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## An investigation to discover a better than normal way to teach reading in a fifth-grade history class

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AN INVESTIGATION TO DISCOVER A BETTER THAN NORMAL  
WAY TO TEACH READING IN A FIFTH-  
GRADE HISTORY CLASS

by

Victor P. Miles

Contribution of the Graduate School  
Indiana State Teachers College  
Number 521

INDIANA STATE  
TEACHERS COLLEGE  
TERRE HAUTE, INDIANA

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Investigation to Discover a Better Than Normal  
Way To Teach Reading in a Fifth-Grade History  
Class

is hereby approved as counting toward the completion  
of the Master's degree in the amount of \_\_\_\_\_ hours'  
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## CHAPTER I

### INTRODUCTION

It has been the observation of the writer during the past six years that in many cases little attention has been given to the teaching of reading except in classes in which reading was the designated subject.

Since reading is a fundamental subject of the school curriculum, and in the modern world of today is becoming increasingly important, it was felt that this study will demonstrate a scientific way in which reading can be taught with the social studies without impairing successful social studies achievement.

By the use of the techniques described in this study it is believed that more effective teaching in these fields can be achieved with greater ease and economy.

#### I. PURPOSE OF STUDY

The purpose of this study was to determine whether or not a carefully planned instructional program in a fifth-grade history class would increase both reading and social studies achievement more than could normally be expected.

## II. JUSTIFICATION OF THE STUDY

The teaching of reading is one of the most important tasks of the elementary teacher. It is important because it requires more time and expense than the other subjects in the elementary school and because it is also the major cause of retardation.

It is evident that reading ability is necessary for success in most school subjects. This statement is especially true in the social studies field. The child must get meaning from the printed page. The searching for meaning requires reading ability.

In this study an attempt has been made to increase both reading and social studies achievement through a carefully planned instructional program in a fifth-grade history class. It was hoped that this plan would have some value by saving time and effort on the part of the child and the teacher in accomplishing proficiency in reading and history.

## III. DATA AND PLAN OF THE STUDY

In this investigation the data were collected from twenty-seven fifth-grade pupils. The plan of procedure was to give one form of the achievement test at the beginning of the study and six months later to give another form of the same test in order to measure the progress made during the period. The program of instruction included

testing, using the Morrison Plan of Teaching, meeting individual needs of the pupils, developing reading skills, and providing free reading. An analysis of these data justified the final conclusions.

## CHAPTER II

### REVIEW OF THE LITERATURE

Introduction. Many books have been written on methods of teaching reading and history. In this review an attempt has been made to pick out pertinent suggestions from authorities in the field of reading and social studies and to summarize studies which are closely related to the one at hand.

The child must get meaning from the printed page before he is a successful reader. Traister found that by simplifying children's history textbooks by word substitutions and word explanations his experimental groups obtained significant gains in 70 per cent of the comparisons of equated groups. He concluded that from three to six months gain can be expected in a semester when textbook vocabularies are simplified.<sup>1</sup>

Some fundamental standards should be considered when planning a successful reading program. In this connection the latest edition of the Elementary School Guide said:

A successful reading program systematically planned and well rounded makes adequate provision

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<sup>1</sup>Harold W. Traister, The Effect of Adjustment of Materials on Pupil Accomplishment in History in the Middle Grades, Unpublished Master's thesis, University of Pittsburg, Pittsburg, Pennsylvania, 1939.

for the use of (1) literary and informational types of reading, (2) for the development and maintenance of efficient oral and silent reading skills and, (3) for the systematic growth in recognition and meaning vocabularies.<sup>2</sup>

Arousing and maintaining a high degree of motivation is an essential part of a good reading program. Gray suggested that in planning special guidance in reading, teachers should recognize that a requisite of first importance is a stimulating purpose, a motivating drive, on the part of the learner that leads to vigorous application, along with such guidance as will insure rapid progress and optimal achievement. The materials used should be intriguing to those taught. Furthermore, he continued, they should be truthful, wholesome, and enlightening; the content should be worthwhile in itself in terms of the pleasure or information contributed; and the materials used should be so selected and prepared that they promote continuous growth in specific phases of reading.<sup>3</sup>

Studies of this nature should have standards by which to determine their success. Regarding this,

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<sup>2</sup>Elementary School Guide, (State of Indiana Department of Public Instruction, 1944), Bulletin No. 150, p. 14.

<sup>3</sup>William S. Gray, "A Decade of Progress," The Teaching of Reading: A Second Report, (The Thirty-Sixth Yearbook, Bloomington, Illinois: Public School Publishing Company, 1937), Part I, p. 20.

Durrell said that a teaching plan or procedure is by nature an experiment. To judge its success in the teaching of reading, he continued, two factors must be considered: (1) its efficiency in improving reading abilities, and (2) its power to establish the desire for reading.<sup>4</sup>

The importance of choosing the right kind of material for the poor reader is stressed by Dolch, who said that poor readers in the middle and upper grades must be given books that are at their real reading level. They cannot be given "baby stuff." Anything at the first-grade level will do, he continued, so long as there is no mention of small children in it. He recommended My Weekly Reader for Primary Grades when it so happens that no mention of small youngsters is contained in it.<sup>5</sup>

Most authorities agreed that word mastery is an important part of reading programs. Reed suggested that a way to help reach this objective is to encourage the children to bring in and read pertinent paragraphs from such current materials as magazines, newspapers, railroad folders, and the like.<sup>6</sup>

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<sup>4</sup>Donald D. Durrell, Improvement of Basic Reading Abilities (New York: World Book Company, 1940), p. 4.

<sup>5</sup>Edward W. Dolch, A Manual for Remedial Reading (Champaign, Illinois: The Garrard Press, 1939), pp. 74-75.

<sup>6</sup>Mary D. Reed, "Developing Word Mastery Skills," Education, 56:28, September, 1935.

Individual differences are always present in all groups. Many ways have been attempted to meet individual needs. Harris said that with the recognition of the significance of individual differences have come all sorts of attempts to adjust the school program to the varying abilities of the pupils. These methods frequently include classifying pupils into instructional groups on the basis of reading ability, and plans which attempt to provide complete individualization of the reading program. The aim of the teacher, he continued, should be not merely to help those who are poor readers but rather to help every pupil, the good as well as the poor, to develop the maximum power in reading of which he is capable.<sup>7</sup>

The habit of wide reading helps the child in many ways. Binning stated that many advantages are to be gained from the proper use of collateral, supplementary, source and fiction reading. Good reading habits and tastes are developed, he continued; a colorful understanding of the past may be achieved, and on the basis of relatively wide reading, opportunities are afforded for developing an intelligent critical attitude, for stimulating independent judgment, and for training in independent

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<sup>7</sup>Albert J. Harris, How To Increase Reading Ability (New York: Longmans, Green and Company, 1940), p. 46-47.

reading and thinking. He added that during the period of adolescence, when interest can easily be aroused, when good habits can be developed, when attitudes can easily be built up, when the capacity for forming ideals is strong, and when the mind is wide open to impressions, the child should have his natural desire for reading skillfully directed, and a foundation laid for his wide use of books.<sup>8</sup>

Pupils are expected to use facts in a reading article. They cannot do this unless they recall accurately and completely the main points and the supporting statements in an article. Durrell suggested the following steps which will improve this ability:

1. Matching paragraphs with topic or questions
2. Selecting main topics and supporting statements
3. Finding and composing topic sentences
4. Using a modified outline
5. Making oral or written summaries based upon the modified outline<sup>9</sup>

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<sup>8</sup>Arthur D. Binning and David H. Binning, Teaching the Social Studies in the Secondary Schools (New York: McGraw-Hill Book Company, Inc., 1935), p. 292.

<sup>9</sup>Durrell, op. cit., p. 234.



Summary of a closely related experiment. Lautenschlager found that by setting up a program of instruction by testing, dividing the class into groups to meet individual needs, providing reading materials, developing skills of work-type reading, and providing free reading, the instructor increased the ability of the pupils to use fundamental silent reading skills in a relatively short period of time. The reading ability of the pupils was improved by wide reading and by giving special reports; providing free reading developed wide reading and developed the habit of reading for enjoyment; working individually with pupils improved their progress in reading ability, as well as their attitude toward school and their general outlook on life; providing reading on the reading level of each child promoted individual growth in reading ability, and measuring reading ability by the use of standardized tests aroused the enthusiasm of the pupils for learning to read.<sup>10</sup>

The review of the literature in the field of reading and social studies justified the program used in this investigation. It has suggested the use of the following techniques:

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<sup>10</sup>Harley M. Lautenschlager, Improving the Teaching of Reading in the Sixth Grade of a Rural Consolidated School, (Contribution of the Graduate School Indiana State Teachers College) No. 456.

1. Testing and observing to determine ability and achievement of each child.
2. Providing individual instruction for all children who need it.
3. Developing study habits to increase reading skills requisite for competence in social studies.
4. Planning a program that would meet both the reading and the social studies needs of the pupils.
5. Providing materials which would encourage free reading.

## CHAPTER III

### THE PROCEDURE

The purpose of this chapter is to explain the instructional program planned for this study. It included testing and analysis of test data, discovering the status of reading skills and social studies achievement, providing supplementary reading material; and planning the instructional program.

The data for this investigation were collected from the fifth-grade class of the Maple Avenue Public School located at Thirty-second Street and Maple Avenue, Terre Haute, Indiana. There were twenty-seven pupils in the class, thirteen boys and fourteen girls. The writer taught the fifth grade in reading, social studies, health, and physical education, which teaching required about one-half of the total school time.

### TESTING PROGRAM

An intelligence test was given which was followed by the first form of the reading and social studies test. The second form of this test was given six months later in order to measure as nearly as possible the achievement in the two fields. These tests are commonly recognized by research workers for use in studies of this nature.

Intelligence test. The Otis Group Intelligence Scale, Advanced Examination: Form A was given at the end of the third week of school in order to determine as scientifically as possible the mental ability of the pupils. It was then feasible to assign work within the children's mental capacities. It was also an effective way of finding the mean intelligence quotient of the whole class and, therefore, helped the writer in determining what standards of achievement to expect from the class. Perhaps a limitation of this test was that it required reading ability and, therefore, did not give an accurate picture of the mental ability of the poorer readers.

Achievement test. The Stanford Achievement Test, Intermediate Battery--Complete Form E was given at the end of the third week of school, and Form F was given six months later. The purpose of the first test was to discover the advancement of the pupils in the various subjects and to plan the instructional program according to the apparent difficulties as shown by the results of the tests. The purpose of the second test was to measure the progress made during the period of the investigation.

The parts of the tests considered in this study were the following:

Reading test

paragraph meaning

word meaning

Social Studies test

history and civics

geography

Perhaps a limitation of the achievement test was that it did not disclose either individual or group needs. Many of the child's needs were discovered only by careful observation of his reading. Difficulties such as poor vision, hearing losses, and poor physical condition were not revealed by the tests, but were discovered by consultation and observation.

