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# The construction of the administration and scoring, and evaluation of results of a diagnostic test of individual difficulty in reading for grades 7, 8, and 9

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Thesis

The Construction of the Administration  
and Scoring, and Evaluation of Results  
of a Diagnostic Test of Individual  
Difficulty in Reading for Grades 7, 8,  
and 9

Submitted by

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(A. B. Wheaton College, 1935)

In Partial Fulfillment of Requirements for the  
Degree of Master of Education

1940

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and Scoring, and Evaluation of Results  
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Difficulty in Reading for Grades 7, 8,  
and 9

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Chapter I  
Introduction

## Chapter I

### Introduction

This thesis is the second part of a study on the construction and evaluation of an individual diagnostic reading test.

A discussion of the research on which the choice of items for the test was based, and details of construction of the test may be found in the accompanying Master of Education thesis by Margaret Holmes McKim, The Construction and Evaluation of Test Items for the Diagnosis of Individual Difficulty in Reading for Grades 7, 8 and 9.

Included in this thesis are the methods of administration and scoring of the individual diagnostic reading test for grades 7, 8 and 9; the definition of a check list of difficulties; the results of a preliminary evaluation of the test; the frequency of errors of different types found on the test.

Methods of administration and scoring were prepared for tests of the following skills:

1. Oral reading with oral recall
2. Silent reading with oral recall
3. Speed of reading
4. Skimming
5. Word recognition and analysis

6. Word meaning
7. Silent reading with written recall
8. Outlining
9. Visualization

A tabulation was made of errors in the following fundamental skills of oral and silent reading:

1. Word skills
  - A. Word recognition
  - B. Word analysis
  - C. Word skills in oral reading
  - D. Word meaning
2. Oral reading
  - A. Phrasing
  - B. Voice, enunciation, and expression
3. Silent reading
  - A. Mechanics
  - B. Speed
4. Recall
  - A. Oral
  - B. Written
5. Spelling
6. Skimming
7. Outlining
  - A. Steps leading up to outlining
  - B. Statement of central thought

7. Outlining (continued)

C. Complete outline

- (1) Form
- (2) Content

8. Visualization

Chapter II

Administration of the Test

## Chapter II

### Administration of the Test

The purpose of the test for the diagnosis of reading difficulties is to measure abilities and locate errors in the fundamental skills of oral and silent reading in Grades 7, 8, and 9, and also, to discover instructional needs for improvement of the basic reading skills.

The test consists of two parts, an individual and a group test. The individual test checks the following skills:

1. Oral reading with oral recall
2. Silent reading with unaided oral recall
3. Speed of reading with oral comprehension
4. Skimming for numbers, phrases, and information
5. Word recognition and analysis.

This part of the test requires approximately 45 minutes to administer, the time varying with the child's level of ability. The group test consists of the following tests of silent reading:

1. Word meaning
2. Total written recall
3. Outlining
  - A. Recall of details
  - B. Selection of main idea and details

3. Outlining (continued)
  - C. Sequence of events
  - D. Statement of central thought
  - E. Construction of complete outline
4. Visualization
  - A. Spatial
  - B. Sense imagery.

The administration of the group test requires 70 minutes. Two sittings are required for an adequate administration of the test.

For a preliminary evaluation, the test was given to eighty children in grades 6, 7, 8, and 9. Forty children were tested in the public schools, and forty in the private. Grade 6 was included in the testing schedule in order to establish a lower level for the test. The upper level was established by the scores above average in grade 9. Ten children were selected from grade 6 in the General Donovan School in Lawrence, Massachusetts, and ten children each from grades 7, 8, and 9 in the Andover Junior High School. The public school children were selected from sections representing the middle or average of each grade, based on the teacher's and principal's estimate, and on achievement tests. The forty private school children tested were in grades 6, 7, and 8 of the Beaver Country Day School in Brookline, Massachusetts, and

in grade 9 of Abbot Academy in Andover, Massachusetts. The private school children were divided into grades according to the results obtained on the Revised Iowa Elementary and Advanced Reading Tests. Because no grade norms were available on the Revised Iowa, the grade levels were obtained by interpolation. The Iowa reading grades of these private school children ranged from grades 5 through 12. The distribution of scores is given in the following table.

Table 1.

Grade distribution of the Iowa test results in grades 6, 7, 8, and 9 of the private schools.

School Grade	Iowa grade equivalents							
	Gr.5	Gr.6	Gr.7	Gr.8	Gr.9	Gr.10	Gr.11	Gr.12 or above
6	5.6	6.3 6.0 6.9 6.5	7.7 7.7	8.1	9.1			12.0
7	5.5 5.4 5.1 5.8 5.4 5.8 5.1		7.8 7.0		9.5			
8	5.3		7.6	8.0 8.6 8.2	9.6 9.4 9.6	10.1	11.3	
9				8.4 8.9		10.3	11.0 11.0 11.3	$\frac{11}{4}+$ $\frac{11}{4}+$ $\frac{11}{4}+$ $\frac{11}{4}+$

Table 1. indicates that, except in grade 7, there was a marked increase in reading ability between grade levels. The pupils in grade 9 were considerably above average in ability. The range of reading abilities was roughly comparable to that for which the individual diagnostic test was intended.

In order to get results for the complete battery, it was necessary to have each child tested individually as well as in the group. The length of time required to give the individual part of the test, therefore, limited the number of children to be tested. Also the items were being tried out in order to establish order of difficulty, and some of them might not be used in the final form of the test. For the purpose of this thesis, no attempt was being made to establish norms.

The testing in the public schools was done in June 1939, and the private school testing in the early Fall of 1939. All the testing was done by Mrs. McKin and the author.

In order to obtain valid results on any test, it is essential that the test be given under standard conditions. Therefore, the procedure for administration given below was prepared, and followed in administering the test.

## Directions for Administering

Part A - Individual Test

## Test I

## Oral Reading with Oral Recall

Say, "Read this paragraph about----- (giving title) out loud as well as you can." (This test may be found on pages 3 and 4 of test in Appendix). Start watch. When the child finishes reading the paragraph, stop the watch, and record the time required for reading. If the child becomes discouraged because of his errors, say, "Go on. We expect you to make some mistakes on the hard words." If the child hesitates over 5 seconds on a word, pronounce it for him. If a child mispronounces a word so that the meaning of the paragraph will be seriously affected, pronounce the word for him before he proceeds. As the child reads, the following records should be made:<sup>1/</sup>

- A. Draw vertical lines between the phrases the child reads.
- B. Draw a circle around omitted words or parts of words.
- C. Write the child's pronunciation above each word mispronounced.
- D. Write 'R' above all words repeated.
- E. Write 'P' above all the words pronounced for the child.

<sup>1/</sup> Durrell, Donald D., Manual of Directions for Durrell Analysis of Reading Difficulty, World Book Company, 1937, p.6

- F. Show insertion of words or syllables by  $\wedge$  with the insertions written above.
- G. If child ignores periods and commas, make an 'X' through those ignored.
- H. Make a check above words on which a child hesitates.
- I. If errors come too rapidly for recording, draw a line through words mispronounced.

Illustration -

The first<sup>P</sup> extensive use<sup>for</sup> of the airplane<sup>R</sup> came in the World War. Cities were bombed from the air, and prior<sup>pre</sup> to<sup>or</sup> the<sup>the</sup> army attack<sup>X</sup>, the enemy's position<sup>✓</sup> was photographed.

Follow the same procedure for all three paragraphs.

Check the items on the check list of difficulties before leaving the test.

As soon as the child has finished reading, take the paragraph from him and ask the questions found on the record blank. Record correct responses with a 'plus'; incorrect, with a 'minus'. If possible record the child's exact response in order to determine type of error, as a basis for preparing questions for remedial work.

Measure the child's eye-voice span by having the child re-read orally some relatively easy paragraph on the test. Slide a card over the text while the pupil is reading

orally. The number of words which he can say after the text is covered, indicates his eye-voice span. Record this on the check list of difficulties.

### Test II

#### Silent Reading with Oral Recall

Say, "Read the paragraph about----- (giving title) to yourself. Read it just once, and tell me when you have finished." (This test may be found on page 5 of test in Appendix.) As the child reads, the examiner should count the number of eye movements per line and also note whether or not the child makes regressive eye movements.

When the child has finished reading, record the time, take away the paragraph, and say, "Tell me all you can remember about that story." When the child stops, say, "Can you remember anything more about it?"

Beside the phrases in the record blank, record with a 'plus' all ideas correctly recalled, and with a 'minus', all ideas incorrectly stated. Write inaccuracies in the space above the phrases. Check all difficulties in recall on the check list of difficulties at the bottom of the page.

### Test III

#### Speed of Reading

Say, "Read this paragraph about flying to yourself. Read it just once and tell me when you have finished." (This test may be found on page 6 of test in Appendix.)

As the child reads this paragraph a second check should be made on mechanics of reading, and recorded on the first page of check list of difficulties.

When the child has finished reading, record the time, remove the paragraph, and ask the questions found on the record blank. Record correct answers with a 'plus'; incorrect, with a 'minus'.

#### Test IV

##### Skimming

Say, "Now I am going to ask you some questions, and I want you to find the answers for me in this article. Read the article as quickly as you can to find the answers. Do not read every word, but skim through until you have found the answers. Tell me just as soon as you have located the answer." (This test may be found on page 7 of test in Appendix.)

Ask the questions found on the record blank, and record whether or not the child responds correctly, and also the time required for locating the response in the space provided on the record blank.

If the child is not skimming the article, say, "Do not read every word, skim."

#### Test V

##### Word Recognition and Analysis

Put the list containing the first 25 words in the

tachistoscope. Slide in the shutter, and have it closed. Slide the list down so that the first word will be flashed.

Say, "See if you can see what this word is. Ready." Then flash the shutter by moving it up or down with a fairly rapid motion. The movement should require about one-half second.

Record 'plus' for each word correctly given. Record phonetically the mispronunciation under the heading "Flash" on the record blank. If the child cannot give the word, say, "What letters did you see?" Record the letters seen. Give only one trial.

If the child fails when the word is flashed, remove the shutter. Show him the word, and say, "Study this word, and pronounce it." Record, under "Analysis", a 'plus' for each correct response, and record phonetically the mispronunciation.

Close the shutter, and go on to the next word. Proceed in the same manner with the fifty words on the list. Since the test was being tried out, all of the words on the list were given for recognition and analysis in order to determine the order of difficulty of each word. <sup>1/</sup>

If the child seemed discouraged because of his failures, the examiner said, "That was a good try. We don't expect you to get every word. Some of these are very hard."

---

1/ Durrell, Donald D., Manual of Directions for Durrell Analysis of Reading Difficulty, World Book Company, New York, 1937, p. 12

## Directions for Administering

Part B - Group Test

When the booklets have been distributed and all the children are ready with pencils, say, "You are now to be given a test in reading. Listen while I explain about the test. Never start any part until you are told to do so, and always stop as soon as you are told to do so. If you should finish any part before you are told to stop, wait quietly for the rest to finish. Never turn a page unless you are told to do so. If you break your pencil, hold up your hand, and you will be given another. Now remove the clip, and write your name, date, and grade at the top of the page."

## Test VI

## Word Meaning

Say to the class, "This is a test to see how many words you know. Beside each word write its meaning. If you are not sure of the meaning of any word, go on to the next word. Work steadily and carefully, but do not hurry. When you have finished the first page, go on to the next." Then say, "Ready, go." (Observe carefully to see that everyone goes on to the second page.)

At the end of 10 minutes say, "Stop."

## Test VII

## Written Recall

"Now turn to the next page, page 3. Read the paragraph about Dancing carefully to yourself. Ready, go."

At the end of one minute say, "Stop. Turn to the back of this page, and write everything you can remember about the paragraph on Dancing. Ready, go." (Observe that each child is writing in the correct place.)

At the end of 3 minutes say, "Stop. Turn to the next page, page 4. Read the paragraph about Flood Control carefully to yourself. Ready, go."

At the end of 1-1/2 minutes say, "Stop. Turn to the back of this page, and write everything you can remember about the paragraph on Flood Control. Ready, go." (Observe that each child is writing in the correct place.)

At the end of 3 minutes say, "Stop."

## Test VIII

## Outlining

## Part - a

"Now turn to the next page, page 5. Read the paragraph about Mozart. When you have finished, fold your papers on the dotted line in this way, (demonstrate) and follow the directions given below. Ready, go."

At the end of 1 minute say, "Even if you have not finished reading the paragraph, fold your papers and follow the instructions."

At the end of 2 more minutes say, "Stop."

"Turn to the next page, page 6. Read the paragraph about The Manufacture of Steel. When you have finished, fold your papers on the dotted line in this way, (demonstrate) and follow the directions given below. Ready, go."

At the end of 1 minute say, "Even if you have not finished reading the paragraph about The Manufacture of Steel, fold your papers, and follow the instructions."

At the end of 2 more minutes say, "Stop."

Part - b

"Turn to the next page, page 7. Read the paragraphs about Glass. When you have finished, fold your papers on the dotted line, as before, and follow the directions given below. Ready, go."

At the end of 1 minute say, "Even if you have not finished reading about Glass, fold your papers and follow the instructions."

At the end of 1 more minute say, "Stop."

Turn to the next page, page 8, Read the paragraphs about Franklin. When you have finished, fold your papers as before, and follow the directions given below. Ready, go."

At the end of 1-1/2 minutes say, "Even if you have not finished reading about Franklin, fold your papers and follow the instructions."

At the end of 1-1/2 more minutes say, "Stop."

## Part - c

"Turn to the next page, page 9. Read the paragraph about Edison. When you have finished, fold your paper as before, and follow the directions given below. Ready, go."

At the end of 1 minute say, "Even if you have not finished reading about Edison, fold your papers and follow the instructions."

At the end of 1 more minute say, "Stop."

## Part - d

"Turn to the next page, page 10. Read these paragraphs, and state the central thought of each in the space provided. (Examiner points to the spaces.) Ready, go."

At the end of 5 minutes say, "Stop."

## Part - e

"Turn to the next page, page 11. Read the article about China. When you have finished, make a complete outline of the article on the back of page 10. (Examiner points to the place where the outline should be made.) You may look back at the article. Ready, go."

At the end of 10 minutes say, "Stop."

## Test IX

## Visualization

## Part - a

"Now turn to the next page, page 12. Read the description of the room and, as soon as you have finished, make a simple drawing below (examiner points to the space)

of this room as you picture it. Ready, go."

At the end of 4 minutes say, "Stop."

Part - b

"Now turn to the next page, page 13. Put down your pencils and listen while I explain about this test. An author helps us to see the things he has seen, hear the things he has heard, and feel the things he has felt. Listen to this poem about the Pied Piper."

"Into the streets the piper stept  
Smiling first a little smile  
As if he knew what magic slept  
In his quiet pipe the while;  
Then like the musical adept,  
To blow the pipe his lips he wrinkled,  
And green and blue his sharp eyes twinkled,  
Like a candle flame where salt is sprinkled;  
And ere three shrill notes the pipe had uttered,  
You heard as if an army muttered.  
And the muttering grew to a grumbling  
And the grumbling grew to a mighty rumbling  
And out of the houses the rats came tumbling." 1/

"What did you see? (Pause) Yes, you saw the piper stepping into the street. You saw him smile. You saw his lips wrinkled playing the pipes and his eyes twinkling. You saw the rats tumbling out of the houses."

"What did you hear? (Pause) Yes, you heard the pipes. You heard the rats as they came out of the houses."

"Now read the poem on page 13, and under the headings given below it, write as many examples as you can of what

---

1/ Browning, Robert, The Poems and Plays of Robert Browning 1844 - 1864, E. P. Dutton & Company, New York, 1906, p.44

you saw, what you heard, what you smelled, what you could feel and what you could taste as you read the poem. Ready, go."

At the end of 10 minutes say, "Stop. Turn your booklets over so that page one is on top. Be sure that your name is written on this page."

Collect the booklets at once.

Chapter III

Scoring and Check List of Difficulties

### Chapter III

#### Scoring and Check List of Difficulties

The purpose of this chapter is to describe the method of scoring the test for the analysis of reading difficulty in grades 7, 8, and 9.

Since a testing program is of little value unless it indicates the instructional needs of the pupils, a check list of difficulties was prepared which could be used as a basis for a remedial program. It is also the purpose of this chapter to define the check list of difficulties.

#### Method of Scoring

#### Part A - Individual Test

#### Test I

#### Oral Reading with Oral Recall

In this test, the child read orally three paragraphs of different levels of difficulty, and following each one, was asked orally five questions pertaining to the paragraphs. (This test may be found on pages 3 and 4 of the individual test in the Appendix.)

The child's rate of oral reading for each paragraph was computed by dividing the number of words read by the time in seconds. In order to express the rate in words read per minute, the rate in seconds was multiplied by sixty. The number of words in each paragraph was:

Airplane Uses - 170; Movies - 135; Radio - 196. The com-

prehension score for each paragraph was the number of questions answered correctly.

An analysis of the child's oral reading on this test enables the examiner to note the following difficulties:<sup>1/</sup>

A. Phrasing

1. Word-by-word
2. Wrong grouping of words
3. Eye-voice span too low
4. Too long pauses between phrases
5. Repetition of phrases

B. Voice, enunciation and expression

1. Strained voice
2. Monotonous voice
3. Volume too loud
4. Volume too soft
5. Poor enunciation in all reading
6. Poor enunciation of difficult words
7. Ignores pronunciation
8. Repetition of words
9. Addition of words
10. Omission of words
11. Lacks expression and emphasis

C. Word skills in oral reading

1. Low sight vocabulary

---

<sup>1/</sup> Durrell, Donald D., Individual Analysis of Reading Difficulty, World Book Company, New York, 1937

C. Word skills in oral reading (continued)

2. Untrained analysis
3. Errors on small words
4. Ignores errors and reads on
5. Guesses at words from form
6. Guesses at words from context

D. Oral recall

1. Recall scanty
2. Labored and slow
3. Recall falls off in difficult reading
4. Avoidance of new words
5. Inaccurate memories and guesses
6. Lack of attention or interest

Method of Scoring

Test II

Silent Reading with Oral Recall

In this test the child was required to read silently to paragraphs of different levels of difficulty and, following each one, to tell orally as much as he could remember about the paragraph. (This test may be found on pages 5 and 6 of the individual test in Appendix.)

The child's rate of silent reading on each paragraph was determined by dividing the number of words read by the time in seconds. The paragraph on Football contained 139 words and Floods and Tidal Waves 207 words. In order to

express the rate in words read per minute, the rate in seconds was multiplied by sixty. The ideas in the paragraphs on Football and Floods and Tidal Waves were listed, and the child's recall checked with the list after the fashion of Reading and Report - Year X on the Revised Stanford-Binet. 1/ One point of credit was given for each fact recalled correctly. Credit was given even if the responses were not listed in the correct order. No credit was given if facts were given in the wrong connection, as stating that "Eton contributed the idea of running with the ball," when the paragraph stated that "Rugby contributed the idea of running with the ball." The following list shows how the paragraphs were divided according to ideas.

Scoring sheet for oral recall showing how  
the paragraphs were divided according to ideas.

