

A N S W E R E V A L U A T I O N

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CHAPTER I.

INTRODUCTION

Ability to judge the true worth of what one hears or reads is an asset. This ability to separate the false from the true, the important from the unimportant, the relevant from the irrelevant, is essential to the individual if he is to exercise his functions properly, and fulfill his responsibilities, in a democratic society. It is the person who does not see the fallacy in the demagogues' talk or the absurdities in fanatical writings, who often becomes an obstacle and menace to the social group.

Development of the critical attitude is primarily a function of the school. The recitation offers abundant opportunity for training in answer evaluation and criticism.

And the questions at once arise:

How much are the schools really doing for the child in this respect?

Is the child being trained to criticise his classmates' answers, or is he not?

Does the school recognize the importance of

this phase of the child's training?

In view of the fact that this training in answer evaluation, so essential to the welfare of the individual and the community, should be given much attention, it is thought desirable that an investigation be made to show the actual facts in regard to pupils' ability to evaluate answers.

STATEMENT OF THE PROBLEM

The purpose of this study is to determine how well pupils are able to evaluate answers. Information on such questions as the following, will be sought by the investigation:

To what extent are pupils able to tell whether an answer is a good answer or a poor answer?

Are pupils able to grade certain types of answers better than other types?

Do schools differ much in the ability of their pupils in answer evaluation?

Do pupils in schools where special attention is given to criticism of answers by the pupils have greater ability in answer evaluation than do the pupils in schools where answer criticism is not stressed?

SCALE ALPHA 2. FOR MEASURING THE UNDERSTANDING OF SENTENCES. PART II

Write your name here.....

Write your age.....years.....months

SET IV. DIFFICULTY 7

SET V. DIFFICULTY 8

SET VI. DIFFICULTY 8 2/3

SET VII. DIFFICULTY 9

Read this and then write the answers to 1, 2, 3 and 4. Read it again if you need to.

Read this and then write the answers. Read it again if you need to.

Read this and then write the answers to 1, 2, 3 and 4. Read it again if you need to.

Read these paragraphs and then write the answers to questions 1, 2, 3, 4 and 5. Read the paragraphs again if you need to.

You need a coal range in winter for kitchen warmth and for continuous hot-water supply, but in summer when you want a cool kitchen and less hot water, a gas range is better. The xyz ovens are safe. In the end-ovens there is an extra set of burners for broiling.

It may seem at first thought that every boy and girl who goes to school ought to do all the work that the teacher wishes done. But sometimes other duties prevent even the best boy or girl from doing so. If a boy's or girl's father died and he had to work afternoons and evenings to earn money to help his mother, such might be the case. A good girl might let her lessons go undone in order to help her mother by taking care of the baby.

We often think of a rich man as one who has much money, as if money and wealth meant the same thing. However, money is only one sort of wealth and some money is not exactly wealth. A twenty dollar bill, for example, is only someone's promise to pay so much gold. Wealth means land, houses, food, clothes, jewels, tools, gold, silver, coal, iron—anything that a man can have that satisfies some want. Money means something which a person can exchange for any one of many sorts of wealth. The main value of any piece of wealth, such as a barrel of flour, a house, or a cow is the direct use you can make of it. The value it has by reason of what you can exchange it for is of less importance. The main value of any piece of money, such as a silver dollar, a ten-dollar bill, or a nickel, is *not* any direct use you can make of it. Its main value *is* by reason of what you can exchange it for.

The most serious objection against the government ownership of railways is connected with the question of rates. Every change in rates means a change in the relative advantages of one part of the country as compared with another part of the country.

Under national ownership and management of the railways there would be a continual struggle of section with section for advantageous rates, and unless the rate problem could be worked out in some simple, easily comprehended way which would commend itself to the public at large, this struggle of section with section would scarcely fail to prove disastrous.

Perhaps the greatest single danger in the private ownership of railways is that it tends first to form classes, and then to array class against class. It forms classes in the very nature of the case. First we have the classes in the railway service. About one per cent. of those engaged in the service are officers and the rest employees, and the contrasts among these employees in remuneration and in conditions of employment are vast, and, whether they ought to do so or not, do have a tendency to cultivate bitterness and class division.

There is still another way in which the private ownership of railways tends to class formation, and that is through the favoritism shown to individuals in the community, which is largely responsible for the bad features of the trust movement. Everywhere throughout the United States we can find manufacturers and shippers who have been favored, and if there are any favored it is necessarily at the expense of others. We have favored classes, and this tends to promote class formation and to incite one class to hate another.

1. What effect has the use of a gas range instead of a coal range upon the temperature of the kitchen?.....
2. For what purpose is the extra set of burners?.....
3. In what part of the stove are they situated?.....
4. During what season of the year is a gas range preferable?.....

1. What is it that might seem at first thought to be true, but really is false?.....
2. What might be the effect of his father's death upon the way a boy spent his time?.....
3. Who is mentioned in the paragraph as the person who desires to have all lessons completely done?.....
4. In these two lines draw a line under every 5 that comes just after a 2, unless the 2 comes just after a 9. If that is the case, draw a line under the next figure after the 5:
5 3 6 2 5 4 1 7 4 2 5 7 6 5 4 9 2 5 3 8 6 1 2 5
4 7 3 5 2 3 9 2 5 8 4 7 9 2 5 6 1 2 5 7 4 8 5 6

1. In what does the main value of wealth lie, according to the paragraph?.....
2. In what does the main value of money lie, according to the paragraph?.....
3. Name something that is money, but is not exactly wealth.....
4. What do you suppose is the thing which is defined by business men as "a medium of exchange"?.....

1. What is stated as the cause that would produce sectionalism?.....
2. Under the present condition of ownership of railways, in what two ways does class formation occur?.....
3. Which is the supposedly favored class in the railway service?.....
4. What is stated to have been a main cause of the undesirable results of the replacement of many small manufacturing and selling concerns by a few large ones?.....
5. By what means, according to the paragraph, might disaster from sectionalism under public ownership be avoided?.....

Read this and then write the answers to 5, 6 and 7. Read it again if you need to.

Read this and then write the answers to 5, 6, 7 and 8. Read it again if you need to.

Hay-fever is a very painful, though not a dangerous, disease. It is like a very severe cold in the head, except that it lasts much longer. The nose runs; the eyes are sore; the person sneezes; he feels unable to think or work. Sometimes he has great difficulty in breathing. Hay-fever is not caused by hay, but by the pollen from certain weeds and flowers. Only a small number of people get this-disease, perhaps one person in fifty. Most of those who do get it, can avoid it by going to live in certain places during the summer and fall. Almost every one can find some place where he does not suffer from hay-fever.

In Franklin, attendance upon school is required of every child between the ages of seven and fourteen on every day when school is in session unless the child is so ill as to be unable to go to school, or some person in his house is ill with a contagious disease, or the roads are impassable.

5. What is the cause of hay-fever?.....
6. How large a percentage of people get hay-fever?.....
7. During what seasons of the year would a person have the disease described in the paragraph?.....

5. What is the general topic of the paragraph?.....
6. How many cases are stated which make absence excusable?.....
7. What kind of illness may permit a boy to stay away from school, even though he is not sick himself?.....
8. What condition in a pupil would justify his non-attendance?.....

How do girls and boys compare in their ability to evaluate answers?

Are pupils proficient in recognizing the type of faults in answers?

DERIVATION OF THE TEST

SOURCE OF MATERIAL:

The Thorndike "Scale Alpha 2" silent reading test was given in the schools of Osborne Kansas by the class in Educational Statistics from the University of Kansas. (A copy of the "Thorndike Silent Reading Test" is placed here for reference).

From the answers given by the eighth grade of the Osborne schools, a list of all types of answers given and the frequency of each type's occurrence was made up. From this list of answers, fifteen of those answers occurring the greatest number of times were selected for a preliminary test in "Answer Evaluation". This preliminary test was for the purpose of securing information needed in constructing a test for use in a more comprehensive study of answer evaluation. The preliminary test was given to a group of 22 high school freshmen, English students.

The test, which was given orally, was as follows:

PRELIMINARY TEST

DIRECTIONS TO PUPILS:

"Each of you will need two sheets of paper and a pencil or fountain pen.

Write your name and age at the top of each sheet of paper.

You will be given an opportunity to grade some answers which I shall read to you after awhile. I am going to read a paragraph to you. After I am thru reading the paragraph, I am going to ask you to write the question that I shall dictate. The question I shall give you was asked thousands of students about the paragraph I will read you. After you have written the question, I am going to ask you to write some of the answers that others have given to this question. Some of the answers are good and some are unsatisfactory. All you are to do is to grade the answers. You will be told later what marks to use in grading. Listen closely while I read the paragraph."

(Paragraph "Difficulty 8" is read to the class)

"Now write this question at the top of your paper:

What is the general topic of the sentence?

Now just below where you wrote the question, write these answers leaving a blank line between each answer. Number each answer 1, 2, 3, etc.

Here are the answers:

1. Attendance at school in Franklin.
2. Attendance at school.
3. Children should be in school.
4. If someone is ill or the roads are
impassable.
5. School.

You may read the question which you wrote at the top of the page. After I read the paragraph again you may grade the answers. If you think an answer is excellent, write "E" in the blank line under the answer; if you think an answer is good, write "G" in the blank line under the answer; if you think an answer is fair, write "F" under it; if you think it is poor, write "Poor" under it and if it is unsatisfactory, you will of course write "U" under the answer.

I will read the paragraph now.

(Read paragraph "Difficulty" 8" again)

You may grade the answers now. Remember, if you think the answer is excellent, write "E" under it, if it

is good write "G" under it, if it is fair write "F" under it, if it is poor write "P" under it and of course if you think the answer is unsatisfactory, write "U" under it.

(After all were thru grading they were told)

Look at the answers again. Some of the answers are incomplete. An incomplete answer is one that does not tell enough. Some answers are off the subject. Some answers are too broad or indefinite.

If you think an answer is incomplete write "Incomplete" under it; if you think the answer is off the subject, write "Off subject" under it; if you think it contains unnecessary material or is too broad, you may write "Too broad" under it. Write one or more of these three words under each answer: "Incomplete, Off Subject, Too Broad".

(Give time to grade the answers).

I am going to read another paragraph and then give you some questions and answers. The answers are to be graded the same way as before. Here is the paragraph:

(Read paragraph "Difficulty 9")

This question was asked about the paragraph I just read. Write this question at the top of your page:

Under the present condition of ownership of railways, in what two ways does class formation occur?

Write the following answers, leaving a blank line between each answer:

1. Thru favoritism shown individuals.
2. Between the officers and the employees.
3. National ownership and management of the
railroad.
4. Between officers and employees and between
favored and unfavored shippers.
5. In the government and the people.

Here is another question:

Which is the supposedly favored class in the railway service?

And here are some answers which students gave for the question you just wrote:

1. The officers.
2. Responsible for bad features of the trust
company.
3. Employees.
4. Favoritism shown to individuals.
5. The officers and certain people in the
community.

Now listen closely while I read the paragraph again.

(Read paragraph "Difficulty 9" again)

Now you may grade the answers. First tell whether the answer is excellent, good, fair, poor or unsatisfactory by writing one of the letters "E", "G", "F", "P", "U", under it. Second tell what is wrong with the answer by writing one or more of the following words under it: "Incomplete", "Off subject", "Too broad". "

TABLE I.

Showing the variation of grades given the same answers, by 22 high school freshmen.
(Oread Training School)

QUESTION I.

Answer No.	E	G	F	P	U
1	3	3	11	2	3
2	2	11	5	7	0
3	5	5	2	4	6
4	7	7	6	1	0
5	3	3	7	3	7

QUESTION 2.

1	5	7	3	4	1
2	1	7	2	2	8
3	0	4	9	4	3
4	3	8	2	4	5
5	5	7	6	3	2

QUESTION 3.

1	7	8	3	2	1
2	3	8	9	3	0
" 3	8	2	3	6	1
4	3	5	1	4	9
5	3	3	6	4	7

Table showing variation in faults recognized
in the same answers, by 22 Oread Training
School Pupils.

QUESTION 2.

Answer Number	Incom- plete	Off Subject	Too Broad
1	15	3	2
2	15	2	-
3	4	4	7
4	3	0	9
5	6	7	2

QUESTION 3.

1	12	0	1
2	3	11	1
3	15	1	1
4	6	5	5
5	4	4	3

QUESTION 1

1	8	1	5
2	17	0	2
3	8	7	1
4	5	12	3
5	21	0	2

CHAPTER II.ANSWER EVALUATION TEST

The results from this preliminary test indicated that pupils have very little ability in evaluating answers and in recognizing faults in answers.

In order to make a more comprehensive study of the problem, it was decided to give a test in answer evaluation to a large group of pupils. The test given consisted of 6 lists of answers, 37 answers in all. Each list of answers contained from five to seven answers, varying in type, but all the answers in each list were answers to the same question. The answers were selected from the list made up from the Osborne eighth grade results.

The test in answer evaluation is shown on the following page. With each test are three paragraphs upon which the questions and answers are based. These paragraphs are from "Thorndike's Silent Reading Test, Scale Alpha 2-difficulties 8, 8-2/3 and 9", and suitable for eighth grade pupils.

The test described was given to 313 eighth grade pupils. The pupils represent the entire upper grade of three different cities and a portion of the

This is an exercise in grading answers. First read the paragraph you are referred to. Then read the question. Then grade the answers by writing one of the following words in the blank space under the answer: Excellent, Good, Fair, Poor, Unsatisfactory. Next if anything is wrong with the answer, tell what is wrong by writing one of the following words under the answer: Incomplete, Off the subject, Too broad or Indefinite.

Read Difficulty 8, Question 5. **GROUP I.**

What is the general topic of the paragraph?

Answers:

1. School.
2. The Schools of Franklin.
3. Every child between seven and fourteen should go to school.
4. Attendance at school in Franklin.
5. About going to school.
6. School laws in Franklin.
7. All children must go to school if possible.

Read Difficulty 8, Question 8. **GROUP 2.**

What condition in a pupil would justify his non-attendance?

Answers:

1. When the roads are impassable.
2. If he was fifteen.
3. Too sick to go.
4. When the weather is bad.
5. Sick, hurt or impassable roads.

Read Difficulty 8½, Question 1. **GROUP 3.**

In what does the main value of wealth lie according to the paragraph?

Answers:

1. Land, houses, food, clothes, jewels, tools, gold, silver, coal and iron.
2. The direct use you can make of it.
3. Is anything that you can own.
4. Money is only one sort of wealth, and some money is not wealth.
5. Exchanging money for something of value.
6. Anything that a man can have that satisfies some want.

Read Difficulty 9, Question 2.

Under the present condition of ownership of railways, in what two ways does class formation occur?

Answers: **GROUP 4.**

1. Private ownership forms classes and then arrays class against class.
2. Between the officers and the employees.
3. Thru favoritism shown to individuals.
4. Between section and section on railroad rates.
5. Between officers and employees and between favored and unfavored shippers.
6. National ownership and management of the railroad.

Read Difficulty 9, Question 3. **GROUP 5.**

Which is the supposedly favored class in the railway service?

Answers:

1. It forms classes in the very nature of the case.
2. The large manufacturers and shippers of the community.
3. Officers and the employees.
4. Employees.
5. The officers.
6. Individuals in the community.
7. The government.

Read Difficulty 9, Question 5. **GROUP 6**

By what means, according to the paragraph, might disaster from sectionalism under public ownership be avoided?

Answers:

1. It would cause one class to hate another.
2. Some simple way.
3. By not favoring the classes.
4. The rate problem would be worked out in some simple way which would commend itself to the public at large.
5. By having uniform rates all over the United States.
6. An easily apprehended way.

upper grade in two other cities. Six schools are represented. The schools may be designated as Schools A, B, C, D, E, F, and a seventh group, which is a branch of school B., may be called School G.

School A is a Junior high school in Ottawa Kansas. The upper grade consists of 115 pupils.