#### DISCOVERING READING SKILLS AND SOCIAL STUDIES ACHIEVEMENT

Work-type reading. The tests revealed deficiencies in vocabulary and comprehension. The lack of these skills is common to most poor readers, and, therefore, an abundance of teaching techniques are available to develop these specific skills. In planning the program the writer used the techniques explained below.

Recreational-type reading. Creating a desire to read was a necessary part of the program. Several things were done to create this desire. Among these were the telling of stories that were read from books, increasing reading efficiency, maintaining a high degree of motivation by enthusiastic teaching, providing both reading material

and time, and creating a desire to learn.

Social studies achievement. The results of the achievement tests disclosed serious deficiencies in general knowledge of the social studies. Each child was taught from his own achievement level rather than all being taught fifth-grade books. Poor readers were assigned lessons from textbooks with easy vocabularies. These books were secured through the trustee. This method will be explained later in detail.

Examination of cumulative records. Permanent record cards were found to be valuable in discovering pupil interests. The cards were studied to find the subject areas in which good grades had consistently been made by individuals. It was assumed that if good grades were made in a particular field, more interest would also be shown if reading were directed in that area. If a pupil had made good grades in the social studies, for example, he was encouraged to read social studies books. If he showed an interest in literature, he was directed accordingly.

Observation of oral reading. Many pupils showed deficiencies in fluency, phrasing, and expression. These deficiencies were detected by having the children read given unprepared selections of easy reading material. After the trouble had been found and the diagnosis made,

steps were taken to correct the difficulty. Remedial treatment such as phonetic practice, reading aloud slowly, and practice in word recognition were given frequently.

#### PROVIDING READING MATERIAL

Books in the room library. Two room libraries were accessible to the fifth grade. The number of books in the two libraries was approximately one thousand. Many of these books were good books, but others were not. All books that were considered worthless were shelved together and labeled "Worthless Books." All other books were divided and shelved according to subjects as social studies, science, physical education, etc.

Perhaps the chief limitation of this selected library was not the number and quality of books but the vocabularies used in them. They were written on fifth and sixth-grade reading levels. There were many pupils in the fifth grade who were not reading on that level as was revealed by the achievement tests. A few were reading above the fifth-grade level and many below. This situation made it necessary to find books on the correct reading level from other sources.

Books bought through the township trustee. Twenty-five new United States history books were purchased through the township trustee. These books were carefully selected

on the basis of ease of vocabularies. These were books written especially for poor readers, yet the interest level was high. The books were chosen to parallel the units to be taught. The bibliography of books with easy vocabularies for almost any subject and grade level, which was secured from the World Book Company, Yonkers-on-Hudson, New York, was a most helpful source.

Books borrowed from other rooms. Books were borrowed from the first, second, third, and fourth-grade rooms. The types used were workbooks, textbooks, and story books. The limitation to this source seemed to be that it did not maintain the correct interest level.

Books borrowed from the Fairbanks Memorial Library. The class was asked to borrow books from the Fairbanks Memorial Library of Terre Haute. With the help of their parents and the city librarians individual pupils borrowed several books. This source was more helpful to the average and above average pupils than it was to the slow learners since only those with ability borrowed books.

Magazines brought from home. An old-magazine collection was started at the beginning of the year for a room collection. A shelf was provided in the classroom upon which to put the magazines. These were mainly used for recreational reading. Sometimes, however,



articles were found that contributed to class assignments. Through this media wide and varied interests were fostered.

#### PLANNING THE INSTRUCTIONAL PROGRAM

Units taught. The units planned for this study were taken from the state adopted history text for the fifth grade. They were as follows:

1. Europe Again Becomes Active
  - a. Early Explorers
  - b. People Change Their Ways of Thinking
2. The Old World Explores the New
  - a. Spain In America
  - b. England and France In America
3. Homes are Built In a New Land
  - a. Settlers Come To Our Eastern Coast
  - b. Different Ways of Living Grow Up In The Colonies
4. A New Country Is Born
  - a. The English Colonies Learn Their Strength
  - b. The Revolutionary War Brings Independence<sup>11</sup>

Since this was a reading program in the social studies, it was felt that some well-known plan of teaching would be appropriate, because it would be more easily imitated by future teachers wishing to use this program.

Therefore, the Morrison Plan with its "Mastery Formula" which is pre-test, teach, test the result, adapt procedure, teach, and test again to the point of actual learning,

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<sup>11</sup>Edna McGuire, A Brave Young Land (New York: The MacMillan Company, 1938), pp. v and vi.

was used. The original Morrison Plan<sup>12</sup> was modified somewhat to meet individual and class needs.

Modified form of the Morrison Teaching Cycle. The following is a modified form of the Morrison Teaching Cycle:

1. Preparation
  - a. To tie up the new with the old
  - b. To set the stage for the new
  - c. To start interest
  - d. To start with the child's experience
2. Presentation by teacher
  - a. Name of unit
  - b. Boundary dates
  - c. Large divisions
  - d. Interesting characters
  - e. Interesting events
3. Overview quiz of what teacher said
4. Assimilation Period (methods and devices)

General objectives. The objectives of this study, as already stated, were to determine whether or not a carefully planned instructional program would increase

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<sup>12</sup>Henry C. Morrison, The Practice of Teaching In The Secondary School, University of Chicago Press, Chicago, Illinois, 1931, p. 79.

both reading and social studies achievement more than could normally be expected.

These objectives were accomplished by (1) making provisions for individual differences, (2) providing specific training in the development of a rich, meaningful vocabulary, word recognition, and paragraph meaning, and (3) using an organized plan of teaching the social studies.

Making provisions for individual differences. The range of reading ability revealed by the achievement tests was from second to sixth grade. Finding suitable reading material to meet the needs of all pupils was a difficult problem. As before stated, the interests, habits, and abilities of each child had to be considered. Most of the primary reading books were within their ability level but did not hold their interest. It was found that books which had nothing to do with small children held their interest better than others. My Weekly Reader written for second graders was helpful to the poorer readers.

The easy-vocabulary history books which were ordered through the township trustee were used in the class assignments and daily recitation. When a particular problem was being studied, the poor readers were given special assignments from these books. The material assigned for the

class was the same as that contained in the special books; hence the retarded reader could get the same content as the good reader. The studying of these books had a high motivating influence.

The gifted children were not overlooked in this program. If the intelligence test showed a child had special ability, he was given assignments from collateral books which were more difficult to read.

There was not enough time in the day to do all this individual work alone. There was more to be done than was humanly possible for one teacher to do. This situation was met by choosing the most capable members of the class and allowing them to help as tutors. The tutors were enthusiastic about their work and had some good ideas on how to help their pupils. The plan worked like this. The teacher, tutor, and pupil selected a book together. Sometimes the whole book was assigned, and sometimes a special assignment was made. During the free reading periods all tutors sat with their pupils, and the pupils read aloud. All words that were missed during the first reading were jotted down on a pad by the tutor. When the selection was completed, the reader was given the words to study. After he had mastered the words, he reread the selection. When he could read it, he was permitted to go ahead.

The development of a rich-meaning vocabulary.

1. Enriched curriculum. A good reader must be able to understand and interpret what he reads. One of the first prerequisites to understanding is a meaningful vocabulary. Interest in pictures was fostered through classroom study. A sixteen-millimeter projector was purchased by the township trustee for use by this class. The writer was permitted to select the films for the machine. Most of the films selected were about United States history. Films were shown only when the topics being studied corresponded to some pictures on hand.

The pictures in the textbooks all illustrated historical facts or events. Class time was always taken to look at and discuss pictures in the textbook. Many meaningful experiences were gained through this study. For example, while the class was studying the Revolutionary War, a picture was found of the persecution of the Tories. One child asked why the Tories were treated badly. It was explained that the Tories did everything that they could to prevent the colonists from winning the war.

A method used to stimulate interest in pictures was having pupils draw pictures which required knowledge gained through reading. Pictures were drawn of scenes or events in stories. If the pictures did not come up to specified standards, they were not accepted.

2. Providing a free reading program. Two pupils were chosen from the fifth grade to act as librarians throughout the entire year. They became efficient at their work and often offered suggestions that helped in the program.

Each child had a library card and a pocket for it on the bulletin board. On this card the reader wrote the titles of the books and the number of pages read. Once each week the cards were collected and charted on a large reading chart. This chart contained the names of all the children in the class. For each two hundred pages that were read a block was colored beside the reader's name. The children were each allowed one block per week. The reason for limiting the number of blocks per week was to avoid eye strain or some physical impairment caused by too much reading. In spite of this restriction many read two and three times more than was expected of them.

Two books could be taken from the library before either was returned. If a third book was desired, one had to be returned. One of these books could be kept at the desk, and the other could be taken home. If a book was kept out over two weeks without being renewed, a small fine was charged.

During any study period, providing the pupil had all his assignments in the content subjects, he was permitted to read a story book.

3. Dictionary and reference work. The dictionary was used for looking up new words found in the text. The pupils were asked to underline all new words and write them in a notebook. At the end of the week these words were looked up in the dictionary. During the following recitation period a teacher's list was written on the blackboard, pronounced, and discussed. If any of the words had been missed by the pupils in their readings, they could bring their notebooks up to date by copying from the blackboard.

Reference books were mainly used for special reports and outside reading assignments. Valuable information was obtained from this source. Topics that could not be found any place else could often be found in reference books. The main objection to reference books in this study was the inability of the pupils to use them. It required a lot of practice before topics could be looked up without help.

4. Directing reading through children's interest. As already stated cumulative school records were beneficial in finding children's interests. If a child had consistently made better grades in a particular subject than he had in others it would seem that he had a special interest in that subject. It was from this assumption as well as from hobbies and newly developed interests that free read-

ing was directed. Pupils who showed a special interest in the social studies were encouraged to read more in that field. Enough books and magazines were available in all subject areas to furnish the class with an adequate amount of reading material on the correct interest level.

### The development of word recognition

1. Developing skill in syllabication. Several methods were used to develop skills in the recognition of words. In the discussion that follows a few of these methods are given.

Frequent drills in syllabication were given by writing a number of common polysyllable words on the blackboard to be copied by the pupils. The first four or five were hyphenated and pronounced together, and the rest were hyphenated by each individual. After all words were divided, they were checked for accuracy, and drill was then given on phonetic sounds taken from these words.

2. Correlation of words with spelling. Numerous investigations have proved the wisdom of spelling by syllables to increase skill in word recognition. This method was made a part of each spelling or vocabulary lesson. As already explained, new words with more than one syllable were hunted out of the text and written on the blackboard. They were first pronounced by syllables, then spelled by pronouncing each syllable separately.



### 3. Drill on thought units through flash cards.

Two pupils in the class had trouble in getting the thought of words or phrases as revealed by observation of their oral reading. The class tutors were asked to drill them with flash cards. When each card was shown, the pupil was asked to read what was shown and give the meaning of the word or phrase. This drill was continued until improvement had been made.

It should be stated that all cases drilled by this method were very poor readers.