#### Football

Football--1--is believed to be--2--the oldest outdoor game--3--in existence.--4--It has gradually evolved--5--from the Greek--6--forward passing game,7--and a Roman game--8--played by Caesar's soldiers.--9--Many nations--10--have contributed--11--to football's spread;12--the Celts used it--13--as a rite for worshipping--14--their sun gods;15--the Eskimos--16--and the Aztec Indians--17--played it with a ball--18 made of leather--19--and filled with moss.--20--The origin

1/ Terman, L. M. and Merrill, M. A. Measuring Intelligence, Houghton Mifflin Company, New York, 1937, pp. 255-256

of our modern game<sup>21</sup> was in the secondary schools<sup>22</sup> of England<sup>23</sup> Eton, Rugby, and Winchester.<sup>24, 25, 26</sup> Eton was the first<sup>27</sup> to use eleven men on a side,<sup>28</sup> and Rugby contributed the idea<sup>29</sup> of running with the ball<sup>30</sup> instead of kicking it forward.<sup>31</sup> Colleges and Universities<sup>32</sup> in England and America<sup>33</sup> finally adopted the sport.<sup>34</sup> The first intercollegiate game<sup>35</sup> under modern rules<sup>36</sup> played in America<sup>37</sup> was the contest between Princeton<sup>38</sup> and Rutgers<sup>39</sup> in 1869.<sup>40</sup>

#### Floods and Tidal Waves

Floods<sup>1</sup> and tidal waves<sup>2</sup> are great natural disasters<sup>3</sup> which result in stupendous loss<sup>4</sup> of life<sup>5</sup> and property.<sup>6</sup> Little can be done about the latter<sup>7</sup> which usually originate<sup>8</sup> in earthquakes or hurricanes<sup>8</sup> at some distant spot.<sup>10</sup> Tidal waves have therefore<sup>11</sup> no real connection<sup>12</sup> with the regular rise and fall of tides,<sup>13</sup> but are created by an unusual<sup>14</sup> force of wind<sup>15</sup> or earth<sup>16</sup> pushing the waters<sup>17</sup> on an on, and up and up,<sup>18</sup> until a single wave will<sup>19</sup> sometimes reach the height<sup>20</sup> of 35 to 40 feet,<sup>21</sup> with modern methods of meteorology<sup>22</sup> or weather reporting<sup>23</sup> information can be sent<sup>24</sup> almost immediately<sup>25</sup> when these phenomenal waves occur.<sup>26</sup>

Flood conditions<sup>27</sup> have a very different cause.<sup>28</sup> They depend<sup>29</sup> upon the amount of rain<sup>30</sup> falling within a given time,<sup>31</sup> and upon the locality<sup>32</sup> on which that rain has fallen.<sup>33</sup> If the rain falls on rocky, hilly land<sup>34</sup>

it descends more rapidly--<sup>35</sup>--to the nearest river--<sup>36</sup>--causing the river to rise--<sup>37</sup>--If the rain falls on land--<sup>38</sup>--rich with soil and sand--<sup>39</sup>--it will sink into the earth--<sup>40</sup>--and cannot reach the river--<sup>41</sup>--in such quantity--<sup>42</sup>--or as fast as it can--<sup>43</sup>--over an impermeable base.--<sup>44</sup>--If also, there has been an accumulation of moisture--<sup>45</sup>--from snow--<sup>46</sup>--followed by rain,--<sup>47</sup>--obviously, flood possibilities increase.--<sup>48</sup>--

The numbers on the scoring sheet above refer to the number of ideas in the paragraphs.

An analysis of the child's silent reading and oral recall enables the examiner to observe the following difficulties: 1/

A. Mechanics of silent reading

1. Lip movements
2. Whispering
3. Too many eye-movements
4. Regressive eye-movements
5. Irregular eye-movements
6. Re-reading of phrases or sentences
7. Ignores difficult words

B. Speed

1. Rate too low
2. Rate high at expense of accuracy

1/ Gates, Arthur I., "The Measurement and Evaluation of Achievement in Reading," The Teaching of Reading, a Second Report, Thirty Sixth Yearbook of the National Society for the Study of Education, Part I, Public School Publishing Company, Bloomington, Illinois, 1937, pp. 362-366

C. Recall

1. Unaided recall scanty
2. Poorly organized response
3. Response labored and slow
4. Recall falls off in difficult reading
5. Inaccurate memories and guesses
6. Avoidance of new words
7. Lack of attention and interest

Method of Scoring

Test III

Speed of Reading

In this test the child was required to read silently an article on Flying containing 444 words, and then answer five questions about the article. (This test may be found on page 7 of the individual test in the Appendix.)

The child's rate of reading was determined by dividing the number of words read by the time in seconds. In order to express the rate in words read per minute, the rate in seconds was multiplied by sixty. One point of credit was given for each question answered correctly.

An analysis of the child's performance on this test enables the examiner to observe the child's silent reading habits on a long passage and to observe further his oral recall. This observation checks the following difficulties:<sup>1/</sup>

<sup>1/</sup> Gates, Arthur I., Op. cit.

- A. Mechanics of silent reading
  - 1. Lip movements
  - 2. Whispering
  - 3. Too many eye-movements
  - 4. Regressive eye-movements
  - 5. Irregular eye-movements
  - 6. Re-reading of phrases or sentences
  - 7. Ignores difficult words
- B. Speed
  - 1. Rate too low
  - 2. Rate high at expense of accuracy
- C. Recall
  - 1. Recall scanty
  - 2. Recall labored and slow
  - 3. Recall falls off in difficult reading
  - 4. Avoidance of new words in recall
  - 5. Inaccurate memories and guesses
  - 6. Lack of attention or interest

#### Method of Scoring

#### Test IV

#### Skimming

In this test the child was required to skim an article, and find answers to questions which involved the location of numbers and dates, phrases, and information. (This test may be found on page 8 of the individual test in Appendix.)

The time required to locate the answers to the questions was recorded, and also, whether or not the correct answer was obtained.

An analysis of the responses obtained on this test enables the examiner to observe the following difficulties in skimming: <sup>1/</sup>

- A. Inability to adapt rate to purpose at hand
- B. Inability to locate numbers.
- C. Inability to locate phrases
- D. Inability to locate information
- E. Inability to skim - reading every word
- F. Lack of system in locating answers

#### Method of Scoring

##### Test V

##### Word Recognition and Analysis

On this test the child was required to recognize 50 words when flashed in the tachistoscope. If the child was unable to recognize the word, when flashed, he was asked to look at the word and pronounce it. (This test may be found on page 9 of the individual test in Appendix.)

One point of credit was given for each word recognized at sight. The analysis score was the number of words recognized at sight, since it was obvious these words could be analyzed, plus the number of words analyzed correctly.

<sup>1/</sup> Keir, Clorinda G., Relative Order of Difficulty of Four Types of Skimming in Intermediate Grades, Master's Thesis, Boston University, 1939, p. 30

No credit was given in analysis if vowels were pronounced incorrectly as reconcile pronounced re<sup>u</sup>con<sup>u</sup>sil<sup>u</sup>, however, credit was given when vowel and consonant sounds could not be determined from the spelling of the word as in the word initiative. The highest recognition score which could be obtained was 50, and the highest analysis score was also fifty.

An analysis of the student's responses enables the examiner to observe the following difficulties: 1/

A. Word recognition

1. Low sight vocabulary
2. Ignores word endings
3. Guesses at words from form

B. Word Analysis

1. Untrained analysis
2. No attempt at analysis
3. Sounding slow and inaccurate
4. Inability to put sounds together
5. Looking away after sounding
6. Silent word study inadequate
7. Poor enunciation when prompted
8. Vowel errors
9. Reversals
10. Addition of sounds

1/ Gates, Arthur I., The Improvement of Reading, Macmillan Company, New York, 1935, pp. 536 - 539

11. Omission of sounds
12. Substitution of another word
13. Sounding aloud by syllables, blends,  
or single letters.

#### Method of Scoring

##### Test VI

##### Word Meaning

Since the child was required to write his own definition of the word, the scoring of this test was, of necessity, more subjective than the multiple choice type of vocabulary test. (This test may be found on pages 1 and 2 of the group test in Appendix.)

The responses were compared with the dictionary definitions, and one point of credit was given for each response correctly stated. Responses were scored correct even if only one meaning of the word was stated. Colloquial meanings were accepted if they were given in the dictionary, as aggravate meaning to tease or annoy. Responses were marked with leniency, and were given credit if the author felt that the child really understood the meaning of the word, but did not express himself well. The child was not penalized if his definition was for a different form of the word than the one required, as an adjective given in defining a noun.

Following is a list obtained from student responses to the words on the test. This list permits more objective

scoring. 'A' represents the dictionary definition of the word. 'B' contains the type of responses obtained from the children's tests which were scored as correct. 'C' contains the type of responses obtained from the tests which were scored as incorrect.

Scoring sheet for Word Meaning Test containing dictionary definitions, correct responses, and incorrect responses for each word on the test.

### 1. Reconcile

- A. to restore to friendship; to adjust; to bring to content or submission; to make consistent or congruous.
- B. bring together; come together again; bring to your point of view; make up; give in; mind changed to kindness; reconsider; unite; be friends again; forgive; comfort.
- C. not willing; to think; recall your past; remember; real sympathy; do over; find out.

### 2. Consciousness

- A. immediate knowledge of presence of object or sensation; that which includes knowledge; state of mental activity.
- B. regain consciousness; feeling of self; know what's going on; be awake; feel conscious of something; to come to senses; talking and well; senses awake; feel people looking at you; to be conscious; aware; act of knowing what is happening.
- C. work hard; thinking you know something; sleep; careful; smartness; proper state of mind; feel responsible; honest; in subconscious mind; be breathing; thought; nerves.

### 3. Infection

- A. act or process of infecting; state of being infected; that which taints morally; affection, a humorous misuse; disease; condition, mood, etc., caused by infection.

## Scoring Sheet for Word Meaning Test (continued)

- B. sore; infected; disease; inflamed sore; get wound; irritation from cuts; get dirt in wound; germ in blood; spread of disease; getting disease from some one else.
- C. in the way; love yourself; like.

## 4. Signature

- A. the name of any person, written with his own hand to signify that the writing which precedes accords with his wishes; an autograph.
- B. name; write name on paper; parent's name; handwriting of your name; signing your name.
- C. your initials; my signature.

## 5. Inconvenient

- A. not convenient; giving trouble or annoyance; uncomfortable; inopportune.
- B. not convenient; can't be arranged; not able to do; not at right time or place; house inconvenient; troublesome; can't be done now; hard to get at; not easy; hard to do; not suitable time; not opportune; inappropriate; uneasy; not handy.
- C. a crowd of people; not needed; not wanted.

## 6. Profession

- A. open declaration; that which one professes; an avowal; the collective body of persons engaged in a calling; that of which one professes knowledge; vocation; employment.
- B. work; life work; special type of work; work, as a career; make a living; business; job; occupation; vocation; trade; something you do; doctor; professional football player.
- C. to make some one talk; your aim in doing something; say something is going to happen.

## Scoring Sheet for Word Meaning Test (continued)

## 7. Endurance

- A. state or quality of enduring or lasting; act of bearing or suffering; sufferance; patience.
- B. lasting ability; how long you can endure; ability to stand a thing; able to stand much; ability to keep on and on; ability to take it; stick to something; bear a thing; patience; endure hardship.
- C. length of time; lot of endurance; great amount; put faith in a person; what you are indulged in; to draw to one; what you are able to do.

## 8. Dependence

- A. act or state of depending or hanging; interdependence; reliance; state of being influenced and determined by something else; that on which one depends.
- B. cannot stand alone; aid from another; not able to do without help; relying on others; to be dependent on something; to rely; not independent; trust;.
- C. free; hold your own; working alone; not relying on someone; very capable.

## 9. Efficiency

- A. efficient quality or action; economic productivity; competency;
- B. do something well; done correctly; able to do easily and well; smartness; skill; competence; to be efficient or able; capability.
- C. help; enough; slip from doctor; orderly; quality; carefulness; good; neat; exact; dependable; love for something; do with rapidity.

## 10. Constructive

- A. qualified to form; resembling construction; not directly express but inferred.
- B. building; work which builds up; to put up; build up knowledge; helpful; construct; construct a certain thing; do something which amounts to something; toys; boat modeling.

## Scoring Sheet for Word Meaning Test (continued)

- C. tell; teacher; repaired; dig into; renew; able to do thing; upsetting; something wrecked.

## 11. Discord

- A. want of concord or agreement; absence of unity or harmony in sentiment or action; an uproar; a combination of musical sounds which strikes the ear harshly.
- B. off pitch; out of tune; wrong note; opposite of harmony; not on good terms; doesn't go with something else; chaos; jumbled.
- C. dismissed; throw away; discharge; unfasten; take away; few notes put down together.

## 12. Submerge

- A. to plunge; to inundate; to put under water; to become buried, as by a fluid.
- B. sink; go down; go underneath; push under; to be drowned; submarine submerged.

## 13. Aggravate

- A. to make worse; exaggerate; colloquial to exasperate.
- B. tease; annoy; peeve; bother; ruffle a feeling; make one angry; get mad or disgusted; get one's goat; madden.
- C. doesn't pay any attention; nonsense; bore.

## 14. Commissioner

- A. one warranted to perform some office; officer in charge of some department or bureau of public service.
- B. head of something; the head of some possession; commissioner of state or country; government official; executive.
- C. man next to governor; leader of mission; a man of commissions; policeman; detective; person sent on errand.

## Scoring Sheet for Word Meaning Test (continued)

## 15. Exceptional

- A. forming an exception; not ordinary; rare.
- B. good; outstanding; better than expected; not many like it; above others; very special; rare, not often; unusual; extraordinary; once in a while.
- C. expect a certain one; an exception; what you do is all right; difference; passable; something astray; especially.

## 16. Environment

- A. act of environing, or state of being environed; the surrounding conditions, influences or forces which influence or modify.
- B. life about us; living world; our vicinity; usual sphere of life; neighborhood; surroundings.
- C. place where you live; science; energy; atmosphere; ad in paper.

## 17. Unstable

- A. not firm fixed or constant; subject to change or overthrow.
- B. unsteady; not stable; can be moved; unsettled; weak; not secure; uncertain; unbalanced; unsound.
- C. tickle; not right for that purpose; not quite right.

## 18. Prescribe

- A. to lay down authoritatively as a guide, direction, or rule of action; to direct or order the use of as a remedy; to dictate; to give or write medical prescriptions.
- B. tell; tell remedy; suggest; order; advise; give as medicine; advise to take; write out direction or tell; give prescription; advise on paper;
- C. tell where it is; show anything; make right for; to a magazine or paper.

## Scoring Sheet for Word Meaning Test (continued)

## 19. Relentless

- A. unmoved by appeals for sympathy or forgiveness; unyielding; unpitying.
- B. never ending; not giving in; can't relent or give up; unpardoning; stubborn; unmerciful; merciless.
- C. hopeless; unscrupulous; to relax; you're sorry for something; restless.

## 20. Episode

- A. part of a tragedy between two choric songs; a prominent occurrence or incidental experience; a separate incident, story or action introduced for variety, but arising from the main subject.
- B. a certain moment; chapter; small play; part of story; scene of play; certain time or part; happening; event.
- C. when something happens; continuous play or story; make a scene in front of some one; trip; feature.

## 21. Preposterous

- A. contrary to nature, reason, or common sense; nonsensical.
- B. unbelievable; not true; can't be possible; ridiculous; amazing; foolish; absurd; stretching something too far; unheard of.
- C. never; beg; bad; huge.

## 22. Perseverance

- A. persistence in anything undertaken; steadfastness; pertinacity.
- B. stick to something; keep trying; work hard; endurance; ability to keep going; stubbornness.
- C. feeling; to keep; can hold one's temper; preserve somethings; strength; put away; strictness.

## Scoring Sheet for Word Meaning Test (continued)

## 23. Tentative

- A. of or pertaining to or based on trial; experimental; provisional.
- B. only temporary; not definite; to be changed.
- C. wanted to do something; listen carefully; give your attention; holding on; being able to retain; ready for anything; tenacious; interested; theoretic.

## 24. Policy

- A. prudence or wisdom in management of public or private affairs; sagacity; management or procedure based primarily on temporal or material interest; a definite course adopted by government, institution, body or individual; certificate of insurance; a ticket or voucher.
- B. creed; a deed; idea; insurance; plan or scheme; way; thing to do; course; rule you go by; make an agreement; honesty best policy.
- C. when you get your money; not good thing to do; polite; ideal; some law; work to do with government.

## 25. Obnoxious

- A. subject, open exposed; answerable; dependent; objectionable.
- B. terrible; distasteful; undesirable; not pleasing; sickening.
- C. excitable; dumb; foolish or crazy; fragrant.

## 26. Assessment

- A. act of assessing or apportioning amounts to be paid; valuation for purposes of taxation; amount assessed; an apportionment of an amount subscribed for stock into successive installments.
- B. value; assess property; something you have on a house; tax.
- C. substitute; helper; debt; something gained; to kill some one.

## Scoring Sheet for Word Meaning Test (continued)

## 27. Administrator

- A. one who directs, manages, executes, or dispenses in civil, judicial, political or ecclesiastical affairs.
- B. officer; head person; advisor; person who administers; person who takes care of something; person who gives out.
- C. builder; let people in; thinker; person who gives something.

## 28. Initiative

- A. introductory step; right to introduce new measure; energy or aptitude in initiating action.
- B. introductory step; ability to go ahead; do it when you think best and don't have to be told.
- C. have will to do; nerve; not to listen; eagerness; make member of club; originality; bring into; coming into something; can't be received; not paying attention; spunk.

## 29. Defiantly

- A. boldly; insolently.
- B. challengingly; boldly; brazenly; defendingly; stubbornly; relentlessly.
- C. sure; possibility; certainly; surely; undiscourageably.

## 30. Commodity

- A. an economic good or element of wealth; that which affords convenience, profit or advantage in commerce.
- B. product; supply; convenience in trade; necessity.
- C. a noise; commotion; uprising; funny; play or story that ends happily.

## 31. Oblivion

- A. forgetfulness; state of being forgotten.

## Scoring Sheet for Word Meaning Test (continued)

- B. nothingness; obscurity; blankness; not aware of happening; forgetful.
- C. vision; when one is dead, life is lost; ignorance; alone in mind.

## 32. Testify

- A. bear witness; declare publicly; to be indication of.
- B. tells something in court and says things against people; give an account of; evidence; speak truth; tell on other people; say something for or against some one; to tell what you know; say; give information; make statement; bear witness.
- C. tested out; ask questions; qualify; try and prove; examining things.

## 33. Eccentric

- A. departing from usual course; deviating from center; used as noun or adjective; circle not having same center as another contained in some measure within it.
- B. queer; not quite right.
- C. definite; egotistic; insane; unnecessary; haughty.

## 34. Aptitude

- A. readiness in learning; general fitness; natural or acquired capacity for particular purpose.
- B. bent for something; capability; ability; ability to be quick.
- C. adjustment.

## 35. Assiduous

- A. constant; unremitting or persistent.
- B. (No responses.)
- C. (No responses.)

## Scoring Sheet for Word Meaning Test (continued)

## 36. Portable

- A. capable of being carried; capable of being transported of objects not usually carried.
- B. can carry; can be closed up; small and light to carry; fold up; movable; collapsible.
- C. a miniature thing; works by itself.

## 37. Version

- A. translation; account from particular point of view.
- B. own idea of something; way of thinking; interpretation; some one's idea of play or song; own meaning or rearrangement; point of view.
- C. part; a dream; something that will tell what will happen.

## 38. Confine

- A. restrain within limits; to secure; to keep from going out; a boundary or limit; region.
- B. enclose; restrict; limit; imprison; put in barrettes; put in one place for awhile; put away from others; keep within; keep to oneself.
- C. fine or good; speak to.

