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A Survey of the Reading Achievement in the Third Grades of a Group of Selected Schools in St. Louis and Suggestions for a Remedial Program

Rubye G. Peake

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A SURVEY OF THE READING ACHIEVEMENT IN THE THIRD GRADES
OF A GROUP OF SELECTED SCHOOLS IN ST. LOUIS
AND SUGGESTIONS FOR A REMEDIAL PROGRAM

By
Rubye G. Peake

A Thesis Submitted in Partial Fulfillment
of the Requirements for the Degree of
Master of Science

COLLEGE OF EDUCATION
BUTLER UNIVERSITY
INDIANAPOLIS
1938
65749
This investigation presents an account of a survey of the reading achievement of third grade pupils in nine schools in St. Louis, Missouri. The method of securing data, the treatment of data and results obtained are described in detail.

Acknowledgement is here made of the help of the teachers whose cooperation made this study possible. I am especially grateful to Dr. George R. Johnson, Director of Tests and Measurements of the St. Louis Public Schools, for permission to use the results of tests given under his direction; and to Dr. W. E. Townsend, Adviser, for his valuable advice and criticism concerning the problem.
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A SURVEY OF THE READING ACHIEVEMENT IN THE THIRD GRADES
OF THE ST. LOUIS SCHOOLS AND SUGGESTIONS
FOR A REMEDIAL PROGRAM
PURPOSE OF THE STUDY

The chief purposes of the proposed study may be defined as follows:

1. To determine the reading achievement of the third grade pupils in the St. Louis Public Schools.

2. To devise a remedial program to raise the level of reading achievement to the third grade standard.

3. To devise a remedial program to raise the level of reading achievement to the third grade standard.

Reading may be easily termed the most significant subject in the elementary school curriculum. It is the tool through which nearly every other subject is mastered. Its importance may be judged from the large number of investigations which have been made in this field during recent years. It is equally significant in that pupils fail in this subject more frequently than in any other skill.

For more than seventy years psychologists have investigated problems touching upon reading abilities. No one cause has been discovered which will account for all cases of special ability or disability which exist. Individual differences increase with education just as children vary in the rate of growth. The teacher is faced with the problem of making adjustments to these differences. In addition to these factors, enormous differences exist in the pre-school training of the child.

The fact has been emphasized that the second and third grades are a very important period in the program of reading instruction. It is during this period that rapid growth should be made in the develop-
ment of habits, skills and attitudes that characterize a good reader. Many failures in the intermediate grades can be traced to the omission of important types of training in the primary grades.

It is with these facts in mind that the writer has undertaken this investigation.

PURPOSE OF THE STUDY

I t is specifically intended to reach III for the following reasons:

1. To determine the reading achievement of the third grade pupil, "beginning at grade III, or earlier, reading is not a single ability pupils in the St. Louis Public Schools.

2. To devise a remedial program to raise the level of reading achievement to the third grade standard.

3. To determine the effect, if any, upon the achievement of grades, the co-operation of nine schools was secured. The schools differ pupils that accompanies and follows a vigorous program to improve teaching.

THE CURRENT VALUE OF THE PROGRAM

Regular classroom instruction frequently fails to provide ade-

quately for pupils who encounter unusual difficulties in reading. There are many boys and girls who make little or no progress because of in-

accuracies which could be eliminated. These disabilities result in retardation, and in many cases result in elimination. Systematic and detailed studies of the reading difficulties of children must be made and they must provide appropriate remedial instruction.

THE SCOPE OF THE STUDY

This investigation is limited to the elementary school field for the following reasons:
1. The problems involved in improving reading above the elementary school level are different from those of the lower grades.

2. It is during the elementary school level that the mechanics and skills of reading are developed.

It is specifically limited to Grade III for the following reasons:

At the end of the third grade pupils should have mastered the mechanics of reading. Above this grade these skills are used. As Gates points out, "beginning at Grade III, or earlier, reading is not a single ability which is utilized in every situation, but, on the contrary, a number of abilities." ¹

In order to secure a number of pupils representative of the third grade, the co-operation of nine schools was secured. The schools differ in size but are all under the supervision of the Board of Education. These schools will be referred to as School A, B, C and the like. The schools are scattered throughout the city and draw upon communities and social background typical of each section of the city.

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¹ Gates, A.I., *The Improvement of Reading*, p. 179. Macmillan Co., 1927
CHAPTER II

REVIEW OF PREVIOUS INVESTIGATIONS

W. S. Gray, in his "Summary of Investigations Relating to A.B.C.D. Reading", 19251 divides the subject into the following periods:

1850-1905: The Germans and French studied problems related primarily to perception and eye movements in reading. 1906-1915: This period is marked by an increased interest in reading in both England and America. Reading tests were developed. 1916-1924: The early part of this period, termed by Gray as a period of transition, marks the beginning of a broader interest in scientific studies of reading and its remedial work. A larger recognition of the importance of applying scientific methods to the study of classroom problems.

The interest in diagnostic and remedial work in reading has grown rapidly during recent years. No standard technique has been worked out for diagnosing individual cases. Anderson2 and Merton3 have studied groups for the purpose of identifying and differentiating.


used informal and standard reading tests and such information as they could secure from class records and teachers. Van Alstyne reported the following sources of information: case history, teacher's reports, teacher's marks, pupils' permanent record card, visiting teacher's report, the Stanford Revision of the Binet Simon Test, the Pinter-Patterson performance tests, the Halv–Bronner learning tests (A,B,C,D), a long-period learning test, the Pinter non-language and educational tests, and the Woodworth-Mathews "Motional Instability" test.

The studies referred to show that very helpful diagnoses are possible through the use of educational tests and the type of information which can be secured in each classroom.

Types of Remedial Cases

Reading is a complex process that involves numerous attitudes, skills and habits. There are so few cases alike that the problem of classifying them is seriously complicated. An effort to classify remedial cases on the basis of reading difficulties was made in a detailed study of twenty–one children. After elaborate diagnostic studies had been made, the children were classified into the following general groups for the purpose of comparison and discussion:

1. pupils who made little or no progress in learning to read,
2. pupils who had encountered serious difficulties in interpretation,
3. pupils who had encountered difficulties primarily in the mechanics of reading.

pupils who had encountered difficulties in the rate of silent reading, and (5) pupils who had made progress in learning to read but who were weak in practically all phases of reading. Although the pupils of these five classes possessed several common characteristics, they differed with respect to the specific nature of their difficulty.

Wooly and Ferris, in their study of children in the primary grades used a very suggestive classification of causes of difficulty, the dominant causes were grouped under the following headings:

1. Children who were neglected,
2. Those who were high grade defectives, though their intelligent quotients were still above the usually accepted limits for defectives,
3. Those with special defects which seemed to make the acquisition of a given type of knowledge unusually difficult, and
4. The psychopathic.

A more detailed list of causes was reported in a summary of previous studies. They are inferior learning capacity, congenital word-blindness, poor auditory memory, defective vision, narrow span of
There is no evidence at present as to which of these ten-recognized, ineffective eye-movements, inadequate training in phonetics, inadequate attention to content, inadequate speaking vocabulary, small meaning vocabulary, speech defects, lack of interest, guess and timidity. The result of mental deficiency, or some physical deficiency as poor hearing are set aside.

Two tendencies are revealed in an analysis of the procedures adopted in remedial instruction. The first is toward the use of a specific device in all cases belonging to the same general class. For example Schmitt used phonetics in the case of pupils who encountered unusual difficulties in learning to read. Fernald and Keller used successfully the method of tracing and writing words in teaching word recognition to non-readers.

The second tendency is to vary methods employed in order to make the strongest appeal to the particular pupil who is being taught. This procedure is illustrated in the work of Gray and Anderson and Schmitt, Clara. Developmental Alexia Congenital Word-Blindness, or Inability to Learn to Read, Elementary School Journal, XVIII (May and June, 1918) pp. 680-700 and 757-769.


Gray, Wm. S., with the cooperation of Delia Kibbe, Laura Lucas, and Lawrence W. Miller. Remedial Cases in Reading: Their Diagnosis and Treatment, Supplementary Educational Monographs, No. 22, Chicago, Department of Education, University of Chicago, 1922. pp. viii - 208.
Merton. There is no evidence at present as to which of these tendencies should prevail.

