, but to a special language disability. Children with this disability frequently become hopelessly confused and frustrated when they are taught by the traditional methods.

Dr. Samuel Orton, neurologist and researcher in the field of language functions, extensively studied the learning problems of children with reading disabilities. Working closely with Dr. Orton, Anna Gillingham developed and tested remedial techniques to use with these children.

For many years, the Gillingham Method has been used in language clinics associated with schools, universities, and hospitals throughout the country. Reading specialists and remedial teachers have used the program in special classes and for individual tutoring. More recently - the method has been adapted for classroom use to prevent reading disabilities from developing. It has also been used successfully with adult illiterates. The results of both of these newer uses of the Gillingham materials have been encouraging.

This is a simple approach to phonics (alpha-phonetic). The Gillingham technique is used to teach the letters and then build these letter-sounds into words. This technique is based on the close
association of visual, auditory, and kinesthetic elements forming what is sometimes called the "language triangle." (12)

Purpose

The purpose of this research study was to determine the effectiveness of the Orton-Gillingham Method of teaching reading, versus the basal method of teaching reading to first grade children.

Null Hypotheses

Hypothesis 1) Children using the Orton-Gillingham method (the experimental group) and children using the Basal method (the control group) will not differ significantly in reading growth as measured by Harper and Row Primer Achievement Test and Harper and Row Reading Readiness Test.

Hypothesis 2) Boys (girls) using the Orton-Gillingham method (the experimental procedure) and boys (girls) using the Basal method (the control group) will not differ significantly in reading growth as measured by Harper and Row Primer Achievement Test and Harper and Row Reading Readiness Test.
Orton became interested in reading problems through the study of certain children referred to his pioneer Iowa mental hygiene clinic because of slow learning of behavior disorders.

One was a boy of sixteen from a junior high school who could read only first-grade material. Orton's analytical study of this "word blind" boy was the beginning of many years of work in this field, with many associates and a long procession of young patients.

Orton's approach to reading problems derived from his neuropsychiatric background and case-study methodology and included certain basic concepts which were quite different from those of most educators, whose interest in reading was naturally focused on providing uniform classroom instruction for all pupils in the primary grades. Individual differences in rate of learning were sometimes recognized by dividing classes into fast, average, and slow reading groups, in which the less able readers could proceed at a slower pace with easier based readers. Progressive education schools, new at the time, were giving reading instruction only indirectly.

Orton approached reading as one stage of the child's language development, preceded by spoken language (hearing and speaking) and expressed in writing which include spelling. He looked upon language as an evolutionary human function associated with the development of a hierarchy of complex integrations in the nervous system and culminating in unilateral control by one of the two brain hemispheres (cerebral dominance). Retardation in acquiring reading suggested to him that
there was some interference with this natural process of growth and development. He was impressed with a specific characteristic of reading impairment in the children he studied — the instability in recognition and recall of the orientation of letters and the order of letters in words, which he termed "Stre-phosyholia" meaning twisted symbols.

Orton's neurological experience with adults who had suffered language losses through disease or injury to the dominant brain hemisphere which is usually opposite to the master hand, particularly in right handed people, also aided him in his investigation of nontraumatic delays in language development in children. Studying not only the reading but also the oral language and the writing skills in his young patients, he found many evidences of both the interrelation and the separation of the various language functions. A poor visual memory for recognizing printed words would result in poor reproduction in recalling them for writing, and thus impair reading and spelling, a poor auditory memory for words would interfere with their reproduction in speech and writing; hence, word deafness, with poor spelling.

Delacato states that speech and reading are clinical indices of the nature and quality of neurological organization. Therefore, they are not separate problems, but are varying degrees of the same problem. He identifies these degrees in the terms of the following communication dysfunctions:

1. Aphasia
2. Delayed Speech
3. Stuttering
4. Retarded Reading
5. Poor spelling and handwriting
6. Reading which falls within normal range but is below mathematical performance.

Neurological organization is a continuous successive, independent development which can be diagnosed by observing corresponding levels of motor, visual, auditory, and speech development.