### The development of paragraph meaning.

1. Reading to get the central thought. The ability to get meaning from paragraphs is the most important goal of reading. This ability can be increased by the use of certain teaching techniques.

Lessons were often assigned for the purpose of developing skill in getting the main idea of paragraphs. One plan was having the class write titles for each paragraph in a given selection. The writer also prepared titles for the same assignment. During the class period the work was discussed, and recommendations for improvement were given.

Another plan was to have a selection read to the audience aloud. Volunteers were asked to give the main thought of each paragraph.

2. Reading to follow sequence of events.

Devices such as asking questions, arranging parts of a story in the right sequence, and guessing what happened next were valuable aids in the development of straight thinking.

My Weekly Reader is written especially to improve reading. Following its suggestions made it possible for the students to develop many of these skills.

3. Reading to note details. Specific assignments were made to increase ability to note details. In this type of assignment particular attention was paid to the insignificant events in a story. During the recitation period pupils were called upon to reproduce as many details as possible.

Frequent tests were given that required one- to two-word answers. These questions were made from details of the class assignment.

4. Reading to follow directions. Each day the history and reading assignments were clearly written on the blackboard. The children were held responsible for knowing what they were supposed to do for the assignment. The class assignment afforded opportunities for the development of more proficient readers because the pupils were required to read specific directions each day.

5. Reading to discover cause and effect.

Thinking was stimulated by asking questions. Tests were sometimes prepared which required reading to find the answers. When making the tests the writer took care always to ask questions of a thoughtful nature. For instance, while the pupils were studying early colonial history, questions of this nature were asked, "Why did the colonists object to the Quartering Act?" or "Why did the colonists decide that they would rather be independent?"

Achievement of goals in the social studies. It would seem that the devices used in the development of word meaning and paragraph meaning helped in the achievement of social studies goals. How much each method or device helped can not be determined accurately.

It was felt that a scientific and critical attitude toward any topic under discussion should be taught. Opinions backed by good reasoning were welcomed. When reporting data, accuracy was stressed. If there were differences of opinions, each pupil was asked to give the source of his information.

The pupils were trained to hold themselves to the point under discussion. If a contribution was made that was not to the point, it was immediately discarded. Developing a genuine interest in the topic helped to eliminate this trouble.

A summary of the discussion was always necessary to bring out the main points. Sometimes the summary was made by the writer and sometimes by a pupil.

1. Outlining. Simple outlining was taught as a means of developing understandings. The first step was to give practice in locating the central thought of the whole selection. After this knowledge was acquired, attention was called to the central idea of each paragraph. As proficiency developed, supporting ideas to paragraph headings were introduced. The making of formal outlines was practiced until proficiency was acquired.

2. Map making. Two hundred outlined maps of the United States were hectographed at the beginning of the school year to be used as needed. Early colonial settlements, forts, natural sites, and states were the types of assignments that were of particular value. The children were taught the significance of keys, scales, marks representing towns and capitals, and they were able in a short time to use this knowledge in completing the outline maps.

## CHAPTER IV

### PRESENTATION OF FINDINGS

The results of the investigation are given in this chapter. The discussion includes (1) findings from the intelligence test, (2) findings from the achievement tests, and (3) correlations of parts of the data.

In all of the tables and Figures of this study, the pupils are ranked according to mental ages. Pupil Number 1 is that pupil with the highest mental age, and Pupil Number 27 is the one with the lowest.

Findings from the intelligence test. The Otis Group Intelligence Scale, Advanced Examination: Form A was given to the class at the end of the third week of school. The results of the test, which are shown in Table I, page 30, show the class to have average intelligence. The median for the group is an intelligence quotient of 98, with a range from an intelligence quotient of 118 to an intelligence quotient of 83 as can be seen from Figure 1, page 31. The third column of Table I shows a range of ability from a mental age of 8-0 to a mental age of 12-8. It is evident from these data that when planning the instructional program provisions should be made for individual differences.

TABLE I  
RESULTS OF THE OTIS GROUP INTELLIGENCE TEST

Pupil number*	Chron. age	Mental age	Intelligence quotient	P.R. in I.Q.
1	11-8	14-2	109	77.5
2	10-3	13-10	116	91.1
3	9-7	13-1	118	93.55
4	10-0	12-9	113	86
5	10-0	12-7	110	80
6	11-8	11-11	101	53
7	10-1	11-5	106	69
8	10-1	11-2	105	66
9	10-0	10-10	104	63
10	10-1	10-10	103	60
11	11-7	10-8	96	37
12	10-11	10-6	98	43
13	10-10	10-5	98	43
14	9-9	10-1	102	57
15	10-2	10-0	99	47
16	12-2	9-11	90	20
17	9-11	9-7	98	43
18	12-11	9-7	86	12
19	13-8	9-6	83	7.6
20	11-0	9-5	92	25
21	11-6	9-4	90	20
22	12-7	9-3	86	12
23	9-11	8-11	95	34
24	10-1	8-8	92	25
25	10-10	below 8	84	8.9
26	10-9	below 8	83	7.6
27	10-0	below 8	83	7.6
Medians	10-3	10-1	98	43

\*In this table, and in all other tables and figures in this study, the pupils are ranked according to mental ages.

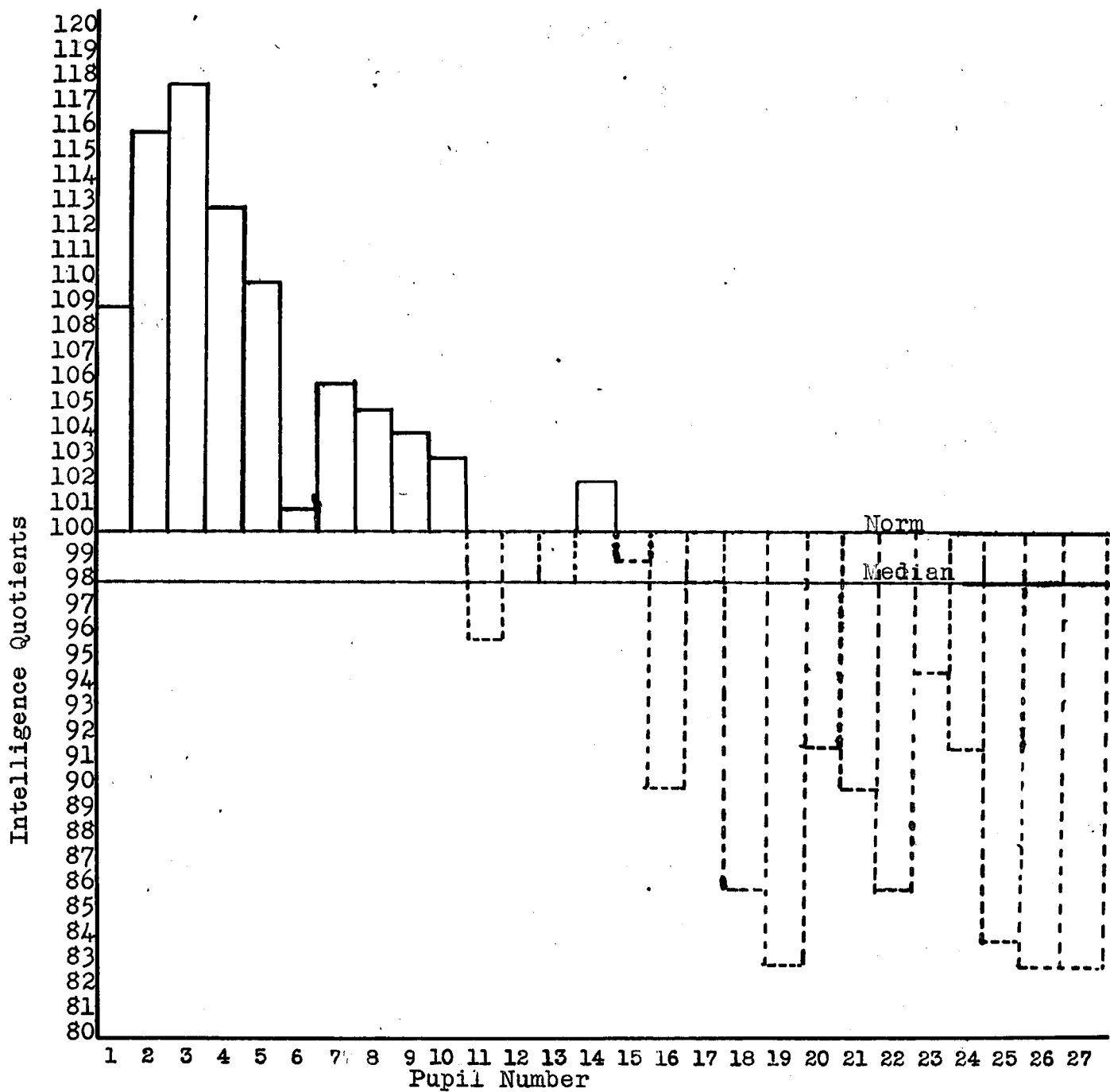


Figure 1.  
Distribution of Intelligence Quotients

Findings from the achievement tests. The Stanford Achievement Test, Intermediate Battery--Form E was given to the class at the end of the third week of school, and Form F of the same test was given six months later in order to measure the progress made during the instructional period.

The grade equivalents, actual months of gain, and expected months of gain are given in Table II, page 33, for both the reading and social studies test. Columns two and five indicate that the class was below fifth-grade achievement in reading and social studies at the time of the first test. Figure 2, page 34, discloses a difference between the actual median and the expected median in reading of 6.5 months. Only three pupils were reading on a higher level than the norm. Twelve were reading below the fourth-grade level, and two were reading as low as the second-grade level. The results of Form E of the social studies test Figure 4, page 36, show that the median is lower than on the reading test. The median of the test was 4.2, which was nine months below the expected median of 5.1. Only five of the twenty-seven pupils in the class had reached the expected median, and thirteen had not reached the fourth-grade level. These results indicated a need for better teaching.