A large number of cases are encountered of children who apparently are unable to learn to read by the ordinary methods. Much of the disability is the result of mental deficiency, or such physical defects as poor hearing or vision. But when these cases are set aside, others remain whose disability is difficult to diagnose.

Among the factors which have been thought to have been associated with reading ability, some are discussed briefly here.

Chronological Age

Monroe among a control group of one hundred one (101) ordinary school children found a coefficient of .09 between reading and chronological age, but correlations of .42 and .45 among selected groups of reading disability cases where there was a wider age range.

In the St. Louis Survey, Gray stated that in Grades 2 and 3 rate of reading decreased with age; this relationship was not so pronounced from Grade 4 up. After Grade 2 comprehension in reading was not

---


related to age.

Sex

In the Survey of the St. Louis Public Schools, Gray found that girls were superior in rate of reading and boys were superior in comprehension. The reliability of the differences was not given.

Monroe, in studying cases from a child guidance clinic, found that 84% of reading disability cases were boys, as compared with 62% in the clinic as a whole. The difference is 6.5 times its standard error.

Heilman found, among several hundred, ten year old children, no statistically significant sex differences in average silent reading achievement. The Stanford Binet and Stanford Achievement tests were used.

Physical Health and Development

Hoefer and Hardy studied the influence of improving physical conditions on intelligence and educational achievement of 343

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15Monroe, Marion; Children Who Cannot Read. The Analysis of Reading Disabilities and the Use of Diagnostic Tests in the Instruction of Retarded Children, p. 98, University of Chicago, 1932.


children in Grades 3B, 3A and 4B and found that reading achievement did not show a significant difference before and after physical improvement.

Anderson and Kelley in comparing a group of 100 reading disability cases with 100 other children guidance clinic cases, found no difference between the groups in age of learning to walk and talk, and probably no difference between them in number of illness or accidents in early school years.

Vocabulary

This correlates highly with reading tests. It is closely related to intelligence and to home background.

Monroe found that reading disability cases had a poorer vocabulary than the controls.

Eye Movements

Eye movements are associated with the defects in the method of reading. A great deal of work has been done in this field. Good reading is accompanied by a certain regularity of the eye movements across the page.

Intelligence

Both degrees of brightness and mental age are important factors in learning to read.


Davidson\textsuperscript{20} working with 13 children of 4 year mental age, found that the bright 3 year olds showed a great superiority over the normal 4 year olds and the dull 5 year olds, in learning to read. Torgerson and Shuman\textsuperscript{21} tested 216 pupils all of mental age 12, but with I.Q. ranging from 72-136 and found that if educational opportunities were equal, the child with the higher I.Q. had the better achievement, but the pupil with a high I.Q. had a lower accomplishment quotient if in a grade below his mental level.

Perception and Associability

Studies have shown that perception, Visual and Auditory discrimination and associability are very important to learning to read. Monroe\textsuperscript{22} with tests of auditory discrimination and associability found that when non-readers were compared with controls in discrimination of spoken words, there was a significant difference in favor of the controls, and that non-readers were less successful than the controls in combining sounds into words.

\textsuperscript{20}Davidson, H.P., An Experimental Study of Bright, Average and Dull Children at the Four Year Mental Age Level. Genetic Psychology Monographs, Vol. IX, No. 3-4, Clark University, 1931.


\textsuperscript{22}Monroe, Marion, Children Who Cannot Read. The Analysis of Reading Disabilities and the Use of Diagnostic Tests in the Instruction of Retarded Children. pp. 92-97, University of Chicago, 1932.
Speech Defects

Monroe\textsuperscript{23} found that reading disability cases had more speech defects than the controls and more than other clinic cases. Davidson\textsuperscript{24} found in working with her pre-school children that speech difficulties made no difference in learning to read.

\textsuperscript{23}Monroe, Marion, \textit{Children Who Cannot Read}. The Analysis of Reading Disabilities and Use of Diagnostic Tests in the Instruction of Retarded Children, University of Chicago, 1932.

\textsuperscript{24}Davidson, H.P., \textit{An Experimental Study of Bright, Average, and Dull Children at the Four Year Mental Level}. Genetics Psychology Monographs, Vol. IX, No. 3-4. Clark University, 1931.
CHAPTER III

THE PROCEDURE OF THIS INVESTIGATION

The Initial Survey

In an effort to determine the level of reading achievement in the third grade of the schools used, Form A of the Williams Primary Reading Test was given in February at the beginning of the third quarter.

The school year of the St. Louis Public School System is divided into four quarters of ten weeks each. Grades are divided quarterly, as III-1, III-2, III-3 and III-4, and are read grade three, first quarter, etc. Promotions are made at the end of each quarter. Pupils are marked each five weeks or half-quarter.

All testing was done in groups of about thirty pupils. Tests were administered in the standard manner by experienced examiners.

A total of one thousand and twenty-nine pupils were given the initial test at their respective schools. The quarterly distribution of the pupils tested is given in Table I.
TABLE I
QUARTERLY DISTRIBUTION OF PUPILS EXAMINED

ON THE INITIAL SURVEY

<table>
<thead>
<tr>
<th>Grade and Quarter</th>
<th>Number of Pupils</th>
</tr>
</thead>
<tbody>
<tr>
<td>III-1</td>
<td>314</td>
</tr>
<tr>
<td>III-2</td>
<td>193</td>
</tr>
<tr>
<td>III-3</td>
<td>391</td>
</tr>
<tr>
<td>III-4</td>
<td>134</td>
</tr>
<tr>
<td>Total</td>
<td>1069</td>
</tr>
</tbody>
</table>

Of the total group tested there were more pupils in the first and third quarters (31% and 39% respectively) than in the other two quarters. This is probably due to the fact that first and second grade pupils are promoted individually as well as by classes to relieve the crowded conditions which exist in the primary grades.

Description of the Test

The Williams Primary Reading Test was designed to test the ability of the pupils in grades 1-3 to get the thought of the printed page. The first part of the test is easy enough so that most of the pupils at the end of the first year are able to answer two or more questions, while the last part is sufficiently difficult so that but few of the third grade pupils complete the entire test.
The material used in the test is common to most of the widely used texts. The first twelve items are directions regarding pictures of animals common to all first grade pupils. Pictures of these animals appear in most primers and first readers. The remainder of the test consists of paragraphs describing situations which are common to most first and second readers, except the last paragraphs which are purposely made more difficult.

Grade norms are provided for grades 1-5 and mental age norms are provided for 6-11 years. The grade norms for Form A are based upon the use of the test in the 6th Annual Nation-Wide Testing Program.

For determining the reliability, two groups selected at random were used. One group consisted of 123 second grade pupils and for this group the reliability score was .956. The other group consisted of 107 pupils in the third grade of one school. For this group the reliability score was .97.

The working time is twenty minutes.

The Remedial Program

The results of the initial test were tabulated by schools and distributed to the respective schools shortly after the administration of the test. The teachers separated their pupils into three groups: advanced readers, normal readers, and retarded readers in the following manner: the advanced group were those pupils whose reading grade is above their grade placement; the normal group were those pupils whose reading grade is in agreement with their grade placement and the re-
tarded group were those pupils whose reading grade is below their
grade placement. The groups will be referred to as Group A, Group B
and Group C.

Groups A and B were taught according to the regular classroom
procedure. Group C was separated on the basis of specific difficulties
and given individual instruction. In such cases where reading material
was too difficult, books were used for grades below the third as far
as the primer. In a few instances where the child was not ready for
the primer, the teacher aided him in making his own book composed of
stories of his experiences.