School B is an ordinary elementary school in Kansas City Missouri. There are 81 upper grade pupils in this school who have the benefit of the socialized recitation. A portion of the upper grade - 19 above the 81 - in this school do not receive instruction by the socialized recitation method.

School C is also in Kansas City Missouri. There are 63 pupils in the upper grade of School C. However, School C does not utilize the socialized recitation as does the other Kansas City school, School B.

School D is a Junior High School in Lawrence Kansas. 54 pupils in the upper grade were tested.

School E is an elementary school in Baldwin Kansas. The upper grade consists of 24 pupils.

School F is an elementary school in Eudora Kansas. The upper grade consists of 13 pupils.

ADMINISTRATION OF THE TESTING.

(All tests were given by the author, in person)

The test in answer evaluation was given in all the schools under practically similar conditions. The "Thorndike Silent Reading Test Scale Alpha 2" was given first so that the pupils would be familiar with the material to be employed in the answer evaluation test. It was arranged to give the test in answer evaluation some hours after the Thorndike Silent Reading Test was given. In this way the element of fatigue was eliminated.

The test sheets were distributed and the following directions read to the class:

Directions given to pupils:

"This is an exercise in grading answers. You will be given an opportunity to grade some answers and then tell what is wrong with the answers. Look at the directions in the upper left hand corner of the large sheet. The first thing the directions tell us to do is to read the paragraph referred to. Just below where the directions are printed it says: 'Read difficulty 8 question 5". Difficulty 8 is the small paragraph on the small sheet. Question 5 is the question printed

just below where it says, 'Question Five'. Just below the question are some answers that different pupils have given to the same question. Remember these are all answers to the same question but given by different pupils. Look at the directions again. We are told to grade the answers by using one of the five words, - "Excellent", "Good", "Fair", "Poor", "Unsatisfactory". The answers are to be graded. Grade the answers by writing one of the words "Excellent", "Good", "Fair", "Poor", or "Unsatisfactory" in the left end of the blank line under the answer. The next thing the directions say to do is to tell what is wrong with each answer. You are to tell what is wrong with each answer which is wrong by writing one or more of the following words or phrases in the right end of the blank line under the answer, - "Incomplete", "Off subject", "Too broad", or "Indefinite". An incomplete answer is an answer which does not give all of the meaning or idea. For example, if you should ask me the question - 'What is money made of?' and I should answer 'Money is made of paper', that would be an incomplete answer for money is made from many things besides paper. Here is an example of an answer that is too broad, - You ask me the question, 'What products are raised in Kansas?' and I answer, 'Agricultural products.' Such an answer is too broad because all

agricultural products are not raised in Kansas.

If you should ask me the question, 'Where is Kansas City?' and I should answer, 'Kansas City is in the United States.' , such an answer would be an indefinite answer. This answer does not tell very definitely or exactly where Kansas City is.

Now remember you are first to grade the answers by using one of the five words "Excellent", "Good", "Fair", "Poor", "Unsatisfactory", and second tell what is wrong with the answer, if it is wrong, by writing one or more of the following words or phrases under the answer: "Incomplete", "Off Subject", "Too broad", or "Indefinite".

Are there any who do not understand exactly what is to be done? Ready go!"

(Time allowed, 40 minutes)

METHOD OF SCORING THE TEST

THE STANDARD:

By the standard of the answer is meant the grade the answer should have. The standard was determined by a careful study of the paragraphs upon which the questions and answers are based and by reference to the Thorndike key for grading the answers. Employment of the Thorndike key in arriving at the standard grade for each answer,

This is an exercise in grading answers. First read the paragraph you are referred to. Then read the question. Then grade the answers by writing one of the following words in the blank space under the answer: Excellent, Good, Fair, Poor, Unsatisfactory. Next if anything is wrong with the answer, tell what is wrong by writing one of the following words under the answer: Incomplete, Off the subject, Too broad or Indefinite.

Read Difficulty 8, Question 5.

What is the general topic of the paragraph?

Answers:

- | | | |
|--|----------------|-------------|
| 1. School. | Unsatisfactory | Too broad |
| 2. The Schools of Franklin. | Fair | Too broad |
| 3. Every child between seven and fourteen should go to school. | Fair | Incomplete |
| 4. Attendance at school in Franklin. | Excellent | |
| 5. About going to school. | Fair | Too broad |
| 6. School laws in Franklin. | Good | Too broad |
| 7. All children must go to school if possible. | Unsatisfactory | Off subject |

Read Difficulty 8, Question 8.

What condition in a pupil would justify his non-attendance?

Answers:

- | | | |
|------------------------------------|----------------|-------------|
| 1. When the roads are impassable. | Unsatisfactory | Off subject |
| 2. If he was fifteen. | Fair | Incomplete |
| 3. Too sick to go. | Excellent | |
| 4. When the weather is bad. | Unsatisfactory | Off subject |
| 5. Sick, hurt or impassable roads. | Fair | Too broad |

Read Difficulty 8 $\frac{2}{3}$, Question 1.

In what does the main value of wealth lie according to the paragraph?

Answers:

- | | | |
|---|----------------|-------------|
| 1. Land, houses, food, clothes, jewels, tools, gold, silver, coal and iron. | Unsatisfactory | Off subject |
| 2. The direct use you can make of it. | Excellent | |
| 3. Is anything that you can own. | Unsatisfactory | Off subject |
| 4. Money is only one sort of wealth, and some money is not wealth. | Unsatisfactory | Off subject |
| 5. Exchanging money for something of value. | Unsatisfactory | Off subject |
| 6. Anything that a man can have that satisfies some want. | Poor | Off subject |

Read Difficulty 9, Question 2.

Under the present condition of ownership of railways, in what two ways does class formation occur?

Answers:

- | | | |
|---|----------------|-------------|
| 1. Private ownership forms classes and then arrays class against class. | Unsatisfactory | Too broad |
| 2. Between the officers and the employees. | Fair | Incomplete |
| 3. Thru favoritism shown to individuals. | Fair | Incomplete |
| 4. Between section and section on railroad rates. | Unsatisfactory | Off subject |
| 5. Between officers and employees and between favored and unfavored shippers. | Excellent | |
| 6. National ownership and management of the railroad. | Unsatisfactory | Off subject |

Read Difficulty 9, Question 3.

Which is the supposedly favored class in the railway service?

Answers:

- | | | |
|---|----------------|-----------------|
| 1. It forms classes in the very nature of the case. | Unsatisfactory | Incomplete (OS) |
| 2. The large manufacturers and shippers of the community. | Unsatisfactory | Off subject |
| 3. Officers and the employees. | Unsatisfactory | Too broad |
| 4. Employees. | Unsatisfactory | Off subject |
| 5. The officers. | Excellent | |
| 6. Individuals in the community. | Unsatisfactory | Off subject |
| 7. The government. | Unsatisfactory | Off subject |

Read Difficulty 9, Question 5.

By what means, according to the paragraph, might disaster from sectionalism under public ownership be avoided?

Answers:

- | | | |
|---|----------------|-------------|
| 1. It would cause one class to hate another. | Unsatisfactory | Off subject |
| 2. Some simple way. | Poor | Incomplete |
| 3. By not favoring the classes. | Unsatisfactory | Off subject |
| 4. The rate problem would be worked out in some simple way which would commend itself to the public at large. | Excellent | |
| 5. By having uniform rates all over the United States. | Poor | Off subject |
| 6. An easily apprehended way. | Fair | Incomplete |

insured a sound and reliable standard.

In addition to the methods just mentioned, another method was used for insuring a reliable standard. Fifteen teachers were requested to evaluate the answers. The standard adopted was based, in part, on the judgment of these teachers.

Any variation from the standard in grading may be considered as an error in judgment on the part of the pupil. For example, if a pupil grades an answer "Excellent" when the standard is "Unsatisfactory" there is an error or variation from the standard of four points or units.

Similarly, if an answer, the standard grade of which is "Excellent", is graded "Unsatisfactory", there is an error or variation from standard of -4 units. The minus sign is simply used to show that the variation is below standard instead of above.

The standard adopted for each answer is shown on the preceding page. Notice Answer 1 Group 1, - its standard grade is "Unsatisfactory", its main fault is "Too broad".

(The following abbreviations are used in this study:

Ex.= Excellent, G = Good, F = Fair, P= Poor, U = Unsatisfactory, Inc. = Incomplete, O.S. = Off Subject, T.Br.= Too broad.)

APPLICATION OF THE STANDARD IN SCORING:

The marks used in grading are "Excellent", "Good", "Fair", "Poor", "Unsatisfactory". The mark "Excellent" is four units above the mark "Unsatisfactory". Similarly, the mark "Unsatisfactory" is four units below "Excellent". On the same basis, "Fair" is two units below "Excellent" and two units above "Unsatisfactory". The variation of any one of the marks from a specified mark is determined as indicated in the illustration just given. In this manner the following table for scoring is obtained:

Standard	Variations from Standard				
	Ex.	G.	F.	P.	U
Excellent	0	-1	-2	-3	-4
Good	1	0	-1	-2	-3
Fair	2	1	0	-1	-2
Poor	3	2	1	0	-1
Unsatisfactory	4	3	2	1	0

The table reads: If an excellent answer is marked "Excellent", the variation from the standard is 0. If an excellent answer is marked "Good", the variation

This is an exercise in grading answers. First read the paragraph you are referred to. Then read the question. Then grade the answers by writing one of the following words in the blank space under the answer: Excellent, Good, Fair, Poor, Unsatisfactory. Next if anything is wrong with the answer, tell what is wrong by writing one of the following words under the answer: Incomplete, Off the subject, Too broad or Indefinite.

Read Difficulty 8, Question 5. 65-21

What is the general topic of the paragraph? 42

Answers: 63 = variation.

- | | |
|--|-----------------|
| 1. School. | |
| 2 Fair | Incomplete |
| 2. The Schools of Franklin. | |
| I Good | Incomplete |
| 3. Every child between seven and fourteen should go to school. | |
| 2 Unsatisfactory | Off subject |
| 4. Attendance at school in Franklin. | |
| Excellent | |
| 5. About going to school. | |
| -1 Poor | Too broad |
| 6. School laws in Franklin. | |
| 1 Excellent | |
| 7. All children must go to school if possible. | |
| Unsatisfactory | Off the subject |

Read Difficulty 8, Question 8.

What condition in a pupil would justify his non-attendance?

Answers:

- | | |
|------------------------------------|-------------|
| 1. When the roads are impassable. | |
| 3 Good | Incomplete |
| 2. If he was fifteen. | |
| -2 Unsatisfactory | Off subject |
| 3. Too sick to go. | |
| -1 Good | Too broad |
| 4. When the weather is bad. | |
| 3 Good | |
| 5. Sick, hurt or impassable roads. | |
| Excellent | |

Read Difficulty 8½, Question 1.

In what does the main value of wealth lie according to the paragraph?

Answers:

- | | |
|---|-------------|
| 1. Land, houses, food, clothes, jewels, tools, gold, silver, coal and iron. | |
| 4 Excellent | |
| 2. The direct use you can make of it. | |
| -4 Unsatisfactory | Too broad |
| 3. Is anything that you can own. | |
| 1 Poor | Off subject |
| 4. Money is only one sort of wealth, and some money is not wealth. | |
| 2 Fair | Too broad |
| 5. Exchanging money for something of value. | |
| Unsatisfactory | Too broad |
| 6. Anything that a man can have that satisfies some want. | |
| 1 Unsatisfactory | Too broad |

Read Difficulty 9, Question 2.

Under the present condition of ownership of railways, in what two ways does class formation occur?

Answers:

- | | |
|---|-------------|
| 1. Private ownership forms classes and then arrays class against class. | |
| 4 Excellent | |
| 2. Between the officers and the employees. | |
| -1 Poor | Off subject |
| 3. Thru favoritism shown to individuals. | |
| 2 Fair | Incomplete |
| 4. Between section and section on railroad rates. | |
| 3 Good | Incomplete |
| 5. Between officers and employees and between favored and unfavored shippers. | |
| -4 Unsatisfactory | Too broad |
| 6. National ownership and management of the railroad. | |
| 2 Fair | Off subject |

Read Difficulty 9, Question 3.

Which is the supposedly favored class in the railway service?

Answers:

- | | |
|---|-------------|
| 1. It forms classes in the very nature of the case. | |
| 1 Poor | Off subject |
| 2. The large manufacturers and shippers of the community. | |
| 4 Excellent | |
| 3. Officers and the employees. | |
| 2 Fair | Incomplete |
| 4. Employees. | |
| 1 Poor | Too broad |
| 5. The officers. | |
| -3 Poor | Too broad |
| 6. Individuals in the community. | |
| 3 Good | Incomplete |
| 7. The government. | |
| 1 Poor | Too broad |

Read Difficulty 9, Question 5.

By what means, according to the paragraph, might disaster from sectionalism under public ownership be avoided?

Answers:

- | | |
|---|------------|
| 1. It would cause one class to hate another. | |
| Unsatisfactory | Too broad |
| 2. Some simple way. | |
| Poor | Too broad |
| 3. By not favoring the classes. | |
| Unsatisfactory | Too broad |
| 4. The rate problem would be worked out in some simple way which would commend itself to the public at large. | |
| -1 Good | Incomplete |
| 5. By having uniform rates all over the United States. | |
| -1 Unsatisfactory | Too broad |
| 6. An easily apprehended way. | |
| 2 Excellent | |

from the standard is -1; if an excellent answer is marked "Fair", the variation from the standard is -2, etc.

As shown on the sample test facing this page, the total variation for each pupil is the sum of the variations of individual answers without regard to sign.

CHAPTER III.VARIATION IN MARKING

Results - Table II.

Table II. shows how many pupils graded an answer "Excellent", how many graded an answer "Good", "Fair", "Poor", or "Unsatisfactory". This is shown for all 37 answers.

This table also shows the total number of pupils who graded "Off Standard" for each of the 37 answers. Thus the total number of pupils in School A who graded answer 1 "Off standard" was 86.

The percent of pupils who graded "Off Standard" is shown in the last column of the table. For answer 1, group 1, School A, the percent who graded "Off Standard" is 81.

The table is divided into sections, each section giving the results for a certain school. There are six parts to a section, - one part showing the results for Group 1, the next part for Group 2, etc. Refer to Answer Evaluation Test, following page 11.

After the tables showing the results for separate schools, are tables showing the results for

all the schools combined, for the entire group of boys and for the entire group of girls.

The following abbreviations are used in the tables,- E = Excellent, G = Good, F = Fair, P = Poor, U = Unsatisfactory, St = Standard, % = percent.

The table following shows:

Column 1, Number of the answer.

Column 2, Number of pupils who graded the answer "Excellent".

Column 3, Number of pupils who graded the answer "Good".

Column 4, Number of pupils who graded the answer "Fair".

Column 5, Number of pupils who graded the answer "Poor".

Column 6, Number of pupils who graded the answer "Unsatisfactory".

Column 7, Gives the standard, i.e. the way the answer should have been graded.

Column 8, Shows the total number of pupils who graded the answer "Off Standard".

Column 9, Shows the percent of pupils who graded the answer "Off Standard".

TABLE II.

TABLE SHOWING THE NUMBER OF PUPILS WHO GRADED EACH OF 37 ANSWERS E, G, F, P, U, and the % who graded OFF STANDARD.