## 39. Impressive

- A. having power to impress; adapted to excite attention or feeling.
- B. big; make a dent; awesome; put well in mind; costs a lot of money; to show; to impress; leave a picture in your mind; people impressed by you; moving emotionally; magnificent.
- C. urge; understand; believable; like; show hope.

## 40. Gratify

- A. to give or be a source of pleasure.
- B. please; fulfill wishes.

## Scoring Sheet for Word Meaning Test (continued)

C. grateful; thankful; give your approval; give permission.

## 41. Conform

- A. to bring into harmony; to comply or submit.
- B. go by certain rules; agree or act according to; change to suit conditions.
- C. form together or gather; reassure; make true.

## 42. Benign

- A. gracious; generous; kindly; of kind disposition; of a mild type or character.
- B. peaceful; generous; happy; kind benefactor.
- C. (No responses.)

## 43. Judicious

- A. directed or governed by sound judgment; sagacious; discreet.
- B. in nature of justice.
- C. a court; stern; severe; merry.

## 44. Debonair

- A. of affable or courteous appearance and manners; characterized by grace and lightheartedness; gracious; kindly.
- B. gallant; smooth; gay; light-hearted.
- C. gentlemanly; pleased with self.

## 45. Perfunctory

- A. done merely as a duty; mechanical; indifferent.
- B. briefly; polite without caring.
- C. (No responses.)

## Scoring Sheet for Word Meaning Test (continued)

## 46. Satirical

- A. of nature of satire; sarcastic; ironically; censorious.
- B. sarcastic; sardonic; humorous in bitter way.
- C. slapstick; stars.

## 47. Sublime

- A. elevated or exalted in character; expressing uplifting emotion; elevated by joy; quality of sublimity; to elevate or exalt.
- B. superior; wonderful; heavenly.
- C. still; peaceful

## 48. Reciprocal

- A. interchanging or interchanged; given and received; mutually interchangeable.
- B. (No responses.)
- C. independent; object.

## 49. Fervent

- A. glowing; warm in temperament; zealous.
- B. earnest; intense; strongly.
- C. stop somebody from doing something.

## 50. Circumspect

- A. attention to all circumstances of a case and its consequences; prudent; cautious.
- B. (No responses.)
- C. see around; look around; inspect around.

An analysis of the child's responses on the Word Meaning Test enables the examiner to note the following difficulties:

- A. Low meaning vocabulary
- B. Guessing at the meaning of a word from its form, as giving a definition of attention for the test word tentative
- C. Ignoring prefixes or suffixes which change the meaning of the word, as giving a definition of independence for the test word dependence

Method of Scoring

Test VII

Written Recall

In this test the child was required to read two paragraphs and, without looking back at the paragraph, write as much as he could remember about the paragraph. (This test may be found on pages 3 and 4 of the group test in Appendix.)

The ideas in the paragraphs on Dancing and Flood Control were listed, and the child's written recall checked with the list after the fashion of Reading and Report - Year X on the Revised Stanford-Binet.<sup>1/</sup> One point of credit was given for each fact recalled, regardless of the child's selection of words. Credit was given even if the items were not listed in the correct order, but no credit was given for facts given in the wrong connection, as stating that "the Spartans thought all but religious dances were disgraceful" when the paragraph stated "the Romans thought all but religious dancing was disgraceful!"

<sup>1/</sup> Terman, E. M. and Merrill, M. A., Op. cit.

Scoring sheet for written recall showing how  
the paragraphs were divided according to ideas.

### Dancing

Dancing--<sup>1</sup>--was at first--<sup>2</sup>--a means of showing emotion through action--<sup>3</sup>--. Primitive people--<sup>4</sup>--developed separate dances--<sup>5</sup>--to express their feeling of love--<sup>6</sup>--sorrow--<sup>7</sup>--anger--<sup>8</sup>--or religion--<sup>9</sup>--. They had dances for their wars--<sup>10</sup> courtships--<sup>11</sup>--marriages--<sup>12</sup>--and for the worship of their gods--<sup>13</sup>--. Every country through the ages has had a form of dance characteristic of its people and beliefs--<sup>14</sup>--. The Spartans--<sup>15</sup>--, who were a rigorous warlike people--<sup>16</sup>--, considered dancing important as an exercise--<sup>17</sup>--in training a healthy body--<sup>18</sup>--. The Romans--<sup>19</sup>--felt that all but religious dances--<sup>20</sup> were disgraceful--<sup>21</sup>--. The English--<sup>22</sup>--had many folk dances--<sup>23</sup>--for celebrating events throughout the year--<sup>24</sup>--. One of these dances was the Carole--<sup>25</sup>--a yuletide dance--<sup>26</sup>--which is left to us today only as a song, the Carole which we sing at Christmas time--<sup>27</sup>--. A few American folk dances--<sup>28</sup>--were the Paul Jones--<sup>29</sup>--the Washington Post--<sup>30</sup>--and the Barn dance--<sup>31</sup>--. The Barn dance, much in vogue at the end of the 19th century--<sup>32</sup> is still popular today,--<sup>33</sup>--even though its original purpose,-- a celebration after the community building of a barn, has disappeared--<sup>34</sup>--. Our most widely known American dance--<sup>35</sup>--, the foxtrot--<sup>36</sup>--, grew up from the ragtime--<sup>37</sup>--and jazz--<sup>38</sup>-- which the Negroes brought with them--<sup>39</sup>--to this country--<sup>40</sup>--.

### Flood Control

There are several methods--<sup>1</sup>--of obtaining more adequate protection--<sup>2</sup>--from floods--<sup>3</sup>--. One is to build embankments on rivers--<sup>4</sup>--which will stand above the normal water level--<sup>5</sup>--;or, reversing the process--<sup>6</sup>--,to deepen the river channel--<sup>7</sup>--. A third--<sup>8</sup>--and newer method--<sup>9</sup>--is to hold the water back--<sup>10</sup>--by means of dams--<sup>11</sup>--built across the upper valley of a river--<sup>12</sup>--releasing the impounded water--<sup>13</sup>--when the river channel below can absorb the extraordinary amount--<sup>14</sup>--. A fourth way to control floods--<sup>15</sup>--is to retard them at their source--<sup>16</sup>--by planting trees on river banks--<sup>17</sup>--the roots acting as a restraint upon the water seeping down to the river bed--<sup>18</sup>--. A combination of all these methods--<sup>19</sup>--is often both necessary and wise--<sup>20</sup>--,in the case of a tremendous river like the Mississippi--<sup>21</sup>--which has many tributaries running into it--<sup>22</sup>--. The levees on the Mississippi--<sup>23</sup>--, which were 3 feet high--<sup>24</sup>--in 1735--<sup>25</sup>--, are 24 feet high today--<sup>26</sup>--and yet they are not sufficient to care for excessive quantities of water<sup>27</sup>.

In addition to these engineering devices, a prediction service--<sup>28</sup>--for the neighboring inhabitants--<sup>29</sup>--and for the navigator is possible--<sup>30</sup>--. Permanent gauges--<sup>31</sup>--register any unusual rise of water--<sup>32</sup>--;telegrams--<sup>33</sup>--and radio reports--<sup>34</sup>--are then immediately sent to the boat owners--<sup>35</sup>--and civilians in the adjacent territory--<sup>36</sup>--. Upon receiving these warnings people are prepared to move, if necessary--<sup>37</sup>--; and boat owners may anchor--<sup>38</sup>--in recesses--<sup>39</sup>--along the bank already

supplied to protect them against floating wreckage~~40~~.

The numbers on the scoring sheets refer to the number of ideas in the paragraphs.

An analysis of the pupil's responses on this test enables the examiner to observe the following difficulties:<sup>1/</sup>

- A. Scanty unaided recall
- B. Poorly organized recall
- C. Inaccurate memories and guesses
- D. Avoidance of new words in recall
- E. Recall falls off in difficult reading
- F. Spelling difficulty a hindrance to recall

Method of Scoring

Test VIII

Outlining

Part a - Recall of Details

In this test, the child was required to fill in details from memory, the main topic having been stated. (This test may be found on pages 5 and 6 of the group test in the Appendix.)

There are two paragraphs, each containing six details to be filled in. On each part of the test one point of credit was given for each detail correctly stated regardless of the child's selection of words. The child was not penalized for naming the facts in the wrong order. When two details were combined under one heading, two points of credit were given.

<sup>1/</sup> Durrell, Donald D., Op. cit.

No credit was given for fact recalled in wrong connection, as stating that "Mozart played the piano at the age of 7", when the paragraph stated "he played the piano at the age of 3."

An analysis of the child's responses enables the examiner to observe the following difficulties:

- A. Inability to recall details
- B. Poorly organized listing of details
- C. Inaccurate memories and guesses
- D. Avoidance of new words in recall
- E. Spelling difficulty as a hindrance to recall

#### Method of Scoring

##### Part b - Selection of Main Ideas and Details

In this test the child was asked to mark topics following a paragraph as main ideas and details. (This test may be found on pages 7 and 8 of the group test in the Appendix.) The child was not allowed to look back at the paragraph after beginning to mark the topics.

There are two paragraphs in this test, and since each paragraph contains a different number of main ideas and details to be marked, it was decided to weight the scores. The paragraphs on Glass were followed by five topics to be marked as main ideas or details. Two of the topics are main ideas and three of them are details. Four points of credit were given for each main idea marked correctly, and one point of credit for each detail correctly marked. The total score,

if all are marked correctly, is 11. The paragraphs on Benjamin Franklin are followed by eight topics to be marked as main ideas or details. Three of the topics are main ideas and five of them are details. Two points of credit were given for each main idea marked correctly, and one point for each detail. The total score, if all are marked correctly, is 11. The weighting of the scores permits a comparison of the relative difficulty of the paragraphs.

An observation of the responses on this test enables the examiner to observe the following difficulties:

- A. Inability to select main ideas
- B. Inability to select details

#### Method of Scoring

##### Part c - Selection of Order of Events

After having read a paragraph about Thomas Edison, the child was required to mark from memory the order of events as they occurred in the paragraph. (This test may be found on page 9 of the group test in the Appendix.) One point of credit was allowed for each topic correctly marked.

An observation of the results of this test enables the examiner to observe whether or not the child has difficulty in remembering sequence of events.

#### Method of Scoring

##### Part d - Statement of Central Thought

In this test, the child was required to state in his own words the central thought of four paragraphs. (This test

may be found on page 10 of the group test in the Appendix.)  
The child was permitted to look at the paragraphs.

Since it was not possible to mark the statements right or wrong, the following scale of credits was decided upon:

- 5 points - complete generalization
- 4 points - summary
- 3 points - topic sentence copied from the paragraph
- 2 points - a listing of details
- 1 point - one detail
- 0 points - irrelevant facts

The highest possible score is 20.

This scale of credits made the scoring subjective. Mrs. McKim and the author combined their judgments on the credit to be allowed. Following is a list of the students' responses on this test, and the credit given each response. This list permits more objective scoring.

Scoring sheet for test of Statement of  
Central Thought.

Paragraph I

Each year more and more people are taking automobile trips for their vacation. Many will go straight across the continent and back in the space of three weeks. It is possible for a whole family at a small cost to become acquainted with new people and customs in other communities. They learn to appreciate the lofty mountains, the rolling plains, crystal lakes and streams, and the healing calm of forests which exist in such wide variety throughout our country.

Answers which contained a complete generalization were given 5 points credit. A complete generalization was defined as containing the four essential ideas in the paragraph in a succinct form.

Example: 1. Each year more and more people are broadening their education by taking automobile trips.

Answers which were characterized by a response of the summary type were given 4 points credit.

- Examples:
1. Automobile trips and their value
  2. Many people get to see the country and appreciate new good friends.
  3. How automobile has increased a way for people to take vacations, and where and what they can see.
  4. Becoming acquainted by auto trips.
  5. People are taking automobile trips and are going places and meeting new friends.
  6. What people learn when they go for a auto trip for a vacation.
  7. Automobile trips across the country, and the number and variety of things people see on them.

Answers which contained topic sentences copied from the paragraph were given 3 points credit.

- Examples:
1. More and more people are taking automobile trips for their vacation each year.
  2. It is possible for a whole family at a small cost to become acquainted with new people and customs in other communities.

Answers which contained an enumeration of the details in the paragraph were given 2 points credit.

- Examples:
1. Many people become acquainted with country as prices lower for cars.
  2. More people are able to travel because of the automobile.
  3. People today travel more for vacations.
  4. Taking automobile trips across the country.
  5. Taking automobile trips through our forests, mountains and our country.
  6. Advantages of traveling and meeting new people, and appreciating nature.
  7. Vacations in Summer in a car.
  8. Taking trips and seeing swell sights.
  9. What you do, see, and think on vacations.
  10. More people are going on vacations in automobiles, and learn to appreciate more things.
  11. The automobile has given to people to do a lot of riding, and they are beginning to appreciate nature's things.

Scoring sheet for test of Statement of  
Central Thought. (continued)

12. Automobile trip vacation.
13. Automobiles help people to get around and see new things.
14. People learn many things on automobile trips for their vacation.
15. More people are taking automobile trips and becoming more well known with the states of the U.S.A.
16. People are having good times in automobiles in vacations.
17. More people are taking automobile trips to get acquainted with other people.
18. Traveling at a low cost.
19. People who have lived in one part of the country are now learning to appreciate other places.
20. It is easy to take an automobile trip and see all different things in a short time.

Answers which contained one detail of the paragraph were given 1 point of credit.

- Example:
1. Traveling.
  2. Trips.
  3. Automobile trips.
  4. Scenery.
  5. Vacations
  6. The use of more automobiles.
  7. More people buying automobiles.
  8. Trip in our country.
  9. People going away.
  10. People learn to appreciate nature.
  11. Want to go on a vacation or an automobile trip.
  12. They learn to appreciate things in life.
  13. More people take trips.
  14. Travel has become very popular.
  15. People cross the continent.
  16. Importance of cars.

Paragraph II

In 1903, Henry Ford organized the Ford Motor Company which is the largest corporation for the manufacture and sale of automobiles in the World. The Ford Company employs 100,000 men in its factory, and can turn out 9,000 cars daily, if the demand for the car is great enough to necessitate such a scale of production. The company has sales centers in all sections of America, as well as in most foreign countries.

Scoring sheet for test of Statement of  
Central Thought. (continued)

Answers which contained a complete generalization were given 5 points credit. A complete generalization was defined as containing the four essential ideas in the paragraph in a succinct form.

Examples: 1. The vast Ford Motor car industry.  
2. The largeness and capability of Henry Ford Motor Company.  
3. The organization of Henry Ford's automobile company, and the circulation of his cars.

Answers which were characterized by a response of the summary type were given 4 points credit.

Examples: 1. The work and scale of work of the Ford Motor Co.  
2. Ford car's production.  
3. How Ford Motor Company operates.

Answers which contained topic sentences copied from the paragraph were given 3 points credit.

Examples: 1. In 1903, Henry Ford organized the Ford Motor Company which is the largest corporation for the manufacture and sale of automobiles in the World.  
2. Henry Ford organized the Ford Motor Company in 1903.

Answers which contained an enumeration of the details in the paragraph were given 2 points credit.

Examples: 1. Henry Ford and his cars.  
2. Henry Ford and manufacture of automobiles.  
3. The Ford plant is the largest in the World and it employs a great number of men and it can produce a great deal.  
4. Henry Ford produces automobiles, has many different plants throughout this country and in foreign countries.  
5. Ford Motor Company is the largest corporation in the World which manufactures cars, and puts out 9,000 cars daily.

Scoring sheet for test of Statement of  
Central Thought. (continued)

6. Ford Company established in 1903, has grown by leaps and bounds since then and now employs 100,000 men.
7. Tremendous size of Ford automobile plant, the largest in the World for manufacture of automobiles.
8. Manufacture of automobiles and the demand for them.
9. Making an automobile to sell, and their manufacture.
10. The Ford Motor Company makes lots of automobiles in many places.
11. Ford Motor Company is the largest car company and turns out the most cars.
12. The Ford Company can produce 9,000 cars a day with 100,000 men working in the factory.
13. The Ford Motor Company is the largest company in the World and Henry Ford started it.

Answers which contained one detail of the paragraph were given 1 point of credit.

- Examples:
1. A great motor company.
  2. Henry Ford automobile.
  3. Sales of the Ford.
  4. The factory can turn out 9,000 cars daily.
  5. A good factory.
  6. Making cars.
  7. Selling cars on a large scale.
  8. Ford's plant
  9. Automobiles
  10. The organizing of the Ford Motor Company.
  11. The Ford Company helped boost the selling of cars.
  12. The Ford Company is a large company.
  13. The Ford Company employs 100,000 men.
  14. The Ford Company can do what people demand.
  15. The Ford Company is run on a very large scale.
  16. Easy production of Ford cars everywhere.
  17. Henry Ford Motor Company.
  18. What Henry Ford can do in his big factory.
  19. The amount of cars Ford sends out.
  20. Ford Company formed in 1903.
  21. Henry Ford's is the largest corporation in the World.

Scoring sheet for test of Statement of  
Central Thought. (continued)

Paragraph III

Glass was discovered accidentally when Phoenician sailors, lighting a fire on the beach, discovered that the wood ash from the fire united with the sand to form a clear translucent substance which we call glass. Gradually, this substance came to have a practical value as a container for food and drink, and later it was used for decorative purposes. Scientists have found so many additional uses for glass that it would seem impossible for us to live without it. Many other articles, which we consider every day necessities, have evolved in the same manner.

Answers which contained a complete generalization were given 5 points credit. A complete generalization was defined as containing the three essential ideas in the paragraph in a succinct form.

- Examples:
1. About the way glass was discovered and its uses.
  2. Glass, found by accident, is useful now.
  3. Glass, which was accidentally discovered, is a very important substance today.
  4. Development and uses of glass.
  5. How glass was discovered and how it improved in uses.
  6. Glass, how it was discovered, and its importance.
  7. Glass was discovered accidentally by Phoenician sailors and now is used for a great many things.
  8. Accidental discovery of glass and its invaluable help down through the ages.

Answers which were characterized by a response of the summary type were given 4 points credit.

- Examples:
1. The discovery of glass and the practical use of it that makes it seem impossible for us to live without it.
  2. Glass discovered accidentally, impossible to live without it.
  3. Glass is used for many useful and decorative purposes, and is becoming almost impossible to live without.
  4. Glass was found accidentally on a shore by a sailor, and today we use glass all the time.

Scoring sheet for test of Statement of  
Central Thought. (continued)

Answers which contained topic sentences copied from  
the paragraph were given 3 points credit.

- Examples:
1. Glass was discovered accidentally.
  2. Many articles have been discovered like the way glass was, accidentally.
  3. Glass was discovered accidentally when some Phoenician sailors had a fire on a beach, and the wood ash mixed with the sand.

Answers which contained an enumeration of the details  
in the paragraph were given 2 points credit.

- Examples:
1. Uses of glass.
  2. Discovery of glass.
  3. Uses of glass for many different things.
  4. About making glass and drinking glass and a few others.
  5. Glass is an every day necessity.
  6. Inventions are often merely accidental and so was glass.
  7. Sailors discovered glass when they saw wood ashes from a fire combine with sand and become translucent substance.
  8. Glass a great value to us in many things.
  9. How glass gradually had more and more uses.
  10. How the Phoenician sailors made glass and how useful it is.
  11. Glass and things discovered about it.

Answers which contained one detail of the paragraph  
were given 1 point of credit.

- Examples:
1. Glass.
  2. You could not get along without glass.
  3. Finding the use of glass.
  4. The importance of glass.
  5. An invention.
  6. Translucent we call glass.
  7. Glass used to help us.