Before remedial instruction began, the teachers became familiar
with some of the fundamental procedures of a remedial program. A few
are given below:

1. A knowledge of success is essential to the progress of a
retarded reader.

2. Isolated drills should be few in number and reading to learn
should be emphasized.

3. Remedial reading should begin at the level of maturation of
the learner regardless of his grade level.

4. The pupil must have an interest in learning.

5. Material at each level should be interesting and extensive.

6. Several pupils showing like deficiencies can be helped in
small groups.

7. Instructions should be so varied as to hold interest.
Methods for the correction of specific difficulties were discussed by the teachers. Such difficulties were divided into the following general types: comprehension, oral reading, vocabulary, organization and confusion of letter forms. The methods selected have been adapted and modified from many sources.\(^1\)

**Comprehension** - A low rate of comprehension may be diagnosed by the use of standardized tests to locate the contributory deficiencies. Some factors causing a low rate of comprehension are: (a) a poor vocabulary, (b) reading material above the level of understanding of the reader, (c) a low intelligence, (d) inability to phrase and (e) under-developed reading habits.

It often happens that a third grade child has a reading ability as low as the first grade level. A rapid rate of comprehension cannot be developed with material that is too difficult for the reader. The child should then, first have material that can be read, and at the same time, interest the learner. If the child's experience is too far above his reading ability, stories may be dictated about subjects in which he shows interest. A check on complete

prehension should follow class activities and may include answering specific questions, following written directions, answering true-false exercises, finding the missing word and illustrating the central idea of a given paragraph.

Oral Reading. - Oral reading is important during the beginning of the remedial program. Through it, the teacher can discover speech difficulties, word-by-word readers, omissions and insertions, reversal tendencies and the ignoring of punctuation marks.

Vocabulary. - An adequate sight vocabulary is essential to the progress of the learner. It is necessary that the learner be skilled in recognizing new words since the vocabulary is not standardized. Word recognition is a problem of meanings. The teacher should be careful of over emphasizing word mastery as it is likely to cause word-by-word reading. She may use such methods as looking for likenesses or differences in words, matching exercises, using picture or context clues and phonics. The child may better anticipate meanings through oral reading.

Visual discrimination should be preceded by ear training. Rhymes are often used successfully in this type of training. They may be introduced as games in which the teacher gives a word and the child suggests other words which rhyme with it. The child may be led to listen for final and initial sounds. This type of training should lead to eye training. Phonics may be introduced after the child begins to notice likenesses and differences in words.
Clarence R. Stone's "Eye and Ear Fun" published by the Weber Publishing Company is helpful in phonetic training. Some devices include (a) changing words by adding the final g, (b) listing words that rhyme with a given word, (c) changing words into new words by adding er, ed, est, ing and a, (d) finding small words in large words, and (e) underlying like parts in a given list of words.

Syllabication. - It is necessary for the learner to be able to recognize syllables. The teacher may begin training in syllabication with simple two-syllable words.

Organization. - An efficient check on comprehension is the ability to tell briefly what has been read. This ability may be developed by arranging simple sentences in their natural order, by naming paragraphs, by matching topics and paragraphs, and by summarizing.

Confusion of Letter Forms. - Readers sometimes confuse d with l, e with m and in difficulty only. The correction of this requires individual instruction in identifying the letters which are confused.

Realizing that extreme cases of retardation require more specialised attention, the teachers discussed three of the methods advocated for such cases. They became familiar with the possibilities of each method. The three methods are summarized below.

The Development Method

The teacher should determine the special interests of the pupils. Folders may be made of stories built around these experiences. Context clues may be developed if there is difficulty in
reading. From the development of such stories, interest can be transferred to reading stories in books built around the same type of experiences.

The Tracing Method

This method involves kinesthetic training in tracing and writing words. The tracing method is definitely individualized and includes an emphasis of word details.

The Combination Method

Betts \(^2\) gives the following steps for the use of this method in establishing a feeling for the meaning of the word form:

(a) Determination of a reading level (pre-primer, primer, etc.) where the individual misses no more than two or three words per page per paragraph.

(b) Selection of the story by the learner.

(c) Using various methods of word recognition.

When the child comes to a word he cannot recognize an attempt is made to cause him to use the context clue to the word. This can be done by discussing the thought up to the point of the difficulty and by encouraging him to suggest an appropriate word. If this fails, the child is asked to write the word in the first column of a previously prepared notebook. (Notebook is prepared by drawing in vertical lines in order to divide the page into 3 columns.) After the word is copied, the child is then told the word and given an opportunity to identify

it by means of previous techniques. Following this the child is then urged to visualize the word, saying it by syllables if possible. Then he is urged to use the word orally in sentences. He then writes the word in the second column saying it as he writes. The last step is the matching of the written with the printed form. The paragraph is then re-read. The important aspects of this procedure are that meanings be associated with the word form and that the learner writes, says, sees and hears, simultaneously.

The remedial methods as here described were modified to meet the needs of each individual pupil. The books selected for each child were graded at the level of his reading achievement. For example, a boy in the fourth quarter of the third grade who read with beginning second grade achievement was given a book of second grade difficulty. Books were also selected with regard to the child's interest.

For further descriptions of techniques see chapter 7.

The following material was helpful in the remedial instruction: a typewriter, a printing set, old primers, magazines from which pictures were cut, a library of children's books, and Clarence R. Stone's "Eye and Ear Fun".

The Final Survey

Form B of the Williams Primary Reading Test was administered in March at the end of the half-quarter. Table II shows the number of pupils in each quarter who were re-examined. The pupils were the same as those used for the initial survey with a few exceptions resulting from absence at the time of the administration of the retest or transfers to other schools.
TABLE II
QUARTERLY DISTRIBUTION OF PUPILS EXAMINED ON THE FINAL SURVEY

<table>
<thead>
<tr>
<th>Grade and Quarter</th>
<th>Number of Pupils</th>
</tr>
</thead>
<tbody>
<tr>
<td>III-1</td>
<td>302</td>
</tr>
<tr>
<td>III-2</td>
<td>241</td>
</tr>
<tr>
<td>III-3</td>
<td>326</td>
</tr>
<tr>
<td>III-4</td>
<td>113</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>357</strong></td>
</tr>
</tbody>
</table>

The results of the final survey were compared to those of the initial survey to determine the progress in reading achievement which followed the program of remedial instruction. A detailed explanation of the comparison will be given in a subsequent chapter.
CHAPTER IV
FINDINGS OF THE INITIAL SURVEY

The initial survey consisting of Form A of the Williams Primary Reading Test was administered to one thousand and twenty-nine children of the third grade in nine elementary schools. A brief description of each school follows:

1. School A is a large school having twenty-three teachers, two kindergarten teachers and one speech correction teacher. Most of the pupils come from good homes.

2. School B has twenty-three grade teachers and three kindergarten teachers. The school consists of two separate buildings one block apart. It is located in a business district.

3. School C has twenty grade teachers and two kindergarten teachers. It is located near the railroad tracks and draws upon a community of a laboring class of people.

4. School D has twenty-three grade teachers, two kindergarten teachers, a home economics and a manual training department. It is attended by children, who for the most part, come from poor homes. The fact that many of the families move frequently provides an unstable school population.

5. School E has twenty-three grade teachers, two kinder-
garten teachers and two manual arts teachers. It is located in a residential section that ranks high socially and economically.

6. School F is a small school housed entirely in portable buildings. There are ten grade teachers and one kindergarten teacher.

7. School G was opened at the beginning of the school year to relieve overcrowded conditions. The pupils are transfers from neighboring schools.

8. School H is an observation school for the Teachers' College and is a part of the building occupied by the College. A large percentage of the pupils represent the professional class.

9. School I is a large and beautiful school. There are twenty-five grade teachers and two kindergarten teachers. Most of the pupils come from homes that are typical of the middle class.

The schools included in this investigation are in the same city and under the same general administration.

Upon completion of the survey the children were separated in each school into three groups as described in the preceding chapter. The chronological and mental ages of these groups are given in Table III and Table IV.
The mean chronological ages of Groups A and B are the same. The mean chronological age of Group C is six months in advance of the other two groups. An easily obtained criterion of the child's development is his chronological age. A measure of the discrepancy between the chronological age and the mental age provided by the test would give an indication of the reading defect. Group C has a mean mental age two years below the mean chronological age.