TABLE II

RESULTS OF TWO FORMS OF READING AND SOCIAL  
STUDIES TEST GIVEN SIX MONTHS APART

Pupil Number	Grade Equiv. on Form: E-Reading	Grade Equiv. on Form: F-Reading	Actual Mo. of gain*	Grade Equiv. on Form: E-S.S.	Grade Equiv. on Form: F-S.S.	Actual Mo. of gain	Expected Mo. of gain
1	6.0-	6.9-	9	5.1-	6.3-	12	6
2	5.45-	7.45-	20	5.2-	7.25-	20.5	6
3	5.75-	7.0-	12.5	5.5-	7.6-	21	6
4	4.95-	6.6-	11.5	4.7-	6.3-	16	6
5	4.8-	5.4-	6	4.8-	6.2-	14	6
6	4.5-	4.9-	4	4.65-	5.35-	7	6
7	4.45-	6.3-	8.5	4.75-	7.2-	24.5	6
8	4.85-	5.6-	7.5	5.4-	7.25-	18.5	6
9	5.05-	5.7-	6.5	4.75-	5.1-	3.5	6
10	4.8-	5.5-	7	4.7-	6.9-	22	6
11	4.6-	5.65-	10.5	6.15-	7.8-	16.5	6
12	4.9-	5.2-	3	3.95-	5.7-	17.5	6
13	3.25-	3.5-	2.5	4.0-	4.5-	5	6
14	3.25-	3.8-	5.5	4.2-	6.3-	21	6
15	4.6-	5.05-	4.5	4.9-	5.5-	6	6
16	4.1-	5.2-	11	4.7-	7.0-	23	6
17	3.7-	4.0-	3	3.6-	4.85-	12.5	6
18	3.05-	4.1-	10.5	3.4-	4.45-	10.5	6
19	4.45-	4.55-	1	3.45-	5.45-	20	6
20	3.4-	4.2-	8	3.55-	3.8-	2.5	6
21	3.85-	5.7-	18.5	3.3-	4.55-	12.5	6
22	3.55-	3.75-	2	3.25-	4.15-	9	6
23	3.5-	4.0-	5	3.35-	4.7-	13.5	6
24	3.05-	3.2-	1.5	3.6-	4.25-	6.5	6
25	2.9-	3.1-	2	3.25-	3.7-	4.5	6
26	2.8-	3.2-	4	3.25-	3.6-	3.5	6
27	3.1-	3.45-	3.5	3.85-	4.95-	10	6
Medians	4.45	5.05	6	4.2	5.45	12.5	6

\*For convenience, in this study, the school year was divided into tenths

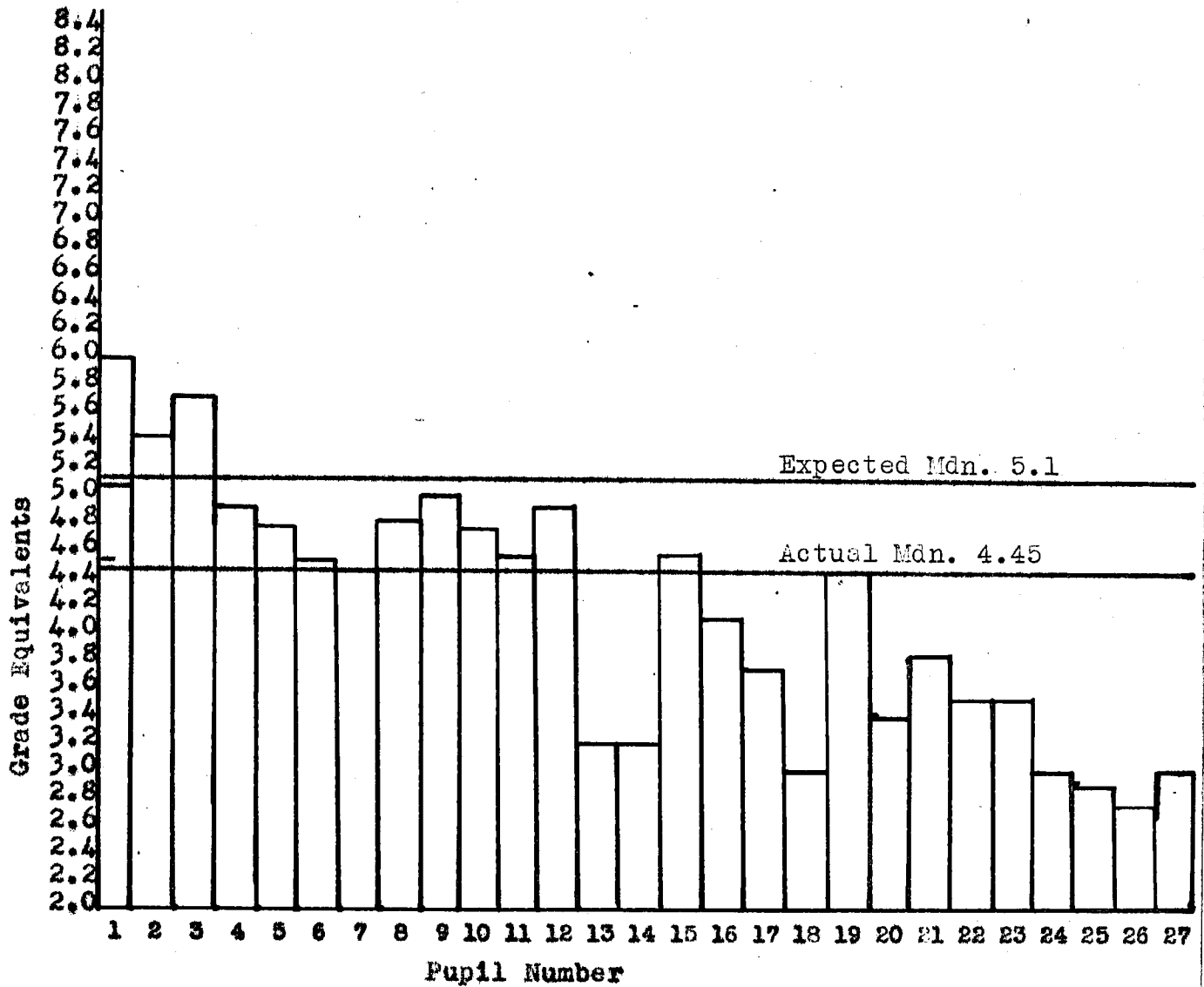


Figure 2.

Results of Form E of Reading Test Given At The  
End of The Third Week of School

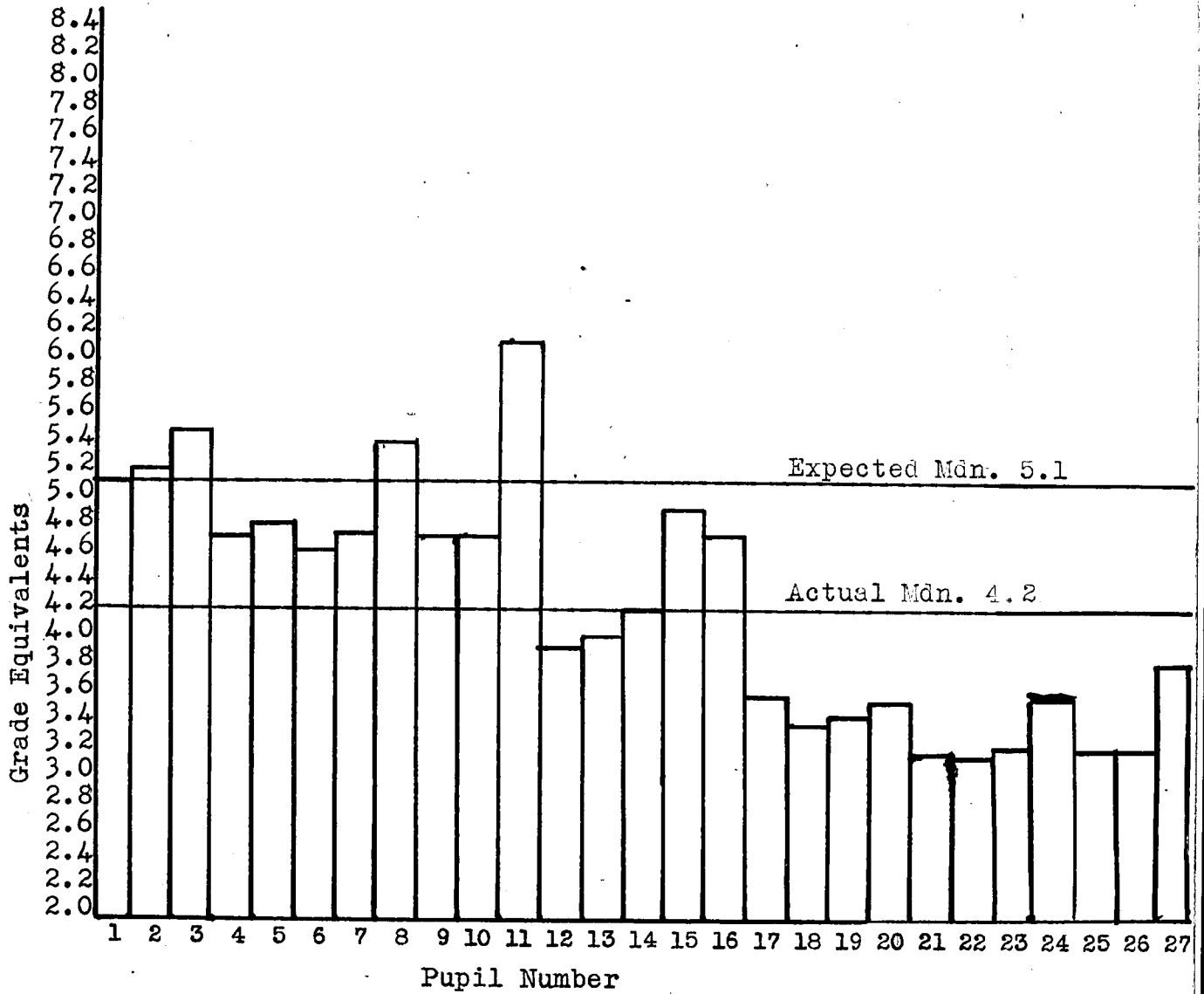


Figure 3.

Results of Form E. of Social Studies Test Given at The  
End of The Third Week of School