Paragraph IV

Four centuries ago Leonardo da Vinci lived in Italy.  
He was a versatile genius, being skilled in painting and

Scoring sheet for test of Statement of  
Central Thought. (continued)

sculpture, as well as science and invention. He was a painstaking worker as shown by the fact that he spent ten years perfecting one of his most famous paintings, 'The Last Supper'. A simple invention credited to him and in general use today, is the wheel barrow.

Answers which contained a complete generalization were given 5 points credit. A complete generalization was defined as containing the three essential ideas in the paragraph in a succinct form.

Examples: 1. The skill and thoroughness of Leonardo da Vinci.  
2. The famous da Vinci was a genius at painting and skilled at many other kinds of work like sculpture and invention.  
3. Leonardo da Vinci, his talent, inventions and work.

Answers which were characterized by a response of the summary type were given 4 points credit.

Examples: 1. Life of great painter, Leonardo da Vinci, and his works.  
2. Leonardo da Vinci was a genius painter, scientist and inventor.

Answers which contained topic sentences copied from the paragraph were given 3 points credit.

Examples: 1. Leonardo da Vinci was a versatile genius, being skilled in painting, sculpture, science and invention.  
2. Four centuries ago, Leonardo da Vinci lived in Italy.

Answers which contained an enumeration of the details in the paragraph were given 2 points credit.

Examples: 1. Leonardo da Vinci was a versatile genius, and invented the wheel barrow.  
2. Leonardo da Vinci was a painstaking worker, and invented the wheel barrow.

Scoring sheet for test of Statement of  
Central Thought. (continued)

3. He spent 10 years painting 'The Last Supper', and he invented the wheel barrow four centuries ago.
4. Leonardo da Vinci lived in Italy, and was skilled in painting.
5. Leonardo as a sculptor and painter.
6. Leonardo da Vinci and his paintings.
7. That a painter could be an inventor as well as a painter.
8. He was patient and a good painter.
9. Leonardo da Vinci an artist and scientist.
10. Leonardo da Vinci had a lot of talent, such as sculpturing, painting and lots of other things.
11. Leonardo da Vinci was a skilled painter and sculptor, and one of his famous paintings was 'The Last Supper'.
12. Leonardo da Vinci had lots of arts that he was very good at.

Answers which contained one detail of the paragraph were given 1 point of credit.

- Examples:
1. Paintings.
  2. Painting of the Last Supper.
  3. The simple tool he invented which people praised.
  4. Leonardo da Vinci.
  5. Leonardo da Vinci was a genius.
  6. He was painstaking worker.
  7. How much work he did.
  8. The life of Leonardo da Vinci.
  9. A skillful man.
  10. Work of Leonardo da Vinci.
  11. Leonardo da Vinci was a great painter.
  12. Leonardo da Vinci was a famous man.
  13. Leonardo da Vinci was a skillful man.

An observation of the child's responses enables the examiner to note the following difficulties:

- A. Inability to make a complete generalization.
- B. Use of summary instead of a complete generalization

- C. Selection of topic sentence instead of statement of central thought
- D. Selection of details instead of statement of central thought
- E. Statement of irrelevant facts as the central thought
- F. Use of one word as the central thought

#### Method of Scoring

##### Part e - Construction of Complete Outline

In this test the child was required to make a complete outline of the article on China. (This test may be found on page 11 of the group test in Appendix.) The child was permitted to look back at the article as he outlined.

The outline was scored from the point of view of form and content. The child was credited with 8 points for a complete outline, 5 points for form and 3 points for content. Credits were subtracted for failure to do certain things considered necessary in a well constructed outline. The five penalties for form were:

1. No indentation
2. No lettering or numbering
3. Inconsistent lettering or numbering
4. Incorrect lettering or numbering
5. Use of summary instead of an outline.

The three penalties for content were:

1. Incomplete outline
2. Unacceptable headings (The use of details as main ideas.)
3. Unacceptable details (The use of main ideas as sub-topics.)

An analysis of the student's outline enables the examiner to observe the following difficulties:

- A. Failure to indent
- B. Failure to letter or number
- C. Failure to letter or number consistently
- D. Failure to use correct wording
- E. Use of summary instead of an outline
- F. Failure to select main ideas
- G. Failure to select correct details to accompany the main topics.

The examiner may also note whether the child uses words, phrases, sentences, or a combination of the three types in making an outline.

#### Method of Scoring

#### Test IX

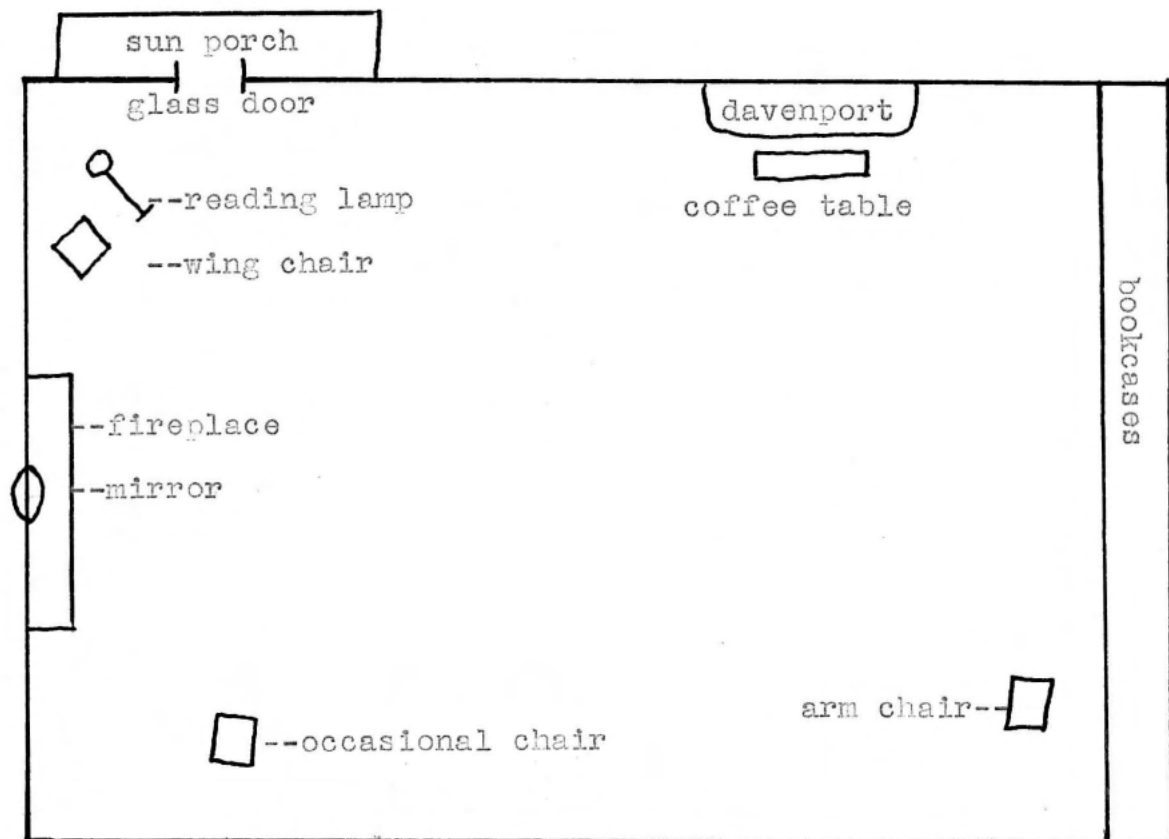
#### Visualization

#### Part a - Spatial Visualization

In this test the child was required to make a simple drawing of the room described in the paragraph. (This test may

be found on page 12 of group test in Appendix.)

The scoring is entirely objective. One point of credit is allowed for each object correctly placed, and one point of credit for the room itself, making a total of twelve points. Below is the correct diagram of the room.



An analysis of the student's diagram enables the examiner to observe the following difficulties:

- A. Inability to follow directions
- B. Inability to visualize spatially.

## Method of Scoring

### Part b - Sensory Visualization

In this test the child was required to read a poem, and list under the proper headings what he could see, hear, taste, touch, and smell. He was permitted to look back at the poem as he made the lists. (This test may be found on page 13 of group test in Appendix.)

#### List of all possible responses on test of sensory visualization.

##### Sight

- |                      |             |                 |
|----------------------|-------------|-----------------|
| 1. white cups        | 17. clouds  | 33. high places |
| 2. plates            | 18. machine | 34. footprints  |
| 3. clean gleaming    | 19. water   | 35. dew         |
| 4. ringed with lines | 20. furs    | 36. oaks        |
| 5. dust              | 21. clothes | 37. chestnuts   |
| 6. wet roofs         | 22. leaves  | 38. sticks      |
| 7. lamplight         | 23. sunny   | 39. pools       |
| 8. bread             | 24. spring  | 40. grass       |
| 9. food              | 25. holes   | 41. moths       |
| 10. raindrops        | 26. train   | 42. ferns       |
| 11. smoke            | 27. sand    |                 |
| 12. rainbows         | 28. foam    |                 |
| 13. flowers          | 29. wave    |                 |
| 14. moon             | 30. stone   |                 |
| 15. wood             | 31. iron    |                 |
| 16. hair             | 32. earth   |                 |

List of all possible responses on test  
of sensory visualization. (continued)

<u>Touch</u>		<u>Smell</u>	<u>Sound</u>
1. cups	24. dew	1. smoke	1. wet roofs
2. plates	25. oaks	2. grainy wood	2. water
3. dust	26. chestnuts	3. old clothes	3. laugh
4. roofs	27. sticks	4. hair	4. panting train
5. bread	28. grass	5. dead leaves	5. waves
6. food	29. grainy	6. ferns	6. voices
7. raindrops	30. ground	7. moist earth	7. sing
8. flowers		8. musty	
9. moth			
10. wood			
11. hair			
12. machine			
13. hot water			
14. furs			
15. clothes			
16. dead leaves			
17. train			
18. sands			
19. foam			
20. waves			
21. stone			
22. cold iron			
23. moist earth			

List of all possible responses on test  
of sensory visualization. (continued)

Taste

1. bread
2. food
3. smoke
4. raindrops
5. hot water
6. spring water
7. drink

An observation of the child's responses enables the examiner to note the following difficulties:<sup>1/</sup>

- A. Inability to follow directions
- B. Inability to visualize sight
- C. Inability to visualize sound
- D. Inability to visualize taste
- E. Inability to visualize touch
- F. Inability to visualize scents.

Spelling

No special test of spelling was administered, but an analysis of the child's responses on the written material of the test enables the examiner to observe the following spelling difficulties:<sup>2/</sup>

- 1/ Broening, A. M., Law, F. H., Wilkinson, M. S., Ziegler, C.L. Reading for Skill, Noble and Noble, New York, 1936, p. 225
- 2/ Gates, Arthur I., The Improvement of Reading, The Macmillan Company, New York, 1935, p. 264.

- A. Phonetic spelling
- B. Non-phonetic spelling
- C. Reversals
- D. Omission of letters or sounds
- E. Omission of prefixes or suffixes
- F. Addition of letters or sounds
- G. Addition of prefixes or suffixes

Chapter IV

Evaluation of the Test Items

## Chapter IV

### Evaluation of the Test Items

It is the purpose of this chapter to evaluate the test items by indicating the discrimination shown between grades on each item of the test.

The results were obtained by averaging the eighty public and private school scores on each test. Although the number of children tested was not large, the averages thus obtained may be considered as tentative norms for the test, since the grades tested were shown to be typical grades.

### Analysis of Results

#### Test I

#### Oral Reading with Oral Recall

Below is a table showing the average rate and comprehension scores in each grade on the three paragraphs for oral reading. The three paragraphs were entitled Airplane Uses, Movies and Radio. The rate is expressed in words read per minute, and the comprehension represents the number correct out of five questions.

Table 2.

Average rate and comprehension scores in grades 6, 7, 8, and 9 on oral reading test.

Number of pupils in each grade - 20

<u>Grade</u>	<u>Airplane Uses</u>		<u>Movies</u>		<u>Radio</u>	
	<u>Rate</u>	<u>Compre- hension</u>	<u>Rate</u>	<u>Compre- hension</u>	<u>Rate</u>	<u>Compre- hension</u>
6	81.06	2.05	68.97	1.875	76.61	1.525
7	96.1	2.225	79.85	2.625	84.8	2.675
8	125.35	3.9	94.3	3.025	97.35	2.95
9	140.1	3.85	111.8	3.375	127.6	3.25

Table 2 indicates that:

- A. The test discriminates between grades, since the rate of oral reading increased, and the average comprehension also increased by grade.
- B. There was an average gain of 23 words per minute in each grade in the paragraph about Airplane Uses, an average gain of 14 words per minute in the paragraph about Movies, and an average gain of 17 words per minute in the paragraph about Radio.
- C. The paragraph about Movies contained the most difficult words and constructions, since the rate of reading for this paragraph was lower in all grades than the paragraphs about Airplane Uses and Radio.

- D. The paragraph about Radio was the most difficult to comprehend in grades 6, 8, and 9.
- E. The paragraph about Airplane Uses was the most difficult to comprehend in grade 7.

### Analysis of Results

#### Test II

#### Silent Reading with Oral Recall

Below is a table showing the average rate and comprehension scores in each grade on the two paragraphs for silent reading. The two paragraphs were entitled Football and Floods and Tidal Waves. The rate is expressed in words read per minute, and the comprehension represents the number of facts recalled out of forty on the paragraph on Football, and the number of facts recalled out of forty-eight on the paragraph on Floods and Tidal Waves.

Table 3.

Average rate and comprehension scores in grades 6, 7, 8, and 9 on test of silent reading with oral recall.

Number of pupils in each grade - 20

<u>Grade</u>	<u>Football</u>		<u>Floods and Tidal Waves</u>	
	<u>Rate</u>	<u>Comprehension</u>	<u>Rate</u>	<u>Comprehension</u>
6	157.9	9.35	162.3	10.9
7	183.75	10.45	188.1	12.7
8	184.35	14.5	191.6	14.2
9	195.3	18.45	198.9	16.25

Table 3 indicates that:

- A. The material on the test discriminates between grades, since the scores improved in each

succeeding higher grade both in rate and in number of facts recalled.

- B. Grades 6 and 7 found it more difficult to recall the material in the paragraph about Football than to recall the material in the paragraph about Floods and Tidal Waves.
- C. Grades 8 and 9 found it more difficult to remember the material about Floods and Tidal Waves than the material about Football. However, the pupils in these two grades recalled more of the material on both paragraphs than did the pupils in grades 6 and 7.

#### Analysis of Results

##### Test III

##### Speed of Reading

Below is a table showing the average rate and comprehension scores on the test of speed of silent reading. The rate for the article about Flying is expressed in words read per minute and the comprehension score represents the number of responses correct out of five.

Table 4.

Average rate and comprehension scores in grades 6, 7, 8, and 9 on test of speed of reading.

Number of pupils in each grade - 20

<u>Grade</u>	<u>Flying</u>	
	<u>Rate</u>	<u>Comprehension</u>
6	185.5	2.3
7	210.5	3.1
8	232.95	3.7
9	267.3	3.875

Table 4 indicates that:

- A. The test of speed of silent reading discriminates between grades, since the rate of silent reading was different for each grade.
- B. The test is a measure of silent reading rate, since the average reading rate increased by grade. Grade 7 was higher than grade 6, grade 8 was higher than grade 7 and grade 9 was higher than grade 8.

#### Analysis of Results

##### Test IV

##### Skimming

Below is a table showing the average time taken to locate numbers, phrases and information in each grade on the skimming test. The average time to locate these facts

correctly and incorrectly is shown on the table. Time is expressed in seconds. Correct location of facts is marked with 'plus', incorrect location of facts with 'minus', and the time included in parentheses. The table also shows the number of children in each grade who located numbers, phrases and information correctly and incorrectly.

Table 5.

Comparison of number of pupils giving correct and incorrect responses, and a comparison of the average time taken to locate responses on skimming test in grades 6, 7, 8, and 9.

Number of pupils in each grade - 20

<u>Grade</u>	<u>Numbers</u>		<u>Phrases</u>		<u>Information</u>	
	<u>No. of Cases</u>	<u>Time</u>	<u>No. of Cases</u>	<u>Time</u>	<u>No. of Cases</u>	<u>Time</u>
6	8	+ 15.03	17	+ 30.59	7	+ 48.142
	12	(- 32.69)	3	(- 34.72)	13	(- 77.23)
7	9	+ 34.37	18	+ 19.10	13	+ 31.69
	11	(- 28.34)	2	(- 70.77)	7	(- 100.0 )
8	12	+ 27.73	19	+ 14.55	15	+ 44.59
	8	(- 21.3 )	1	(- 54.5 )	5	(- 76.5 )
9	7	+ 23.16	19	+ 15.75	13	+ 25.15
	13	(- 21.21)	1	(- 56.6 )	7	(- 71.71)

Table 5 indicates that:

- A. The time taken to skim for numbers, phrases and information did not improve by grade.
- B. Grade 6 located numbers more quickly than grades 7, 8, and 9. However, it took grade 8

- less time to locate numbers correctly than grade 7, and grade 9 less time than grade 8.
- C. Grades 7, 8, and 9 took longer to find the correct location of numbers than to locate numbers incorrectly.
- D. The ability to locate phrases correctly improved from grades 6 through 8. However, it took grade 9 somewhat longer than grade 8 to locate phrases.
- E. In all grades it took longer to locate phrases incorrectly than to locate them correctly.
- F. Although the ability to locate information did not improve by grade, it took grade 7, 8, and 9 less time to locate information correctly than grade 6.
- G. In all grades it took more time to locate information incorrectly than to locate the correct response.
- H. The number of pupils in each grade, who located numbers correctly, improved from grades 6 through 8. However, the number of pupils in grade 9, who located numbers correctly, fell below all the other grades.
- I. The number of pupils, who located phrases correctly, improved from grades 6 through 9.

- J. The number of pupils, who located information correctly, improved from grades 6 through 8. However, the number of pupils in grade 9, who located information correctly, fell below grade 8.

### Analysis of Results

#### Test V

#### Word Recognition and Analysis

Below is a table showing the average scores in each grade on the test of word recognition and analysis.

Table 6.

Average scores in grades 6, 7, 8, and 9 on word recognition and analysis test.

Number of pupils in each grade - 20

<u>Grade</u>	<u>Recognition</u>	<u>Analysis</u>
6	22.3	35.65
7	26.1	39.55
8	36.35	44.75
9	46.25	48.85

Table 6 indicates that:

- A. The test discriminates between grades in word recognition and analysis.
- B. The ability to recognize and analyze the test words improved according to school grade placement.
- C. More words were analyzed in all grades than were

recognized at sight.

- D. There is a greater difference between the number of words recognized and analyzed in the two lower grades than in the two upper grades.

Table 7.

Relative difficulty of each word on the word recognition test expressed in percent of passes in each grade.