1	2	3	4	5	6	7	8	9	
								Page 11:	
SCHOOL A				GROUP 1 (Refer to test following					
Answer:									
No.	E	G	F	P	U	St	Off St.	Per-cent Off St.	
1	6	15	44	21	19	U	86	81	
2	16	22	42	13	7	F	58	58	
3	27	27	19	20	9	F	83	81	
4	55	30	10	6	5	E	51	48	
5	6	35	35	15	7	F	63	64	
6	43	21	20	11	4	G	78	70	
7	28	29	22	13	8	U	92	92	
GROUP 2									
1	28	30	24	16	4	U	98	96	
2	20	19	24	31	8	F	84	78	
3	50	30	20	4	2	E	57	53	
4	12	27	39	22	3	U	100	97	
5	72	17	8	2	4	F	95	95.9	
GROUP 3									
1	71	14	13	8	4	U	106	96	
2	28	25	21	22	4	E	72	72	
3	11	19	35	22	10	U	87	90	
4	11	17	30	32	8	U	90	91	
5	14	24	25	27	5	U	90	94	
6	52	20	15	10	3	P	90	90	

GROUP 4								
Ans. No.	E	G	F	P	U	St	Off. St.	Per-cent St
1	39	25	15	16	6	U	95	94
2	32	23	29	9	2	F	66	69
3	32	27	26	11	3	F	83	76
4	17	31	23	21	4	U	92	95
5	40	25	17	11	1	E	54	57
6	23	19	26	16	4	U	84	95
GROUP 5								
1	5	10	17	37	13	U	69	84
2	46	15	11	8	4	U	80	95
3	20	21	27	12	4	U	80	95
4	8	24	15	29	6	U	72	92
5	20	15	18	20	9	E	62	75
6	20	21	18	17	6	U	76	92
7	12	12	12	35	12	U	71	85
1	18	15	9	26	6	U	68	91
2	5	9	20	27	10	P	44	66
3	22	22	15	13	2	U	72	98
4	44	18	9	3	2	E	32	42
5	41	27	7	4	-	P	75	95
6	10	25	19	11	5	F	51	72

Median % Off Standard = 91

Median % Off St. 76.

SCHOOL B									
GROUP 1									
Ans. No.	E	G	F	P	U	St.	Off St.	Per- cent Off St.	
1	1	2	21	36	16	U	60	79	
2	7	9	22	21	5	F	42	65	
3	4	19	25	20	8	F	50	66	
4	36	21	10	6	3	E	40	54	
5	4	20	23	26	2	F	52	70	
6	40	18	12	7	2	G	61	77	
7	11	25	21	16	5	U	73	95	
GROUP 2									
1	15	18	20	10	14	U	63	86	
2	4	4	20	22	28	F	58	73	
3	28	21	22	2	3	E	48	63	
4	1	15	32	18	10	U	76	88	
5	46	19	7	4	2	F	71	91	
GROUP 3									
1	31	23	8	12	3	U	74	96	
2	23	22	17	12	5	E	56	70	
3	8	8	26	30	5	U	72	93	
4	3	9	17	28	18	U	57	76	
5	12	14	17	23	5	U	66	93	
6	32	23	10	10	4	P	79	78	

GROUP 4								
Ans. No.	E	G	F	P	U	St	Off St.	Per- cent Off St.
1	24	17	18	17	2	U	76	97
2	13	16	22	25	4	F	58	72
3	14	21	27	13	4	F	52	66
4	4	17	16	22	19	U	59	75
5	36	17	17	4	3	E	41	53
6	12	11	14	21	16	U	58	79
GROUP 5								
1	4	3	9	25	30	U	41	57
2	40	13	12	9	2	U	74	97
3	4	8	22	26	15	U	60	80
4	1	5	16	28	25	U	50	66
5	12	18	16	21	7	E	62	83
6	25	21	12	14	6	U	72	80
7	2	8	12	23	25	U	45	69
GROUP 6								
1	4	5	-	27	34	U	36	51
2	1	11	22	27	7	P	41	60
3	8	25	19	17	4	U	69	94
4	40	19	10	5	1	E	35	46
5	33	29	6	4	2	P	70	94
6	6	17	22	22	4	F	49	69

Median % Off St. 83

SCHOOL C								
GROUP 1								
Ans. No.	E	G	F	P	U	St	Off St.	Per-Cent Off ST.
1	7	14	20	8	21	U	49	70
2	12	22	18	7	3	F	54	75
3	6	8	20	17	8	F	39	66
4	41	14	7	2	1	E	24	36
5	9	20	20	13	2	F	44	68
6	36	11	8	7	10	G	61	84
7	16	18	15	10	3	U	59	95
GROUP 2								
1	26	14	5	6	9	U	51	85
2	12	5	12	12	21	F	50	86
3	31	19	9	2	-	E	30	49
4	8	13	19	11	10	U	43	81
5	48	6	5	2	1	F	57	91
GROUP 3								
1	48	6	2	4	2	U	60	96
2	26	16	6	8	2	E	32	55
3	6	17	16	14	6	U	53	90
4	16	10	7	19	9	U	52	85
5	14	19	9	14	5	U	56	91
6	30	18	7	4	2	P	57	93

GROUP 4								
Ans. No.	E	G	F	P	U	St.	Off St.	Per-cent Off St.
1	34	7	7	6	4	U	54	93
2	14	17	15	13	1	F	45	75
3	24	21	9	7	5	F	57	95
4	21	14	13	8	4	U	56	93
5	40	10	7	3	-	E	20	33
6	18	19	6	8	7	U	51	87
GROUP 5								
1	7	5	9	21	19	U	42	61
2	26	11	8	10	4	U	55	93
3	10	7	15	14	15	U	46	75
4	4	11	9	17	21	U	41	65
5	24	9	7	11	9	E	36	60
6	23	17	7	10	5	U	57	91
7	14	6	3	21	14	U	44	76
GROUP 6								
1	10	7	4	18	19	U	39	67
2	5	6	17	21	8	P	36	63
3	25	15	9	7	2	U	56	96
4	39	8	7	1	3	E	19	32
5	40	11	5	-	-	P	56	100
6	12	12	10	13	6	F	43	81

Median % Off St. 81

SCHOOL D									
GROUP 1									
Ans. No.	E	G	F	P	U	St.	Off St.	Per-cent	Off St.
1	9	9	11	14	9	U	25	86	
2	14	10	19	8	2	F	24	56	
3	7	15	14	14	3	F	39	75	
4	27	12	9	3	2	E	26	74	
5	7	11	15	18	1	F	37	71	
6	14	21	8	3	2	G	27	56	
7	11	14	9	11	6	U	45	88	
GROUP 2									
1	9	23	14	6	1	U	52	98	
2	3	15	7	20	8	F	46	86	
3	15	20	10	7	-	E	37	71	
4	3	17	17	11	4	U	48	92	
5	38	9	3	1	1	F	41	93	
GROUP 3									
1	27	13	4	6	2	U	50	96	
2	13	17	8	10	1	E	36	73	
3	2	7	15	17	8	U	41	83	
4	6	7	14	16	5	U	43	89	
5	11	14	7	14	5	U	46	90	
6	25	9	6	5	2	P	42	89	

GROUP 4									
Ans. No.	E	G	F	P	U	St.	Off St.	Per-cent	Off St.
1	19	20	4	6	-	U	49	100	
2	8	20	13	7	2	F	37	74	
3	12	17	10	8	1	F	38	79	
4	10	7	19	12	2	U	48	96	
5	19	19	6	2	1	E	28	59	
6	12	10	6	14	6	U	42	88	
GROUP 5									
1	4	2	3	7	9	U	16	64	
2	12	12	2	-	1	U	26	96	
3	2	8	6	6	4	U	22	91	
4	1	3	4	12	6	U	10	62	
5	6	6	5	11	1	E	23	79	
6	4	10	6	4	5	U	24	83	
7	3	4	5	8	8	U	20	71	
GROUP 6									
1	5	3	6	22	13	U	36	73	
2	-	7	10	22	9	P	26	54	
3	9	21	12	5	-	U	38	100	
4	21	19	4	2	1	E	26	55	
5	24	20	1	2	-	P	45	95	
6	5	9	16	13	3	F	33	67	

Median % Off St. 93.

:SCHOOL E									
:GROUP 1									
: Ans. No. :	: E :	: G :	: F :	: P :	: U :	: St. :	: Off St. :	: Per- cent :	: Off St. :
:	:	:	:	:	:	:	:	: Off St. :	: Per- cent :
1	-	-	10	12	-	U	22	100	
2	4	5	10	2	1	F	12	54	
3	3	8	1	7	3	F	21	95	
4	9	4	5	1	4	E	14	60	
5	-	3	10	7	1	F	11	52	
6	6	6	5	3	3	G	17	73	
7	4	6	5	3	3	U	18	85	
:GROUP 2									
1	3	11	7	2	-	U	23	100	
2	2	2	4	14	2	F	20	87	
3	7	1	7	1	-	E	17	70	
4	2	3	13	7	-	U	25	100	
5	14	8	1	-	-	F	22	95	
:GROUP 3									
1	14	3	3	3	-	U	23	100	
2	6	6	3	6	1	E	16	72	
3	2	5	7	9	-	U	23	100	
4	3	6	8	7	-	U	24	100	
5	2	9	6	3	-	U	20	100	
6	6	7	4	7	-	P	17	70	

GROUP 4

Ans. No.	E	G	F	P	U	St.	Off St.	Per cent
								Off St.
1	9	8	3	3	-	U	23	100
2	3	7	11	1	-	F	11	50
3	8	6	7	3	1	F	18	72
4	5	12	3	3	1	U	23	95
5	10	8	4	1	1	E	14	58
6	6	5	9	3	-	U	23	100

GROUP 5

1	1	4	4	12	1	U	21	95
2	10	4	7	2	1	U	23	96
3	4	7	8	1	1	U	20	94
4	3	6	5	8	1	U	22	95
5	6	6	5	4	-	E	15	71
6	7	4	8	2	1	U	21	95
7	4	5	6	7	1	U	22	95

GROUP 6

1	8	3	3	8	-	U	22	100
2	1	1	11	8	1	P	14	63
3	1	7	6	7	1	U	21	95
4	12	6	-	3	-	E	9	42
5	6	9	5	1	-	P	20	95
6	1	6	8	7	-	F	14	63

Median % Off St. 97

:SCHOOL F.									
:GROUP 1									
Ans. No.	E	G	F	P	U	St.	Off St.	Per-cent	Off St.
1	1	2	2	7	-	U	12	100	
2	5	4	3	-	1	F	10	77	
3	4	3	4	1	1	F	9	69	
4	5	4	3	1	-	E	8	61	
5	1	2	6	3	1	F	7	53	
6	4	5	1	1	1	G	7	58	
7	6	3	3	-	1	U	12	92	
:GROUP 2									
1	5	6	1	-	-	U	12	100	
2	-	4	3	3	2	F	9	85	
3	5	6	1	1	-	E	8	61	
4	2	3	5	2	-	U	12	100	
5	7	5	1	-	-	F	13	93	
:GROUP 3									
1	9	3	1	-	-	U	13	100	
2	6	4	1	2	-	E	7	53	
3	1	5	6	-	2	U	12	85	
4	4	4	3	1	-	U	12	100	
5	4	1	6	2	-	U	13	100	
6	7	4	1	1	-	P	12	92	

GROUP 4									
Ans. No.	E	G	F	P	U	St.	Off St.	Per-cent	Off St.
1	7	5	1	-	-	U	13	100	
2	3	6	2	1	-	F	10	83	
3	3	5	2	2	-	F	10	83	
4	3	6	2	-	-	U	11	100	
5	7	4	1	-	-	E	5	50	
6	3	6	1	2	-	U	9	100	
GROUP 5									
1	4	1	5	1	1	U	11	91	
2	5	4	2	1	-	U	12	100	
3	4	5	1	-	-	U	10	100	
4	1	5	3	2	-	U	11	100	
5	2	5	2	2	-	E	9	75	
6	3	3	2	2	-	U	9	100	
7	1	6	4	1	-	U	13	100	
GROUP 6									
1	3	4	1	3	-	U	11	100	
2	3	4	3	-	3	F	13	100	
3	3	6	-	1	-	U	10	100	
4	5	5	1	-	-	E	6	54	
5	8	2	1	-	-	P	11	100	
6	3	1	3	4	-	F	8	72	

Median % Off St. 88

SCHOOL G.									
GROUP 1									
Ans. No.	E	G	F	P	U	St.	Off St.	Per- cent Off St.	
1	3	3	4	3	3	U	13	81	
2	4	9	2	1	-	F	14	87	
3	3	9	2	2	1	F	15	88	
4	7	8	2	1	-	E	11	61	
5	2	8	2	3	1	F	14	87	
6	6	5	5	2	-	G	13	72	
7	5	4	2	3	2	U	14	87	
GROUP 2									
1	5	11	-	2	-	U	18	100	
2	1	3	3	4	4	F	12	80	
3	7	6	5	-	-	E	13	65	
4	2	2	3	8	1	U	15	93	
5	9	7	1	-	-	F	16	94	
GROUP 3									
1	7	4	1	3	2	U	15	88	
2	4	3	5	3	3	E	14	77	
3	2	7	2	6	-	U	17	100	
4	3	4	3	5	2	U	15	88	
5	6	5	1	4	1	U	16	95	
6	8	4	3	3	-	P	15	83	

GROUP 4									
Ans. No.	E	G	F	P	U	St.	Off St.	Per-cent Off St.	
1	6	8	2	2	-	U	18	100	
2	4	4	5	2	1	F	11	91	
3	4	8	4	1	1	F	14	77	
4	4	5	4	2	2	U	15	88	
5	8	5	4	1	-	E	10	55	
6	10	3	3	1	-	U	17	100	
GROUP 5									
1	4	4	1	6	1	U	15	93	
2	4	6	2	3	1	U	15	93	
3	3	5	1	4	1	U	13	92	
4	3	5	1	6	-	U	15	100	
5	4	5	1	6	-	E	15	78	
6	3	7	-	2	2	U	12	85	
7	3	1	3	5	3	U	12	80	
GROUP 6									
1	4	3	-	3	1	U	10	90	
2	1	3	5	4	3	P	12	85	
3	3	5	3	4	-	U	15	100	
4	5	4	2	3	-	E	9	64	
5	7	3	3	1	-	P	13	92	
6	3	8	-	3	2	F	16	100	

ALL SCHOOLS COMBINED.