Lillian Gray found that girls score higher than boys regardless of intelligence, home background or ethnic origin. (7)

Other research findings indicate that there are other significant factors which may influence the boy-girl ratio. Throughout the history of education, the classroom has been dominated by females and the occurrences have largely been determined by women. This factor may explain Robert Farr's discovery that reported sex differences in mental ability are probably the result of the content of the test rather than differences in reading ability. (4)

According to Tuddenhan, girls are expected to be more responsible, quiet, friendly, and docile than boys. Boys are expected to be more aggressive, bold, and active than girls. (19)

Wozencroft (23) believes that there is no satisfactory explanation for the apparent higher achievement in girls than boys. This problem reflects differences in role expectation imposed upon by society rather than neurological differences.

While role expectations might influence natural motor, visual, auditory, and speech development, the question still remains as to whether more boys than girls are neurological disorganized. If Delacato's theory is reliable, than of the children who have observable symptoms of poor neurological organization the ratio should be four to one of boys over girls.
There are lots of remedial programs available in helping children who are not severely impaired, but are lacking in complete neurological development. Many methods can easily be incorporated in classrooms daily and into curriculum. It would be sad for educators to fail to investigate the problems thoroughly. It is a fact that a large number of children in this affluent society, especially minorities, are poor readers. Educators have been teaching reading for centuries, yet even the experts do not know how children learn to read.

The overt symptoms of a child with a specific reading problem are known to anyone concerned with the education of these children: they are poor readers in spite of good intelligence; they are usually easily discouraged by their failures; they often reverse letters and whole words; they are sometimes held back a grade in school; they are lost and bewildered in a culture that places a premium on the ability to read. They are often misplaced in society struggling in the shadows to find their place in the sun.
CHAPTER III
RESEARCH DESIGN AND PROCEDURES

The research design of this study was the experimental method as described by Borg and Gall. Thirty students were randomly assigned to two groups. One group was designated as the experimental group, the second, the control group. Both groups of students were given the Harper and Row Primer Achievement Test as a pre-test.

The experimental group followed the Orton-Gillingham procedures. The procedures consisted of the auditory approach, which leads to both oral and written spelling, the Kinesthetic approach, and the visual approach which leads to reading. The experimental group had access to various books of their own choosing. The teacher kept an up-to-date file on the work and readings of each child. They did not use workbooks of any kind. There was no daily oral reading groups, each child read on the level of his ability.

The control group used basal readers and workbooks. The students of the control group were placed in several oral reading groups, with each child progressing through the reading book and workbook that accompanies the basal reader. The teacher introduced new words in the lesson, then called upon the students to read orally. The teacher kept a progress folder on each student. All work was graded and placed in a folder for future study by the teacher. After each student in the control group completed his assignment, he progressed to the next lesson.

The Harper and Row Reading Readiness Test was administered to both groups at the conclusion of the study in an attempt to measure the effects of the two approaches.

Conducting the reading programs were one first grade teacher and one reading assistant.
Limitations of the Study

The study is limited by the fact that the students in the experimental group did not volunteer, but were randomly selected to take part in this study. A further limitation consisted of the fact that the person who conducted the research study is a second year teacher exploring a series of reading approaches.

The time limit of this study was one semester. Experimental treatments that extend over a long period of time allow for other events to occur in addition to the experimental treatment. One of the variables which may intervene is instruction from substitute teachers which can affect self perception and classroom performance. In addition, both positive and negative psychological and biological processes may occur which can influence the students' performance. During the semester the experimental process was in progress, the students developed physically, socially and intellectually.

Finally, the Hawthorne Effect may influence the performance of an experimental group in any study of this nature.
Sample

The population of this study consisted of thirty students. The experimental group was composed of fifteen first grade students at Bonnie Oehl Elementary School. The experimental group contained five girls and ten boys. All the students in the sample had attended kindergarten at the school.

The control group consisted of fifteen first grade students enrolled at Bonnie Oehl Elementary School. The subjects were selected for the groups by assigning every other name on the registration roster to the experimental group and the remaining names to the control group. All the students in the control group had attended the school in kindergarten.

Instructional Program and Procedures

The instructional program used with the experimental group in this study was developed by Samuel T. Orton and Anna Gillingham. It consisted of three approaches to learning: an auditory approach; kinesthetic approach; and a visual approach.

In order to implement this program it was necessary for the classroom to have the following materials and equipment:

- Blackboards
- Chartholders - regular commercial chartholders for words and phrase cards used in teaching reading.
- Primary pencils - without erasers
- 12 x 18 inch newsprint
- 1 inch lined composition paper for use after writing of letters and words has been introduced.
Felt pens that make strokes from 1/8 to 1/4 inch in order that children can see prepared materials from any place in the room.