Word	Number of pupils in each grade - 20			
	Grade VI	Grade VII	Grade VIII	Grade IX
1. reconcile	35%	55%	80%	95%
2. consciousness	50%	45%	65%	90%
3. infection	85%	70%	90%	100%
4. signature	85%	100%	100%	100%
5. inconvenient	40%	75%	90%	100%
6. profession	70%	90%	100%	100%
7. endurance	70%	80%	100%	100%
8. dependence	75%	80%	95%	100%
9. efficiency	45%	60%	95%	100%
10. constructive	50%	70%	95%	95%
11. discord	80%	95%	100%	100%
12. submerge	60%	95%	100%	100%
13. aggravate	35%	55%	65%	100%
14. commissioner	70%	95%	85%	100%
15. exceptional	45%	55%	80%	100%
16. environment	15%	55%	80%	100%
17. unstable	75%	90%	80%	100%
18. prescribe	60%	75%	85%	100%

Table 7. (continued)

<u>Word</u>	<u>Grade VI</u>	<u>Grade VII</u>	<u>Grade VIII</u>	<u>Grade IX</u>
19. relentless	55%	55%	95%	100%
20. episode	45%	55%	85%	100%
21. preposterous	40%	45%	65%	100%
22. perseverance	15%	30%	45%	90%
23. tentative	15%	45%	65%	95%
24. policy	70%	85%	95%	100%
25. obnoxious	40%	55%	70%	100%
26. assessment	20%	35%	50%	90%
27. administrator	25%	40%	55%	90%
28. initiative	15%	15%	50%	100%
29. defiantly	25%	25%	40%	85%
30. commodity	30%	10%	45%	65%
31. oblivion	30%	30%	45%	85%
32. testify	80%	95%	100%	100%
33. eccentric	15%	15%	50%	70%
34. aptitude	35%	40%	50%	95%
35. assiduous	5%	30%	20%	65%
36. portable	55%	100%	95%	100%
37. version	75%	85%	95%	95%
38. confine	90%	100%	100%	100%
39. impressive	55%	75%	100%	100%
40. gratify	70%	65%	95%	100%
41. conform	65%	65%	95%	100%

Table 7. (continued)

<u>Word</u>	<u>Grade VI</u>	<u>Grade VII</u>	<u>Grade VIII</u>	<u>Grade IX</u>
42. benign	20%	25%	20%	80%
43. judicious	15%	35%	40%	95%
44. debonair	15%	15%	30%	85%
45. perfunctory	15%	15%	35%	80%
46. satirical	10%	20%	15%	65%
47. sublime	50%	70%	90%	80%
48. reciprocal	0%	0%	40%	80%
49. fervent	40%	50%	95%	90%
50. circumspect	15%	15%	40%	75%

Table 7 indicates that:

- A. The words on the test discriminated between grades.
- B. Grade 9 showed a greater percent of passes than grades 6 and 7 on all words.
- C. Grade 9 showed the same or a greater percent of passes than grade 8 on all words, except sublime and fervent.
- D. Grade 8 showed the same or a greater percent of passes than grade 7 on all words, except commissioner, unstable, assiduous, portable and benign.
- E. Grade 8 showed a greater percent of passes on all words than grade 6.

F. Grade 7 showed the same or a greater percent of passes than grade 6 on all words, except consciousness, infection, commodity and gratify.

Table 8.

Relative difficulty of each word on word analysis test expressed in percent of passes in each grade.

Word	Number of pupils in each grade - 20			
	Grade VI	Grade VII	Grade VIII	Grade IX
1. reconcile	50%	75%	75%	100%
2. consciousness	60%	75%	80%	100%
3. infection	100%	100%	95%	100%
4. signature	95%	100%	100%	100%
5. inconvenient	55%	80%	100%	100%
6. profession	95%	100%	100%	100%
7. endurance	100%	95%	100%	100%
8. dependence	100%	95%	100%	100%
9. efficiency	60%	80%	95%	100%
10. constructive	85%	95%	100%	100%
11. discord	100%	95%	100%	100%
12. submerge	85%	100%	100%	100%
13. aggravate	65%	70%	90%	100%
14. commissioner	95%	95%	100%	100%
15. exceptional	85%	80%	100%	100%
16. environment	55%	90%	100%	100%

Table 8. (continued)

<u>Word</u>	<u>Grade VI</u>	<u>Grade VII</u>	<u>Grade VIII</u>	<u>Grade IX</u>
17. unstable	95%	95%	100%	100%
18. prescribe	95%	90%	100%	100%
19. relentless	95%	90%	100%	100%
20. episode	65%	70%	85%	100%
21. preposterous	70%	80%	100%	100%
22. perseverance	45%	60%	60%	100%
23. tentative	65%	80%	100%	100%
24. policy	90%	100%	100%	100%
25. obnoxious	70%	85%	90%	100%
26. assessment	80%	80%	90%	100%
27. administrator	95%	85%	95%	100%
28. initiative	20%	25%	65%	100%
29. defiantly	35%	60%	60%	90%
30. commodity	55%	60%	80%	90%
31. oblivion	50%	55%	70%	100%
32. testify	90%	95%	100%	100%
33. eccentric	55%	55%	80%	80%
34. aptitude	70%	80%	75%	100%
35. assiduous	50%	55%	80%	90%
36. portable	75%	100%	100%	100%
37. version	90%	100%	100%	95%
38. confine	90%	100%	100%	100%
39. impressive	85%	85%	100%	100%

Table 8. (continued)

<u>Word</u>	<u>Grade VI</u>	<u>Grade VII</u>	<u>Grade VIII</u>	<u>Grade IX</u>
40. gratify	85%	85%	100%	100%
41. conform	90%	100%	100%	100%
42. benign	40%	65%	70%	80%
43. judicious	35%	60%	80%	95%
44. debonair	55%	50%	75%	95%
45. perfunctory	50%	50%	80%	100%
46. satirical	55%	55%	55%	90%
47. sublime	80%	80%	100%	100%
48. reciprocal	30%	30%	80%	100%
49. fervent	80%	90%	95%	95%
50. circumspect	60%	70%	85%	100%

Table 8 indicates that:

- A. The words on the test discriminated between grades.
- B. Grade 9 showed the same or a greater percent of passes than grade 6 on all words.
- C. Grade 9 showed the same or a greater percent of passes than grades 7 and 8 on all words, except version.
- D. Grade 8 showed the same or a greater percent of passes than grade 7 on all words, except infection and aptitude.
- E. Grade 8 showed the same or a greater percent of passes than grade 6 on all words except

infection.

F. Grade 7 showed the same or a greater percent of passes than grade 6 on all words, except endurance, dependence, discord, exceptional, prescribe, administrator and debonair.

### Analysis of Results

#### Test VI

#### Vocabulary Meaning

Below is a table showing the average scores on each grade of the word meaning test.

Table 9.

Average scores in grades 6, 7, 8, and 9 on word meaning test.

Number of pupils in each grade - 20

<u>Grade</u>	<u>Meaning</u>
6	7.1
7	10.35
8	14.45
9	23.25

Table 9 indicates that:

- A. The test discriminates between grades, since the ability to define words improved in each succeeding higher grade.

Table 10.

Relative difficulty of each word on word meaning test expressed in percent of passes in each grade.

Number of pupils in each grade - 20.

<u>Word</u>	<u>Grade VI</u>	<u>Grade VII</u>	<u>Grade VIII</u>	<u>Grade IX</u>
1. reconcile	20%	15%	20%	65%
2. consciousness	40%	35%	60%	80%
3. infection	40%	65%	80%	85%
4. signature	95%	100%	100%	100%
5. inconvenient	35%	55%	70%	90%
6. profession	45%	85%	90%	100%
7. endurance	20%	35%	45%	75%
8. dependence	40%	40%	50%	70%
9. efficiency	15%	20%	45%	45%
10. constructive	25%	30%	60%	65%
11. discord	20%	45%	25%	70%
12. submerge	35%	30%	65%	90%
13. aggravate	30%	45%	80%	85%
14. commissioner	40%	20%	40%	20%
15. exceptional	30%	30%	55%	65%
16. environment	5%	25%	35%	80%
17. unstable	15%	15%	40%	65%
18. prescribe	20%	30%	50%	85%
19. relentless	5%	20%	25%	45%
20. episode	30%	40%	55%	95%
21. preposterous	15%	30%	75%	80%

Table 10. (continued)

<u>Word</u>	<u>Grade VI</u>	<u>Grade VII</u>	<u>Grade VIII</u>	<u>Grade IX</u>
22. perseverance	0%	20%	15%	45%
23. tentative	0%	0%	0%	20%
24. policy	20%	5%	30%	35%
25. obnoxious	0%	0%	0%	35%
26. assessment	0%	0%	5%	25%
27. administrator	10%	15%	20%	35%
28. initiative	0%	0%	5%	35%
29. defiantly	0%	10%	15%	20%
30. commodity	0%	5%	0%	15%
31. oblivion	0%	0%	5%	25%
32. testify	15%	45%	70%	50%
33. eccentric	5%	0%	5%	25%
34. aptitude	0%	0%	5%	30%
35. assiduous	0%	0%	0%	0%
36. portable	15%	50%	50%	80%
37. version	5%	35%	25%	50%
38. confine	10%	20%	20%	55%
39. impressive	5%	20%	25%	45%
40. gratify	0%	0%	0%	30%
41. conform	0%	0%	0%	15%
42. benign	0%	0%	0%	20%
43. judicious	0%	0%	0%	5%
44. debonair	0%	0%	0%	20%

Table 10. (continued)

<u>Word</u>	<u>Grade VI</u>	<u>Grade VII</u>	<u>Grade VIII</u>	<u>Grade IX</u>
45. perfunctory	0%	0%	0%	10%
46. satirical	0%	0%	0%	10%
47. sublime	5%	0%	0%	15%
48. reciprocal	0%	0%	0%	0%
49. fervent	0%	0%	5%	25%
50. circumspect	0%	0%	0%	0%

Table 10 indicates that:

- A. The words on the test discriminated between grades.
- B. Grade 9 showed the same or a greater percent of passes than grade 8 on all words, except commissioner and testify.
- C. Grade 9 showed the same or a greater percent of passes than grade 7 on all words.
- D. Grade 9 showed the same or a greater percent of passes than grade 6 on all words, except commissioner.
- E. Grade 8 showed the same or a greater percent of passes than grade 7 on all words, except perseverance, commodity and version.
- F. Grade 8 showed the same or a greater percent of passes than grade 6 on all words, except sublime.

- G. Grade 7 showed the same or a greater percent of passes than grade 6 on all words, except reconcile, consciousness, submerge, commissioner, policy, eccentric and sublime.

### Analysis of Results

#### Test VII

#### Written Recall

Below is a table showing average number of facts recalled on each paragraph of the test of silent reading with written recall. The total number of facts in each paragraph was forty. The titles of the paragraphs were Dancing and Flood Control.

Table 11.

Average number of facts recalled in grades 6, 7, 8, and 9 on test of written recall.

Number of pupils in each grade - 20

<u>Grade</u>	<u>Dancing</u>	<u>Flood Control</u>
	<u>Comprehension</u>	<u>Comprehension</u>
6	5.05	5.85
7	7.85	8.8
8	10.85	10.2
9	16.9	13.75

Table 11 indicates that:

- A. The test discriminates between grades, since the ability to recall and write details improved

on both paragraphs in each succeeding higher grade.

- B. Grades 6 and 7 found the facts on Flood Control easier to recall than the facts on Dancing.
- C. Grades 8 and 9 found the facts on Dancing easier to recall than the facts on Flood Control. However, grades 8 and 9 recalled more facts on both paragraphs than grades 6 and 7.

### Analysis of Results

#### Test VIII

#### Outlining

Parts a, b and c - Recall of Details, Selection of Main Ideas and Details, and Selection of Order of Events

Below is a table containing the average scores in each grade on the silent reading tests for recall of details, selection of main ideas and details, and selection of order of events. The averages for recall of details represent the number correct out of six. The averages for selection of main idea and details represent the number correct out of eleven. The averages for selection of order of events represent the number correct out of five. There are two paragraphs on the test of recall of details entitled Mozart and Steel, two for selection of main ideas and details entitled Glass and Franklin, and one for selection of order of events entitled Edison,

Table 12.

Average scores in grades 6, 7, 8, and 9 on tests of recall of details, selection of main ideas and details, and selection of order of events.

Number of children in each grade - 20

<u>Grade</u>	<u>Recall of Details</u>		<u>Selection of Main Idea and Details</u>		<u>Sequence</u>
	<u>Mozart</u>	<u>Steel</u>	<u>Glass</u>	<u>Franklin</u>	<u>Edison</u>
6	2.85	2.3	7.65	4.9	2.15
7	3.5	2.45	8.9	6.65	2.95
8	3.9	3.275	9.5	7.55	3.8
9	4.25	3.75	9.6	7.95	3.55

Table 12 indicates that:

- A. The tests for recall of details, selection of main ideas and details, and selection of order of events discriminate between grades.
- B. More facts were recalled on both paragraphs of the test for recall of details in each succeeding higher grade.
- C. Each grade found the details on the paragraph about Steel more difficult to recall than those about Mozart. This seems to indicate that biographical facts are more easily recalled by children in grades 6 through 9 than descriptive facts.
- D. More main ideas and details were selected correctly in each succeeding higher grade.

- E. Each grade selected main ideas and details more easily in the paragraph about Glass than in the paragraph about Franklin
- F. Grade 7 selected the correct sequence of events better than grade 6, and grade 8 selected the correct sequence better than grade 7. Grade 9 did not mark the correct sequence as well as grade 8, but the average for grade 9 was better than grades 6 and 7.

#### Analysis of Results

##### Part d - Statement of Central Thought

Below is a table containing the average scores on each paragraph of the test of central thought in each grade, and the average of the scores on the whole test in each grade.

Table 13.

Average scores in grades 6, 7, 8, and 9 on each paragraph of test of central thought and on test as a whole.

Number of children in each grade - 20

Grade	Paragraph I	Paragraph II	Paragraph III	Paragraph IV	Total
6	1.45	1.45	1.5	.8	5.2
7	2.1	1.55	1.9	.8	6.35
8	1.9	1.7	2.4	1.5	7.5
9	2.5	2.6	3.5	1.75	10.35

Table 13 indicates that:

- A. The test, as a whole, discriminates between

grades, since the total averages improved in each succeeding higher grade.

- B. Each paragraph of the test discriminates between grades.
- C. On paragraph I grade 7 obtained a higher average than grade 6. Grade 8 obtained a lower average score than grade 7, but higher than grade 6. Grade 9 obtained a higher average score than grades 6, 7, and 8.
- D. On paragraphs II, III, and IV the average scores showed improvement on each succeeding higher grade.
- E. All grades found paragraph IV the most difficult.
- F. Paragraph III was the easiest in grades 6, 8, and 9.
- G. Paragraph I was the easiest in grade 7.

#### Analysis of Results

##### Part e - Construction of Complete Outline

Below is a table showing the average scores obtained on the test of complete outlining. The averages are divided showing the scores for form and content as well as for the whole outline.

Table 14.

Average scores in grades 6, 7, 8 and 9 on form and content of complete outline, and average total score on whole outline.

Number of children in each grade - 20

<u>Grade</u>	<u>Form</u>	<u>Content</u>	<u>Total</u>
6	.3	.35	.65
7	2.9	1.0	3.9
8	3.55	1.25	4.8
9	4.1	2.05	6.15

Table 14 indicates that:

- A. The test discriminates between grades.
- B. The ability to use the correct form in an outline improves with each succeeding higher grade.
- C. The ability to select the material for an outline improves with each succeeding higher grade.
- D. In grades 7, 8, and 9 the ability to use the correct form in an outline was greater than the ability to include the correct material.
- E. In grade 6 the ability to include the correct material in an outline was slightly greater than the ability to use the correct form.

#### Analysis of Results

Test IX  
Visualization  
Part a - Spatial Visualization

Below is a table showing the average scores in each

grade on the test of spatial visualization. The scores represent the number of correct spatial visualizations out of a possible twelve.

Table 15.

Average scores in grade 6, 7, 8, and 9  
on test of spatial visualization.

Number of children in each grade - 20

<u>Grade</u>	<u>Number Correct</u>
6	4.75
7	3.95
8	5.05
9	7.15

Table 15 indicates that:

- A. The test of spatial visualization discriminates between grades.
- B. The ability to visualize spatially in grade 9 was greater than in grade 8, and greater in grade 8 than in grade 7.
- C. Grade 7 did not visualize spatially as well as grade 6.

#### Analysis of Results

##### Part b - Sensory Visualization

Below is a table showing the average scores obtained in each grade on the test of sensory visualization. The scores for each type of sensory visualization in each grade as well as the total of sensory visualizations are shown on this

chart. The scores on visualization of sight represent the number correct out of a possible forty-two; the scores on sound, the number correct out of a possible seven; the scores on smell, the number correct out of a possible eight; the scores on touch, the number correct out of a possible thirty; the scores on taste, the number correct out of a possible seven.

Table 16.

Average scores in grades 6, 7, 8, and 9  
for each type of sensory visualization,  
and for total number of sensory visualizations.

Number of children in each grade - 20

<u>Grade</u>	<u>Sight</u>	<u>Sound</u>	<u>Smell</u>	<u>Touch</u>	<u>Taste</u>	<u>Total</u>
6	4.6	1.25	1.3	2.2	1.0	10.35
7	6.35	2.15	2.4	2.95	1.55	15.4
8	9.15	2.6	2.7	3.7	2.4	19.55
9	14.55	2.8	4.25	4.7	1.7	28.0

Table 16 indicates that:

- A. The test of sensory visualization discriminates between grades, since the ability to visualize sensory concepts increases with each succeeding higher grade on this test.
- C. The ability to visualize sensory concepts of sight, sound, smell and touch increases with each succeeding higher grade.
- D. It is impossible to compare the ability to visualize each type of concept from this chart, because the poem used on the test contained a different number of images for each concept.

Chapter V

Frequency of Errors of Different Types

## Chapter V

Frequency of Errors of Different Types

The purpose of this chapter is to indicate the frequency of errors of different types revealed by administering the test for the analysis of reading difficulty to eighty children in grades 6, 7, 8, and 9 of public and private schools.

The relative frequency of each type of error is expressed in number of failures and in percent of failures, and was determined by dividing the total number of errors of each type by eighty, the number of children to whom the test was given.

Frequency of ErrorsWord Skills

Below is a table showing the frequency of errors in word skills expressed in number of failures and in percent of failures for the group of eighty children tested.

Table 17.

Frequency of errors in word skills expressed in number of failures and in percent of failures.

Number of children tested - 80

<u>Skills</u>	<u>Number of failures</u>	<u>Percent of failures</u>
<u>Word Recognition</u>		
Low sight vocabulary	20	25%
Ignores word endings	10	13%
Guesses at words from form	36	45%
<u>Word Analysis</u>		
Untrained analysis	7	9%

Table 17. (continued)

<u>Skills</u>	<u>Number of Failures</u>	<u>Percent of failures</u>
<u>Word Analysis (continued)</u>		
No attempt at difficult words	15	19%
Sounds aloud by single letters	2	3%
Sounds aloud by blends	6	8%
Sounding slow and inaccurate	18	23%
Inability to put sounds together	21	26%
Looks away after sounding	5	6%
Silent word study inadequate	13	16%
Enunciates poorly when prompted	11	14%
Vowel errors	25	31%
Reversals	24	30%
Addition of sounds	20	25%
Omission of sounds	33	41%
Substitution of another word	27	34%
<u>Word Skills in Oral Reading</u>		
Low sight vocabulary	15	19%
Untrained analysis	3	4%
Errors on small words	23	29%
Ignores errors and reads on	24	30%
Guesses at words from form	30	38%
Guesses at words from context	14	18%

Table 17. (continued)

<u>Skills</u>	<u>Number of failures</u>	<u>Percent of failures</u>
<u>Word Meaning</u>		
Low meaning vocabulary	36	45%
Guesses at word from form	32	40%
Ignores prefix or suffix	25	31%

This table indicates that:

- A. The most frequent type of error in word recognition was guessing at words from their form.
- B. The most frequent types of errors in word analysis were omission of sounds when pronouncing words, and substitution of words.
- C. The most frequent types of word errors in oral reading were guessing at words from form, and errors on small words.
- D. The most frequent difficulty in word meaning was a low vocabulary. However, a large percent of the difficulties in meaning were caused by guessing at words from form.
- E. A low percentage of the children tested were untrained in analysis.
- F. The errors showing a low frequency in analysis were sounding aloud by single letters, and looking away after sounding the word.