Median % Off St. 79

GROUP 1									
Ans. No.	E	G	F	P	U	St.	Off st.	Per- cent Off st.	
1	27	45	112	101	68	U	285	80	
2	62	81	116	52	19	F	214	64	
3	54	89	83	81	33	F	277	75	
4	180	93	46	20	15	E	174	49	
5	29	99	111	85	15	F	228	67	
6	149	87	59	35	22	G	264	75	
7	81	99	77	56	28	U	313	91	
GROUP 2									
1	91	113	71	42	28	U	317	92	
2	41	52	73	106	73	F	272	73	
3	143	111	74	17	5	E	267	59	
4	30	80	118	79	28	U	307	91	
5	234	72	26	9	8	F	323	90	
GROUP 3									
1	207	66	32	36	13	U	341	95	
2	106	88	61	63	16	E	228	65	
3	32	68	107	98	31	U	305	90	
4	46	57	82	108	37	U	293	88	
5	63	86	71	87	21	U	307	93	
6	160	85	46	40	11	P	302	88	

GROUP 4									
Ans. No.	E	G	F	P	U	St.	Off St.	Per- cent	Off St.
1	137	90	50	52	12	U	329	96	
2	77	93	97	58	10	F	238	71	
3	97	105	85	38	15	F	255	76	
4	64	82	80	68	32	U	294	90	
5	130	68	56	22	6	E	152	56	
6	84	83	65	65	33	U	297	89	
GROUP 5									
1	29	29	48	69	74	U	175	74	
2	143	65	34	33	13	U	275	95	
3	47	62	80	63	40	U	251	87	
4	21	59	53	102	59	U	235	77	
5	74	64	54	75	26	E	219	74	
6	85	72	53	51	25	U	261	91	
7	39	42	45	100	63	U	226	78	
GROUP 6									
1	52	40	23	107	73	U	222	75	
2	15	41	88	109	41	P	185	63	
3	71	101	64	54	9	U	290	96	
4	166	79	33	17	7	E	136	45	
5	159	111	28	12	2	P	300	96	
6	40	78	78	73	20	F	211	73	

Median % Off St. 81

:GIRLS									
:GROUP 1									
:Ans.	:	:	:	:	:	:	:	:	:Per-
:No.	:E	:G	:F	:P	:U	:St.	:Off	:St.	:cent
:	:	:	:	:	:	:	:	:Off	:Off
:	:	:	:	:	:	:	:	:St.	:St.
: 1	: 15	: 26	: 67	: 49	: 35	: U	: 157	:	: 81
: 2	: 33	: 40	: 75	: 25	: 10	: F	: 108	:	: 59
: 3	: 27	: 43	: 51	: 51	: 17	: F	: 138	:	: 73
: 4	: 112	: 51	: 18	: 10	: 8	: E	: 87	:	: 44
: 5	: 21	: 49	: 61	: 44	: 12	: F	: 126	:	: 67
: 6	: 83	: 45	: 37	: 21	: 7	: G	: 148	:	: 76
: 7	: 46	: 52	: 47	: 35	: 13	: U	: 180	:	: 93
:GROUP 2									
: 1	: 44	: 61	: 36	: 29	: 28	: U	: 170	:	: 85
: 2	: 23	: 28	: 38	: 63	: 39	: F	: 153	:	: 80
: 3	: 78	: 59	: 45	: 10	: 4	: E	: 118	:	: 60
: 4	: 17	: 43	: 66	: 48	: 18	: U	: 174	:	: 90
: 5	: 121	: 43	: 21	: 7	: 3	: F	: 174	:	: 89
:GROUP 3									
: 1	: 111	: 41	: 17	: 20	: 7	: U	: 189	:	: 96
: 2	: 65	: 53	: 36	: 30	: 6	: E	: 125	:	: 65
: 3	: 19	: 42	: 52	: 54	: 20	: U	: 167	:	: 89
: 4	: 27	: 30	: 48	: 52	: 28	: U	: 157	:	: 84
: 5	: 37	: 48	: 47	: 40	: 13	: U	: 172	:	: 92
: 6	: 77	: 54	: 28	: 23	: 10	: P	: 159	:	: 87

GROUP 4									
Ans. No.	E	G	F	P	U	St.	Off St.	Per-cent	Off St.
1	78	50	33	24	5	U	185	97	
2	47	46	53	32	12	F	137	72	
3	55	49	56	17	10	F	131	65	
4	34	49	42	38	21	U	163	89	
5	84	50	33	12	3	E	98	53	
6	46	37	38	33	18	U	154	89	
GROUP 5									
1	18	15	32	59	46	U	164	78	
2	71	47	32	17	8	U	167	95	
3	30	35	49	39	20	U	153	88	
4	15	35	36	71	40	U	157	79	
5	38	38	37	46	11	E	132	77	
6	49	53	29	29	15	U	160	91	
7	29	25	30	48	40	U	132	76	
GROUP 6									
1	28	21	12	62	43	U	123	74	
2	6	22	55	61	24	P	107	64	
3	40	54	51	26	7	U	151	95	
4	87	44	25	8	3	E	80	47	
5	88	54	15	8	2	P	159	95	
6	24	39	51	38	11	F	112	68	

Median % Off St. 79.

:BOYS									
:GROUP 1									
: Ans. :	: E :	: G :	: F :	: P :	: U :	: St. :	: Off :	: Per-	:
: No. :	:	:	:	:	:	:	: St. :	: cent	:
:	:	:	:	:	:	:	: St. :	: Off	:
:	:	:	:	:	:	:	:	: St.	:
: 1 :	: 12 :	: 19 :	: 44 :	: 53 :	: 34 :	: U :	: 128 :	: 79 :	:
: 2 :	: 29 :	: 41 :	: 51 :	: 27 :	: 9 :	: F :	: 106 :	: 67 :	:
: 3 :	: 27 :	: 45 :	: 34 :	: 30 :	: 16 :	: F :	: 118 :	: 77 :	:
: 4 :	: 59 :	: 44 :	: 29 :	: 11 :	: 7 :	: E :	: 91 :	: 60 :	:
: 5 :	: 12 :	: 47 :	: 50 :	: 40 :	: 2 :	: F :	: 101 :	: 66 :	:
: 6 :	: 66 :	: 42 :	: 22 :	: 16 :	: 6 :	: G :	: 110 :	: 72 :	:
: 7 :	: 35 :	: 47 :	: 36 :	: 28 :	: 15 :	: U :	: 146 :	: 97 :	:
:GROUP 2									
: 1 :	: 47 :	: 53 :	: 40 :	: 13 :	: 6 :	: U :	: 153 :	: 96 :	:
: 2 :	: 19 :	: 24 :	: 35 :	: 45 :	: 35 :	: F :	: 123 :	: 77 :	:
: 3 :	: 64 :	: 53 :	: 29 :	: 7 :	: 1 :	: E :	: 90 :	: 58 :	:
: 4 :	: 14 :	: 37 :	: 62 :	: 31 :	: 10 :	: U :	: 144 :	: 93 :	:
: 5 :	: 113 :	: 30 :	: 5 :	: 3 :	: 5 :	: F :	: 151 :	: 95 :	:
:GROUP 3									
: 1 :	: 94 :	: 23 :	: 15 :	: 16 :	: 2 :	: U :	: 148 :	: 98 :	:
: 2 :	: 41 :	: 38 :	: 27 :	: 32 :	: 12 :	: E :	: 109 :	: 72 :	:
: 3 :	: 14 :	: 26 :	: 55 :	: 42 :	: 11 :	: U :	: 137 :	: 92 :	:
: 4 :	: 19 :	: 27 :	: 34 :	: 56 :	: 14 :	: U :	: 136 :	: 90 :	:
: 5 :	: 43 :	: 38 :	: 34 :	: 47 :	: 8 :	: U :	: 162 :	: 95 :	:
: 6 :	: 84 :	: 31 :	: 18 :	: 17 :	: 1 :	: P :	: 134 :	: 88 :	:

GROUP 4									
ANS No.	E	G	F	P	U	St.	Off St.	Per- cent Off St.	
1	60	41	17	26	7	U	144	95	
2	32	47	44	26	-	F	105	70	
3	42	56	29	28	4	F	130	81	
4	30	43	38	30	11	U	141	92	
5	76	38	23	10	3	E	74	49	
6	38	36	27	32	15	U	133	89	
GROUP 5									
1	11	20	17	56	32	U	104	76	
2	75	26	15	17	4	U	133	96	
3	20	28	37	32	20	U	117	85	
4	8	28	25	54	26	U	115	81	
5	42	30	20	36	15	E	101	71	
6	42	34	27	74	17	U	177	91	
7	19	23	19	48	29	U	109	78	
GROUP 6									
1	24	19	11	47	32	U	101	75	
2	8	17	32	51	18	P	75	59	
3	31	47	26	28	2	U	132	98	
4	79	33	8	9	4	E	54	40	
5	71	45	13	4	-	P	129	64	
6	19	56	27	35	9	F	99	62	

TABLE III.

DISTRIBUTION TABLE SHOWING THE PERCENT OF PUPILS OFF STANDARD. THE LOWEST PERCENT OFF FOR ANY ANSWERS IS THE 30-39 GROUP

SCHOOL A.		SCHOOL D.	
Percent of Pupils Off Standard	Frequency	Percent of Pupils Off Standard	Frequency
40 - 49	2	50 - 59	5
50 - 59	3	60 - 69	3
60 - 69	3	70 - 79	10
70 - 79	6	80 - 89	8
80 - 89	4	90 - 99	9
90 - 99	19	100	2
M = 91		M = 81	
SCHOOL B.		SCHOOL E.	
40 - 49	1	40 - 49	1
50 - 59	4	50 - 59	4
60 - 69	8	60 - 69	3
70 - 79	10	70 - 79	6
80 - 89	5	80 - 89	2
90 - 99	9	90 - 99	11
M = 76		100	10
		M = 93	
SCHOOL C.		SCHOOL F.	
30 - 39	3	50 - 59	5
40 - 49	1	60 - 69	3
50 - 59	1	70 - 79	3
60 - 69	7	80 - 89	4
70 - 79	5	90 - 99	4
80 - 89	7	100	18
90 - 99	12	M = 97	
100	1		
M = 83			

SCHOOL G.		GIRLS	
Percent of Pupils Off standard	Fre- quency	Percent of Pupils Off Standard	Fre- quency
50 - 59	1	40 - 49	2
60 - 69	3	50 - 59	2
70 - 79	4	60 - 69	6
80 - 89	13	70 - 79	8
90 - 99	9	80 - 89	10
100	7	90 - 99	9
M = 88		M = 81	
ENTIRE GROUP		BOYS	
40 - 49	2	40 - 49	2
50 - 59	2	50 - 59	2
60 - 69	4	60 - 69	5
70 - 79	11	70 - 79	10
80 - 89	5	80 - 89	5
90 - 99	13	90 - 99	13
100	--	M = 79	
M = 79			

TABLE IV

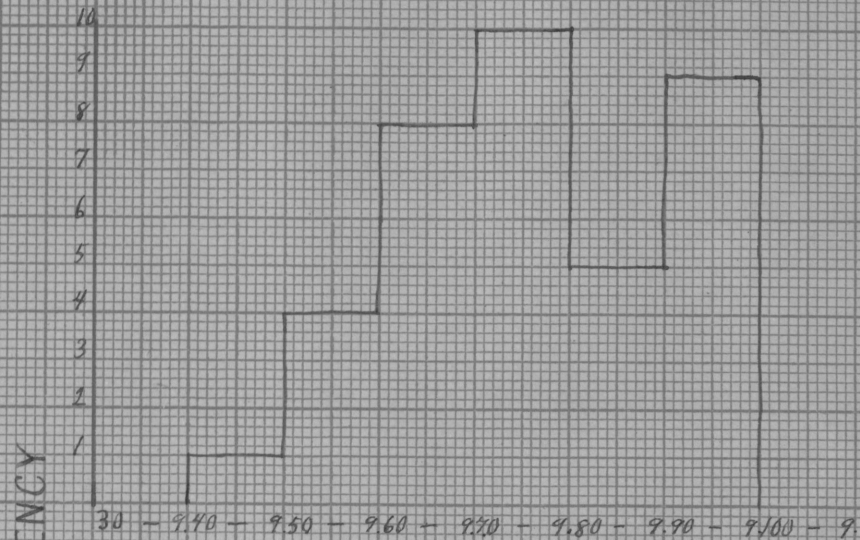
SHOWING THE RELATIVE STANDING OF DIFFERENT SCHOOLS
IN ANSWER EVALUATION

Number of answers graded off the Standard by 30-79% of the pupils	school	Number of answers graded off the stand- ard by 80-100% of the pupils
33	B	4
18	D	19
16	C	21
14	E	23
14	A	26
11	F	26
8	G	29
Median % Off Standard		
76	B	
82	D	
83	C	
88	G	
91	A	
93	E	
97	F	
79	All	

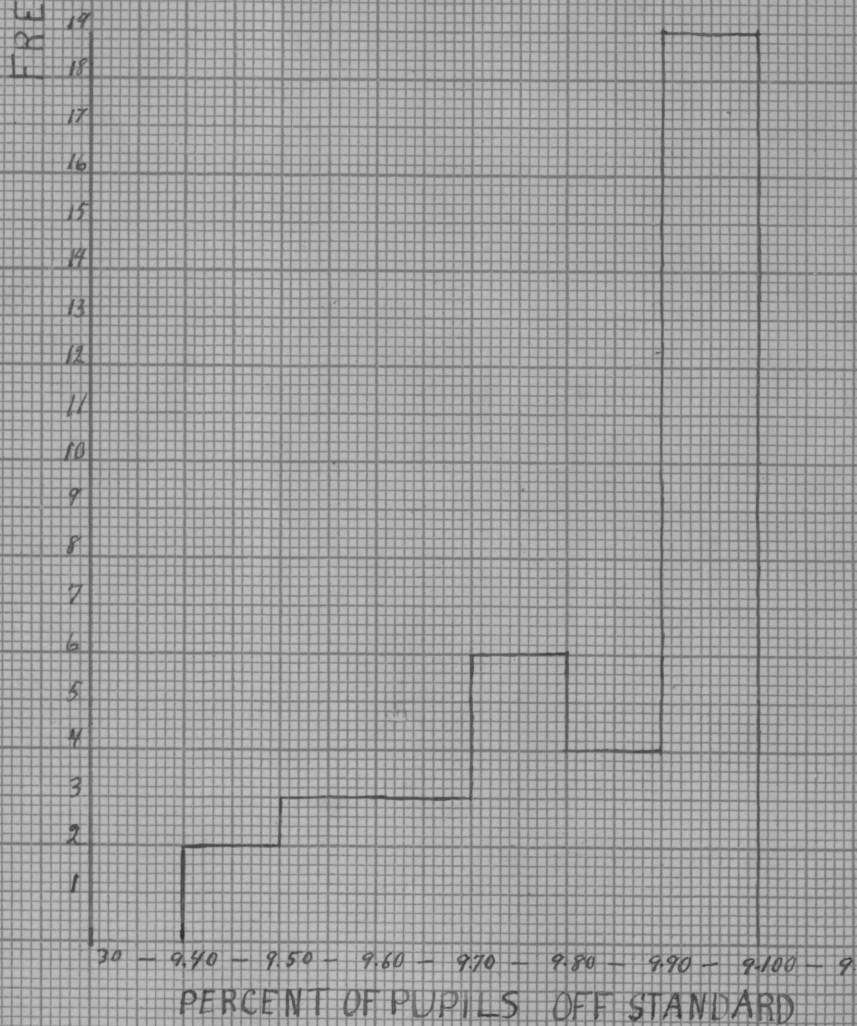
THE CHART READS: OUT OF THE ENTIRE 37 ANSWERS, 1 ANSWER WAS GRADED 'OFF' STANDARD BY 40-49% OF THE PUPILS, 4 ANSWERS WERE GRADED 'OFF' STANDARD BY 50-59% OF THE PUPILS, ETC.