**TABLE III**

**DISTRIBUTION OF CHRONOLOGICAL AGES OF GROUPS A, B, AND C**

<table>
<thead>
<tr>
<th>Yr. &amp; No. CA</th>
<th>GROUP A</th>
<th>GROUP B</th>
<th>GROUP C</th>
</tr>
</thead>
<tbody>
<tr>
<td>7-0 to 7-11</td>
<td>1</td>
<td>16</td>
<td>13</td>
</tr>
<tr>
<td>8-0 to 8-11</td>
<td>52</td>
<td>193</td>
<td>125</td>
</tr>
<tr>
<td>9-0 to 9-11</td>
<td>33</td>
<td>177</td>
<td>114</td>
</tr>
<tr>
<td>10-0 to 10-11</td>
<td>13</td>
<td>79</td>
<td>82</td>
</tr>
<tr>
<td>11-0 to 11-11</td>
<td>9</td>
<td>19</td>
<td>47</td>
</tr>
<tr>
<td>12-0 to 12-11</td>
<td>1</td>
<td>16</td>
<td>17</td>
</tr>
<tr>
<td>13-0 to 13-11</td>
<td>3</td>
<td>3</td>
<td>12</td>
</tr>
<tr>
<td>14-0 to 14-11</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>112</td>
<td>505</td>
<td>412</td>
</tr>
<tr>
<td><strong>Mean</strong></td>
<td>9 yr. 8 mo.</td>
<td>9 yr. 8 mo.</td>
<td>10 yr. 2 mo.</td>
</tr>
</tbody>
</table>
### TABLE IV
DISTRIBUTION OF MENTAL AGES OF GROUPS A, B, AND C

<table>
<thead>
<tr>
<th>Yr. Mo.</th>
<th>GROUP A</th>
<th>GROUP B</th>
<th>GROUP C</th>
</tr>
</thead>
<tbody>
<tr>
<td>6-0 to 6-11</td>
<td>337</td>
<td>72</td>
<td></td>
</tr>
<tr>
<td>7-0 to 7-11</td>
<td>559</td>
<td>168</td>
<td></td>
</tr>
<tr>
<td>8-0 to 8-11</td>
<td>73</td>
<td>404</td>
<td>172</td>
</tr>
<tr>
<td>9-0 to 9-11</td>
<td>56</td>
<td>101</td>
<td></td>
</tr>
<tr>
<td>10-0 to 10-11</td>
<td>56</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>112</td>
<td>505</td>
<td>412</td>
</tr>
<tr>
<td>Mean</td>
<td>10 yr. 4 mo.</td>
<td>9 yr. 1 mo.</td>
<td>8 yr. 2 mo.</td>
</tr>
</tbody>
</table>

The mental ages of Group C has a wider distribution than those of Groups A and B. The mean mental age of Group C is eleven months below the mean mental age of Group B and two years and two months below the mean mental age of Group A.

The mental ages of the third group were obtained from the test scores and are given in Table IV. Group C shows a mean reading grade of the third grade and indicates which represents an approximate grade of the entire group.

With this group comprising forty per cent of the one thousand twenty-two children tested there is a clear indication for a need of scientific remedial attention. The teachers of these children observed closely and analyzed the errors made in class room reading. The school history of each case was studied to determine any possible explanation for the difficulties. Where such was possible, information was se-
The reading grades of the three groups were obtained from the test scores and are given in Table V. Group C shows a mean reading grade of two years and six months, which represents an approximate retardation of one year for the entire group.

With this group composing forty percent of the one thousand and twenty-nine children tested there is a clear indication for a need of specific remedial attention. The teachers of these children observed closely and analyzed the errors made in classroom reading. The school history of each case was studied to determine any possible explanation for the difficulties. Where such was possible, information was se-

<table>
<thead>
<tr>
<th>READING GRADE</th>
<th>GROUP A</th>
<th>GROUP B</th>
<th>GROUP C</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.4 - 1.9</td>
<td>73</td>
<td></td>
<td>75</td>
</tr>
<tr>
<td>2.0 - 2.9</td>
<td></td>
<td>505</td>
<td>337</td>
</tr>
<tr>
<td>3.0 - 3.9</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.1 - 4.7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.0 -</td>
<td>39</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>112</td>
<td>505</td>
<td>412</td>
</tr>
<tr>
<td>Mean</td>
<td>4.8</td>
<td>3.8</td>
<td>2.6</td>
</tr>
</tbody>
</table>
cured from the parents. A remedial program was planned for each case after a tentative conclusion had been reached. Additional facts concerning the reading habits of the children were continually sought during the administration of remedial exercises. At the end of the period of training Form B of the test used was given.

Another fact about the children is that the usual classroom procedures. There must first be a considered plan of remedial treatment of remedial exercises. At the end of the period of training Form B of the test used was given.
RESULTS OF THE REMEDIAL PROGRAM

Remedial instruction for extreme cases is more individualized than the usual classroom procedures. There must first be a correction of any physical handicaps by a specialized person; second, there must be a conscious need felt by the learner, and third, there must be developed efficient reading habits. Gray\(^1\) in his challenge to remedial workers stated: "It is an interesting fact that many teachers and supervisors think at first that the chief aim of improving reading is to increase the achievement of pupils in tests of speed and comprehension. Valuable as good habits of silent reading are, the major aims to be achieved are enriched experiences and wholesome interests acquired through wide reading in each school subject or activity."

Several important types of reading difficulty are illustrated in the cases summarized in this chapter. None of the cases is due merely to a lack of intelligence.

Case 1: Deficiency in Methods of Word Recognition

Case 1 was near the end of Grade III when examined. He was 10.6 years old. He entered the first grade at six years of age having

---

spent the previous year in the kindergarten. He spent five quarters in Grade I, was promoted normally in Grade II, and has been in Grade III eight quarters or two years. He was physically strong and healthy and had known no constitutional difficulties. The initial test showed that Case 1 had a reading grade one year below his grade placement.

<table>
<thead>
<tr>
<th>Grade</th>
<th>C.A.</th>
<th>M.A.</th>
<th>Reading Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>First Test</td>
</tr>
<tr>
<td>III</td>
<td>15-15-11</td>
<td>14-14-11</td>
<td></td>
</tr>
<tr>
<td></td>
<td>13-13-11</td>
<td>12-12-11</td>
<td></td>
</tr>
<tr>
<td>II</td>
<td>11-11-11</td>
<td>10-10-11</td>
<td></td>
</tr>
<tr>
<td>I</td>
<td>9-9-11</td>
<td>8-8-11</td>
<td></td>
</tr>
<tr>
<td></td>
<td>7-7-11</td>
<td>6-6-11</td>
<td></td>
</tr>
</tbody>
</table>

Fig. 1 - Case 1.

It was found that he was handicapped by an inability to recognize new words. He attempted to use two vague methods of recognition by naming the letters of the word without sounding them, or by recognizing the word on the basis of general appearance. The former method obviously comes from spelling.
He was given reading material of second grade difficulty. Words were taken from the material and made into comprehension exercises. He was encouraged to compare common word elements and to note similar features. He was encouraged to try to pronounce parts and to break the words into syllables. The syllables were written and pronounced as units and then combined. As soon as he was able to recognize a word readily, drill on it was discontinued. New words were studied as difficulties were encountered.

Case 1 became greatly interested in the work and was proud of each small success. At the end of the remedial period his reading achievement had been brought up to borderline.

Case 2: Omissions of Sounds and Words and Reversals

<table>
<thead>
<tr>
<th>Grade</th>
<th>C.A.</th>
<th>M.A.</th>
<th>Reading Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>First Test</td>
<td>Last Test</td>
<td></td>
</tr>
<tr>
<td>I</td>
<td>8-8-11</td>
<td>6-6-11</td>
<td></td>
</tr>
<tr>
<td>II</td>
<td>10-10-11</td>
<td>7-7-11</td>
<td></td>
</tr>
<tr>
<td>III</td>
<td>12-12-11</td>
<td>9-9-11</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Fig. 2 - Case 2.
Case 2 (Fig. 2) was 10.6 years when first examined. Her reading errors were excessive in reversals and omission of sound and words. There is not history of neurological illness. She was right-handed and right-eyed. When required to read she did so reluctantly. She had memorized the primer in the first grade but had difficulty or failure in recognizing some of the isolated words in other material.