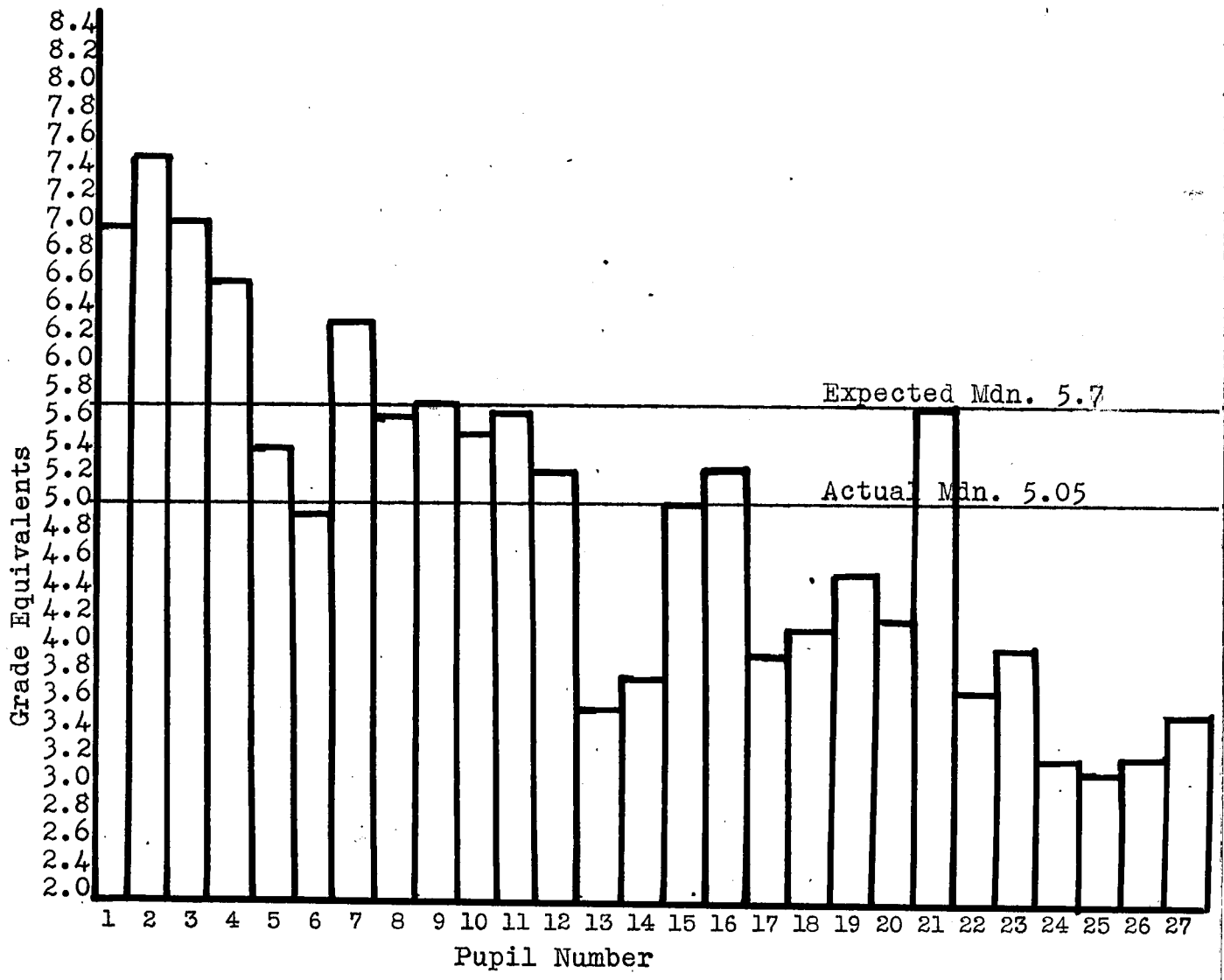


Figure 4

Results of Form F of Reading Test Given Six Months Later Than Form E.

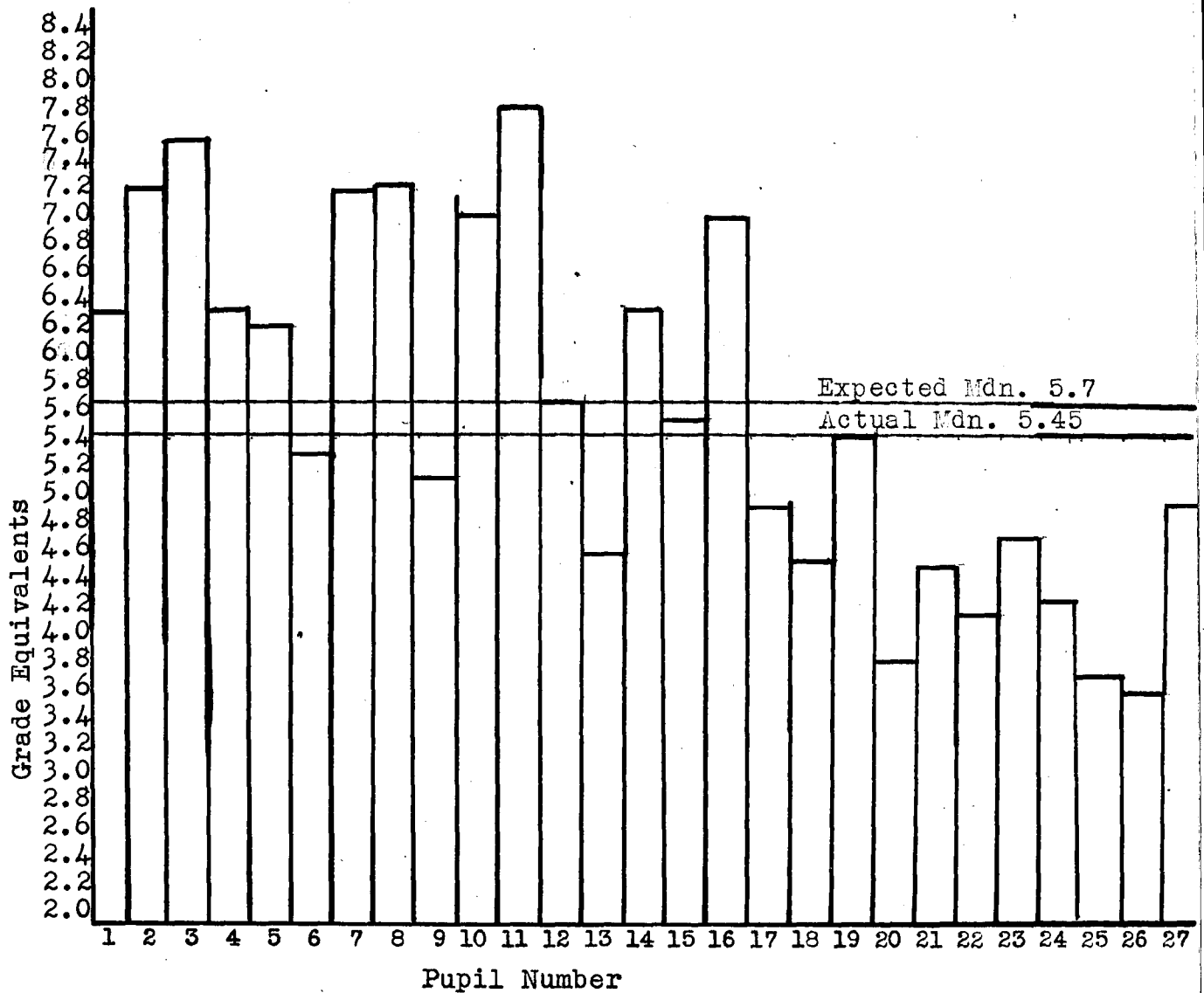


Figure 5.

Results of Form F of Social Studies Test Given  
Six Months Later Than Form E

The results of Form F of the reading are shown in Figure 4, page 36. When this test was given six months later than Form E, it was found that the class median was 5.05 grade equivalent or exactly the same amount below the norm as it was when the first test was given. This indicated that the normal gain of six months had been achieved. Instead of three pupils reading above the norm as revealed by the first test, Figure 2, page 34, seven had reached or were above the norm. Seven were reading below the fourth-grade level, and none were below the third-grade level.

A critical ratio of .318 was found between the median gain of both forms of the reading test. The difference of six months is less than four times the FE (diff), and, therefore, the difference is unreliable.

The results of Form F of the social studies test are given in Figure 5, page 37. The actual median on this test was a grade equivalent of 5.45 as compared to an actual median grade equivalent of 4.2 on the first test, Figure 3, page 35. This is a gain of 12.5 months. Although the class had not reached the expected median of 5.7 on the second test, it can be seen that much progress had been made. Twelve pupils scored as high or higher than the expected median. Only three pupils were below the fourth-grade level. The highest grade equivalent

was 7.8 or more than two years above expectancy.

A critical ratio of .271 was found between the differences of both forms of the social studies tests. The difference or actual gain of 12.5 months is more than four times the PE (diff) in this case, and, therefore, the difference is reliable.

The following formula was used in finding the critical ratios for both reading and social studies gains:

$$PE(\text{diff}) \text{Mdn}_1 - \text{Mdn}_2 = \sqrt{(PE_{\text{Mdn1}})^2 + (PE_{\text{Mdn2}})^2}$$

The amount of gains on the whole test and on each part of the test were considered separately in order to see where the most gains were made and also to see the amount of gain of each pupil. These gains are shown in Table III, page 41. The first and second parts of the reading test measure paragraph and word meaning. Social Studies I measures achievement in history and Social Studies II measures geography achievement.

The months of social studies gain are shown in Figure 7, page 43. The median class gain was twelve and one-half months, which was more than twice the gain for reading. This was also six and one-half months above the expected median of six months. The gains ranged from twenty-four and one-half months to two and one-half months. Sixteen pupils at least doubled the expected gain.

The results of the first part of the reading test, which is shown in Figure 8, page 44, measure paragraph meaning. There was a median gain of five months which was one month below expectancy.

The results of the second part of the reading test, Word Meaning, are shown in Figure 9, page 45. The median gain for the class on this test was exactly the same as the expected median gain or six months. Nine pupils made gains of more than ten months, and three showed no gain. Pupil Number 21 showed the second highest gain of the class.

The first part of the social studies test, which is given in Figure 10, page 46, measures achievement in history. The class median gain was twelve months. The actual median gain exactly doubled the expected median. Nine pupils made gains as high as fifteen months, and only six did not gain the six months expected of them. Four pupils showed a loss of as much as five months.

The second part of the social studies test, Social Studies II, measures geography achievement. Figure 11, page 47, discloses the largest gain on the entire test. The median gain was sixteen months, which is more than three times the expected gain of six months. The highest single gain was thirty-four months, and twelve pupils made gains of twenty-one months or more. Only five pupils failed to reach the expected gain of six months. The large gain made



TABLE III  
MONTHS OF GAIN ON EACH PART OF THE  
STANFORD ACHIEVEMENT TEST

Pupil Number	Para. Meaning	Word Meaning	Both Parts	Soc. St. I	Soc. St. II	Both Parts
1	10	8	9	8	16	12
2	19	21	20	10	31	20.5
3	12	13	12.5	20	22	21
4	20	3	11.5	22	10	16
5	5	7	6	16	12	14
6	1	7	4	14	0	7
7	2	15	8.5	20	29	24.5
8	-2	17	7.5	12	25	18.5
9	1	12	6.5	-1	8	3.5
10	3	11	7	23	21	22
11	10	11	10.5	7	26	16.5
12	4	2	3	13	22	17.5
13	3	2	2.5	5	5	5
14	7	4	5.5	15	27	21
15	6	3	4.5	6	6	6
16	8	14	11	12	34	25
17	3	3	3	8	17	12.5
18	13	8	10.5	16	5	10.5
19	2	0	1	16	24	20
20	10	6	8	-5	10	2.5
21	20	17	18.5	17	8	12.5
22	5	-1	2	13	5	9
23	6	4	5	11	16	13.5
24	3	0	1.5	11	2	6.5
25	2	2	2	0	9	4.5
26	4	4	4	-2	9	3.5
27	7	0	3.5	-5	25	20
Medians	5	6	6	12	16	12.5