2 3" x 4" sets of manuscript cards
1 set of wall cards on 24" x 36" tab board
1 set of letter patterns for tracing

Procedures for the Auditory Approach

In the auditory approach, nothing is shown to the children; the stimulus is carried to the cortex of the brain over the auditory sensory channels. Children hear the symbol when it is given by the teacher, recognize it as the sound of a letter, inwardly transpose it to its graphic symbol (visual) and then the letter is formed in the air with the arm.

The sound of the letter is given by the teacher.

Individual children:
1. Name the letter just heard, forming it in the air.
2. Name the key word.
3. Give the sound - looking at the key word to help in the recall of the sound and the feel if necessary.

Procedures for the Kinesthetic Approach

In the Kinesthetic approach nothing is seen or heard. The stimulus is carried over the Kinesthetic Sensory Pathway. Children feel the sequential movement of the letter when the teacher guides the arm in writing the letter on the blackboard. They recognize what is felt as a letter of the alphabet, and inwardly match it with its visual symbol and auditory sound. (11)
The teacher places before a child's face a piece of cardboard approximately 10" x 12" while he faces the blackboard. The rest of the class watches. The child sees and hears nothing. The teacher guides the child's arm to form a large letter of the alphabet being sure the arm swings freely at the shoulder. She turns the child away from the blackboard without allowing him to see what the hand made. The class sees but must not say anything while waiting for the child to
1. Name the letter, forming it in the air.
2. Name the key word.
3. Give the sound of the letter.

During the discussion that follows this exercise, the teacher brings out the fact that the arm relays the message of what the letter is to the brain. The child felt the letter and then knew what it was. It was not the eyes, not the ears, but the arm that told what letter was felt.

The teacher should bring out the fact that those who watch can see and feel, but can hear no sound. Children come to comprehend the "Inner Sound" they matched with what they saw and felt.

More children will want turns and those watching like to see if the child having a turn "gets the message" through feeling without seeing or hearing. (20).
Procedures for the Visual Approach

In the visual approach, a small alphabet card is exposed. This stimulus is carried over the visual sensory pathway to the cortex of the brain. Children see, (perceive) the graphic symbol on the card, recognized its meaning as a letter of the alphabet (cognition), associate the letter with its name and sound (auditory), and with the way it feels in speech and in arm when writing (kinesthetic). To strengthen or "fix" the linkage of these three channels, or pathways, there needs to be a supervised drill and practice.

The alphabet card is exposed.

Individual children:

1. **Name the letter seen on the card**, forming it in the air with a free arm swing from the shoulder.

2. **Name the key word** — (a common object of constant form which affords a reliable cue for recall).

3. **Give the sound of the letter**.

The visual symbol as perceived is transposed into its auditory symbol and associated with its written form — a multi-sensory experience.
Measuring Device

The measuring device was a set of tests: The Harper and Row Primer Achievement and the Harper and Row Reading Readiness Tests. Both tests consisted of four subtests.

Subtest 1 - word recognition
Subtest 2 - auditory - visual perception
Subtest 3 - rhyming words
Subtest 4 - comprehension

The total population took part in the pre and post testing. The Reading Readiness test contains items from the Primer test along with new questions and somewhat more advanced methods of questioning.

The Harper and Row Test series is widely used at this grade level. The standardized tests are administered yearly at the beginning and end of first grade.

Method of Analysis

The Harper and Row Primer Achievement Test was used to access the abilities of the students along four dimensions. The areas tested were word recognition, auditory visual perception (sound - symbol association), rhyming words and comprehension. The total score was tabulated and the information entered on frequency distribution tables depicting the comparison of the test results. The Harper and Row Reading Readiness Test was used to measure achievement at the end of the school year. The pre and post test results were tabulated using the T test, looking for the significance of differences between two means in small samples as outlined by Garrett. (5:124)
Frequency Distribution Table

Pre-test results of the 30 first grade students.