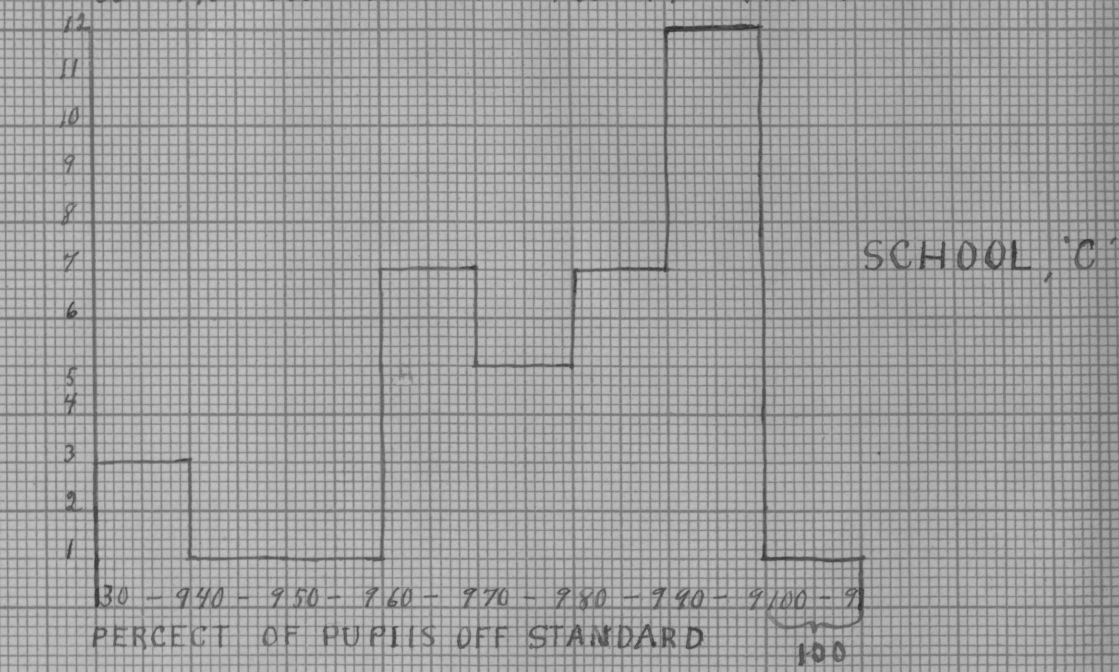
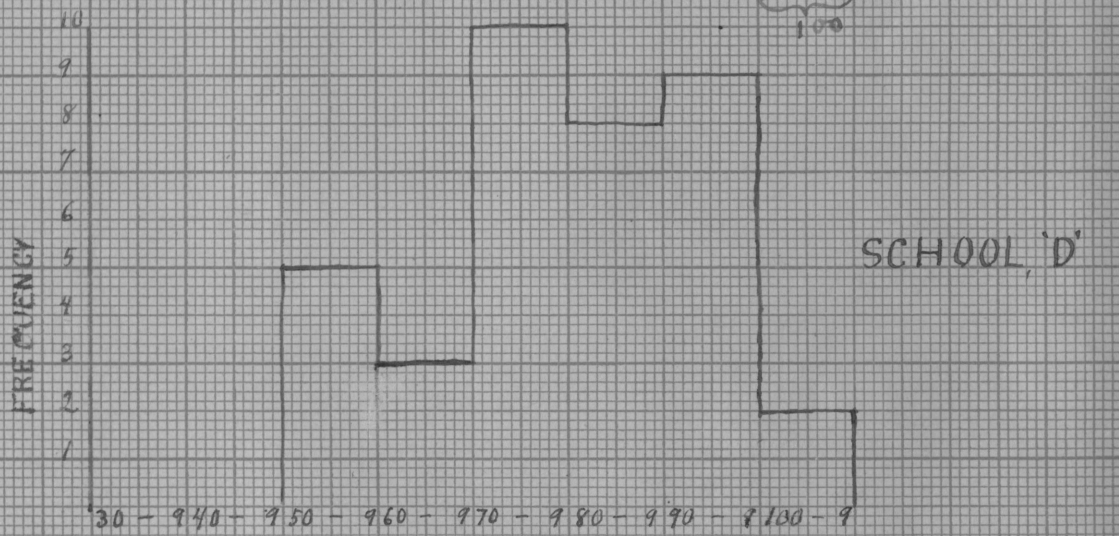
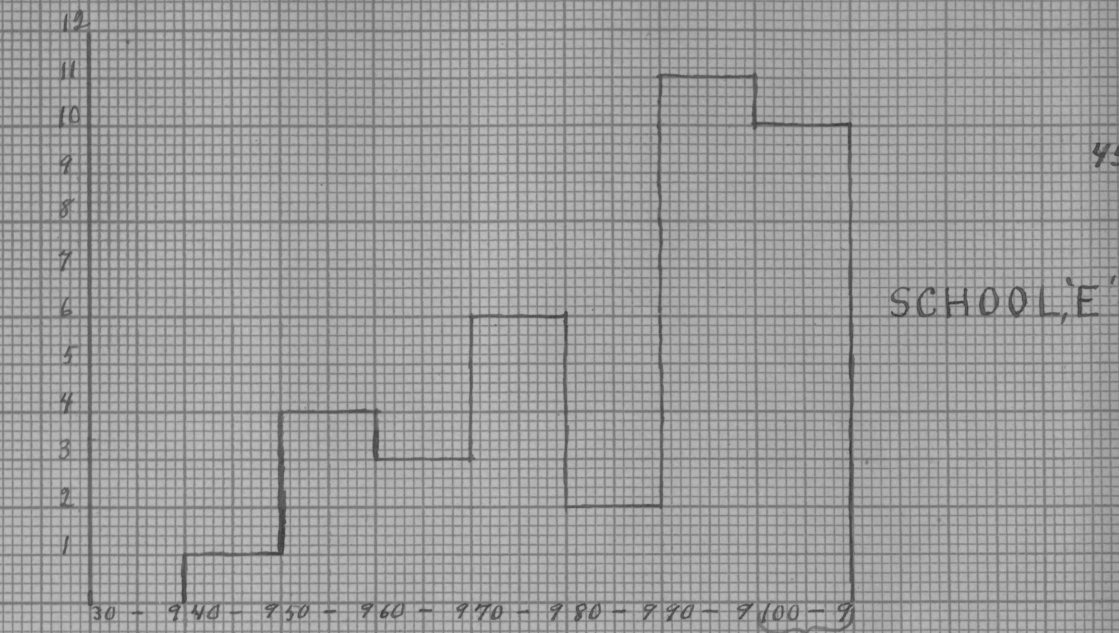
SCHOOL B.

49



SCHOOL A.





19
18
17
16
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1

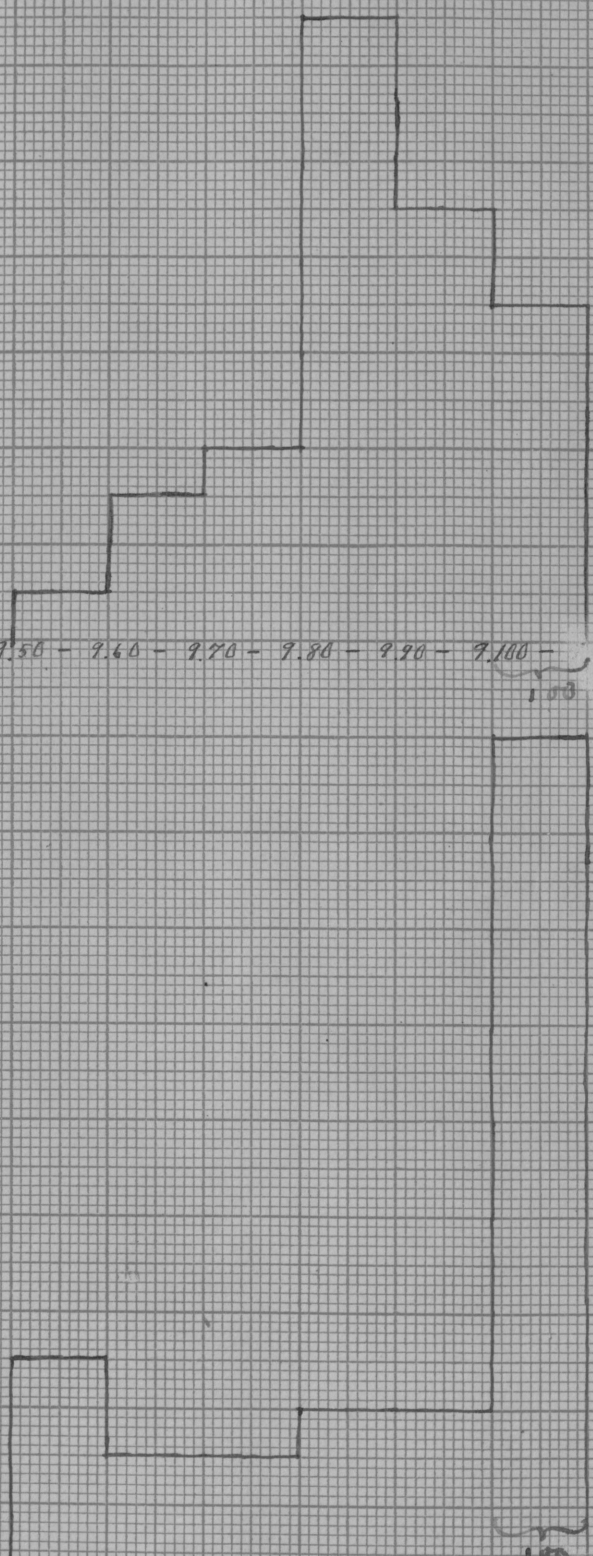
30 - 940 - 950 - 960 - 970 - 980 - 990 - 9100 -

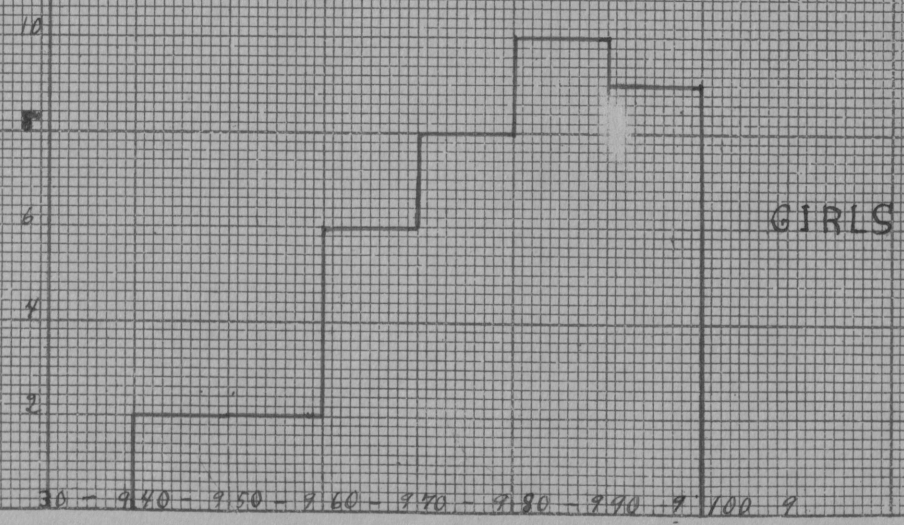
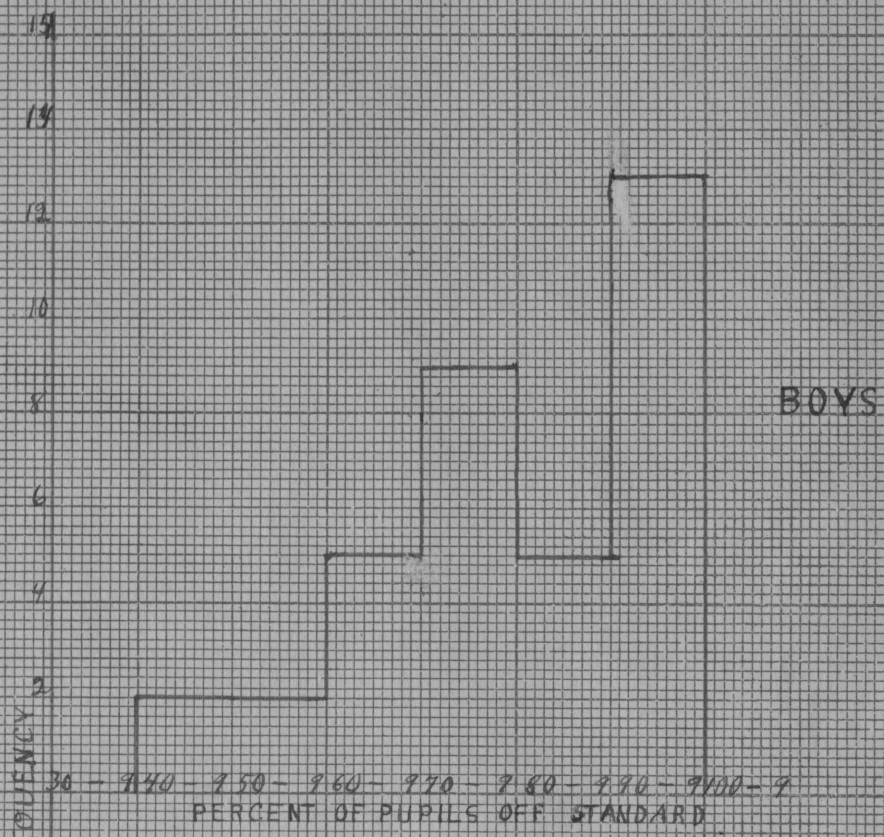
SCHOOL 'G'

18
17
16
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1

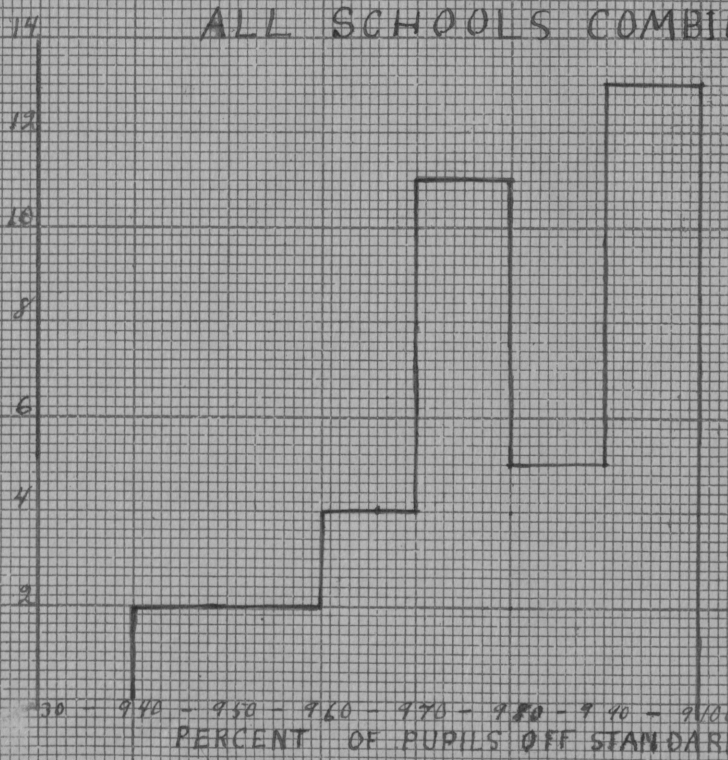
PERCENT PUPILS OFF STANDARD
30 - 39.40 - 49.50 - 59.60 - 69.70 - 79.80 - 89.90 - 99.10

SCHOOL 'F'





ALL SCHOOLS COMBINED



1940 - 1950 - 1960 - 1970 - 1980 - 1990 - 2000 - 2010 - 2020
PERCENT OF PUPILS OFF STANDARD

CONCLUSIONS

Study of the tables and charts shows that the relative rank of the different schools in answer evaluation is B, D, C, E, A, F, G. School B, the school in which answer criticism has been given special attention this year, is far ahead of any of the other schools. This will be made clear by reference to the table on the preceding page.

That school ranks highest in answer evaluation in which the smallest percent of pupils grade the largest number of answers off the standard. For example, 30 to 79% of the pupils graded 33 answers off standard in School B, and in School G, 30 to 79% of the pupils graded 8 of the 37 answers off standard. That school ranks lowest in which the largest percent of pupils grade the most answers off the standard.

The standing of the various schools is indicated below.

33 of the 37 answers were graded off standard by 30-79% of the pupils in School B. The other 4 answers were graded off standard by 80 - 100% of the pupils.

18 of the 37 answers were graded off standard by 30 - 79% of the pupils in School D. The remaining 19 answers were graded off standard by 80 - 100% of pupils.

16 of the 37 answers were graded off standard by 30-79% of the pupils in School C, and 21 answers were graded off standard by 80-100% of the pupils.

14 of the 37 answers were graded off standard by 30-79% of the pupils in School E, and 23 answers were graded off standard by 80-100% of the pupils.

11 of the 37 answers were graded off standard by 30-79% of the pupils in School F and 26 answers graded off standard by 80-100% of the pupils.

8 of the 37 answers were graded off the standard by 30-79% of the pupils in School G, and 29 answers graded off the standard by 80-100% of the pupils.

19 of the 37 answers were graded off the standard by 40-79% of the whole group of 363 pupils and 18 answers were graded off standard by 80-100% of the pupils.

Considering the entire group of 363 pupils who graded the 37 answers,-

4 answers were graded off standard by 40-59% of the pupils.

4 answers were graded off standard by 60-69% of the pupils.

11 answers were graded off standard by 70-79% of the pupils.

5 answers were graded off standard by 80-89% of the pupils.

13 answers were graded off standard by 90-100% of the pupils.