## Frequency of Errors

### Oral Reading

Below is a table showing the frequency of errors in oral reading expressed in number of failures and in percent of failures for the group of eighty children tested.

Table 18.

Frequency of errors in oral reading  
expressed in number of failures and  
percent of failures.

Number of children tested - 80

<u>Skills</u>	<u>Number of failures</u>	<u>Percent of failures</u>
<u>Phrasing</u>		
Word-by-word reading	8	10%
Wrong grouping of words	10	13%
Eye-voice span too low	9	11%
Pauses too long between phrases	4	5%
Repetition of phrases	20	25%
<u>Voice, Enunciation, and Expression</u>		
Strained voice	4	5%
Monotonous voice	13	16%
Volume of voice too loud	3	4%
Volume of voice too soft	7	9%
Lacks expression and emphasis	20	25%
Poor enunciation in all reading	11	14%
Poor enunciation of difficult words	24	30%
Ignores pronunciation	11	14%

Table 18. (continued)

<u>Skills</u>	<u>Number of failures</u>	<u>Percent of failures</u>
<u>Voice, Enunciation, and Expression (continued)</u>		
Repetition of words	19	24%
Addition of words	9	11%
Omission of words	15	19%

This table indicates that:

- A. The most frequent types of errors in phrasing in oral reading were the repetition of phrases, and the wrong grouping of words.
- B. The most frequent types of errors in enunciation in oral reading were the failure to enunciate clearly difficult words, and lack of expression and emphasis.
- C. The error showing the lowest frequency in phrasing in oral reading was pausing too long between phrases.
- D. The least frequent type of error in the use of the voice in oral reading was too loud volume.

#### Frequency of Errors

##### Silent Reading

Below is a table showing the frequency of errors in silent reading expressed in number of failures and percent of failures for the group of eighty children tested.

Table 19.

Frequency of errors in silent reading expressed in number of failures and percent of failures.

Number of children tested - 80

<u>Skills</u>	<u>Number of failures</u>	<u>Percent of failures</u>
<u>Mechanics</u>		
Lip movements	22	28%
Whispering	13	16%
Too many eye movements	23	29%
Regressive eye movements	31	39%
Ignores difficult words	18	23%
<u>Speed</u>		
Rate too low	25	31%
Rate high at expense of accuracy	12	15%

This table indicates that:

- A. The most frequent type of error in the mechanics of silent reading was regressive eye movements. This error correlates with repetition of phrases in oral reading. It is interesting to note that this similar error was the most frequent one in both oral and silent reading.
- B. Lip movements and too many eye movements were frequent types of errors in the mechanics of silent reading.
- C. A larger percentage of children read too slowly

than read too rapidly.

### Frequency of Errors

#### Recall

Below is a table showing the frequency of errors in oral and written recall expressed in number of failures and in percent of failures for the group of eighty children.

Table 20.

Frequency of errors in recall  
expressed in number of failures and  
percent of failures.

Number of children tested - 80

<u>Skills</u>	<u>Number of failures</u>	<u>Percent of failures</u>
<u>Oral Recall</u>		
Unaided recall scanty	25	31%
Response poorly organized	26	33%
Response labored and slow	5	6%
Recall falls off in difficult reading	43	54%
Memory inaccurate and guesses	26	33%
Avoidance of new words	25	31%
Lack of attention or interest	13	16%
<u>Written Recall</u>		
Unaided recall scanty	24	30%
Response poorly organized	31	39%
Details given in wrong connection	22	28%

Table 20. (continued)

<u>Skills</u>	<u>Number of failures</u>	<u>Percent of failures</u>
<u>Written Recall</u> (continued)		
Recall falls off in difficult reading	36	45%
Memory inaccurate and guesses	26	33%
Avoidance of new words	20	25%

This table indicates that:

- A. The frequency of errors occurred in approximately the same order in oral and written recall.
- B. The most frequent type of error in both oral and written recall was the drop in the number of facts recalled in difficult reading.
- C. Inaccuracy and guessing showed the same percentage of failure in oral and written recall.
- D. A poorly organized response was a frequent error in oral and written recall.

#### Frequency of Errors

##### Spelling

Below is a table showing the frequency of errors in spelling expressed in number of failures and in percent of failures for the group of eighty children tested. Observation of spelling errors was made on all tests in which the child was required to write.

Table 21.

Frequency of errors in spelling expressed  
in number of failures and percent of failures.

Number of children tested - 80

<u>Skill</u>	<u>Number of failures</u>	<u>Percent of failures</u>
<u>Spelling</u>		
Phonetic	21	26%
Non-phonetic	19	24%
Reversals	10	13%
Vowel errors	9	11%
Omission of letters and sounds	18	23%
Omission of prefix or suffix	8	10%
Addition of letters and sounds	17	21%

This table indicates that:

- A. The most frequent types of errors were phonetic spelling and non-phonetic spelling.
- B. The least frequent types of errors in spelling were the omission of prefix or suffix, and vowel errors.

#### Frequency of Errors

##### Skimming

Below is a table showing the frequency of errors in skimming expressed in number of failures and in percent of failures for the group of eighty children tested.

Table 22.

Frequency of errors in skimming expressed  
in number of failures and percent of failures.

Number of children tested - 80

<u>Skill</u>	<u>Number of failures</u>	<u>Percent of failures</u>
<u>Skimming</u>		
Failure to locate numbers correctly	35	44%
Failure to locate phrases correctly	7	9%
Failure to locate information correctly	29	36%
Inability to adapt rate to purpose at hand, reading word-by-word, not skimming	13	16%
Lack of system	15	19%

This table indicates that:

- A. The most frequent type of error in skimming on this test was in the correct location of numbers.
- B. The lowest percentage of errors in skimming on the test was in the correct location of phrases.
- C. Of those who were unable to adapt their rate to the purpose of skimming, a larger percentage lacked system than lacked a knowledge of what skimming involved.

#### Frequency of Errors

##### Outlining

Below is a table showing the frequency of errors in the outlining skills expressed in number of failures and in percent of failures for the group of eighty children tested.

Table 23.

Frequency of errors in outlining expressed in number of failures and in percent of failures.

Number of children tested - 80

<u>Skills</u>	<u>Number of failures</u>	<u>Percent of failures</u>
<u>Errors on Tests Leading up to Outlining</u>		
Inability to recall details	24	30%
Inability to select main ideas and details	28	35%
Inability to select correct order of events	35	44%
<u>Inability to State Central Thought</u>		
Inability to make a complete generalization	68	85%
Use of summary instead of a complete generalization	15	19%
Selection of topic sentence instead of statement of central thought	14	18%
Selection of details instead of statement of central thought	33	41%
Statement of irrelevant facts as central thought	5	6%
Use of one word as the central thought	24	30%
<u>Inability to Construct Complete Outline</u>		
<u>Form</u>		
No indentation	36	45%
No lettering or numbering	26	33%
Inconsistent lettering or numbering	50	63%

Table 23. (continued)

<u>Skills</u>	<u>Number of failures</u>	<u>Percent of failures</u>
<u>Inability to Construct Complete Outline (continued)</u>		
<u>Form (continued)</u>		
Inconsistent wording	44	55%
Use of summary instead of outline	27	34%
<u>Content</u>		
Incomplete	58	73%
Unacceptable heading	43	54%
Unacceptable details	43	54%

This table indicates that:

- A. The most frequent type of error in the tests leading up to outlining was the inability to select the correct order of events.
- B. The most frequent type of error in the statement of the central thought was the inability to make a complete generalization.
- C. The most frequent type of error in the form of the outline was inconsistent lettering or numbering.
- D. The most frequent type of error in the content of the outline was the failure to complete the outline.
- E. The lowest frequency of error in the steps leading up to outlining was the inability to

recall details. It is interesting to note that the percentage of those who were unable to recall details on this test was approximately the same as the percentage of those whose oral and written recall was scanty.

- F. The least frequent type of error in the statement of the central thought was the statement of irrelevant facts as the central thought of the paragraphs.
- G. The least frequent type of error in making an outline was the omission of lettering or numbering.

### Frequency of Errors

#### Visualization

Below is a table showing the frequency of errors on the test of visualization expressed in percent of failures for the group of eighty children tested.

Table 24.

Frequency of errors in visualization expressed in number of failures and percent of failures.

Number of children tested - 80

<u>Skill</u>	<u>Number of failures</u>	<u>Percent of failures</u>
Inability to visualize spatial concepts	35	44%
Inability to visualize sensory concepts	21	26%
Inability to follow directions	16	20%

This table indicates that:

- A. Inability to visualize spatial concepts was a more frequent type of error than inability to visualize sensory concepts.
- B. Inability to follow directions was responsible for approximately one half of the errors in spatial visualization.

Chapter VI

Summary and Conclusions

## Chapter VI

### Summary and Conclusions

The purpose of this study was to construct a reading test for the individual diagnosis of reading difficulty in grades 7, 8 and 9, to provide a basis for the administration and scoring of the test, and to evaluate the suitability of the test for its purpose.

A test was constructed to measure the following aspects of oral and silent reading in grades 7, 8 and 9:

1. Oral reading with oral recall
2. Silent reading with oral recall
3. Speed of reading
4. Skimming to locate numbers, phrases and information
5. Word recognition and analysis
6. Word meaning
7. Silent reading with written recall
8. Outlining
9. Visualization

A discussion of the research on which choice of these items was based and details of test construction may be found in an accompanying Ed. M. thesis by Margaret Holmes McKim, The Construction and Evaluation of Test Items for the Diagnosis of Individual Difficulty in Reading for Grades 7, 8 and 9.

For purposes of a preliminary evaluation, the test was administered to eighty children in grades 6, 7, 8 and 9 of public and private schools. The results of achievement tests, as well as teachers' estimates of pupil ability, were used in selecting these pupils. Since the entire battery required two hours to give, the limitation of time restricted the number tested to twenty pupils in each grade.

To eliminate subjectivity in scoring, record blanks, check lists of difficulties and methods of scoring free response items were devised.

On certain tests the time required and the number of errors was an adequate basis for comparison. This was the case on the tests of oral reading, speed of reading, skimming and the first three steps of outlining.

On other tests it was necessary to build scoring sheets for the evaluation of items of differing degrees of difficulty. This was the case on the tests of word meaning, silent reading with oral recall, silent reading with written recall, statement of central thought, and the construction of a complete outline.

On the tests of word recognition and word analysis, the number of words correct was an adequate basis for comparison.

For the scoring of imagery it was necessary to prepare a sheet classifying all the images in the poem. For the scoring of spatial visualization it was necessary to prepare a key diagram indicating the correct placement of the objects in the paragraph.

Finally it was necessary to define carefully the items on the check list of difficulties. The errors were classified under the following headings:

1. Word skills
  - A. Word analysis
  - B. Word recognition
  - C. Word errors in oral reading
  - D. Word meaning
2. Oral reading
  - A. Phrasing
  - B. Voice, enunciation, and expression
3. Silent reading
  - A. Mechanics
  - B. Speed
4. Recall
  - A. Oral
  - B. Written
5. Spelling
6. Skimming
7. Outlining
  - A. Steps leading up to outlining
  - B. Statement of central thought
  - C. Construction of a complete outline
    - (1) Form
    - (2) Content
8. Visualization

The analysis of the data showed the following:

These tests discriminated well between grade levels.

1. Oral reading with oral recall. In the paragraph about Airplane Uses there was an average gain of 23 words per minute on each grade level, in the paragraph about Movies an average gain of 14 words per minute, and in the paragraph about Radio an average gain of 17 words per minute. The comprehension on each paragraph improved in each succeeding higher grade.
2. Silent reading with oral recall. There was an improvement in rate and in number of facts recalled on both paragraphs on each grade level.
3. Speed of reading. Rate and comprehension improved in each succeeding higher grade.
4. Word recognition and analysis. In each succeeding higher grade there was a gain in the number of words recognized and analyzed.
5. Word meaning. The number of words defined correctly improved in each succeeding higher grade.
6. Silent reading with written recall. The number of facts recalled on both paragraphs improved on each grade level.

## 7. Outlining

- A. Recall of details. The number of facts recalled on both paragraphs improved in each succeeding higher grade.
- B. Selection of main ideas and details. On each succeeding higher grade the ability to select main ideas and details correctly improved on both paragraphs.
- C. Sequence of events. The selection of the correct order of events improved in each succeeding higher grade.
- D. Statement of central thought. The statement of central thought improved in each succeeding higher grade on the test as a whole and on each paragraph of the test.
- E. Construction of a complete outline.
  - (1) The form of the outline improved in each succeeding higher grade.
  - (2) The content of the outline improved in each succeeding higher grade.

## 8. Visualization

- A. Spatial. The number of objects correctly placed increased in each succeeding higher grade.

B. Sensory. The total number of images, as well as the number of images of each type, increased in each succeeding higher grade.

These tests did not discriminate between grade levels.

1. Skimming to locate numbers
2. Skimming to locate phrases
3. Skimming to locate information

Errors of the following types were made by over 50% of the children.

- A. Inability to make a complete generalization in the statement of central thought.
- B. Incomplete outline
- C. Unacceptable headings on the outline
- D. Unacceptable details on the outline
- E. Inconsistent lettering on the outline
- F. Inconsistent wording on the outline
- G. A drop in the number of facts recalled orally as the material in the test of silent reading became more difficult.

Chapter VII

Desirable Changes

## Chapter VII

Desirable Changes

This chapter is concerned with desirable changes in the administration, scoring and evaluation of the test.

Some of the changes in administration and scoring which were made evident during the testing period were:

1. The necessity of reducing the number of items presented in order to limit the time required for the administration of the test. This might be accomplished by:
  - A. The elimination of the test for the selection of details as the test of written recall reveals the same difficulties.
  - B. The elimination of the test of word meaning, since separate tests of word meaning are available.
  - C. The possible elimination of one or two paragraphs on the test of statement of central thought.
  - D. The possible elimination of the test of speed of silent reading, since the test of silent reading with oral recall gives a rough measure of speed of reading, and also separate tests of speed are available.

2. The necessity of limiting the time required for administering the individual test. This might be accomplished by retaining the following tests in the individual battery:

- A. Oral reading with oral recall
- B. Silent reading with oral recall
- C. Word recognition and word analysis

The following tests might then be included in the group battery:

- A. Word meaning
  - B. Silent reading with written recall
  - C. Outlining
    - (1) Recall of details (if retained)
    - (2) Selection of main ideas and details
    - (3) Selection of order of events
    - (4) Statement of central thought
    - (5) Construction of complete outline
  - D. Visualization
    - (1) Spatial
    - (2) Sensory
  - E. Skimming
  - F. Speed of reading (if retained)
3. The necessity of constructing a more detailed check list of difficulties for the tests of visualization and skimming.

Some of the changes which were made evident during the evaluation of the test results were:

1. The necessity of revising the test of skimming in order to obtain results which would be more discriminative.
2. The necessity of lengthening the test of speed and comprehension of silent reading (if retained) to insure greater reliability.
3. The necessity of lengthening the paragraphs on the test of written recall to insure greater reliability.
4. The necessity of some revision in the paragraph on Radio to show greater sensitivity in word construction between this paragraph and the one on Movies.
5. The substitution of another topic on the test of silent reading with oral recall, in order to have a paragraph showing greater sensitivity in word construction and concept.
6. Further analysis of the correct order of difficulty of words on the tests of word recognition and word analysis.

Some of the steps which are necessary for the completion of the battery are:

1. Further standardization of the test to establish norms.

2. Inter-correlation of this test with other tests to determine the validity of the test results.
3. Comparison of different mental age group performances on this test as compared with performance on other tests.
4. An alternate form of the test for the purpose of re-testing.
5. A further analysis of the scores on the various tests with a view to building remedial materials on the basis of errors on the test.

Bibliography

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The bibliography for this thesis is the same as the accompanying Ed. M. thesis by Margaret Holmes McKim, The Construction and Evaluation of Test Items for the Diagnosis of Individual Difficulty in Reading for Grades 7, 8, and 9, with the exception of the following references which aided in the preparation of administration and scoring of the tests.

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Appendix

M.H. McKIM - C.J. SULLIVAN  
ANALYSIS OF READING DIFFICULTY  
FOR GRADES 7, 8, 9.

1.

CHECK LIST OF DIFFICULTIES

Name:

Date:

Word Mastery Skills

Word Recognition

Number correct.....  
Low sight vocabulary.....  
Ignores word endings.....  
Guesses at words from form.....

Word Analysis

Untrained analysis.....  
No attempt at difficult words...  
Sounds aloud by: single letters  
blends.....syllables....  
Sounding slow.....inaccurate...  
Unable to put sounds together...  
Spells words; successful.....  
inadequate.....  
Looks away after sounding.....  
Silent word study:  
successful.....inadequate...  
Enunciates poorly when prompted...  
Vowel errors.....  
Consonant errors.....  
Reversals.....  
Addition of sounds.....  
Omission of sounds.....  
Substitution of another word...

Word Skills in oral reading

Low sight vocabulary.....  
Untrained analysis.....  
Errors on small words.....  
Ignores word error and reads on...  
Guesses at words from form.....  
Guesses at words from context....

Word Meaning

Number correct.....  
Guesses at meaning from word  
form.....  
Ignores prefix or suffix which  
changes meaning.....

Oral Reading

Phrase Reading

Word-by-word.....  
Wrong grouping.....  
Eye-voice span too short.....  
Pauses between each phrase....  
Repetition of phrases.....

Voice, Enunciation, and Expression

Strained voice.....  
Monotonous tone.....  
Volume too loud...too soft....  
Poor enunciation in all reading...  
Poor enunciation of difficult  
words.....  
Ignores punctuation.....  
Repetition of words.....  
Addition of words.....  
Omission of words.....  
Lacks expression and emphasis..

Comprehension

Airplanes.....  
Movies.....  
Radio.....

Rate

Silent Reading

Mechanics

Lip movements.....  
Whispering.....  
Too many eye-movements.....  
Regressive eye-movements.....  
Irregular eye-movements.....  
Rereading of material.....  
Ignores difficult words.....

Speed of Reading- Silent

Rate

Football.....  
Floods and Tidal Waves.....  
Flying.....  
Accuracy of response:  
.....out 5 correct  
Rate too low.....  
Rate high at expense of  
accuracy.....

M.H. McKIM - C.J. SULLIVAN  
 ANALYSIS OF READING DIFFICULTY  
 FOR GRADES 7, 8, 9.

CHECK LIST OF DIFFICULTIES (continued)

RECALL: ORAL

Unaided recall scanty.....  
 Response poorly organized.....  
 Recall labored and slow.....  
 Recall shows lack of interest  
 or attention.....  
 Recall falls off in difficult  
 reading.....  
 Memory inaccurate.....guesses....  
 Avoids use of new words.....  
 Number of facts recalled  
 Football.....  
 Floods and Tidal Waves.....

RECALL: WRITTEN

Number of facts recalled  
 Dancing.....  
 Flood Control.....  
 Unaided recall scanty.....  
 Recall poorly organized.....  
 Recalls correct details in  
 wrong connection.....  
 Recall falls off in difficult  
 reading.....  
 Avoids use of new words.....  
 Memory inaccurate.....guesses....  
 Spelling impedes recall.....  
 Writing laborious.....