Harper and Row Primer Achievement

<table>
<thead>
<tr>
<th>Experimental Group</th>
<th>Control Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Scores $X_1$</td>
<td>Test Scores $X_1$</td>
</tr>
<tr>
<td>1) 14</td>
<td>33</td>
</tr>
<tr>
<td>2) 94</td>
<td>17</td>
</tr>
<tr>
<td>3) 88</td>
<td>88</td>
</tr>
<tr>
<td>4) 55</td>
<td>80</td>
</tr>
<tr>
<td>5) 100</td>
<td>50</td>
</tr>
<tr>
<td>6) 99</td>
<td>74</td>
</tr>
<tr>
<td>7) 33</td>
<td>87</td>
</tr>
<tr>
<td>8) 67</td>
<td>94</td>
</tr>
<tr>
<td>9) 74</td>
<td>99</td>
</tr>
<tr>
<td>10) 36</td>
<td>99</td>
</tr>
<tr>
<td>11) 23</td>
<td>87</td>
</tr>
<tr>
<td>12) 50</td>
<td>15</td>
</tr>
<tr>
<td>13) 80</td>
<td>94</td>
</tr>
<tr>
<td>14) 50</td>
<td>20</td>
</tr>
<tr>
<td>15) 87</td>
<td>14</td>
</tr>
</tbody>
</table>

$\frac{X_1^2}{15/950} = 12275$  $\frac{X_1^2}{15/951} = 16440$

$M_1 = 63.3$

$M_2 = 63.4$

28 degrees of freedom

$T = 0.1 / 1.5 = 0.07$
### Frequency Distribution Table

**Post-test - Harper and Row Reading Readiness Test**

<table>
<thead>
<tr>
<th>Experimental Group</th>
<th>Control Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Scores</td>
<td>$X_1$</td>
</tr>
<tr>
<td>1) 23</td>
<td>-51</td>
</tr>
<tr>
<td>2) 24</td>
<td>3</td>
</tr>
<tr>
<td>3) 90</td>
<td>16</td>
</tr>
<tr>
<td>4) 75</td>
<td>1</td>
</tr>
<tr>
<td>5) 95</td>
<td>21</td>
</tr>
<tr>
<td>6) 98</td>
<td>24</td>
</tr>
<tr>
<td>7) 73</td>
<td>1.1</td>
</tr>
<tr>
<td>8) 96</td>
<td>22</td>
</tr>
<tr>
<td>9) 85</td>
<td>11</td>
</tr>
<tr>
<td>10) 37</td>
<td>-37</td>
</tr>
<tr>
<td>11) 45</td>
<td>-29</td>
</tr>
<tr>
<td>12) 87</td>
<td>13</td>
</tr>
<tr>
<td>13) 77</td>
<td>3</td>
</tr>
<tr>
<td>14) 64</td>
<td>-10</td>
</tr>
<tr>
<td>15) 90</td>
<td>43</td>
</tr>
</tbody>
</table>

$\frac{15}{1112} = 8827.2$  $\frac{15}{1042} = 7640.16$

$M_1 = 74.1$  $M_2 = 69.4$

28 degrees of freedom

$T = 4.7 / 9 = .522$
Frequency Distribution Table

Comparison of the Pre- & Post-Test Results of the Sexes

<table>
<thead>
<tr>
<th>Control Group</th>
<th>Experimental Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Girls</td>
<td>Boys</td>
</tr>
<tr>
<td>Test Scores</td>
<td>Test Scores</td>
</tr>
<tr>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>33</td>
<td>-34</td>
</tr>
<tr>
<td>88</td>
<td>21</td>
</tr>
<tr>
<td>50</td>
<td>-17</td>
</tr>
<tr>
<td>94</td>
<td>27</td>
</tr>
<tr>
<td>20</td>
<td>47</td>
</tr>
<tr>
<td>74</td>
<td>7</td>
</tr>
<tr>
<td>87</td>
<td>20</td>
</tr>
<tr>
<td>8/540</td>
<td>80</td>
</tr>
<tr>
<td>13 degrees of freedom</td>
<td>T = 8.8 / 18.21 = .48</td>
</tr>
</tbody>
</table>
Frequency Distribution Table

Comparison of the Pre- & Post-Test Results of the Sexes

Harper and Row Reading Readiness Tests

<table>
<thead>
<tr>
<th>Control Group</th>
<th>Experimental Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Girls</td>
<td>Boys</td>
</tr>
<tr>
<td>( x )</td>
<td>( x_1 )</td>
</tr>
<tr>
<td>53</td>
<td>16</td>
</tr>
<tr>
<td>69</td>
<td>.02</td>
</tr>
<tr>
<td>76</td>
<td>.07</td>
</tr>
<tr>
<td>79</td>
<td>10</td>
</tr>
<tr>
<td>59</td>
<td>10</td>
</tr>
<tr>
<td>33</td>
<td>36</td>
</tr>
<tr>
<td>90</td>
<td>21</td>
</tr>
<tr>
<td>95</td>
<td>26</td>
</tr>
<tr>
<td>8/554</td>
<td>2866.53</td>
</tr>
</tbody>
</table>