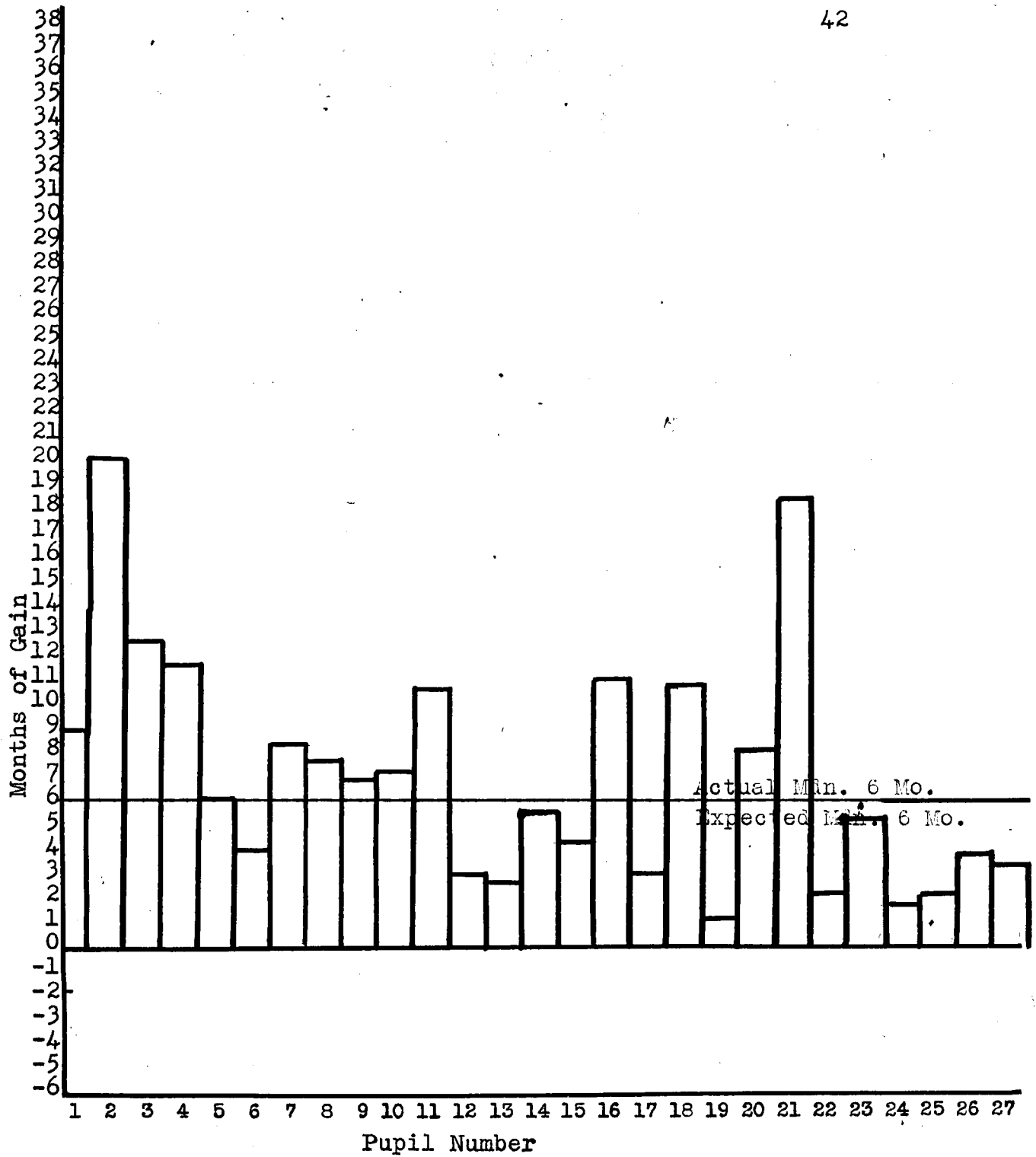


Figure 6.

Gain Made on Entire Reading Test

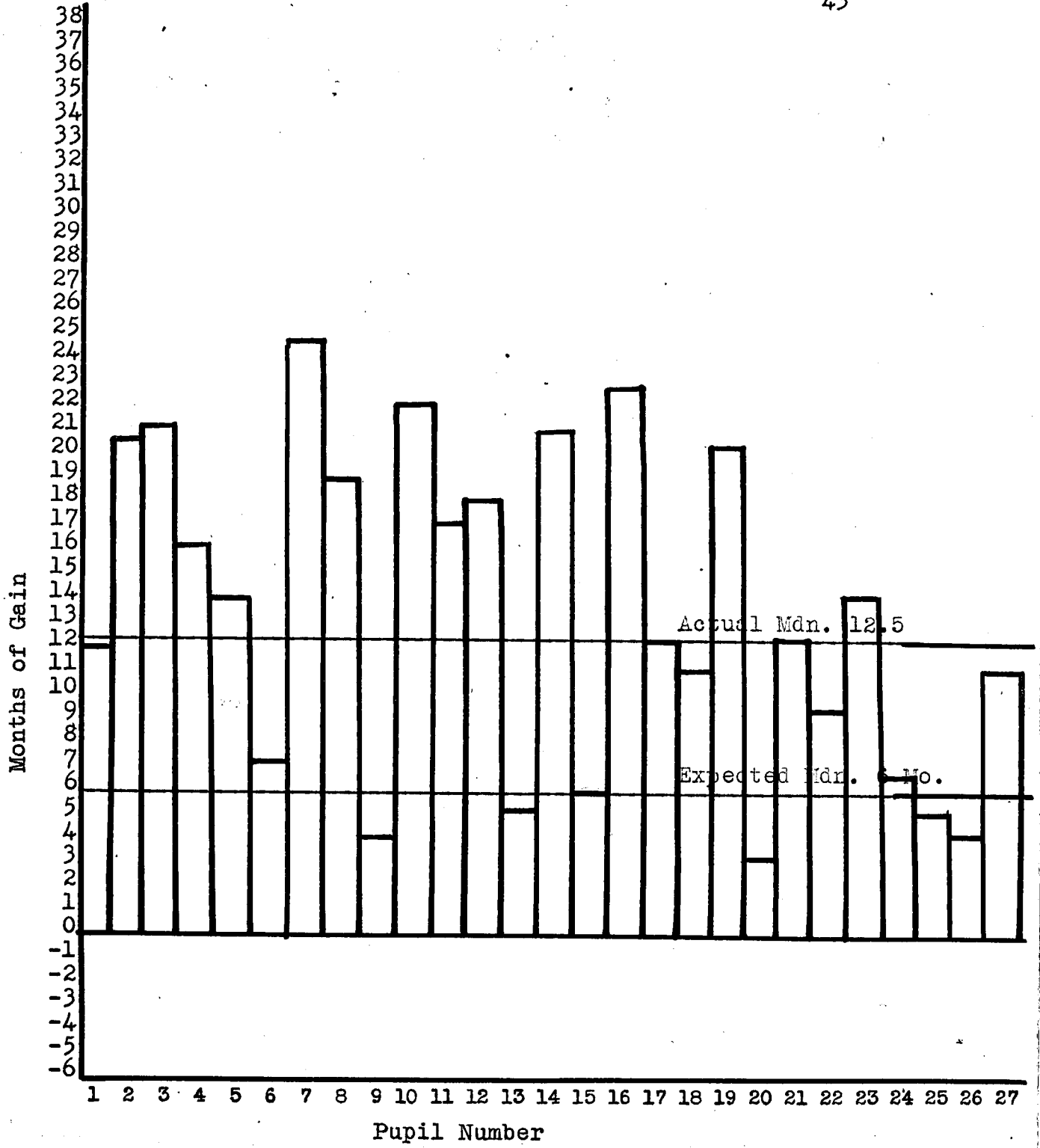


Figure 7.

Gain Made on Entire Social Studies Test

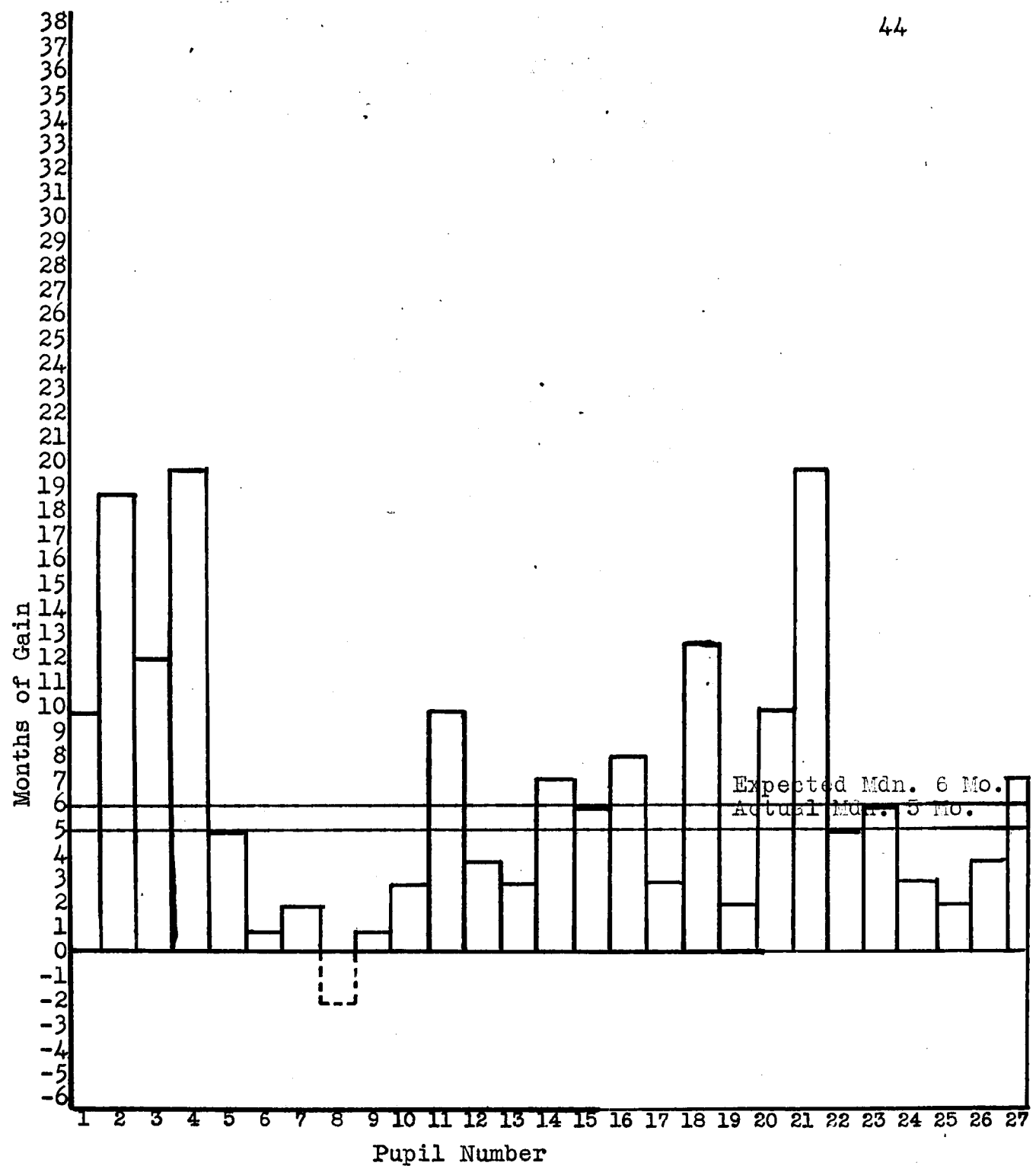


Figure 8.