She was given a variety of easy second grade material and showed a definite interest in stories about camp life. Omission of words was caused by an attempt for speed. Words were omitted irrespective of meaning. A slower rate of reading was immediately emphasized. Her teacher read aloud with her and aided her in recognizing her deficiency.

Case 2 was first taught to study and observe words from left-to-right by the use of a pointer. Several words were included later and finally an entire line. When she began to show an ability to read, exercises were made up of reversals with both context and illustrations to aid her in telling which was correct. She made a gain of .5 in reading achievement during the remedial work.

Case 3: Repetition of Words

Case 3 (Fig. 3) was 10 years old when first examined. He had spent a half year longer than normal in each of grades I, II and III. When he read aloud he made an outstanding number of repetitions. They occurred frequently when a difficult word interrupted the meaning of a sentence or paragraph. He was given material with simpler content. Words which seemed strange to him were noted and used in
sentences until he was familiar with them. Oral reading of alternate paragraphs by his teacher and himself stimulated him to imitate his teacher's fluency and expression. He read silently as the teacher read aloud and then alone re-read the paragraph.

His re-examination at the end of the remedial period showed that his reading achievement had been brought up to standard.

Case 4: Poor Reading Habits and a Low Rate of Comprehension

Case 4 (Fig. 4) was in the third quarter of the third grade when first examined. He was twelve years old. An examination of his school records showed he had spent eleven quarters in the first grade,
and six quarters each in grades two and three. An examination of his oral-reading showed that he read very slowly. Major errors noted by the teacher were repetitions, mispronunciations of simple words and substitutions. These errors were naturally accompanied by a lack of comprehension. He had not established reading habits comparable to those of an average first grade child at mid-year.

<table>
<thead>
<tr>
<th>Grade</th>
<th>C.A.</th>
<th>M.A.</th>
<th>Reading Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>8-8-11</td>
<td>6-6-11</td>
<td></td>
</tr>
<tr>
<td>II</td>
<td>10-10-11</td>
<td>9-9-11</td>
<td></td>
</tr>
<tr>
<td>III</td>
<td>12-12-11</td>
<td>11-11-11</td>
<td></td>
</tr>
<tr>
<td></td>
<td>13-13-11</td>
<td>11-11-11</td>
<td></td>
</tr>
<tr>
<td></td>
<td>14-14-11</td>
<td>11-11-11</td>
<td></td>
</tr>
<tr>
<td></td>
<td>15-15-11</td>
<td>11-11-11</td>
<td></td>
</tr>
</tbody>
</table>

Fig. 4 - Case 4

For the first reading exercises, stories selected from primers about boats as he showed an interest in this type. Questions concerning pictures in the story were asked and the story was read to find the answers. Words which caused difficulty were pronounced when errors
occurred. They were written in sentences on the board. Sometimes, parts of sentences were erased, leaving the phrases which caused trouble. Words such as there, this, that, etc. caused the greatest difficulty. After a word was used in drill exercises it was written in a sentence on the board and left for several days to be referred to when needed.

By directing his attention to content and by emphasizing phrasing he was soon able to overcome the word-by-word reading which was so noticeable at the beginning of the training period.

The scores of the re-test showed a year's gain of .5 with his reading grade brought up to 2.3 grade. A large amount of individual instruction is still necessary.

Case 5: Deficiency in the Mechanics of Reading

Case 5 (Fig. 5) was 9.9 years old when first examined. He was in the second quarter of the third grade. His school records showed that he had failed three times in the first grade and one time in the second and third grades each.

Case 5 is one of a large family and was found to have developed slowly physically. It was late when he began to walk and talk. At the time of this investigation he was in normal health.

His first test showed a reading grade of one year and nine months. Oral reading revealed that he pronounced words slowly with considerable pausing which he could not read. There was no attempt at grouping. There was a considerable amount of guessing and frequent substitutions. He showed no apparent interest in reading.
Remedial instruction began with the object of arousing an interest in reading and to increase mastery of the mechanics of reading. A record was kept of difficult words. If the difficulty was a phonetic word, other words containing the same phonetic elements were written on the blackboard. Their similarities and differences were studied. Stories which he was to read were sometimes preceded by similar ones told by his teacher.

When his progress was checked at the end of the period of remedial instruction it was found that he had achieved a reading grade of two years and five months. The years gained was .6.

<table>
<thead>
<tr>
<th>Grade</th>
<th>C.A.</th>
<th>M.A.</th>
<th>Reading Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>9-9-11</td>
<td>6-6-11</td>
<td></td>
</tr>
<tr>
<td>II</td>
<td>11-11-11</td>
<td>10-10-11</td>
<td></td>
</tr>
<tr>
<td>III</td>
<td>13-13-11</td>
<td>12-12-11</td>
<td></td>
</tr>
<tr>
<td></td>
<td>14-14-11</td>
<td>13-13-11</td>
<td></td>
</tr>
<tr>
<td></td>
<td>15-15-11</td>
<td>14-14-11</td>
<td></td>
</tr>
</tbody>
</table>
Case 6: Careless Habits of Reading and a Deficiency in Word Recognition

Case 6 (Fig. 6) was in the third quarter of the third grade when the remedial instruction period began. He was 8.8 years old, and the initial test showed a reading grade of two years and eight months. His silent reading was more rapid than his oral reading. His substitutions, while only slightly different from the printed word, were entirely different in meaning, as den for pen. When such substitutions were made there was no break in the rate of reading, revealing a lack of knowledge of the word difficulties. This may account for the fact that his
rate of silent reading was more rapid than his rate of oral reading, and that many questions asked on the content of material read could not be answered.

To overcome careless habits of oral reading an audience situation was provided. He often failed to interpret a story because he read it carelessly. The teacher occasionally read the selection aloud, emphasizing certain points. He was encouraged to discuss stories in which he was interested.

Failure to recognize new words was due in some cases to a lack of familiarity with such phonetic elements as, \( bl \) and \( or \). The word causing the difficulty was written on the blackboard with one or two other words containing a common element. He named other words belonging to the same class. Word endings such as \( ly \) and \( ing \) were given special attention.

Reading of words in thought groups was emphasized. Quick-perception drills of short phrases were gradually followed by such drills of longer and more difficult phrases. The rate of silent reading increased with the increasing of the span of recognition.

At the end of five weeks he was retested. His scores showed that considerable progress had been made in reading achievement.

Case 7: Deficiency in Mechanics of Reading and Interpretation

Case 7 (Fig. 7) was 9.9 years old when this investigation began. He was in the second quarter of the third grade. His records showed he had attended three different schools during the last year.
He had no apparent interest in reading and his work in all content subjects was unsatisfactory. He was below his grade standard in silent reading and his oral reading revealed a considerable amount of inaccuracy. He omitted and inserted short words. A study of his silent reading test papers showed that he had difficulty in answering questions about simple passages. He was retarded both in the mechanics of reading and in interpretation.

That his attention was not directed to the content of material read was indicated by such substitutions as found for full and small for same. Informal tests in silent reading revealed an inadequate meaning vocabulary.
He was not interested in reading because he understood so little of what he read. Simple selections, based on a variety of experiences, were given. The stories were discussed and word meanings explained. He became greatly interested in animal stories. Questions were asked to test comprehension and to emphasize important points, when he read selections at sight. Thought-provoking questions were asked about selections read to stimulate independent thinking.

Substitutions such as had for hid indicated that he had not looked for meaning while reading. His attention was directed to the content of the selections and such errors decreased noticeably. Some errors in reading were made because he did not hear the difference in the sound of words. Words containing the short ı and the short ı were confused. Words containing these vowels were first given separately and then presented together in drill exercises to test accuracy in recognition.

The score on the retest indicates that he made considerable progress and that his reading achievement had been brought up to standard.

Case 8: Reversals and Substitutions

Case 8 (Fig. 8) was an eight year old boy. He was in the third quarter of the third grade when first examined. The scores of his initial test showed a reading grade of 2.2 years. A study of his habits showed his errors in reading to be excessive only in reversals and substitutions. He was right-handed and right-eyed.
He was encouraged to follow the teacher's finger as she slid it along a sentence written on the blackboard in a left-to-right progression. Later in the training period another sentence was added, leaving a space between the two larger than is usual. This was later repeated with printed material.