And summing up, all 37 answers were graded off standard by 40 - 100% of the pupils.

It is significant that comparatively few answers were graded on standard by even fifty percent of the pupils. As a rule the excellent answers are graded on standard by a larger percent of pupils than are any other kinds of answers.

Wide variations from the standard are significant. The pupil who grades an unsatisfactory answer excellent, -4 units off standard, knows nothing about the quality of the answer. There are several answers which an exceptionally large number of pupils graded 4 units off the standard.

Answer 1, Group 3, an unsatisfactory answer was graded:

Excellent 207, Good 66, Fair 32, Poor 36, Unsatisfactory 13.

Answer 1, Group 2, an unsatisfactory answer was graded:

Excellent 91, Good 113, Fair 71, Poor 42, Unsatisfactory 28.

Answer 2, Group 5, an unsatisfactory answer was graded:

Excellent 143, Good 65, Fair 34, Poor 33, Unsatisfactory 13.

Answer 1, Group 4, an unsatisfactory answer was graded:

Excellent 137, Good 90, Fair 50, Poor 52, Unsatisfactory 12.

Poor answers were graded 3 units too high by many pupils.

Answer 6, Group 3 was graded:

Excellent 160, Good 85, Fair 46, Poor 40, Unsatisfactory 11.

Answer 5, Group 6 was graded:

Excellent 159, Good 111, Fair 28, Poor 12, Unsatisfactory 2.

It is especially significant that such a large percent of the pupils marked the excellent answers off the standard. The percent of pupils marking excellent answers off the standard is shown in the table below:

PERCENT OF PUPILS MARKING THE EXCELLENT
ANSWERS OFF THE STANDARD

Answer 4, Group 1,	49%
Answer 3, Group 2	59%
Answer 2, Group 3	65%
Answer 5, Group 4	56%
Answer 5, Group 5	74%
Answer 4, Group 6,	45%

In most cases the number of pupils marking the excellent answers off the standard is over 50%. Examination of the table shows that many pupils marked excellent answers unsatisfactory. Answer 5, Group 5, an excellent answer was marked "poor" by more pupils than marked it any other way.

CHAPTER IV.EXTENT OF VARIATION

The score for each individual was obtained by finding the variation from standard of each of the 37 answers and then adding these variations. The sum obtained by adding the 37 variations is the pupil's score. Variations from standard were added without regard to sign.

The following tables give the scores for each individual.

Column 1 gives the pupil rank, Column 2 the pupil's variation above standard, Column 3, the pupil's variation below standard, Column 4, the pupil's total variation from the standard, which is his score on the answer evaluation test.

TABLE V.

Mean = 61.7

INDIVIDUAL SCORES IN ANSWER EVALUATION

The Table reads, - Variation, above standard, below standard, total variation.

SCHOOL A. GIRLS							
Pupil:	VARIATION			Pupil:	VARIATION		
	Above	Below	Total		Above	Below	Total
1	18	8	26	17	47	10	57
2	36	1	37	18	54	4	58
3	36	1	37	19	46	12	58
4	34	6	40	20	53	5	58
5	39	2	41	21	57	2	59
6	29	12	41	22	45	14	59
7	39	8	47	23	43	17	60
8	40	8	48	24	55	7	62
9	41	9	50	25	47	15	62
10	46	4	50	26	57	5	62
11	38	12	50	27	54	8	62
12	51	1	52	28	51	11	62
13	50	3	53	29	54	9	63
14	42	11	53	30	52	11	63
15	42	12	54	31	57	6	63
16	44	12	56	32	59	5	63

School A. Girls - continued							
Pupil:	VARIATION			Pupil:	VARIATION		
	Above	Below	total		Above	Below	total
33	56	13	63	55	79	1	80
34	52	12	64	56	74	8	82
35	53	12	65	57	80	3	83
36	64	2	66	58	86	4	90
37	57	9	66	59	87	3	90
38	55	12	67	60	94	2	96
39	61	6	67	<u>BOYS</u>			
40	56	13	69				
41	60	10	70	1	22	6	28
42	52	19	71	2	41	2	43
43	59	14	73	3	36	9	45
44	68	5	73	4	42	6	48
45	59	14	73	5	37	12	49
46	69	5	74	6	42	8	50
47	69	5	74	7	51	3	54
48	67	8	75	8	52	3	55
49	73	4	77	9	48	7	55
50	66	10	76	10	50	5	55
51	73	3	76	11	44	12	56
52	74	4	78	12	49	7	56
53	77	2	79	13	45	12	57
54	71	8	79	14	52	5	57

School A. Boys - continued								
Pupil:	VARIATION			PUPIL:	VARIATION			
	Above	Below	Total		Above	Below	Total	
15	48	9	57	38	64	10	74	
16	49	9	58	39	66	8	74	
17	44	14	58	40	75	-	75	
18	52	6	58	41	62	13	75	
19	46	12	58	42	68	7	75	
20	54	5	59	43	78	3	81	
21	46	13	59	44	73	8	81	
22	58	3	61	45	78	3	81	
23	49	12	61	46	73	9	82	
24	47	14	61	47	84	-	84	
25	59	4	63	48	84	2	86	
26	56	9	65	49	89	3	88	
27	59	6	65	50	94	5	92	
28	55	10	65	51	93	8	99	
29	58	9	67	52	114	6	101	
30	62	6	68					
31	64	5	69	SCHOOL A.				
32	50	21	71	1	18	8	26	
33	58	14	72	2	22	6	28	
34	69	3	72	3	36	1	37	
35	58	14	72	4	36	1	37	
36	67	6	73	5	34	6	40	
37	73	1	74	6	39	2	41	

SCHOOL A. - continued

Pupil	VARIATION			Pupil	VARIATION		
	Above	Below	Total		Above	Below	Total
7	29	12	41	31	52	5	57
8	41	2	43	32	48	9	57
9	36	9	45	33	54	4	58
10	39	8	47	34	46	12	58
11	40	8	48	35	53	5	58
12	42	6	48	36	49	9	58
13	37	12	49	37	44	14	58
14	41	9	50	38	52	6	58
15	46	4	50	39	46	12	58
16	38	12	50	40	54	5	59
17	42	8	50	41	57	2	59
18	51	1	52	42	45	14	59
19	53	3	50	43	46	13	59
20	42	11	53	44	43	17	60
21	42	12	54	45	58	3	61
22	51	3	54	46	49	12	61
23	52	3	55	47	47	14	61
24	48	7	55	48	55	7	62
25	50	5	55	49	47	15	62
26	44	12	56	50	57	5	62
27	44	12	56	51	54	8	62
28	49	7	56	52	51	11	62
29	47	10	57	53	54	9	63
30	45	12	57	54	52	11	63

SCHOOL A. - continued							
Pupil:	VARIATION			Pupil:	VARIATION		
	Above	Below	Total		Above	Below	Total
55	57	6	63	79	68	5	73
56	59	6	63	80	59	14	73
57	56	13	63	81	67	6	73
58	59	4	63	82	69	5	74
59	52	12	64	83	69	5	74
60	53	12	65	84	73	1	74
61	56	9	65	85	64	10	74
62	59	6	65	86	66	8	74
63	55	10	65	87	67	8	75
64	64	2	66	88	75	2	75
65	57	9	66	89	62	13	75
66	55	12	67	90	68	7	75
67	61	6	67	91	73	4	77
68	58	9	67	92	66	10	77
69	62	6	68	93	75	3	78
70	58	13	69	94	74	4	78
71	64	5	69	95	77	2	79
72	60	10	70	96	71	8	79
73	52	19	71	97	79	1	80
74	50	21	71	98	78	3	81
75	58	14	72	99	75	8	81
76	69	3	72	100	78	3	81
77	58	14	72	101	74	8	82
78	59	14	73	102	73	9	82

: SCHOOL A - continued :

Pupil:	VARIATION			Pupil:	VARIATION		
	Above	Below	Total		Above	Below	Total
103	80	3	83	9	37	12	49
104	84	-	84	10	37	12	49
105	84	2	86	11	43	7	50
106	86	4	90	12	44	6	50
107	87	3	90	13	44	6	50
108	89	3	92	14	48	12	50
109	94	2	96	15	45	6	51
110	94	5	99	16	44	8	52
111	93	8	101	17	41	12	53
112	114	6	120	18	48	4	52

: SCHOOL B. GIRLS :

2	25	3	28	19	41	13	54
1	17	13	30	20	35	20	55
0	21	11	32	21	47	9	56
				22	37	19	56
				23	50	8	58
1	31	4	35	24	48	11	59
2	30	7	37	25	58	1	59
3	33	4	37	26	51	9	60
4	36	4	40	27	44	17	61
5	36	10	46	28	52	8	60
6	35	11	46	29	45	18	63
7	33	14	47	30	42	21	63
8	35	13	48				

SCHOOL B. GIRLS - continued				Pupil	VARIATION		
Pupil	VARIATION				Above	Below	Total
	Above	Below	Total				
				9	42	5	47
31	54	9	63	10	40	7	47
32	47	17	64	11	34	14	48
33	59	5	64	12	50	0	50
34	45	20	65	13	38	14	52
35	59	6	65	14	46	7	53
36	63	3	66	15	40	5	53
37	60	6	66	16	38	16	54
38	66	2	68	17	51	3	54
39	63	6	69	18	43	11	54
40	63	7	70	19	54	1	55
41	63	8	71	20	49	7	56
42	71	2	73	21	48	10	58
43	72	7	79	22	51	8	59
BOYS				23	56	3	59
0	27	7	34	24	57	5	62
1	33	8	41	25	52	10	62
2	37	7	44	26	61	3	64
3	30	14	44	27	57	7	64
4	34	11	45	28	58	7	65
5	33	13	46	29	60	7	67
6	36	10	46	30	60	9	69
7	29	17	46	31	65	7	72
8	35	11	46	32	78	9	87
				33	111	-	111

SCHOOL B.								
Pupil:	VARIATION			Pupil:	VARIATION			
	Above:	Below:	Total:		Above:	Below:	Total:	
1	25	3	28	23	34	14	48	
2	17	13	30	24	37	12	49	
3	21	11	32	25	37	12	49	
4	27	7	34	26	43	7	50	
5	31	4	35	27	44	6	50	
6	30	7	37	28	44	6	50	
7	33	4	37	29	48	12	50	
8	36	4	40	30	50	--	50	
9	33	8	41	31	45	6	51	
10	37	7	44	32	44	8	52	
11	30	14	44	33	38	14	52	
12	34	11	45	34	48	4	52	
13	36	10	46	35	41	12	53	
14	35	11	46	36	46	7	53	
15	33	13	46	37	48	5	53	
16	36	16	46	38	41	13	54	
17	29	17	46	39	38	16	54	
18	35	11	46	40	51	3	54	
19	33	14	47	41	43	11	54	
20	42	5	47	42	35	20	55	
21	40	7	47	43	54	1	55	
22	35	13	48	44	47	9	56	

: SCHOOL B. - continued :								
: Pupil :		: VARIATION :		: Pupil :		: VARIATION :		
: Above :	: Below :	: Total :	: Above :	: Below :	: Total :	: Above :	: Below :	: Total :
45	37	19	56	68	63	3	66	
46	49	7	56	69	60	6	66	
47	50	8	58	70	60	7	67	
48	48	10	58	71	66	2	68	
49	48	11	59	72	63	6	69	
50	58	1	59	73	60	9	69	
51	51	8	59	74	63	7	70	
52	56	3	59	75	63	8	71	
53	51	9	60	76	65	7	72	
54	52	8	60	77	71	2	73	
55	44	17	61	78	72	7	79	
56	57	5	62	79	78	9	87	
57	52	10	62	80	111	-	111	
: SCHOOL D. GIRLS :								
58	45	18	63	1	23	6	29	
59	42	21	63	2	26	4	30	
60	54	9	63	3	27	8	35	
61	47	17	64	4	29	13	42	
62	59	5	64	5	32	11	43	
63	61	3	64	6	36	11	47	
64	57	7	64	7	38	10	48	
65	45	20	65	8	39	10	49	
66	59	6	65	9	40	11	51	
67	58	7	65					

SCHOOL D. GIRLS - continued								
Pupil	VARIATION			Pupil	VARIATION			
	Above	Below	Total		Above	Below	Total	
10	38	13	51	3	33	9	42	
11	47	7	54	4	41	8	49	
12	42	12	54	5	47	8	55	
13	40	15	55	6	49	6	55	
14	49	8	57	7	36	19	55	
15	48	10	58	8	44	14	58	
16	44	14	58	9	47	12	59	
17	50	11	61	10	46	15	61	
18	51	13	64	11	51	11	62	
19	51	15	66	12	53	10	63	
20	57	11	68	13	55	8	63	
21	66	6	72	14	52	12	64	
22	63	10	73	15	57	7	64	
23	70	4	74	16	56	9	65	
24	80	1	81	17	56	14	70	
25	79	2	81	18	69	7	76	
26	78	4	82	19	68	10	78	
27	75	7	82	20	75	3	78	
28	84	-	84	21	62	18	80	
				22	76	6	82	
BOYS								
1	28	2	30	23	75	11	86	
2	35	2	37	24	82	6	88	
				25	79	16	95	

SCHOOL D.								
Pupil	VARIATION			Pupil	VARIATION			
	Above	Below	Total		Above	Below	Total	
1	23	6	29	24	44	14	58	
2	26	4	30	25	47	12	59	
3	28	2	30	26	50	11	61	
4	27	8	35	27	46	15	61	
5	35	2	37	28	51	11	62	
6	29	13	42	29	53	10	63	
7	33	9	42	30	55	8	63	
8	32	11	43	31	51	13	64	
9	36	11	47	32	52	12	64	
10	38	10	48	33	57	7	64	
11	39	10	49	34	56	9	65	
12	41	8	49	35	51	15	66	
13	40	11	51	36	57	11	68	
14	38	13	51	37	56	14	70	
15	47	7	54	38	66	6	72	
16	42	12	54	39	63	10	73	
17	40	15	55	40	70	4	74	
18	47	8	55	41	69	7	76	
19	49	6	55	42	68	10	78	
20	36	19	55	43	75	3	78	
21	49	8	57	44	62	18	80	
22	48	10	58	45	80	1	81	
23	44	14	58	46	79	2	81	

SCHOOL D. - continued								
Pupil	VARIATION			Pupil	VARIATION			
	Above	Below	Total		Above	Below	Total	
47	78	4	82	15	63	-	63	
48	75	7	82	16	52	11	63	
49	76	6	82	17	57	7	64	
50	84	-	84	18	58	10	68	
51	75	11	86	19	55	12	67	
52	82	6	88	20	53	15	68	
53	79	16	95	21	68	3	71	
SCHOOL C. GIRLS				22	62	9	71	
1	36	2	38	23	67	16	73	
2	37	4	41	24	71	2	73	
3	31	11	42	25	67	8	75	
4	41	5	46	26	68	10	78	
5	41	11	52	27	72	9	81	
6	43	9	52	28	77	6	83	
7	53	1	54	29	79	4	83	
8	52	4	56	30	84	3	87	
9	48	9	57	31	81	8	89	
10	46	12	58	BOYS				
11	52	7	59	1	25	7	32	
12	44	15	59	2	30	10	40	
13	55	6	61	3	37	10	47	
14	54	9	63	4	38	10	48	

SCHOOL C. BOYS-continued							
Pupil	VARIATION			Pupil	VARIATION		
	Above	Below	Total		Above	Below	Total
5	43	6	49	27	71	5	76
6	47	2	49	28	74	4	78
7	34	16	50	29	77	2	79
8	46	4	50	30	75	5	80
9	48	13	51	31	71	9	80
10	42	12	54	SCHOOL C.			
11	47	8	55	1	25	7	32
12	48	8	56	2	36	2	38
13	54	5	59	3	30	10	40
14	45	14	59	4	37	4	41
15	51	10	61	5	31	11	42
16	60	1	61	6	41	5	46
17	60	2	62	7	37	10	47
18	57	5	62	8	38	10	48
19	58	6	64	9	43	6	49
20	58	7	65	10	47	2	49
21	64	3	67	11	34	16	50
22	65	3	68	12	46	4	50
23	59	10	69	13	48	13	51
24	54	17	71	14	41	11	52
25	62	10	72	15	43	9	52
26	69	5	74	16	53	1	54