Gain Made on Part I of Reading Test: Paragraph Meaning

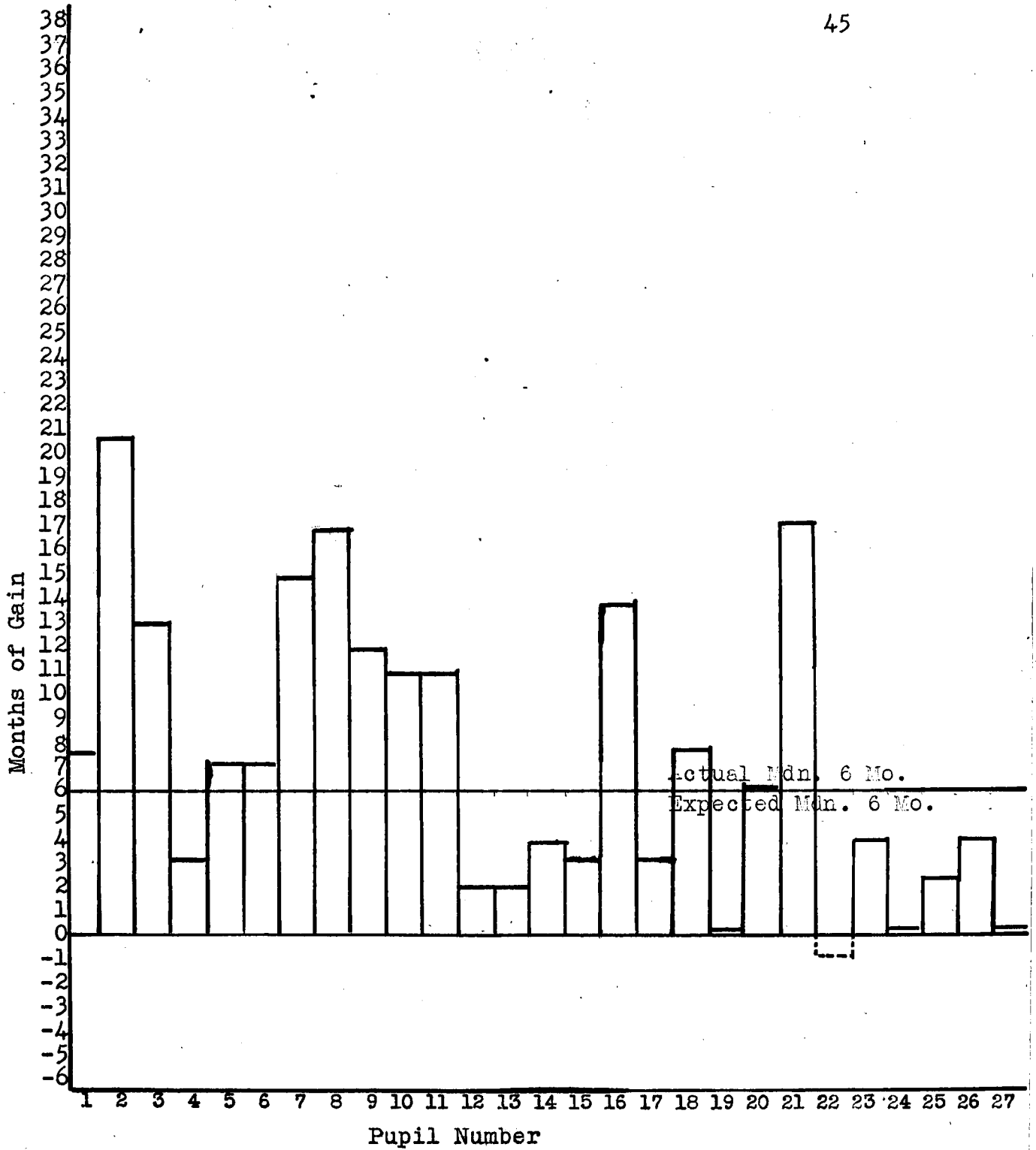


Figure 9.

Gain Made on Part II of Reading Test: Word Meaning

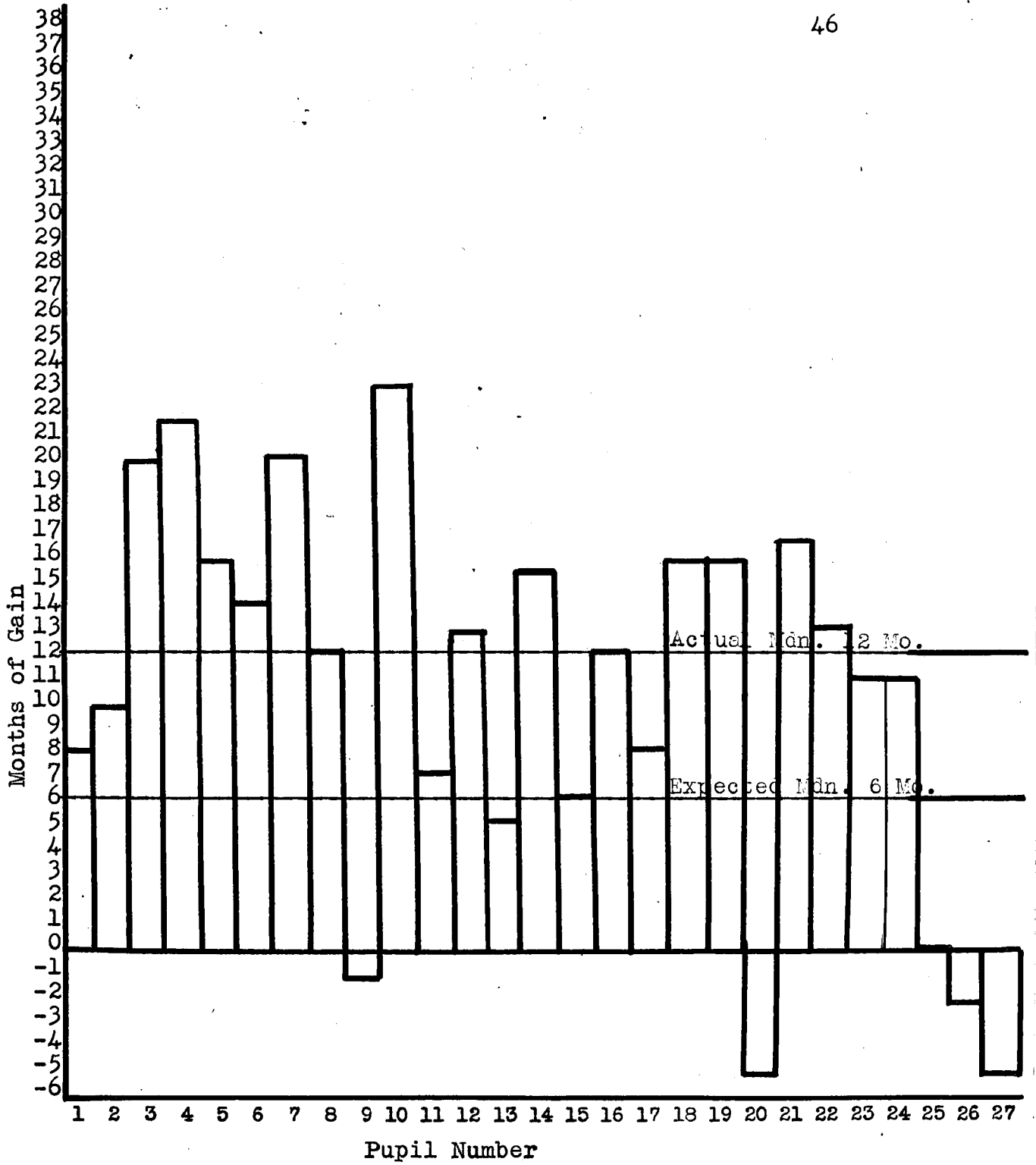


Figure 10.

Gain Made on Part I of Social Studies Test: Social Studies I

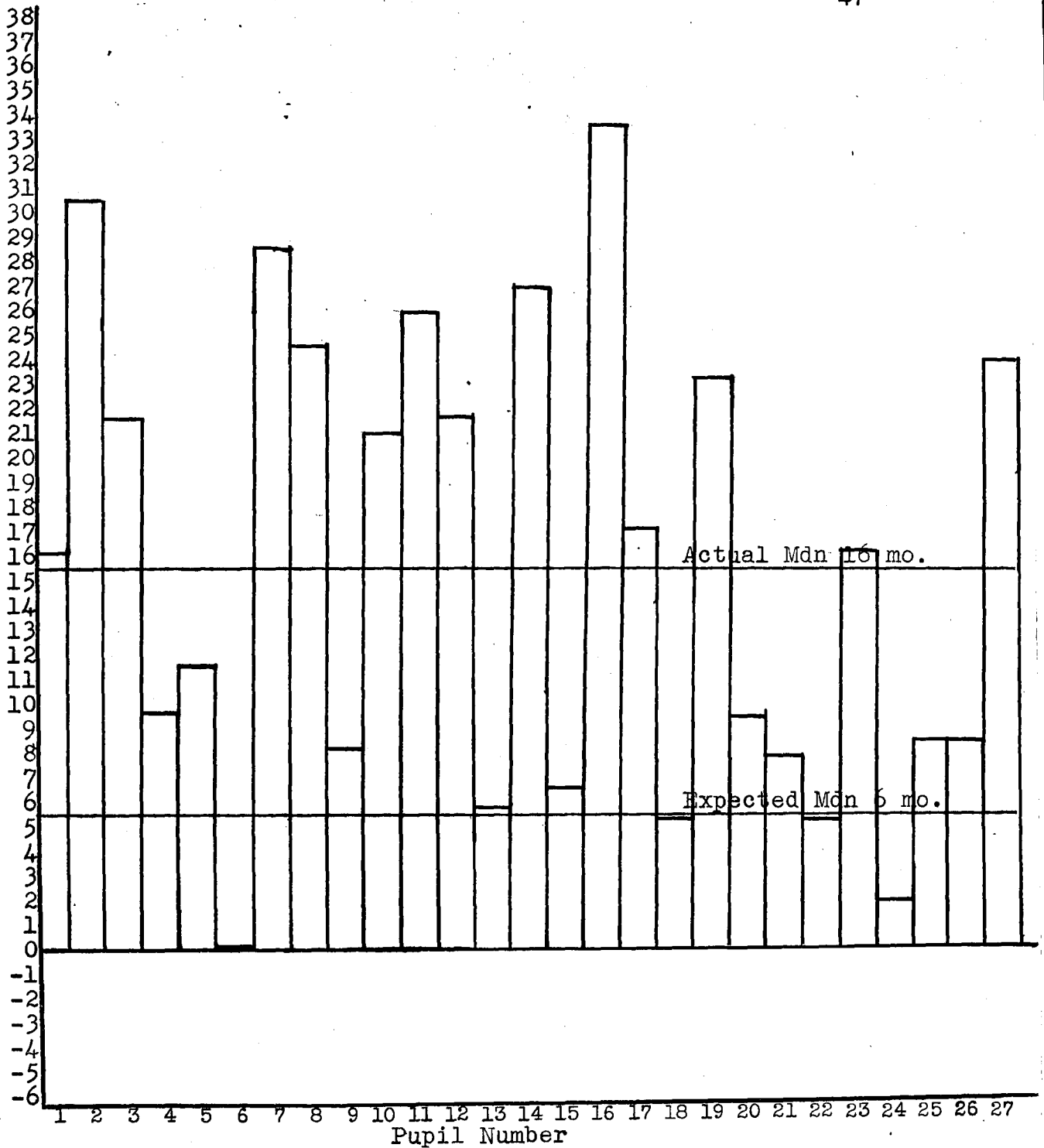


Figure 11.