Exercises were made up in which reversible words were included in sentences, such as:

The girls had on coats.
The girls had no coats.
She saw the flower.
She was happy.
In these cases sufficient context was provided to aid him in telling which statement was correct.

Substitutions resulted from an insufficient method of word analysis. He filled in the meaning from pictures or from one or two recognized words. Very simple material was provided and a reading vocabulary was built up.

That he made progress was demonstrated by the fact that at the end of the period of remedial instruction his reading grade had advanced to standard.

**Case 9: Substitutions, Omissions and Repetitions**

Case 9 (Fig. 9) was a girl 11.3 years old. She was in the last part of the third grade when first examined. Her school records showed that she had failed once in each of the first three grades. She had no physical defects likely to interfere with her progress in reading.

Her rate of oral reading was very slow and many errors were made in simple selections. The most frequent errors were substitutions, omissions or additions to parts of words, such as *around* for *round*, and *every* for *ever*, repetitions and occasional omissions of short words.

She enjoyed hearing stories but was not anxious to read them for herself. Simple versions of her favorite stories were selected from readers, where such was possible. She was asked to read the easier parts and her teacher read the more difficult parts to her.

Stories were taken from first and second readers which she was not familiar with. Pictures were used to arouse interest in the stories,
She confused words beginning with \( m \) and \( n \). Words causing difficulty were written on the blackboard with others containing a given element. Initial consonant sounds and vowel sounds combined with consonants were studied. She was given exercises to increase her span of accurate recognition. Through imitation and suggestion she learned to group words.

By the time she took the final test her reading achievement was in agreement with her grade placement.

Case 10: Word-by-Word Reading, Repetitions and a Deficiency in Interpretations

Case 10 (Fig. 10) was 11.4 years old at the time of the initial survey. He entered the first grade at seven years of age and had failed five times in the first grade, twice in the second grade and four times
in the third grade. He had no physical defects which were likely to interfere with his progress in reading, except slight speech defects. He did not enunciate clearly and he had difficulty in expressing himself fluently. His oral reading was slow and inaccurate. He hesitated over simple words and repeated frequently. He gave evidence of being a word reader. He encountered difficulty in interpreting what was read silently. When a word was pronounced for him he would repeat it under his breath and sometimes closed his eyes as if fixing the image of it on his mind. Words such as what and when caused special difficulties. He confused simple consonant sounds such as b and d.

<table>
<thead>
<tr>
<th>Grade</th>
<th>C.A.</th>
<th>M.A.</th>
<th>Reading Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>III</td>
<td>15-15-11</td>
<td>14-14-11</td>
<td>First Test</td>
</tr>
<tr>
<td></td>
<td>13-13-11</td>
<td>12-12-11</td>
<td>Last Test</td>
</tr>
<tr>
<td>II</td>
<td>11-11-11</td>
<td>10-10-11</td>
<td></td>
</tr>
<tr>
<td></td>
<td>9-9-11</td>
<td>8-8-11</td>
<td></td>
</tr>
<tr>
<td>I</td>
<td>7-7-11</td>
<td>6-6-11</td>
<td></td>
</tr>
</tbody>
</table>

Fig. 10 - Case 10
He was started with charts and primer materials. Simple
words or parts of words, and a small amount of recognition. These
selections aided in developing habits of recognition. When charts
were used a duplicate chart was cut into strips containing single
sentences. He was asked to read a sentence from the chart and find
the strip containing the sentence. Sentences were next ent
into groups and finally into words. His reading vocabulary gradu­
ally increased.

He was taught to recognize new words by comparing them with
familiar words. Words which gave him trouble were written on the
board. Other words containing similar phonetic elements were sup­
plied by him or the teacher. This aided him in the association of
sounds and their printed symbols. That he made some progress is seen
in the fact that his reading achievement was brought up to borderline
standard. There is still a need for continued individual instruction.

Conclusions Concerning Remedial
Instruction

Several important suggestions concerning remedial instruction
may be summarized as follows: (1) Instruction must begin, as a rule
with the simplest rudiments of reading. (2) It should be given pre­
ferably in individual instruction. (3) It is necessary for the teacher
to secure the cooperation of the pupil. (4) Selections chosen must
be so varied as to stimulate and hold the interest of the learner.
(5) The material used must be simple enough to allow a fair degree of
success. (6) Drills must be provided to overcome specific diffi­
culties, such as irregular eye-movements, inaccurate recognition of
words or parts of words, and a narrow span of recognition. These exercises should be given in drill periods. (7) When progress is noted in overcoming a specific difficulty, opportunities should be provided for the pupil to incorporate his improved habits into all of his reading activities. Silent-reading exercises, sight oral-reading lessons and simple supplementary reading material are valuable.
CHAPTER VI

DATA FOUND ON THE FINAL SURVEY
OF GROUP C IN THREE SCHOOLS

Four hundred and twelve children (Group C) have received remedial instruction in reading according to the methods outlined in Chapter III. At the end of five weeks nine hundred and eighty-seven of the original one thousand and twenty-nine children were re-tested. The discrepancy in the numbers was due to absence from school at the time of the re-test; transfers to other elementary schools in the city and in a few cases transfers to other cities.

The percent of the pupils tested whose reading grade was below their grade placement is given in Table VI by schools for the test and re-test. The points gained range from .06 to .44.

These children were given varying amounts of remedial instructions for a period of five weeks. Effort was directed towards overcoming any outstanding difficulties as determined by the test and the observation of the teacher. Teachers met in five conferences during the period of remedial instruction. Methods of analyzing errors were described to the teachers. During this period each child received from twenty to thirty minutes daily individual instruction.
TABLE VI

PER CENT OF GAIN IN READING ACHIEVEMENT
OF GROUP C IN NINE SCHOOLS

<table>
<thead>
<tr>
<th>SCHOOL</th>
<th>FIRST TEST</th>
<th>SECOND TEST</th>
<th>POINTS GAINED</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>.46</td>
<td>.28</td>
<td>.18</td>
</tr>
<tr>
<td>B</td>
<td>.17</td>
<td>.05</td>
<td>.12</td>
</tr>
<tr>
<td>C</td>
<td>.22</td>
<td>.16</td>
<td>.06</td>
</tr>
<tr>
<td>D</td>
<td>.47</td>
<td>.26</td>
<td>.11</td>
</tr>
<tr>
<td>E</td>
<td>.52</td>
<td>.24</td>
<td>.28</td>
</tr>
<tr>
<td>F</td>
<td>.51</td>
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The results of the experiment are tabulated in Table VI, which shows the points gained after a period of five weeks instruction. School I shows the highest points gained in reading, having a gain of .35.
<table>
<thead>
<tr>
<th>FREQUENCY</th>
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<th>LAST TEST</th>
<th>YEARS GAINED</th>
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Table VII gives the results of comparing the changes in scores between the initial test and the final test of pupils in Group C. This change in score is taken to represent growth in reading ability during the period between the two tests. It shows that

<table>
<thead>
<tr>
<th>FREQUENCY</th>
<th>READING GRADE</th>
<th>YEARS GAINED</th>
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<tbody>
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Mean: 2.6 3.0 0.4
four hundred and twelve third grade pupils made a mean average growth of .4 year in five weeks.

Of the original four hundred and twelve children who were below their grade placement in reading at the end of the first test, only one hundred and fifty-nine remained at the end of the final test.

Sixty-one per cent of Group C were brought up to standard, or border line standard through the remedial instructions they received. The children with whom the remedial work was not successful were for the most part irregular in attendance and thus did not get the benefit of a systematic program of remedial treatment. It is probable that the failure in many cases is attributed to a deficiency in the remedial methods adopted to meet the specific difficulties of different types of cases.

The children with whom the remedial work was successful were brought up to standard through the remedial instruction they received. The remedial methods, consisting as they did of many methods adopted to meet specific difficulties proved successful with various types of cases.

The training period began, the progress made would have been greater had the classroom teachers been familiar with the remedial work before the training period began. This does not mean, however, than that reported in this investigation.