SKIMMING

Number correct	Time
Numbers A.....	.....
B.....	.....
Phrases A.....	.....
B.....	.....
C.....	.....
Information.....	.....
Inability to adapt rate to purpose at hand.....	.....

SPELLING (observation from  
written material)  
 Phonetic.....non-phonetic...  
 Reversals.....  
 Omission of letters.....sounds...  
 Omission of prefix.....suffix...  
 Addition of letters.....sounds...  
 \*\*See Scoring Manual

OUTLINING

Inability to recall details.....  
 Number correct  
 Mozart.....Steel  
Inability to select Main Idea  
and Details\*\*.....  
 Number correct  
 Glass.....Franklin.....  
Inability to select correct order  
of events.....  
 Number correct Edison.....  
Inability to select Central Thought  
Complete generalization\*\*.....  
 Summary type\*\*.....  
 Topic sentence only\*\*.....  
 More than one detail\*\*.....  
 One detail\*\*.....  
 Irrelevant statement\*\*.....  
Inability to produce complete  
outline.....  
 Form:  
 No indentation.....  
 No lettering.....  
 Inconsistent or incorrect  
letters or figures.....  
 Summary type.....  
 Inconsistent or incorrect  
wording.....  
 Sentence type.....  
 Phrase type.....  
 Word type.....  
 Content:  
 Complete outline.....  
 Unacceptable headings.....  
 Unacceptable details.....

VISUALIZATION

Spatial  
 Number listed.....  
 Sense imagery --number listed  
 Sight.....  
 Sound.....  
 Smell.....  
 Touch.....  
 Taste.....  
 Inability to follow directions...  
 Inability to visualize.....

Individual Test

Test I-- Oral Reading.

Airplane Uses

The first extensive use of the airplane came in the world war. Cities were bombed from the air, and prior to army attack, the enemy's position was photographed. The plane aided naval operations also; it patrolled the coast, bombed enemy craft, protected transports and merchant ships, and combatted submarines.

The advantage of flying in wartime is its unlimited area for action. It is not hindered by natural obstacles like mountains and rivers, nor by artificial obstacles like trenches and barbed wire. Its chief disadvantage is that it can remain in the air only a relatively short time due to the limitation of its fuel and ammunition capacity.

Following the war, the commercial use of airplanes quickly expanded. A transcontinental service for the transportation of mail by plane was established in 1924 cutting 60 hours from the fastest train schedules. International air-mail services are now in general use; one carries mail from London to Capetown, South Africa; another from New York to Europe; and another from San Francisco to the Phillipines.

1. When did the airplane come into general use?
2. What is its advantage in wartime?
3. What is its chief disadvantage in wartime?
4. When was transcontinental service initiated?
5. Name one of the air-mail routes.

Time..... Comprehension- number correct.....

Movies

People are accustomed to think of the movies only in connection with entertainment. This aspect of the motion picture industry is important, because approximately 60 to 70 million people attend the nation's 18,263 movie houses weekly.

Another aspect of this gigantic industry is the dissemination of public information. Movies teach workmen the intricacies of machinery; they teach farmers modern developments in husbandry; and they teach medical students surgical technique. In the class room, movies form a valuable adjunct to oral instruction and text-books. The range of subjects covered is practically co-extensive with the school curricula. Salesmen are finding miniature projectors and screens of value in demonstrating their products. By means of micro-photography, a year's issue of a newspaper containing 20,000 pages can be put on a film occupying no more space than an ordinary book.

1. How do we usually think of movies?
2. What is another aspect of movies?
3. What subjects are covered by movies in the class room?
4. Of what value are movies for doctors?
5. How do salesmen make use of movies?

Time..... Comprehension - number correct.....

Test I - Oral Reading (continued)

Radio

Radio is commonly considered the most recent scientifically developed system of communication for man. It has taken little more than a century to evolve this system, a mere molecule of time when one contemplates the history of human progress.

In 1827, Savary discovered that a steel needle could be magnetized by a discharge from a Leyden jar, thus transmitting electric waves through space. Ten years later, the first patent was granted; forty years elapsed before the first telegraph message was achieved; and, finally, in 1920, radio broadcasting as we conceive it, had its inception.

At first voices presented technical difficulties in broadcasting--contralto's registering best, soprano's worst. A male quartet, for the same reason, proved superior to a mixed quartet; a melody broadcast more readily than a striking tune; and the volume of an organ was too ponderous for effective reception.

With this problem of suitable broadcasting media was another of equal importance-- the physical proportions of the studio in which a program was performed. Proper dimensions had to be allowed, differing for the maximum or minimum orchestra, for the chorus, and for the solo performer. Draperies of the correct weight were also necessary to prevent reverberations.

1. What is our most recent system of communication?
2. What was the significance of Savary's discovery?
3. On what date was broadcasting begun?
4. What factors must be considered in broadcasting a program?
5. What types of programs were best?

Time..... Comprehension - number correct.....

CHECK LIST OF DIFFICULTIES

Phrase Reading

- Word-by-word.....
- Wrong grouping.....
- Eye-voice span too short.....
- Pauses between each phrase....
- Repetition of phrases.....

Word Skills in Oral Reading

- Low sight vocabulary.....
- Untrained analysis.....
- Errors on small words.....
- Ignores word errors and reads on.....
- Guesses at words from form...
- Guesses at words from context..

Voice, Enunciation and Expression

- Strained voice.....
- Monotonous tone.....
- Volume too loud...too soft....
- Poor enunciation in all reading.
- Poor enunciation of difficult words.....
- Ignores punctuation.....
- Repetition of words.....
- Addition of words.....
- Omission of words.....
- Lacks expression and emphasis

Test II- Silent Reading - Oral Recall

Rate..... Number of facts..... Time.....Number of facts

Football

is believed to be the oldest outdoor game in existence. It has gradually evolved from the Greek forward passing game, and a Roman game played by Caesar's soldiers. Many nations have contributed to football's spread; the Celt's used it as a rite for worshipping their sun gods; the Eskimos and the Aztec Indians played it with a ball made of leather and filled with moss. The origin of our modern game was in the secondary schools of England..... Eton, Rugby, and Winchester. Eton was the first to use eleven men on a side, and Rugby contributed the idea of running with the ball instead of kicking it forward. Colleges and Universities in England and America finally adopted the sport. The first intercollegiate game under modern rules played in America was the contest between Princeton and Rutgers in 1869.

CHECK LIST OF DIFFICULTIES

Recall

Unaided recall scanty.....  
Response poorly organized....  
Recall labored and slow.....  
Recall shows lack of interest  
or attention.....  
Recall falls off in difficult  
reading.....  
Memory inaccurate...guesses...  
Avoids use of new words.....

Floods  
and Tidal Waves

are great natural disaster which result in stupendous loss of life and property. Little can be done about the latter which usually originate in earthquakes or hurricanes at some distant spot. Tidal waves have therefore no real connection with the regular rise and fall of tides but are created by an unusual force of wind or earth pushing the waters on and on, and up and up, until a single wave will sometimes reach the height of 35 to 40 feet. With modern methods of meteorology or weather reporting information can be sent almost immediately when these phenomenal waves occur. Flood conditions have a very different cause. They depend upon the amount of rain falling within a given time and upon the locality on which that rain has fallen. If the rain falls on rocky, hilly, land, it descends more rapidly to the nearest river causing the river to rise. If the rain fall on land rich with soil and sand it will sink into the earth and cannot reach the river in such quantity or as fast as it can over an impermeable base. If also, there has been an accumulation of moisture from snow, followed by rain, obviously flood possibilities increase.

Test III - Speed of Reading

Flying

Speed is our present day motto. For speed in traveling, we think immediately of the airplane, for it can travel over two hundred miles an hour. How different this is from pioneer days when coaches and riders on horse-back could cover but a few miles in one day! In 1930 Frank Hawks flew from New York to Los Angeles in twelve hours and a half. Passenger planes take somewhat longer than this for the transcontinental hop, but their speed cannot be equaled by either stream-lined trains or the automobile. Everyone in this era who wishes to reach his destination speedily travels by plane.

The advantage of this means of traversing great distances in a short time are numerous. New York pleasure-seekers, who have only two weeks' vacation time, can go to California by plane, and spend some time in seeing the natural beauties of the Western section of the country. People from California in their vacations can come East, and become acquainted with Eastern sights and customs. If these people used trains or automobiles, it would be impossible for them, in their short vacations to see as much of the country as they can by utilizing the airplane. In this way, the airplane has helped to bring all sections of the country closer together. People, by visiting different sections of the country, come to know each other, to know each other's customs, and to appreciate the problems which each section meets in the important matter of earning a living.

Airplane travel saves time for business men, as well as vacationists. Men who are required to make frequent long trips all over this continent find the plane a great asset as a time-saver. Motion picture executives can leave Hollywood one morning and arrive in New York the next evening.

Many people object to airplane travel because of the risk involved. They contend that thousands of people are killed while traveling by plane. Actually, there is as much risk in doing many of the everyday tasks of life as in flying, if we take into consideration the number of people involved. Statistics state that the percentage of people killed or injured in their own homes is almost the same as the percentage injured or killed while flying.

Others object to flying because of its discomforts, but passenger planes are now well equipped to care for the comfort of the passengers, and this is a needless objection.

The airplane and speed have come to be the symbol of this century just as the horse and chivalry were the symbol of the Middle Ages, and as coaches and bravery were the symbol of pioneer days in America.

1. What is our present-day motto, and what means of transportation do we connect with it?
2. Where did Frank Hawks fly?
3. What are the advantages of flying?
4. What are the disadvantages of flying?
5. Of what value is it to have all sections of the country brought so closely together?

Time.....

Comprehension - number correct...

Test IV - Skimming

How much would you enjoy the theater today if the performance were given outdoors in front of a hotel in the broad daylight? It would require a lot of imagination, some very real beauty in the actors and actresses, and superb acting, to make us forget our surroundings and think only of the play! Yet that is the kind of theater which existed in the days of Queen Elizabeth. Plays were given in a booth, on a tennis court, or in the courtyard of an Inn. Of course, the Inns were built differently in those days from our hotels. They formed a square around an open yard. Small balconies ran around three sides outside of the rooms. It was here, in the 16th century, that groups of traveling players set up shop. On the top of a wagon a temporary floor or stage was laid - and the play went on! The scenery was written into the speeches, or sometimes a sign would be shown, saying "the Garden," or "The Palace." The wealthy people who liked to see and be seen were allowed to sit on the stage; others stood on the balconies of the Inn; but most of the audience had to stand on the ground, looking up at the actors. As the interest and demand for plays grew, regular theaters were built. London had its first real theater in 1756; but, since the people only knew the kind of theater they had had, this permanent building was made like an Inn.

All this time, men were the only persons to act. Young boys took the part of women, when there were women in the play. Later, during the reign of Charles II, women began to take feminine roles. At this time also, the architecture of the theater changed. The stage, which had progressed from a wagon table to a floor sticking out from a wall, became more like the stage we have now.

Not all theaters were like the English theater. The Greeks had a theater with an orchestra pit, a stage, and tiers of seats rising upward, such as we have in our football stadiums today. But the center of interest in the Greek theater was in the orchestra where the chorus sang or chanted. The Romans followed the Greek plan, but concentrated both chorus and actors upon the stage, making more room for the audience where the orchestra had been. As you know, our seats on the main floor of the theater are still called orchestra seats.

After the Romans, interest in plays was abandoned. In the 15th and 16th centuries, during the time we call the "revival of learning", the theater was begun again on the Continent. These were modeled after the Greek and Roman theaters. The first to be built was in Paris in 1548.

The first American theater was believed to be in Williamsburg, Virginia, and its architecture was doubtless like the English theater of Charles the Second.

Our modern theater has been greatly influenced by the German style of architecture. Our system of lighting has come from the Germans. It was the Germans who started the method of mixing lights and colors from the side of the stage.

1. During what period did the English theater begin?.....Time.....
2. What was the date of the original theater in Europe?.....Time....
3. Locate these phrases. a. Reign of Charles II.....Time.....  
b. In the 16th century.....Time.....  
c. Influenced by the German style of architecture...Time....
4. How were signs used in the English theater?.....Time.....

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 ANALYSIS OF READING DIFFICULTY  
 FOR GRADES 7,8,9.

Test VI- Word Recognition and Word Analysis

Word	Flash	Analysis	Word	Flash	Analysis
1.reconcile.....	.....	.....	26.assessment.....	.....	.....
2.consciousness.....	.....	.....	27.administrator.....	.....	.....
3.infection.....	.....	.....	28.initiative.....	.....	.....
4.signature.....	.....	.....	29.defiantly.....	.....	.....
5.inconvenient.....	.....	.....	30.commodity.....	.....	.....
6.profession.....	.....	.....	31.oblivion.....	.....	.....
7.endurance.....	.....	.....	32.testify.....	.....	.....
8.dependence.....	.....	.....	33.eccentric.....	.....	.....
9.efficiency.....	.....	.....	34.apptitude.....	.....	.....
10.constructive.....	.....	.....	35.assiduous.....	.....	.....
11.discord.....	.....	.....	36.portable.....	.....	.....
12.submerge.....	.....	.....	37.version.....	.....	.....
13.aggravate.....	.....	.....	38.confine.....	.....	.....
14.commissioner.....	.....	.....	39.impressive.....	.....	.....
15.exceptional.....	.....	.....	40.gratify.....	.....	.....
16.environment.....	.....	.....	41.conform.....	.....	.....
17.unstable.....	.....	.....	42.benign.....	.....	.....
18.prescribe.....	.....	.....	43.judicious.....	.....	.....
19.relentless.....	.....	.....	44.debonair.....	.....	.....
20.episode.....	.....	.....	45.perfunctory.....	.....	.....
21.preposterous.....	.....	.....	46.satirical.....	.....	.....
22.perseverance.....	.....	.....	47.sublime.....	.....	.....
23.tentative.....	.....	.....	48.reciprocal.....	.....	.....
24.policy.....	.....	.....	49.fervent.....	.....	.....
25.obnoxious.....	.....	.....	50.circumspect.....	.....	.....
Total - Recognition.....	.....	.....	Total - Analysis.....	.....	.....

Group Test

M. H. McKim - C. J. Sullivan

Test VI, Vocabulary

Name:

Grade:

School:

WordMeaning

1. reconcile.....
2. consciousness.....
3. infection.....
4. signature.....
5. inconvenient.....
6. profession.....
7. endurance.....
8. dependence.....
9. efficiency.....
10. constructive.....
11. discord.....
12. submerge.....
13. aggravate.....
14. commissioner.....
15. exceptional.....
16. environment.....
17. unstable.....
18. prescribe.....
19. relentless.....
20. episode.....
21. preposterous.....
22. perseverance.....
23. tentative.....
24. policy.....
25. obnoxious.....

M. H. McKim - C. J. Sullivan

Test VI, Vocabulary continued

Name:

<u>Word</u>	<u>Meaning</u>
26. assessment.....	
27. administrator.....	
28. initiative.....	
29. defiantly.....	
30. commodity.....	
31. oblivion.....	
32. testify.....	
33. eccentric.....	
34. aptitude.....	
35. assiduous.....	
36. portable.....	
37. version.....	
38. confine.....	
39. impressive.....	
40. gratify.....	
41. conform.....	
42. benign.....	
43. judicious.....	
44. debonair.....	
45. perfunctory.....	
46. satirical.....	
47. sublime.....	
48. reciprocal.....	
49. fervent.....	
50. circumspect.....	

M. H. McKim - C. J. Sullivan

Test VII

Name:

A. Dancing

Dancing was at first a means of showing emotion through action. Primitive people developed separate dances to express their feeling of love, sorrow, anger, or religion. They had dances for their wars, courtships, marriages, and for the worship of their gods. Every country through the ages has had a form of dance characteristic of its people and beliefs. The Spartans, who were a rigorous, warlike people, considered dancing important as exercise in training a healthy body. The Romans felt that all but religious dances were disgraceful. The English had many folk dances for celebrating events throughout the year. One of those dances was the Carole, a yuletide dance, which is left to us today only as a song - the carols that we sing at Christmas time. A few American folk dances were the Paul Jones, the Washington Post and the Barn dance. The barn dance, much in vogue at the end of the 19th century is still popular today, even though its original purpose - a celebration after the community building of a barn - has disappeared. Our most widely known American dance, the foxtrot, grew up from the ragtime and jazz which the negroes brought with them to this country.

M. H. McKim - C. J. Sullivan

Test VII

Name:

B. Flood Control

There are several methods of obtaining more adequate protection from floods. One is to build embankments on rivers which will stand above the normal water level; or, reversing the process, to deepen the river channel. A third and newer method is to hold the water back by means of dams built across the upper valley of a river, releasing the impounded water when the river channel below can absorb the extraordinary amount. A fourth way to control floods is to retard them at their source by planting trees on river banks, the roots acting as a restraint upon the water seeping down to the river bed. A combination of all these methods is often both necessary and wise in the case of a tremendous river like the Mississippi which has many tributaries running into it. The levees on the Mississippi which were 3 feet high in 1735 are 24 feet high today and yet they are not sufficient to care for excessive quantities of water.

In addition to these engineering devices, a prediction service for the neighboring inhabitants and for the navigator is possible. Permanent gauges register any unusual rise of water; telegrams and radio reports are then immediately sent to boat owners and civilians in the adjacent territory. Upon receiving those warnings people are prepared to move if necessary; and boat owners may anchor in recesses along the bank already supplied to protect them against floating wreckage.

M. H. McKim - C. J. Sullivan

Test VIII A, 1

Name:

Mozart

Mozart is perhaps the greatest child prodigy the world has ever known. At the age of 3 he was playing the piano; at four he could memorize a minuet in half an hour; at five he was composing his own music, and a year later he made a triumphal tour of all the European capitals and before the reigning courts, as a concert pianist. Two stories are told of his genius. When Mozart was six or seven he asked to play the second violin with his father and a group of friends. Since he had never before touched the instrument his father refused at first, but finally consented to let the boy play softly with the others. Mozart played the violin so superbly that the other musicians laid down their instruments to listen. The other famous story of Mozart is about his listening to a psalm in Rome and after returning home copying it almost perfectly from memory.

Fold your paper on the dotted line.

.....

Under the heading below fill in all the details you can remember from the paragraph above.

Examples of Mozart's genius

- 1.....
- 2.....
- 3.....
- 4.....
- 5.....
- 6.....

M. H. McKim - C. J. Sullivan

Test VIII A, 2

Name:

Manufacture of Steel

There are several steps in the manufacture of steel. The iron ore is first placed on the top of a blast furnace together with coke and limestone. Hot air is blown through holes at the bottom upon this mixture. As the ore melts it absorbs carbon from the coke and becomes a liquid alloy known as pig iron. This metal is put into a ladle containing a mixture of manganese and iron, and is then poured into molds and cast in a form called ingots. These ingots are next taken through rolling mills. By going through a series of rolls with steadily decreasing holes the bulky ingots can be changed into bars or sheets of steel, and into thin rods for wire products.

Fold your paper on the dotted line.

.....

Under the heading below fill in all the details you can remember about the paragraph above.

Steps in the manufacture of steel

- 1.....
- 2.....
- 3.....
- 4.....
- 5.....
- 6.....

M. H. McKim - C. J. Sullivan

Test VIII B, 1

Name:

Glass

There are three kinds of glass, window, bottle and crystal. The manufacture of each kind of glass differs. The blowing process is used to produce bottle and crystal glass. Window glass is made by pressing the liquid glass on large sheets, and rolling it out to the desired thickness.