:SCHOOL C. - continued								
:Pupil:	: VARIATION :			:Pupil:	: VARIATION :			
	: Above :	: Below :	: Total :		: Above :	: Below :	: Total :	
: 17 :	: 42 :	: 12 :	: 54 :	: 39 :	: 55 :	: 12 :	: 67 :	
: 18 :	: 47 :	: 8 :	: 55 :	: 40 :	: 58 :	: 10 :	: 68 :	
: 19 :	: 52 :	: 4 :	: 56 :	: 41 :	: 53 :	: 15 :	: 68 :	
: 20 :	: 48 :	: 8 :	: 56 :	: 42 :	: 65 :	: 3 :	: 68 :	
: 21 :	: 48 :	: 9 :	: 57 :	: 43 :	: 59 :	: 10 :	: 69 :	
: 22 :	: 46 :	: 12 :	: 58 :	: 44 :	: 68 :	: 3 :	: 71 :	
: 23 :	: 52 :	: 7 :	: 59 :	: 45 :	: 62 :	: 9 :	: 71 :	
: 24 :	: 44 :	: 15 :	: 59 :	: 46 :	: 54 :	: 17 :	: 71 :	
: 25 :	: 54 :	: 5 :	: 59 :	: 47 :	: 62 :	: 10 :	: 72 :	
: 26 :	: 45 :	: 14 :	: 59 :	: 48 :	: 67 :	: 16 :	: 73 :	
: 27 :	: 55 :	: 6 :	: 61 :	: 49 :	: 71 :	: 2 :	: 73 :	
: 28 :	: 51 :	: 10 :	: 61 :	: 50 :	: 69 :	: 5 :	: 74 :	
: 29 :	: 60 :	: 1 :	: 61 :	: 51 :	: 67 :	: 8 :	: 75 :	
: 30 :	: 60 :	: 2 :	: 62 :	: 52 :	: 71 :	: 5 :	: 76 :	
: 31 :	: 57 :	: 5 :	: 62 :	: 53 :	: 68 :	: 10 :	: 78 :	
: 32 :	: 54 :	: 9 :	: 63 :	: 54 :	: 74 :	: 4 :	: 78 :	
: 33 :	: 63 :	: - :	: 63 :	: 55 :	: 77 :	: 2 :	: 79 :	
: 34 :	: 52 :	: 11 :	: 63 :	: 56 :	: 75 :	: 5 :	: 80 :	
: 35 :	: 57 :	: 7 :	: 64 :	: 57 :	: 71 :	: 9 :	: 80 :	
: 36 :	: 56 :	: 6 :	: 64 :	: 58 :	: 72 :	: 9 :	: 81 :	
: 37 :	: 58 :	: 7 :	: 65 :	: 59 :	: 77 :	: 6 :	: 83 :	
: 38 :	: 64 :	: 3 :	: 67 :	: 60 :	: 79 :	: 4 :	: 83 :	

SCHOOL C.- continued				SCHOOL E. BOYS			
Pupil	VARIATION			Pupil	VARIATION		
	Above	Below	Total		Above	Below	Total
61	84	3	87	1	53	7	60
62	81	8	89	2	65	4	69
SCHOOL E. GIRLS				3	66	8	74
1	36	5	41	4	66	11	77
2	33	11	44	5	83	0	83
3	34	13	47	6	78	7	85
4	43	7	50	SCHOOL E.			
5	46	6	52	1	36	5	41
6	43	10	53	2	33	11	44
7	47	9	56	3	34	13	47
8	44	13	57	4	43	7	50
9	40	18	58	5	46	6	52
10	51	10	61	6	43	10	53
11	46	16	62	7	47	9	56
12	51	13	64	8	44	13	57
13	62	2	64	9	40	18	58
14	60	6	66	10	53	7	60
15	51	18	69	11	51	10	61
16	59	10	69	12	46	16	62
17	68	6	74	13	51	13	64
18	53	21	74	14	62	2	64
19	66	10	76	15	60	6	66

SCHOOL E. - continued							
Pupil	VARIATION			Pupil	VARIATION		
	Above	Below	Total		Above	Below	Total
16	51	18	69	6	76	9	85
17	59	10	69	7	84	2	86
18	65	4	69	8	86	5	91
19	66	8	74	SCHOOL F.			
20	68	6	74	1	50	7	57
21	53	21	74	2	56	6	62
22	66	10	76	3	47	16	63
23	66	11	77	4	55	8	63
24	83	0	83	5	59	5	64
25	78	7	85	6	63	3	66
SCHOOL F. GIRLS				7	67	3	70
1	59	5	64	8	58	15	73
2	63	3	66	9	66	8	74
3	67	3	70	10	72	10	82
4	66	8	74	11	76	9	85
5	72	10	82	12	84	2	86
SCHOOL F. BOYS				13	86	5	91
1	50	7	57	SCHOOL G. GIRLS			
2	56	6	62	1	72	4	76
3	47	16	63	2	58	15	73
4	55	8	63	3	73	0	73
5	58	15	73	4	64	6	70

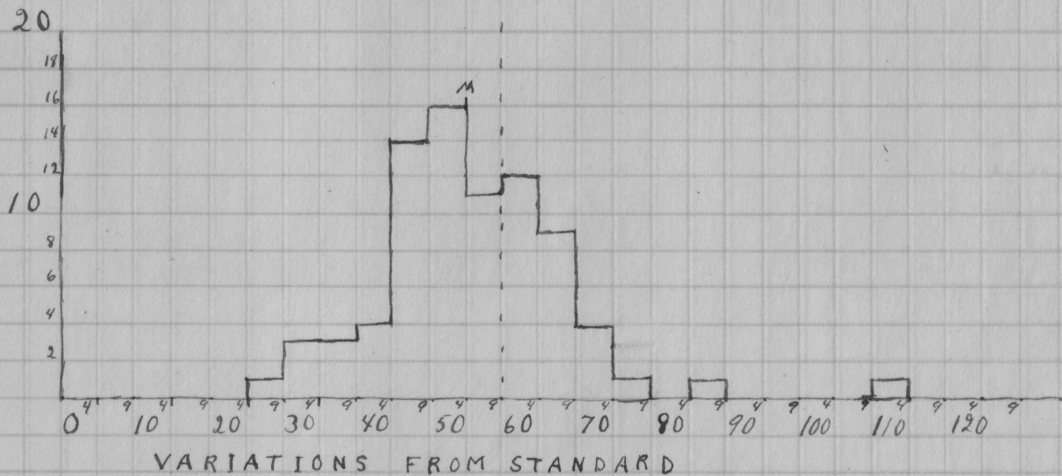
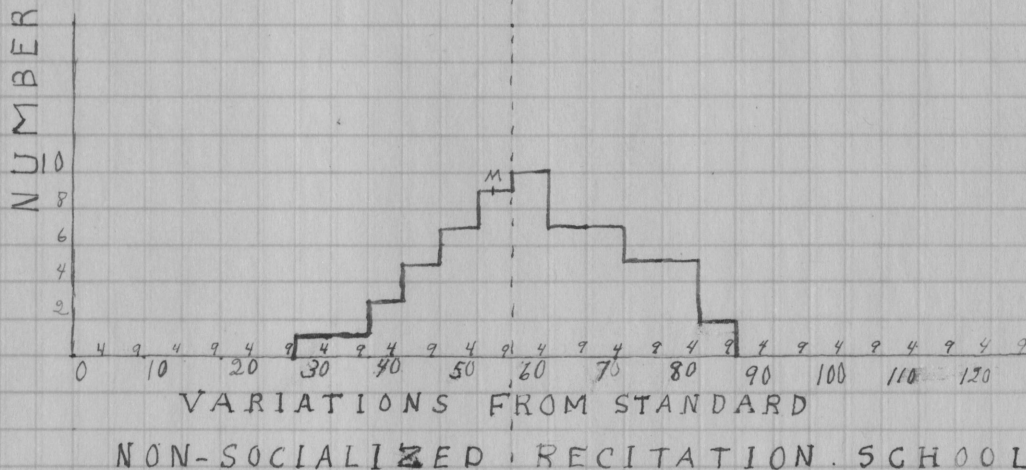
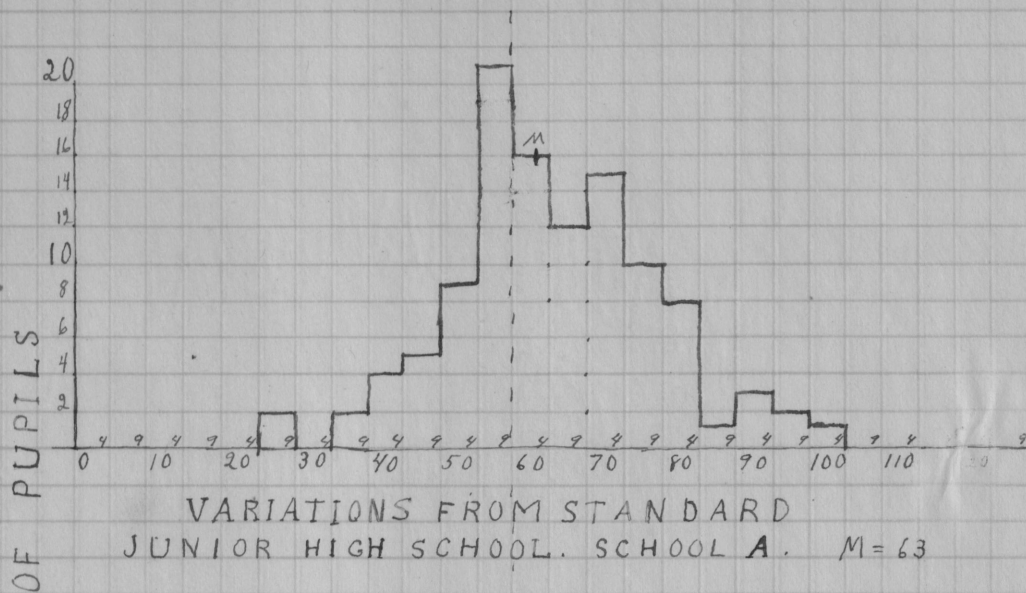
SCHOOL G. GIRLS - continued											
Pupil				Pupil							
VARIATION				VARIATION							
Above	Below	Total		Above	Below	Total					
5	58	11	69	8	50	12	62				
6	60	8	68	9	57	6	63				
7	50	12	62	10	56	8	64				
8	36	24	60	11	60	8	68				
9	59	-	59	12	58	11	69				
10	42	15	57	13	64	6	70				
11	44	17	51	14	73	-	73				
12	40	9	49	15	58	15	73				
SCHOOL G. BOYS				16	72	4	76				
1	32	4	36	17	86	4	90				
2	26	22	48								
3	57	6	63								
4	56	8	64								
5	86	4	90								
SCHOOL G.											
1	32	4	36								
2	26	22	48								
3	40	9	49								
4	44	17	51								
5	42	15	57								
6	59	-	59								
7	36	24	60								

VI

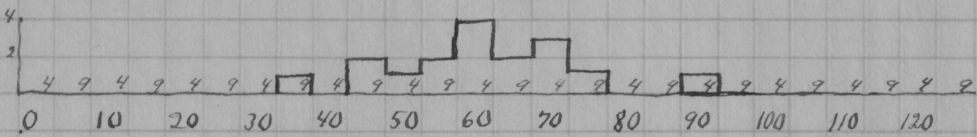
ALL SCHOOLS		
VARIATION	FREQUENCY	DEVIATION
25-29	-4	-34.5
30-34	-6	-29.5
35-39	-9	-24.5
40-44	-16	-19.5
45-49	-31	-14.5
50-54	-40	-9.5
55-59	-57	-4.5
60-64	-59	.5
65-69	38	5.5
70-74	39	10.5
75-79	22	15.5
80-84	22	20.5
85-89	10	25.5
90-94	5	30.5
95-99	3	35.5
100-104	1	40.5
105-109		
110-114	1	50.5
115-119		
120-124		
M = 61.5	A.D. 11.7	

VII

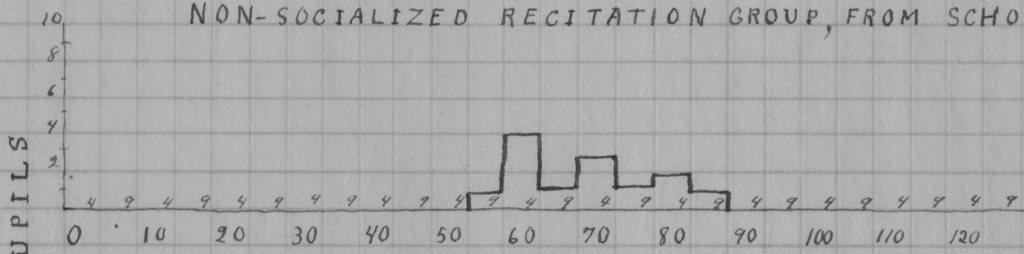
MEDIAN DEVIATIONS	
SCHOOL	MEDIAN
B	54
D	61
C	57
G	63
A	63
E	63
F	70



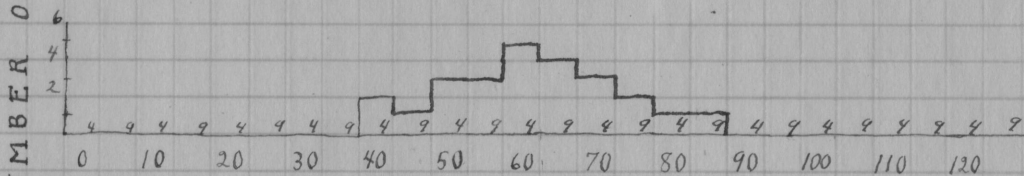
ANSWER CRITICISM IS STRESSED IN THIS SCHOOL, THIS YEAR.