The purpose of this investigation was to determine a program of remedial instruction through which the reading achievement of the third grade may be raised. Questions for which answers have been determined are:

1. What is the level of reading achievement of the third grade in the St. Louis schools?

The Williams Primary Reading Test was given to one thousand one hundred and twenty-five children in the third grades in nine schools. Forty per cent of the children tested had a reading grade below their
ACCORDING to traditional methods, reading was an end in itself, something to be learned with little or no reference to the child's experiences. Today, school programs are built around the things which are everyday happenings in the lives of children. With this new point of view, reading content centers around the common experiences of children everywhere, and has greatly increased in importance in the curriculum. Failure in many subjects is attributed to a deficiency in the mechanics of reading. By the end of the third grade the child should have mastered the mechanics of reading. This does not mean, however, that there is nothing more to be learned in the reading process.

The purpose of this investigation was to determine a program of remedial instruction through which the reading achievement of the third grade may be raised. Questions for which answers have been attempted are:

1. What is the level of reading achievement of the third grade in the St. Louis schools?

The Williams Primary Reading Test was given to one thousand and twenty-nine children in the third grade in nine schools. Forty per cent of the children tested had a reading grade below their
actual grade placement ranging from 1.4 grade to 2.9 grade. The mean reading grade for this group was 2.6 grade. The mean chronological age for the retarded group was two years in advance of the mean mental age. Forty-nine per cent of the children tested had a reading age in agreement with their grade placement. The mean chronological age for this group was seven months in advance of the mean mental age. The remaining eleven per cent of the children tested had a reading grade in advance of their actual grade placement. The mean chronological age for this group was eight months lower than the mean mental age.

2. How may the level of the reading achievement of the third grade be raised?

The children whose reading grade was in agreement with or in advance of their actual grade placement were taught along the usual classroom procedures. Children in the group whose reading grade was below their actual grade placement were given remedial instruction to meet their particular difficulty.

The methods used varied according to the nature of the difficulty and instruction was almost entirely individual. The problem of remedial instruction in reading is to find a possible method of learning for those children who have not been able to make progress by the methods adapted to the group. A third grade boy, for example, who reads with second grade achievement was given a book of second grade difficulty. The motivation used was the recognition of his own success by the learner.
At all times during the remedial work comprehension of the material read was checked by questions and corrective devices. In cases of inadequate vocabularies, drills devised to increase the vocabulary were given. The child dictated stories from pictures and read it after it had been printed or typewritten. Difficulty in word recognition in some cases came frequently from relying on one method or from having no method at all. These pupils were aided in developing various methods together with the knowledge of the applicability of each to special cases. The remedial instruction given had as its goal, the development of the ability ultimately to read as does a normal reader.

The five weeks given to this period of training succeeded in raising the reading grade of the group of retarded pupils from that of 2.6 to 3.0. Of the four hundred and twelve children whose reading grade was below their actual grade at the beginning of the remedial work, sixty-one per cent of the group were brought up to standard, or borderline standard, or limited to the third grade.

3. What is the effect, if any, upon the achievement of pupils which accompanies and follows a vigorous program to improve teaching?

The results are conclusive that progress can be made in the achievement of pupils through the application of measures peculiar to individual difficulties. Re-examination of children showed that after the initial start in reading was made, the children became more like normal readers. They were able to recognize new words through the use of one or more of several methods. Specific difficulties which were
not met by the usual classroom procedures were discovered and in many cases corrected. Interest was aroused, where there was no interest and progress became definite.

The Value of the Investigation

The value of the investigation may be expressed in the following manner: (1) The regular classroom teachers have seen the need and possibilities of individual work. (2) The attention of regular classroom teachers has been called to significant phases of reading which are frequently given little attention during group instruction. (3) Poor habits which have been acquired by an entire class or by certain pupils may be eliminated by some of the methods used for remedial work. (4) Pupils showing a deficiency in reading the general classroom material may be helped through individual instruction which meets their particular difficulty.

Limitations of the Investigation

The following limitations are present in this study:

1. The study is limited to the third grade.
2. The study is limited to five weeks instruction.
3. The reading test used was designed to test only ability of pupils to get the thought from the printed page.

Problems for Further Research

Some of the questions which have arisen during the progress of this investigation are:

1. What would be the results of a similar study repeated in a grade lower or higher than the grade used?
2. What relationships would be found in the results of a similar investigation which included a non-language mental test?

3. What effect does such a remedial program in reading have on the achievement of the pupils in other subjects?

As a result of this experiment the writer would suggest the following:

1. That all teachers be given special training in the fields of mental hygiene and remedial reading.

2. That each elementary school provide a remedial room and special equipment for those children who have reading deficiencies.

3. That such children be taken from their regular class room and be given at least two hours a day of remedial instruction until they overcome their difficulties.


Davidson, H. P. "An Experimental Study of Bright, Average & Dull Children at the Four-Year Mental Age Level," Genetic Psychology Monographs, Vol. IX, No. 3-4, Clark University, 1931.


Preliminary Test

APPENDIX

1. Put a ring on the cat.
2. Make a line under the boy.
3. Put a ring around the block.

Read this story and answer the questions about it.

A day began a rabbit in the wood. He looked in front with his nose. He soon followed a smell. He knew he was right.

What did the rabbit find?
OOP!

Published by the

Primary Reading Test Public School Publishing Co.

J'OBli .l

TEST

Bloomington, Ill.

PRIMARY READING TEST, FORM A

Devised by Allan J. Williams

Copyrighted 1926 by Allan J. Williams

Name ____________________ Age ______ Grade _______

Teacher __________________ School __________________

City ____________________ State ____________ Date ____________

PRELIMINARY TEST

1. Put a cross on the owl.

2. Make a line under the boy.

3. Put a ring around the block.

Read this story and answer the questions about it.

A boy found a rabbit in the road. He took it home with him and gave it some clover to eat.

4. What did the boy find? _____________________________

5. Where did he take the rabbit? ___________________________
Read the sentences and do what they tell you to do.

1. Make a ring around the duck.
2. Make two lines under the dog.
3. Give the hen an eye.
4. Put a cross on the cat.
5. Put a cross on the tail of the squirrel.
6. Make a ring around the two lambs in the middle.
7. Make three lines under the squirrel.
8. Make a ring around the rabbit.
9. Put two crosses on the dog.
10. Draw a line from the hen to the duck.
11. Put a cross on the lamb standing to the right of the two middle lambs.
12. Draw a line from the cat to the lamb standing to the left of the two middle lambs.
Read each story and answer the questions.

1. Jack was a little boy. He stayed near the river. A fish was swimming by the river and he went into the water. He could not swim. Mr. Jones saw him and pulled him out.

   11. What is the story about?
   12. Where did Jack go?
   13. There was no playing!
   14. How pulled him out?
   15. What did he see the water?
   16. Poor ape see she look!
   17. Where did she live?
Read each story and answer the questions.

Jack was a little boy. He lived near the river. One day he was playing by the river and fell into the water. He could not swim.

Mr. Brown saw him and pulled him out.

13. Whom is the story about?
14. Where did Jack live?
15. Where was he playing?
16. Who pulled him out?

Brown Duck walked down the street. She was looking for some corn to eat. She found some by the tree. She ate all of it, and went behind some trees. Mary said, "Thank you, Rover."

17. Who walked down the street?
18. For what was she looking?
19. Where did she find it?
20. What was the hen doing in the garden?
21. What did she see coming?
22. Where did she fly?
Humpty Dumpty felt very ill. He had been running down the hill and had fallen. He struck his back against a stone. He was sure his back was broken.

23. How did Humpty Dumpty feel? _______ _______ _______ _______ _______
24. What did he hurt? ______________________________________________________
25. Where did he hide? ______________________________________________________
26. Mary had four lambs. They ran away and hid in the tall grass. Mary did not know where to look for them. She called Rover to help her find the lambs. Rover looked and looked. For a long time he could not find them. Then he saw them. They had left the tall grass and gone behind some trees. Mary said, "Thank you, Rover."