\( M_1 = 69.25 \quad M_2 = 69.71 \)

\( T = 0.46 / 15 = 0.03 \)

\( M_1 = 52.8 \quad M_2 = 66.8 \)
CHAPTER IV

FINDINGS

Hypothesis 1 - Children using the Orton-Gillingham Method (the experimental group) and children using the Basal Method (the control group) will not differ significantly in reading growth as measured by Harper and Row Primer Achievement tests and Harper and Row Reading Readiness Tests.

The statistical tool used to take the continuous scores and analyze the group differences was the T test. The T test was used because the size sample was no more than 30 students. The level of significance was set at the .05 level of confidence. The T test was used to ascertain whether or not one method of teaching reading was superior to another. The frequency distribution tables on pages 14 and 15 show the pre- and post-test results of the subjects. As shown in Table 1, the difference between the scores of the experimental and control groups was .01. Table 2 shows the mean of the experimental group to be 74.1 compared to the mean of the control group which is 69.4. The data does not demonstrate that the Orton Gillingham Method of teaching reading with this first grade class was superior to the Basal or Conventional Method. However, when the post tests scores of the control group were compared to the post scores of the experimental group, there was an indication of greater improvement in some areas by the experimental group. This could possibly be due to the Hawthorne Effect.

Hypothesis 2 - Boys (girls) using the Orton-Gillingham Method (the experimental procedure) and boys (girls) using the Basal Method (the control group) will not differ significantly in reading growth as
measured by Harper and Row Primer Achievement Test and Harper and Row Reading Readiness Tests.

The frequency distribution tables on pages 16 & 17 show the pre- and post-test results of the boys of the control group, over the boys of the experimental, the girls of the control over the girls of the experimental. The statistical tool used to take the continuous scores and analyze the group difference was the T score. The Primer test results of the control group show a mean of 62.15 for the girls compared to 58.7 for the boys. The experimental group mean scores were reflected to be 67.4 for the females and 61.6 for the males. The post test means were higher than the primer for the control and the experimental groups. The mean of the control group placed the girls at 69.25 compared to the boys at 69.71. The mean score of the experimental group was 52.8 for the girls, and 66.8 for the boys. The tests showed no significant difference between the males of the control and the males of the experimental, nor were there any statistical significant differences between the females in the control and the females in the experimental group. However, the scores of the girls in the control group, as reflected in the post test were higher in some areas than were those of the girls of the experimental group.

In accepting the null hypotheses, we concede that there is no reason to suspect, as far as our data are concerned that the population means differ significantly. Both methods of teaching reading, the Orton-Gillingham Method and the Basal Method resulted in the expected increases in reading ability that normally occur during the second semester of first grade.
CHAPTER V

SUMMARY AND CONCLUSIONS

The purpose of this study was to determine the effectiveness of one method of teaching reading to first graders over another. The methods involved in this study were the Orton-Gillingham Method and the Basal or Conventional Method.

A total of 30 students participated in this study. The experimental group consisted of 15 first grade students. The control group also consisted of 15 first grade students. The students that comprised each group were randomly chosen. For one semester the experimental group received instruction for one hour per day from the reading instructor. The Gillingham technique was used to teach the letters and build these letter-sounds into words. This technique is based on the close association of visual, auditory, and kinesthetic elements.

The control group also received instruction for one hour per day. The control group used basal readers and workbooks. The students of the control group were placed in several oral reading groups, each child progressing through the reading book and workbook that accompanies the reader. The teacher introduced new words in the lesson, then the students read orally as they were called upon.

The Harper and Row Primer Test was administered to the children at the beginning of the program to access their abilities. The Harper and Row Reading Readiness Test was given to the 30 first graders at the end of the year as a post test.
The test by Garrett was used to compare the mean difference between the control and experimental groups for both hypotheses. No significant differences were found to exist. The study does not demonstrate that the Orton-Gillingham Method of teaching reading is superior to the Basal or Conventional Method. The null hypotheses were accepted.