Any kind of glass may be colored, and this is done either by painting the glass and burning the colors into it, or by adding oxides of metals to the white glass. Copper produces green, blue, or an intense red glass; gold, a ruby red glass; manganese, a purple violet, or even black glass. Several tints may be produced with the same metal depending upon the quantity of oxide used, the temperature, and duration of the heat application.

Fold your paper on the dotted line.

.....

Mark each sentence that follows with an M or a D. Mark the sentence with an M if it represents a Main Idea in the paragraph above. Mark the sentence with a D if it represents a detail in the paragraph above.

Window glass is pressed and rolled.....

All types of glass may be colored.....

Copper produces green, blue, or an intense red glass.....

Glass is manufactured in different ways.....

Various tints may be produced in colored glass.....

M. H. McKim - C. J. Sullivan

Test VIII B, 2

Name:

Benjamin Franklin

Benjamin Franklin was one of the few people in colonial times who travelled widely. He was born and brought up in Boston and he spent much of his life in Philadelphia; but he also lived in London and Paris, and in this country he went as far north as Canada and as far South as Charleston, South Carolina.

Franklin had many different interests. Besides being a successful printer, with offices in three different cities, he was an author and a scientist. He invented the lightning rod and the stove which carries his name. He wrote Poor Richard's Almanac and many papers on philosophy and economics. It was through Franklin's efforts that Philadelphia had its first circulating library and its first fire company.

Today we remember Franklin most for his contribution in the founding of the United States government. He was an active member of both state and federal congresses; he corrected the constitution which Jefferson wrote; he helped to repeal the stamp act; and he served as an ambassador to France.

Fold your paper on the dotted line.

.....

Mark each sentence that follows with a capital M or a capital D. Mark the sentence with M if it represents a Main Idea in the paragraphs above. Mark the sentence with a D if it represents a detail in the paragraphs above.

- Benjamin Franklin lived in Boston.....
- Franklin invented the lightning rod.....
- Franklin had many hobbies.....
- Franklin went to Canada and South Carolina.....
- Franklin lived in a variety of places.....
- Franklin is known as a statesman.....
- Franklin founded the first circulating library.....
- Franklin helped repeal the stamp act.....

M. H. McKim - C. J. Sullivan

Test VIII C

Name:

Thomas Edison

Thomas Edison was born in Milan, Ohio, February 11, 1847. His education was limited to three months in the public schools of Port Huron, Michigan. When he was fifteen he became a telegraph operator, experimenting and studying continually in his spare time. In 1876 he established a laboratory at Menlo Park, N. J., where in the following year he invented the phonograph, the original model of which cost him \$18. The incandescent lamp, which was a globe in which a loop of carbonized thread glowed in a vacuum for 40 hours, was invented in 1879. In Orange, N. J., he developed in 1886 the kinoscope, a peep-show device in which a film ran with a continuous movement between a magnifying lens and a light source. In 1912, he synchronized the phonograph and kinoscope and produced the talking-picture machine.

Fold your paper on the dotted line.

.....

In the paragraph which you have just read, several things took place at different times. Indicate on the blank line before each of the following five statements the order in which they happened by placing a "1" before the thing that happened first, a "2" before the thing that happened second and so on. Do not look again at the paragraph.

- .....The laboratory was established at Menlo Park.
- .....The invention of the talking machine was made.
- .....Edison became a telegraph operator.
- .....The incandescent lamp was invented.
- .....The phonograph which originally cost \$18 was invented.

M. H. McKim - C. J. Sullivan

Test VIII D

Name

Each year more and more people are taking automobile trips for their vacation. Many will go straight across the continent and back in the space of three weeks. It is possible for a whole family at a small cost to become acquainted with new people and customs in other communities. They learn to appreciate the lofty mountains, the rolling plains, crystal lakes and streams and the healing calm of forests which exist in such wide variety throughout our country.

The Central Thought of this paragraph is:

In 1903, Henry Ford organized the Ford Motor Company which is the largest corporation for the manufacture and sale of automobiles in the world. The Ford Company employs 100,000 men in its factory, and can turn out 9,000 cars daily if the demand for the car is great enough to necessitate such a scale of production. The company has sales centers in all sections of America, as well as in most foreign countries.

The Central Thought of this paragraph is:

Glass was discovered accidentally when Phoenician sailors, lighting a fire on the beach, discovered that the wood ash from the fire united with the sand to form a clear translucent substance which we call glass. Gradually, this substance came to have a practical value as a container for food and drink, and later it was used for decorative purposes. Scientists have found so many additional uses for glass that it would seem impossible for us to live without it. Many other articles, which we consider every day necessities, have evolved in the same manner.

The Central Thought of this paragraph is:

Four centuries ago Leonardo da Vinci lived in Italy. He was a versatile genius, being skilled in painting and sculpture, as well as science and invention. He was a painstaking worker as shown by the fact that he spent ten years perfecting one of his most famous paintings, 'The Last Supper.' A simple invention credited to him and in general use today, is the wheel barrow.

The Central Thought of this paragraph is:

M. H. McKim - C. J. Sullivan

Test VIII E, Outlining

Name:

China

China is made of three minerals - china clay, china stone and felspar or bone ash. Bone ash is the powdered bones of animals and comes chiefly from South America, one of the largest cattle countries in the world. Felspar is found in granite formations.

The manufacture of china requires several steps. The materials are first mixed with water and put in rotating drums. After being ground for 36 hours the mixture emerges as a liquid the consistency of a creamy soup. This is known as "slip" and is run over a magnet and a wire mesh to remove any hard lumps.

The "slip" is now too thin, so it must be pressed or kneaded into a dough. The clay dough is placed upon a disc, which revolves. As it revolves the clay is molded into the desired shape. This step is called "throwing".

When the clay has reached a stage like hard cheese, any unevenness is removed by shaving it as you would shave a piece of wood.

Afterwards the clay must be baked or fired. Thousands of pieces of clay may be baked at one time. They are placed in large baskets in an oven. The oven is sealed and the clay baked for 50 or 60 hours. The first 24 hours of heating is slow, gradually increasing in temperature. The fireman must never allow the heat to recede, and the amount of time necessary for baking is determined by his skillful judgment.

After the firing comes the dipping for glazing. Glazing is really a thin coating of glass into which the clay is dipped.

The decoration of the china is an additional step. In better china this is done by hand with oxide paint; in cheaper china the decoration is printed on the wet clay with strips of paper, which are removed after the clay has been soaked in water. Sometimes an outline design is made in this way and the details filled in by hand with paint.

The chief centers of production in china are in the three European countries - France, Germany and England; in Japan, which makes toy sets a specialty; and in the United States. England is particularly famous for its fine bone china.

China has many uses besides those of eating and drinking. It is used in chemical industries where cleanliness is imperative. Some grinding tools are made of china. It is also used for insulators in electrical industries and, of course, it has always existed in the form of decorative vases, ash trays, and powder boxes.

Directions: On a separate piece of paper make a complete outline of this paragraph. You may keep the paragraph in front of you while you are making the outline.

M. H. McKim - C. J. Sullivan

Test IX A, Visualization

Name:

The scene which you are to picture represents the drawing room of a middle class family. There is a glass door in the left back center of the room leading to a sunporch. The fireplace is on the left and has a round mirror above it. Between the fireplace and the door is a wing chair, with a reading lamp beside it. On the right at the back is a large davenport. In front of it is a coffee-table. Bookcases line the wall on the right. Another arm-chair stands in front of the bookcases. There is an occasional chair near the fireplace.

Make a diagram of this room as you picture it.

M. H. McKim - C. J. Sullivan

Test IX B, Visualization

Name:

An author helps us to see the pictures he has seen, hear the things he has heard, and feel the things he has felt. Now read this poem and under the headings below give examples of each heading. You may look back at the poem.

"These I have loved:

White cups and plates, clean-gleaming,  
 Ringed with blue line; and feathery, faery dust;  
 Wet roofs, beneath the lamp-light; the strong crust  
 Of friendly bread; and many-tasting food;  
 Rainbows; and the blue bitter smoke of wood;  
 And radiant raindrops couching in cool flowers;  
 And flowers themselves, that sway through sunny hours,  
 Dreaming of moths that drink them under the moon;

.....  
 .....grainy wood; live hair that is  
 Shining and free; blue-massing clouds; the keen  
 Unpassioned beauty of a great machine;  
 The benison of hot water; furs to touch;  
 The good smell of old clothes; and other such--  
 .....  
 Hair's fragrance, and the musty reek that lingers  
 About dead leaves and last year's ferns.....

Sweet water's dimpling laugh from tap or spring;  
 Holes in the ground; and voices that do sing;  
 Voices in laughter, too;.....  
 .....and the deep-panting train;  
 Firm sands; the little dulling edge of foam  
 That browns and dwindles as the wave goes home;  
 And washen stone, gay for an hour; the cold  
 Graveness of iron; moist black earthen mould;  
 Sleep; and high places; footprints in the dew;  
 And oaks; and brown horse-chestnuts, glossy-new;  
 And new-peeled sticks; and shining pools on grass; -  
 All these have been my loves....."

Rupert Brooks

SightSoundSmellTouchTaste

M. H. McKim - C. J. Sullivan

Test VIII D

Scoring for Central Thought

Paragraph 1

5 points

Each year more and more people are broadening their education by taking automobile trips.

4 points

Automobile trips and their value.

Many people get to see the country and appreciate new good friends. How automobile has increased a way for people to take vacations, and where and what they can see.

Becoming acquainted by auto trips.

People are taking automobile trips and are going places and meeting new friends.

What people learn when they go for an auto trip for a vacation.

Automobile trips across the country, and the number and variety of things people see on them.

3 points

More and more people are taking automobile trips for their vacation each year.

It is possible for a whole family at a small cost to become acquainted with new people and customs in other communities.

2 points

Many people become acquainted with country as prices lower for cars. More people are able to travel because of the automobile.

People today travel more for vacations.

Taking automobile trips across the country.

Taking automobile trips through our forests, mountains, and our country.

Advantages of traveling and meeting new people, and appreciating nature.

Vacations in summer in a car.

Taking trips and seeing swell sights.

What you do, see, and think on vacations.

More people are going on vacations in automobiles, and learn to appreciate more things.

The automobile was given to people to do a lot of riding, and they are beginning to appreciate nature's things.

Automobile trip vacation.

Automobiles help people to get around and see new things.

People learn many things on automobile trips for their vacation.

M. H. McKim - C. J. Sullivan

Test VIII D

Scoring for Central Thought - continued

Paragraph 1 - continued

2 points

More people are taking automobile trips and becoming more well known with the states of the U.S.A.

People are having good times in automobiles in vacations.

More people are taking automobile trips to get acquainted with other people.

Traveling at a low cost.

People who have lived in one part of the country are now learning to appreciate other places.

It is easy to take an automobile trip and see all different things in a short time.

1 point

Traveling.

Trips.

Automobile trips.

Scenery.

Vacations.

The use of more automobiles.

More people buying automobiles.

Trip in our country.

People going away.

People learn to appreciate nature.

Want to go on a vacation or an automobile trip.

They learn to appreciate things in life.

More people take trips.

Travel has become very popular.

People cross the continent.

Importance of cars.

M. H. McKim - C. J. Sullivan

Test VIII D

Scoring for Central Thought - continued

Paragraph 2

5 points

The vast Ford Motor car industry.  
The largeness and capability of Henry Ford Motor Company  
The organization of Henry Ford's automobile company, and the  
circulation of his cars.

4 points

The work and scale of work of the Ford Motor Co.  
Ford car's production.  
How Ford Motor Co. operates.

3 points

In 1903, Henry Ford organized the Ford Motor Company which is the  
largest corporation for the manufacture and sale of automomobiles in the world.  
Henry Ford organized the Ford Motor Company in 1903.

2 points

Henry Ford and his cars.  
Henry Ford and the manufacture of automobiles.  
The Ford plant is the largest in the world and it employs a great  
number of men and it can produce a great deal.  
Henry Ford produces automobiles, has many different plants through-  
out this country and in foreign countries.  
Ford Motor Co. is the largest corporation in the world which manu-  
factures cars, and puts out 9,000 cars daily.  
Ford Company established in 1903, has grown by leaps and bounds  
since then and now employs 100,000 men.  
Tremendous size of Ford automobile plant - the largest in the  
world for manufacture of automobiles.  
Manufacture of automobiles and the demand for them.  
Making an automobile to sell, and their manufacture.  
The Ford Motor Company makes lots of automobiles in many places.  
Ford Motor Company is the largest car company and turns out the  
most cars.  
The Ford Company can produce 9,000 cars a day with 100,000 men  
working in the factory.  
The Ford Motor Company is the largest company in the world and  
Henry Ford started it.

M. H. McKim - C. J. Sullivan

Test VIII D

Scoring for Central Thought - continued

Paragraph 2 - continued

1 point

A great motor company.  
Henry Ford automobile.  
Sales of the Ford.  
The factory can turn out 9,000 cars daily.  
A good factory  
Making cars.  
Selling cars on a large scale.  
Ford's plant  
Automobiles  
The organizing of the Ford Motor Company.  
The Ford Company helped boost the selling of cars.  
The Ford Company is a large company.  
The Ford Company employs 100,000 men.  
The Ford Company can do what people demand.  
The Ford Company is run on a very large scale.  
Easy production of Ford cars everywhere.  
Henry Ford Motor Company.  
What Henry Ford can do in his big factory.  
The amount of cars Ford sends out.  
Ford Company formed in 1903.  
Henry Ford's is the largest corporation in the world.

Test VIII D

Scoring for Central Thought - continued

Paragraph 3

5 points

About the way glass was discovered and its uses.

Glass, found by accident, is useful now.

Glass which was accidentally discovered is a very important substance today.

Development and uses of glass.

How glass was discovered and how it improved in uses.

Glass, how it was discovered, and its importance.

Glass was discovered accidentally by Phoenician sailors and now is used for a great many things.

Accidental discovery of glass and its invaluable help down through the ages.

4 points

The discovery of glass, and the practical use of it that makes it seem impossible for us to live without it.

Glass discovered accidentally - impossible to live without it.

Glass is used for many useful and decorative purposes, and is becoming almost impossible to live without.

Glass was found accidentally on a shore by a sailor, and today we use glass all the time.

3 points

Glass was discovered accidentally.

Many articles have been discovered like the way glass was, accidentally.

Glass was discovered accidentally when some Phoenician sailors had a fire on a beach, and the wood ash mixed with the sand to

2 points

Uses of glass

Discovery of glass.

Uses of glass for many different things.

About making glass and drinking glass and a few others.

Glass is an everyday necessity.

Inventions are often merely accidental and so was glass.

Sailors discovered glass when they saw wood ashes from a fire combine with sand and become translucent substance.

Glass a great value to us in many things.

How glass gradually had more and more uses.

How the Phoenician sailors made glass and how useful it is.

Glass and things discovered about it.

1 point

Glass

You could not get along without glass.

Finding the use of glass.

The importance of glass.

An invention.

Translucent we call glass.

Glass used to help us.

Test VIII D

Scoring for Central Thought - continued

Paragraph 4

5 points

The skill and thoroughness of Leonardo da Vinci.  
The famous da Vinci was a genius at painting and skilled at many other kinds of work like sculpture and invention.  
Leonardo da Vinci, his talent, inventions and work.

4 points

Life of great painter, Leonardo da Vinci, and his works.  
Leonardo da Vinci was a genius painter, scientist and inventor.

3 points

Leonardo da Vinci was a versatile genius, being skilled in painting, sculpture, science and invention.  
Four centuries ago, Leonardo da Vinci lived in Italy.

2 points

Leonardo da Vinci was a versatile genius, and invented the wheel barrow.  
Leonardo da Vinci was a painstaking worker, and invented the wheel barrow.  
He spent 10 years painting The Last Supper and he invented the wheel barrow 4 centuries ago.  
Leonardo da Vinci lived in Italy and was skilled in painting.  
Leonardo as a sculptor and painter.  
Leonardo da Vinci and his paintings.  
That a painter could be an inventor as well as a painter.  
He was patient and a good painter.  
Leonardo da Vinci an artist and scientist.  
Leonardo da Vinci had a lot of talent, such as sculpturing, painting and lots of other things.  
Leonardo da Vinci was a skilled painter and sculptor, and one of his famous paintings was The Last Supper.  
Leonardo da Vinci had lots of arts that he was very good at.

1 point

Paintings.  
Painting of the Last Supper.  
The simple tool he invented which people praised.  
Leonardo da Vinci  
Leonardo da Vinci was a genius.  
He was a painstaking worker.  
How much work he did.  
The life of Leonardo da Vinci.  
A skillful man.  
Work of Leonardo da Vinci.  
Leonardo da Vinci was a great painter.  
Leonardo da Vinci was a famous man.  
Leonardo da Vinci was a skillful man.

M. H. McKim - C. J. Sullivan

Test VII

Scoring Sheet for Written Recall

A. Dancing

1. Dancing
2. was at first
3. a means of showing emotion through action.
4. Primitive people
5. developed separate dances
6. to express their feeling of love,
7. sorrow,
8. anger,
9. or religion.
10. They had dances for their wars,
11. courtships,
12. marriages,
13. and for the worship of their gods.
14. Every country through the ages has had a form of dance characteristic of its people and beliefs.
15. The Spartans
16. who were a rigorous warlike people
17. considered dancing important as an exercise in training a healthy body.
18. The Romans
19. felt that all but religious dances
20. were disgraceful.
21. The English
22. had many folk dances
23. for celebrating events throughout the year.
24. One of these dances was the Carole -
25. a yuletide dance, which is left to us today only as a song - the Carols which we sing at Christmas time.
26. A few American folk dances
27. were the Paul Jones,
28. the Washington Post,
29. and the Barn Dance.
30. The Barn Dance much in vogue at the end of the 19th century
31. is still popular today,
32. even though its original purpose - a celebration after the community building of a barn - has disappeared.
33. Our most widely known American dance,
34. the foxtrot,
35. grew up from the ragtime
36. and jazz
37. which the negroes brought with them
38. to this country.

M. H. McKim - C. J. Sullivan

Test VII

Scoring Sheet for Written Recall

B. Flood Control

1. There are several methods
2. of obtaining more adequate protection
3. from floods.
4. One is to build embankments on rivers
5. which will stand above the normal water level;
6. or, reversing the process, to deepen the river channel.
7. A third
8. and newer method
9. is to hold the water back
10. by means of dams
11. built across the upper valley of a river
12. releasing the impounded water
13. when the river channel below can absorb the extraordinary amount.
14. A fourth way to control floods
15. is to retard them at their source
16. by planting trees on river banks
17. the roots acting as a restraint upon the water seeping down to the river bed.
18. A combination of all these methods is often both necessary and wise
19. in the case of a tremendous river like the Mississippi
20. which has many tributaries running into it.
21. The levees on the Mississippi
22. which were 3 feet high
23. in 1735
24. are 24 feet high today
25. and yet they are not sufficient to care for excessive quantities of water.
26. In addition to these engineering devices, a prediction service
27. for the neighboring inhabitants
28. and for the navigator is possible.
29. Permanent gauges
30. register any unusual rise of water;
31. telegrams
32. and radio reports
33. are then immediately sent to boat owners
34. and civilians in the adjacent territory.
35. Upon receiving these warnings people are prepared to move if necessary;
36. and boat owners may anchor
37. in recesses
38. along the bank already supplied to protect them against floating wreckage.