27. What was happening? ______________________________________________________
28. How many lambs did Mary have? __________________________________________
29. Where did the lambs hide? ________________________________________________
30. Who helped Mary find the lambs? __________________________________________
31. Write the words that tell what Rover did. __________________________________
32. Where did the lambs go after leaving the tall grass? ____________________________

It was a cold, dark night. Frank stepped softly out of the door and walked quietly to the barn. He slipped inside and hid in a large box that stood near the door. Everything was quiet except the rustle of the straw as a horse changed his position. He had been in the box a long time and was beginning to feel sleepy. Suddenly he
heard a slight noise which he knew was the creaking of the door hinge.
He could see the door opening slowly. A man was coming in, but it was
so dark that Frank could not see who it was.

30. What kind of night was it when Frank went to the barn?

31. Where did he hide?

32. What noise did he hear when he first entered the barn?

33. How did Frank feel after he had been in the box a long time?

34. What called his attention to the door?

35. What was happening?

Daniel Boone was one of the pioneers. When he crossed the
mountains to Kentucky the whole of that section was a wilderness.
There were no roads. The pioneers built a few log huts in which to
live, and surrounded them with a stockade as a protection against the
Indians, who were apt to attack them at any time. The men of the
company cleared some ground and tried to raise some grain and vege-
tables. Often they went on hunting trips to secure wild animals for
food. The women dared not leave the stockade while the men were
away.

36. What does the paragraph say about roads in the wilderness?
37. In what kind of houses did the pioneers live?
38. How did they protect themselves from the Indians?
39. What did they try to raise?
40. Why did they go hunting?
41. Where did the women stay while the men were away?

A quaint figure is the candy vender of Japan. Down the narrow street he comes singing, with his small stand and his stock of candy figures. A crowd of children follows him. When the crowd is large enough, the candy man sets down his stand and begins business.

With a little bamboo tube he blows bubbles of hot sugar somewhat as a child blows soap bubbles. These he twists and shapes into flowers, fruits, animals, and fishes. When he completes a figure, he hangs it on a nail in the edge of the stand.

All the while the candy man is working he entertains the children with humorous remarks or with tales of adventure in which the hero is always one who eats quantities of candy. Most of the candy venders are old men who are fond of children and who love their calling. The Japanese have a saying, "Once a candy man, always a candy man."

In each of the sentences below, underline the word or words that make the sentence right.

42. The paragraph tells about (Japanese children, why we should eat candy, the candy man).
43. The candy man comes down the street (soberly, merrily, slowly).
44. He tells the child (exciting, boresome, long) stories.
45. The children (dislike, adore, abhor) the candy man.
46. Copy the word in the paragraph that means peddler.
47. Copy the word that means amuses.
48. Copy the word that means funny.
49. Copy the word that means finishes.
A boy found a rabbit in the road. He took it home with him and gave it some clover to eat.

4. What did the boy find?

5. Where did he take the rabbit?
Read the sentences and do what they tell you to do.

1. Make a ring around the cat.
2. Make two lines under the duck.
3. Give the rabbit an eye.
4. Put a cross on the hen.
5. Put a cross on the tail of the cat.
6. Make a ring around the dog.
7. Make three lines under the rabbit.
8. Make a ring around the squirrel.
10. Draw a line from the cat to the dog.
11. Put a cross on the lamb standing to the left of the two middle lambs.
12. Draw a line from the hen to the lamb standing to the right of the two middle lambs.
Once upon a time, there was a little boy, Jack. He lived near the river. One day he was playing near the river and fell into the water. He couldn't swim, and Mr. Brown saw him and pulled him out.

1. What was the boy's name?
2. Where did he fall?
3. Could Jack swim?
4. Who saw Jack in the water?

Brown Duck walked down the street. She was looking for something to eat. She found a pie by the side of the road. She ate it.

1. Where did Brown Duck walk?
2. What did she eat?
3. How much did she eat?

A lion was eating near the garden. She looked up and saw a fox running after her. She ran as fast as she could and flew up into a tree.

1. Where was the lion?
2. What was the fox doing?
3. How did the lion escape?
Read each story and answer the questions.

Jack was a little boy. He lived near the river. One day he was playing by the river and fell into the water. He could not swim.

Mr. Brown saw him and pulled him out.

13. What was the boy’s name? ________________
14. Where did he fall? ______________________
15. Could Jack swim? _______________________
16. Who saw Jack in the water? _______ ___________

Brown Duck walked down the street. She was looking for some corn to eat. She found some by the tree. She ate all of it.

17. Where did Brown Duck walk? ____________
18. What did she want corn for? ________________
19. How much corn did she eat? _________________

A hen was eating corn in the garden. She looked up and saw a fox coming after her. She ran as fast as she could and flew up into a tree.

20. Where was the hen eating? _________________
21. Who was the fox after? ________________
22. How did she get into the tree? ________________
Humpty Dumpty felt very ill. He had been running down the hill and had fallen. He struck his back against a stone. He was sure his back was broken.

23. What did Humpty Dumpty do when he was running?

24. What did he strike his back against?

A little lamb lived near the river. He wanted to see his grandmother. Grandmother lived over a long steep hill. Near the top of the hill he met a fox. The fox said, "I am going to eat you." The lamb was frightened, but he said, "I am going to my grandmother's. There I will eat lots of good food and become very fat. Then I will be much better to eat." So the fox let him go.

25. Where did the lamb's grandmother live?

26. Whom did he meet near the top of the hill?

27. What did the fox want to do?

28. What did the lamb tell the fox he would do at his grandmother's?

29. Did the fox eat the lamb?

One fine October day, Robin flew against a branch of the apple tree and broke his wing. Robin looked for a place to rest during the cold days. First he went to the Maple Tree for shelter.
Maple Tree was dreaming and did not hear the poor bird. Then Robin went to the Elm Tree. The Elm Tree would not even speak to anything as tiny as a bird. Cedar Tree sheltered poor Robin and gave him berries to eat. Because Cedar Tree sheltered the poor bird, Jack Frost protected the tree from the North Wind. To this day Cedar Tree does not shed her leaves when North Wind blows.

30. When did Robin fly against the branch of an apple tree?

31. What happened to Robin's wing?

32. Which tree did he go to first?

33. What was Maple Tree doing?

34. Who protected Cedar Tree from North Wind?

35. Which Tree sheltered the little Robin?

When King Alfred was king of England, the Danes made war upon the country. The Danes won a great battle, and Alfred fled for his life. He put on a ragged cloak and wandered alone through the forest. A storm came up, so he decided to knock at the door of a hut. A woman was baking cakes. She asked Alfred to watch the cakes and not let them burn. Alfred forgot about them and made plans for the next day. The cakes were burned to a cinder. The old lady rushed in and struck Alfred with a bundle of sticks. Then she sent him to bed without any supper. When the lady awoke the next morning she found her visitor gone. A few days later, Alfred passed the hut with his soldiers. The old woman shaded her eyes and looked after him. At
last she knew who had burned her cakes and whom she had beaten.

36. Who made war upon England?

37. What did Alfred wear when he wandered through the forest?

38. Where did he spend the night?

39. What did Alfred forget?

40. With what did the old woman strike Alfred?

41. With whom did Alfred pass a few days later?

By this time we were suffering greatly from the effects of the heat and we were afraid that our horses would be overcome and drop down at any moment. A singular kind of breeze was passing over our heads, and the glare of the burning trees shone more brightly than the daylight. I was sensible of a slight faintness and my wife looked pale. The heat had produced such a flush in the child's face that when she turned toward us our grief and anxiety were greatly increased.

Ten miles are soon gone over on swift horses, but yet when we reached the borders of the lake we were quite exhausted and our hearts failed us. The heat of the smoke was insufferable, and sheets of blazing fire flew over us in a manner beyond belief.

Draw a line under one of the words in the parentheses in each line to show the meaning of the first word in the line, as it is used in the paragraph you have just read.
42. singular (strange, strong, single)
43. produced (made, protected, prodded)
44. increased (included, enlarged, income)
45. insufferable (suffering, sufferage, unbearable)
46. exhausted (tired, exhibit, anxious)
47. They rode (five, ten, fifteen) miles.
48. The horses were (slow, large, swift)
49. The heat was caused by (the sun, a volcano, a forest fire).