Recommendations for Further Research

Since the Orton-Gillingham Method was only introduced to one group of students at Bonnie Oehl Elementary School for one semester, it is necessary to leave the experiment open for re-evaluation. A replication of this study might be conducted early in the school year, perhaps during the fall and winter quarters in order to lessen the confusion that arises when techniques of teaching are changed in the middle of the school year. Perhaps such a study should be carried out for one year instead of one semester. Since the population of this study included only 30 students, a replication of the study might yield more information if it included a greater number of subjects, perhaps including classes in several schools. Further studies might be conducted to investigate the possibility that one school might find the Orton-Gillingham Method more advantageous than another school. Finally, studies investigating the benefits of incorporating some of the skills and techniques of the Orton-Gillingham Method into Basal Reading Programs should be conducted since students seem to respond well to this approach to learning reading.
BIBLIOGRAPHY


A RESEARCH STUDY TO DETERMINE THE EFFECTIVENESS OF THE ORTON-GILLINGHAM METHOD OF TEACHING READING COMPARED TO THE BASAL METHOD

The purpose of this research study was to determine the effectiveness of the Orton-Gillingham Method of teaching reading, verses the Basal Method of teaching reading to first grade children.

Two groups of students were given the Harper and Row Primer Achievement Test and the Harper and Row Reading Readiness Test. One group was designated as the experimental, the second, the control group. The experimental group followed the Orton-Gillingham procedures. The procedures consisted of the auditory approach, which leads to both oral and written spelling, the kinesthetic approach, and the visual approach, which leads to reading. The experimental group had access to various books of their own choosing. They did not use workbooks of any kind. There was no daily oral reading groups, each child read on the level of his ability.

The control group used the Basal readers and workbooks. The students of the control group were placed in several oral reading groups, with each child progressing through the reading book and the workbook that accompanies the basal readers. The teacher introduced new words in the lesson, then called upon the students to read orally. After each completed his assignment, he progressed to the next lesson.

The study was limited by the fact that the students in the experimental group did not volunteer, but were randomly selected to take part in the study. Another limitation consisted of the fact that the teacher who conducted the research study is a second year teacher exploring a series of reading approaches. The time limit of this study was one semester.
The population of this study consisted of thirty students. The experimental group was composed of fifteen first grade students at Bonnie Oehl Elementary School. The experimental group contained 5 girls and 10 boys. The control group consisted of fifteen first grade students enrolled at Bonnie Oehl Elementary School. The control group consisted of 8 girls and 7 boys.

The Harper and Row Primer Achievement Test was used to access the abilities of the students along four dimensions. The areas tested were word recognition, auditory visual perception, rhyming words and comprehension. The total score was tabulated and the information entered on frequency distribution tables, depicting the comparison of the test results. The Harper and Row Reading Readiness Test was used to measure achievement at the end of the school year. The pre- and post-test results were tabulated using the T test, looking for the significance of difference between 2 means in small samples as outlined by Garrett.

In the first hypothesis, the frequency distribution tables were used to show the pre- and post-test results of the subjects. The pre-test differences between the means of the two groups was .01. The post test shows the mean of the experimental group to be 74.1 compared to the mean of the control group which is 69.4. The level of significance which was set at the .05 level of confidence showed no significant differences between the groups. The data does not demonstrate that the Orton-Gillingham Method of teaching reading with this first grade class was superior to the Basal Method.
In hypothesis two, the primer test results of the control group shows a mean of 67.5 for the girls compared to 58.7 for the boys. The experimental group mean scores were reflected to be 67.4 for the females and 61.6 for the males. The post test mean was higher than the primer for the control and the experimental group. The mean of the control group placed the girls at 69.25 compared to the boys at 69.71. The mean score of the experimental group was 52.8 for the girls and 66.8 for the boys. The test showed no significant differences between the males of the control and the males of the experimental, nor were there any significant differences between the females of the control and females of the experimental group.

The T test by Garrett compared the mean difference between the control and the experimental group for both hypotheses. No significant differences were found to exist. The study does not demonstrate that the Orton-Gillingham Method of teaching reading is superior to the Basal. The null hypotheses were accepted.

Further studies might be conducted to investigate the possibility that one school might find the Orton-Gillingham Method more advantageous than another school. Finally, studies investigating the benefits of incorporating some of the skills and techniques of the Orton-Gillingham Method into Basal Reading Programs should be conducted since students see to respond well to this approach to learning reading.