Gain Made on Part II of Social Studies Test: Social Studies II

on this test was probably due to the fact that many new interests were developed. This fact was possibly due to the war and new reading interests.

Correlations of certain parts of the data. As already explained, credit was given for book's being read when two hundred pages were read from one or more books. On this basis correlations were made between the reading gain and the number of books read and between the social studies gain and number of books read. The median number of supplementary books read was ten as shown in Table IV, Column 22, page 50.

A correlation of  $.00 \pm .51$  was found between the reading gain and the number of books read. A correlation of  $.44 \pm .11$  was found to exist between the social studies gain and the number of books read. While the latter correlation is not very high, it suggests the possibility that these pupils were aided in social studies by wide reading.

A correlation of  $.70 \pm .07$  was found to exist between the gain made in reading and the intelligence quotients of the pupils. These findings are more or less typical of previous research on this problem.

The following formula was used for finding the above correlations by the rank-difference method:

$$p = 1 - \frac{6\sum D^2}{N(N^2-1)} \qquad PE_p = \frac{.7063(1-p^2)}{\sqrt{N}}$$



Scores on both forms of the tests were correlated in order to determine the reliability of the achievement test which was used in this study. A correlation of .94 was found to exist between the reading scores of Form E of the Stanford Achievement Test and Form F of the same test. A correlation of .87 was obtained in correlating Forms E and F of the social studies test. These results indicate very high reliability of this standardized test.

The formula used to find the Coefficient of Reliability of the test was:

$$r = \frac{\sum xy}{\sqrt{\sum x^2} \cdot \sqrt{\sum y^2}}$$

A summary of the data used in this study is given in Table IV, page 50.

Pupil Number	Chron. Age	Mental Age	Intelligence Quotient	Grade Equiv. Para. Mn Fm E	Grade Equiv. Para. Mn Fm F	Gain or Loss Mos.	Grade Equiv. Wd. Mn. Fm E	Grade Equiv. Wd. Mn. Fm F	Gain or Loss Mos.	Ave. Grade Equiv. Fm E	Ave. Grade Equiv. Fm F	Ave. Gain or Loss-Months	Grade Equiv. S. S. I Fm E	Grade Equiv. S. S. I Fm F	Gain or Loss Months	Grade Equiv. S.S. II Fm E	Grade Equiv. S.S. II Fm F	Gain or Loss Months	Ave. Grade Equiv. Fm E	Ave. Grade Equiv. Fm F	Ave. Gain or Loss-Months	No. of Supplementary books read
1.	11-8	14-2	109	6.4	7.4	10	5.6	6.4	8	6.0	6.9	9	4.2	5.0	8	6.0	7.6	16	5.1	6.3	12	26
2.	10-3	13-10	116	4.9	6.8	19	6.0	8.1	21	5.45	7.45	20	5.4	6.4	10	5.0	8.1	31	5.2	7.25	20.5	23
3.	9-7	13-1	118	5.6	6.8	12	5.9	7.2	13	5.75	7.0	12.5	5.8	7.8	20	5.2	7.4	22	5.5	7.6	21	8
4.	10-0	12-9	113	4.4	7.4	20	5.5	5.8	3	4.95	6.6	11.5	4.7	6.4	22	5.2	6.2	10	4.7	6.3	16	12
5.	10-0	12-7	110	4.5	5.0	5	5.1	5.8	7	4.8	5.4	6	4.4	6.0	16	5.2	6.4	12	4.8	6.2	14	26
6.	11-8	14-11	101	4.8	4.9	1	4.2	4.9	7	4.5	4.9	4	4.4	5.8	14	4.9	4.9	0	4.55	5.35	7	14
7.	10-1	11-5	106	5.8	6.0	2	5.1	6.6	15	4.45	6.3	8.5	4.8	6.8	20	4.7	7.6	29	4.75	7.2	24.5	14
8.	10-1	11-2	105	5.6	5.4	-2	4.1	5.8	17	4.85	5.6	7.5	5.2	6.4	12	5.6	8.1	25	5.4	7.25	18.5	13
9.	10-0	10-10	104	5.1	5.2	1	5.0	6.2	12	5.05	5.7	6.5	5.1	5.0	-1	4.4	5.2	8	4.75	5.1	3.5	9
10.	10-1	10-10	103	4.9	5.2	3	4.7	5.8	11	4.8	5.5	7	4.7	7.0	23	4.7	6.8	21	4.7	6.9	22	10
11.	11-7	10-8	96	4.5	5.5	10	4.7	5.8	11	4.6	5.65	10.5	5.9	6.6	7	6.4	9.0	26	6.15	7.8	16.5	8
12.	10-11	10-6	98	4.8	5.2	4	5.0	5.2	2	4.9	5.2	3	3.7	5.0	13	4.2	6.4	22	3.95	5.7	17.5	24
13.	10-10	10-5	98	3.5	3.3	3	3.0	3.2	2	3.25	3.5	2.5	3.9	4.4	5	4.1	4.6	5	4.0	4.5	5	8
14.	9-9	10-1	102	3.1	3.8	7	3.4	3.8	4	3.25	3.8	5.5	4.9	6.4	15	3.5	6.2	27	4.2	6.3	21	10
15.	10-2	10-0	99	4.4	5.0	6	4.8	5.1	3	4.6	5.05	4.5	4.9	5.5	6	4.9	5.5	6	4.9	5.5	6	12
16.	12-2	9-11	90	4.1	4.9	8	4.1	5.5	14	4.1	5.2	11	4.7	4.9	12	4.7	8.1	34	4.7	7.0	23	13
17.	9-11	9-7	98	3.9	4.2	3	3.5	3.8	3	3.7	4.0	3	3.1	3.9	8	4.1	5.8	17	3.6	4.85	12.5	10
18.	12-11	9-7	86	3.2	4.5	13	2.9	3.7	8	3.05	4.1	10.5	3.1	4.7	16	3.7	4.2	5	3.4	4.45	10.5	5
19.	13-8	9-6	83	4.2	4.4	2	4.7	4.7	0	4.45	4.55	1	3.5	5.1	16	3.4	5.8	24	3.45	5.45	20	7
20.	11-0	9-5	92	3.4	4.4	10	3.4	4.0	6	3.4	4.2	8	3.6	3.1	-5	3.5	4.5	10	3.55	3.8	2.5	3
21.	11-6	9-4	90	3.5	5.5	20	4.2	5.9	17	3.85	5.7	18.5	3.2	4.9	17	3.4	4.2	8	3.3	4.55	12.5	3
22.	12-7	9-3	86	3.6	4.1	5	3.5	3.4	-1	3.55	3.75	2	3.1	4.4	13	3.4	3.9	5	3.25	4.15	9	12
23.	9-11	8-11	95	3.6	4.2	6	3.4	3.8	4	3.5	4.0	5	3.3	4.4	11	3.4	5.0	16	3.35	4.7	13.5	11
24.	10-1	8-8	92	3.1	3.4	3	3.0	3.0	0	3.05	3.2	1.5	3.1	4.2	11	4.1	4.3	2	3.6	4.25	6.5	7
25.	10-10	Below	84	3.1	3.3	2	2.7	2.9	2	2.9	3.1	2	3.1	3.1	0	3.4	4.3	9	3.25	3.7	4.5	2
26.	10-9	Below	83	3.0	3.4	4	2.6	3.0	4	2.8	3.2	4	3.1	2.9	-2	3.4	4.3	9	3.25	3.6	3.5	4
27.	10-0	Below	83	3.2	3.9	7	3.0	3.0	0	3.1	3.45	3.4	4.4	3.9	-5	3.5	6.0	25	3.85	4.95	10	4
Mdn	10-3	10-1	98	4.2	4.9	5	4.2	5.1	6	4.45	5.05	6	4.2	4.1	12	4.2	5.8	16	4.2	5.45	12.5	

TABLE IV

Summary of Data Used In This Study

## CHAPTER V

### SUMMARY AND CONCLUSIONS

Summary. It was the purpose of this study to determine whether or not a carefully planned instructional program in a fifth-grade history class would increase both reading and social studies achievement more than could normally be expected.

The data for this investigation were collected from twenty-seven fifth-grade pupils of a suburban township public school. The plan of procedure was to give one form of a standardized achievement at the beginning of the study and then six months later to give another form of the same test in order to measure the progress made during the instructional period. The program of instruction included testing, using the Morrison Plan of teaching, meeting individual needs of the pupils, developing reading skills, and providing time and material for free reading.

According to the Otis Group Intelligence Scale, the median Intelligence Quotient of the class was 98, with six pupils having an Intelligence Quotient of 86 or less. The reading achievement of the class increased from a median grade equivalent of 4.45 on Form E of the Stanford Achievement Test to a median grade equivalent of 5.05 of Form F of the same test. This is equivalent to a gain of six

months. There was an increase from a median grade equivalent of 4.2 on Form E of the social studies part of the Stanford Achievement Test to a median grade equivalent of 5.45 on Form F of the same test. This is equivalent to a gain of 12.5 months. The median number of supplementary books read was 10. There was found to be a  $.00 \pm .51$  correlation between the number of books read and the gain made on the reading test. A correlation of  $.44 \pm .11$  was found between the social studies gain and the number of books read. A correlation of  $.70 \pm .07$  was found between the reading gain and the intelligence quotients of the pupils. Very high reliability coefficients were found for the Stanford Achievement Test in the case of both reading and social studies.

Conclusions. An analysis of the data justified the following conclusions:

1. The total procedure for teaching reading in connection with history seems to have been effective because normal gains were made by a class that was below standard in reading.
2. The social studies achievement of the pupils was improved greatly as a result of the total procedure.

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APPENDIX



## APPENDIX

### CHILDREN'S BOOKS WHICH WERE READ BY THREE OR MORE PUPILS THROUGHOUT THE INVESTIGATION

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