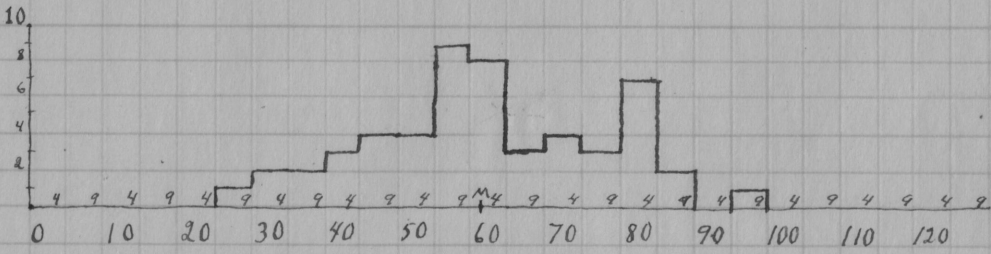
VARIATIONS FROM STANDARD. $M=63$.
 GROUP PROMOTED TO UPPER GRADE ON BASIS OF INTELLIGENCE TESTS. SCHOOL 'G'. THIS IS A NON-SOCIALIZED RECITATION GROUP, FROM SCHOOL 'B'



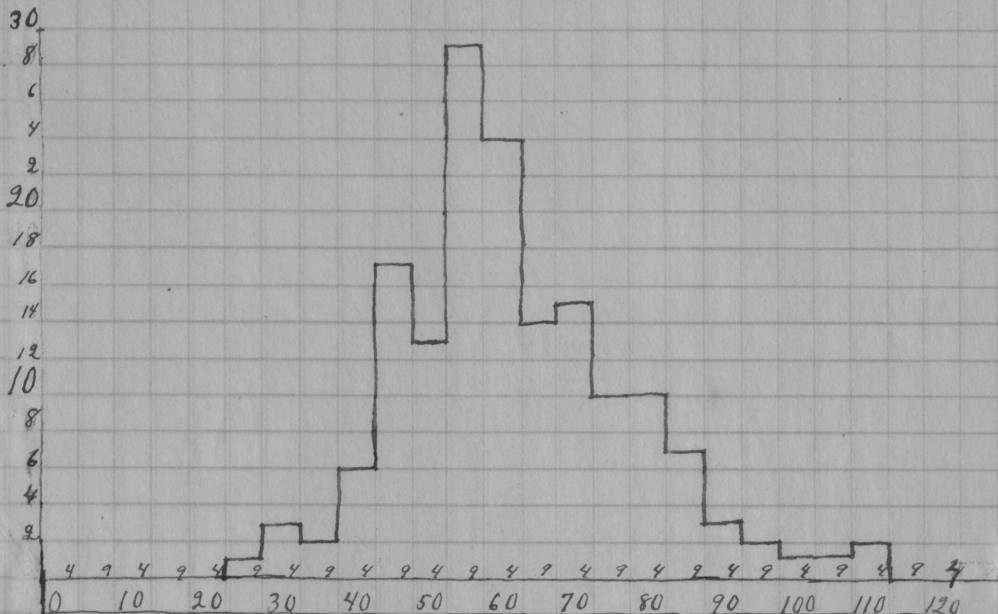
VARIATIONS FROM STANDARD.
 SCHOOL F 8th Grade. $M=70$



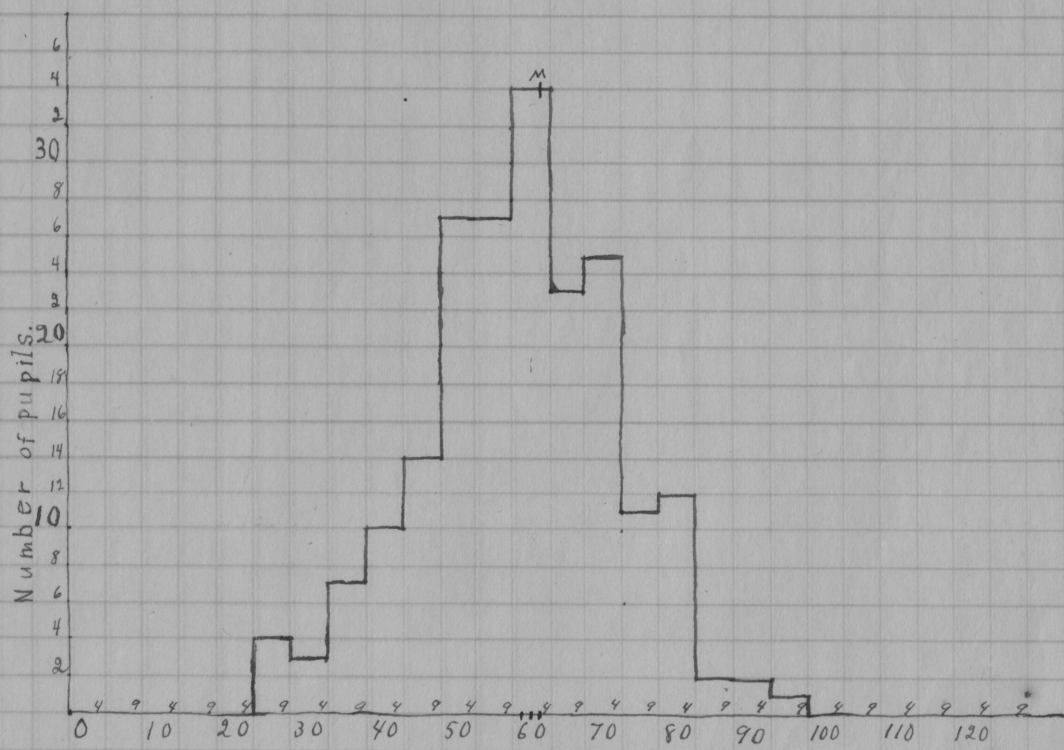
VARIATIONS FROM STANDARD.
 SCHOOL E 8th Grade. $M=63$



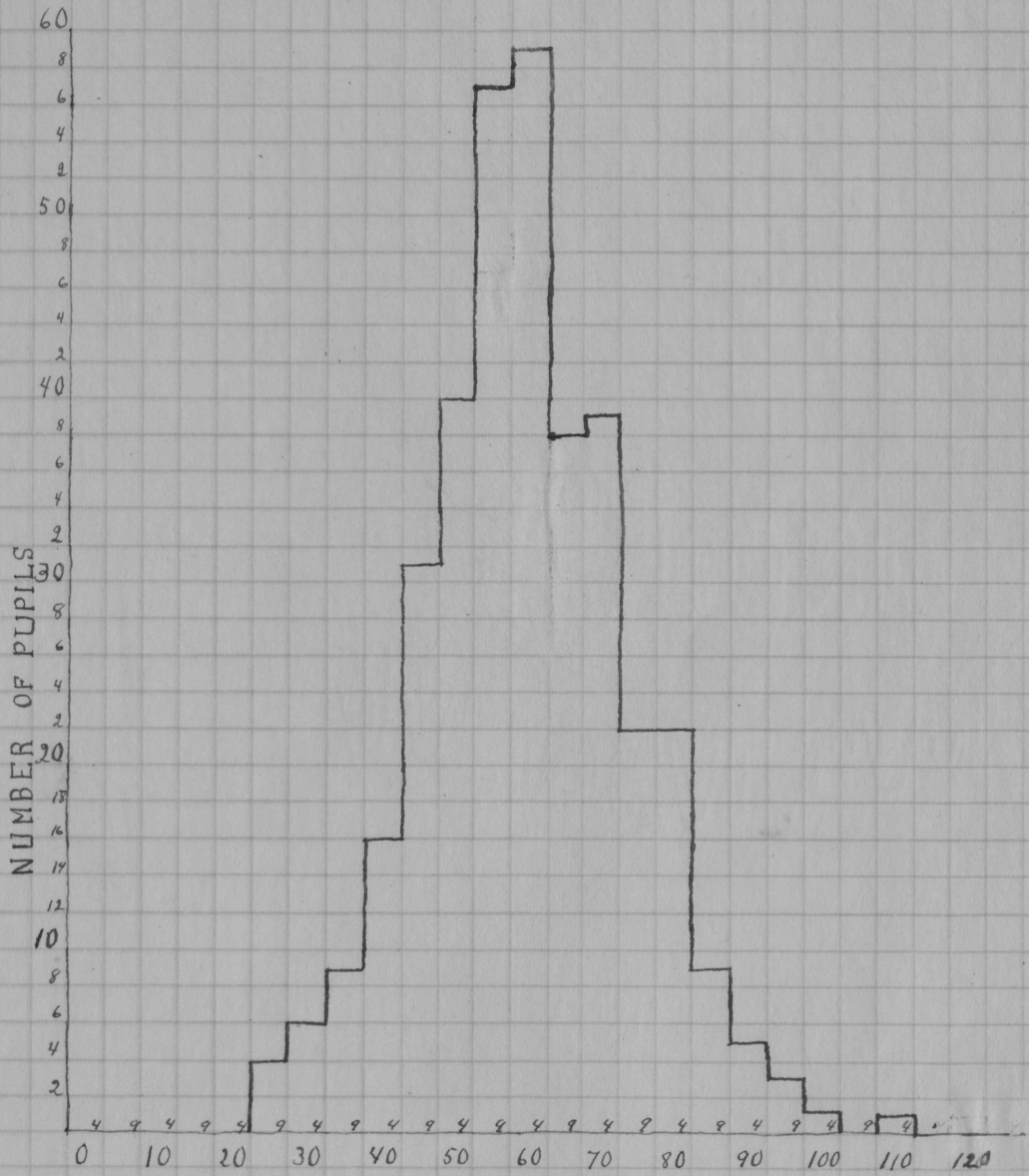
VARIATIONS FROM STANDARD.
 JUNIOR HIGH SCHOOL. SCHOOL D. - 8th Grade. $M=61$



VARIATIONS FROM STANDARD
Boys



VARIATIONS FROM STANDARD. M = 63.
GIRLS



VARIATIONS FROM STANDARD
 SCHOOLS, A, B, C, D, E, F, G, COMBINED. 363 PUPILS. $M=61.5$
 $A.D.=11.8$

CONCLUSIONS.

Only a few individuals have scores close to the standard. The median for the entire group of 363 pupils is 61.5 and there are but 3 pupils with scores below 30. There are 15 pupils with scores from 30-40. Forty seven pupils have scores from 40-49.

School B. ranks highest with a median of 54. The value of the extra training in answer criticism is brought out by these figures. School B.'s curve is skewed at the upper end; the other schools approach very closely to a normal distribution except in those cases where they are skewed at the lower end of the scale.

The possible range of variation for the 37 answers is from 0 to 128. Actual variations ranged from 26 to 100. The median variation from the standard is 61.5. Since 61.5 is 48% of 128, the median score or variation from standard of 61.5 represents a grade of 52% on a 100 percent grading system. Fifty two percent represents a very low grade of ability. The pupils given the answer evaluation test represent several of the highest class city schools in Kansas and Missouri. The conclusion is that schools are failing to perform their function in the matter of training in answer criticism.

CHAPTER V.

VARIATION BY ANSWERS

Attention has been given in former chapters concerning variation from the standard grade of individuals and of schools. It has been shown that pupils vary greatly in their ability to evaluate answers, that there is a difference between schools in ability to evaluate answers. The variation from the standard of the pupils as a whole has been considered.

It is now desirable to study the different types of answers and account for different degrees of variation among the different answers. Why have there been a larger percent of judgments off the standard on some answers than on others?

Have there been more judgments on the standard for answers with one kind of a fault than for answers with another kind of fault?

Does the percent of judgments off standard depend upon the excellence of the answer?

By reference to the table on Page 81, it is seen that 101 pupils graded Answer 1, Group 1, 1 unit off the standard. The standard for Answer 1 is U; and 101 pupils graded it poor. This gives Answer 1,

a variation from the standard of 101×1 or 101 units.

112 pupils graded Answer 1, Group 1, 2 units off the standard, a variation from the standard of 112×2 or 224 units.

48 pupils graded Answer 1, 3 units off the standard, a variation from the standard of 48×3 or 144 units.

27 pupils graded Answer 1, 4 units off the standard, a variation from the standard of 27×4 or 108 units. The total variation of Answer 1 from the standard is the sum of the products just obtained. Adding the products: $101 + 224 + 144 + 108 = 577$ units variation for Answer 1.

The following table shows the variation of grades from the standard for all 37 answers.

TABLE VIII.

SHOWING THE NUMBER OF PUPILS WHO GRADED THE ANSWERS 1 UNIT OFF STANDARD, THE NUMBER WHO GRADED 2 UNITS OFF STANDARD, THE NUMBER WHO GRADED 3 UNITS OFF STANDARD, AND THE NUMBER WHO GRADED 4 UNITS OFF STANDARD.

Median Variation 501.

GROUP 1

Number of Pupils	Answers	Units Off Standard	Variations	Number of Pupils	Answers	Units off Standard	Variation
101	1	1	101	184	5	1	184
112		2	224	44		2	88
48		3	144				
27		4	108				
Total Variation			577	Total Variation			292
133	2	1	133	208	6	1	208
78		2	156	35		2	70
--		3		22		3	66
--		4					
Total Variation			289	Total variation			344
170	3	1	170	56	7	1	56
87		2	174	77		2	154
				99		3	297
				81		4	324
Total Variation			344	Total Variation			831
93	4	1	93				
36		2	72				
20		3	60				
15		4	60				
Total Variation			285				

GROUP 2

Number of Pupils	Answers	Units off stand- ard	Vari- ation	Number of Pupils	Answers	Units off Stand- ard	Vari- ation
42	1	1	42	81	5	1	81
71		2	142	242		2	484
113		3	339				
91		4	364				
Total Variation			887	Total variation			565
158	2	1	158				
114		2	228				
Total Variation			386				
111	3	1	111				
74		2	148				
17		3	51				
5		4	20				
Total Variation			330				
79	4	1	79				
118		2	118				
80		3	240				
30		4	120				
Total Variation			557				

GROUP 3

Number of Pupils	Answers	Units off Standard	Variations	Number of Pupils	Answers	Units off Standard	Variations
36	1	1	36	87	5	1	87
32		2	64	71		2	142
86		3	198	86		3	258
207		4	828	63		4	252
Total Variation			1126	Total Variation			739
88	2	1	88	57	6	1	57
61		2	122	85		2	170
63		3	189	160		3	480
16		4	64				
Total Variation			463	Total Variation			707
98	3	1	98				
107		2	214				
68		3	204				
32		4	128				
Total Variation			644				
108	4	1	108				
82		2	164				
57		3	171				
46		4	184				
Total Variation			627				

GROUP 4

Number of Pupils	Answers	Units off Standard	Variations	Number of Pupils	Answers	Units off Standard	Variations
52	1	1	52	68	5	1	68
50		2	100	56		2	112
90		3	270	22		3	66
137		4	548	6		4	24
Total Variation			970	Total Variation			270
151	2	1	151	65	6	1	65
87		2	174	65		2	130
				83		3	249
				84		4	336
Total Variation			325	Total Variation			780
143	3	1	143				
112		2	224				
Total Variation			367				
68	4	1	68				
80		2	160				
82		3	246				
64		4	256				
Total Variation			730				

GROUP 5

Number of Pupils	Answers	Units off Standard	Variation	Number of Pupils	Answers	Units off Standard	Variation
69	1	1	69	64	5	1	64
48		2	96	54		2	108
29		3	87	75		3	225
29		4	116	26		4	104
Total Variation			368	Total Variation			501
33	2	1	33	51	6	1	51
34		2	68	53		2	106
65		3	195	72		3	216
145		4	572	85		4	340
Total Variation			868	Total Variation			713
63	3	1	63	100	7	1	100
80		2	160	45		2	90
62		3	186	42		3	126
47		4	188	39		4	156
Total Variation			597	Total Variation			472
102	4	1	102				
53		2	106				
59		3	177				
21		4	84				
Total variation			469				

GROUP 6

Number of Pupils	Answers	Units off Standard	Variation	Number of Pupils	Answers	Units off Standard	Variation
107	1	1	107	30	5	1	30
23		2	46	111		2	222
40		3	120	159		3	477
52		4	208				
Total variation			481	Total Variation			729
129	2	1	129	151	6	1	151
41		2	82	60		2	120
15		3	45				
Total Variation			256	Total Variation			271
54	3	1	54				
64		2	128				
101		3	303				
71		4	284				
Total Variation			769				
79	4	1	79				
33		2	66				
17		3	51				
7		4	28				
Total Variation			224				

TABLE IX.

DISTRIBUTION TABLE SHOWING THE TOTAL VARIATION OF EACH ANSWER FROM THE STANDARD.

M = 501

Answer	Group	Total variation: From standard	Standard
4	6	224	E
2	6	256	P I
5	4	270	E
6	6	271	F I
4	1	285	E
2	1	289	F T
5	1	292	F T
2	4	325	F I
3	2	330	E
3	1	344	F I
6	1	344	G I
3	4	367	F I
1	5	368	U I
2	2	386	F I
2	3	463	E
4	5	469	U O
7	5	472	U O
1	6	481	U O
5	5	501	E
4	2	557	U O
5	2	565	F. I.

Answer	Group	Total Variation: from Standard	Standard
1	1	577	U T
3	5	597	U T
4	3	627	U O
3	3	644	U O
6	3	707	F O
6	5	713	U O
4	4	730	U O
5	6	729	P O
5	3	739	U T
3	6	769	U O
6	4	780	U O
7	1	831	U O
2	5	868	U O
1	2	887	U O
1	4	970	U O
1	3	1126	U O
Mean =		545	
Median =		501	

III

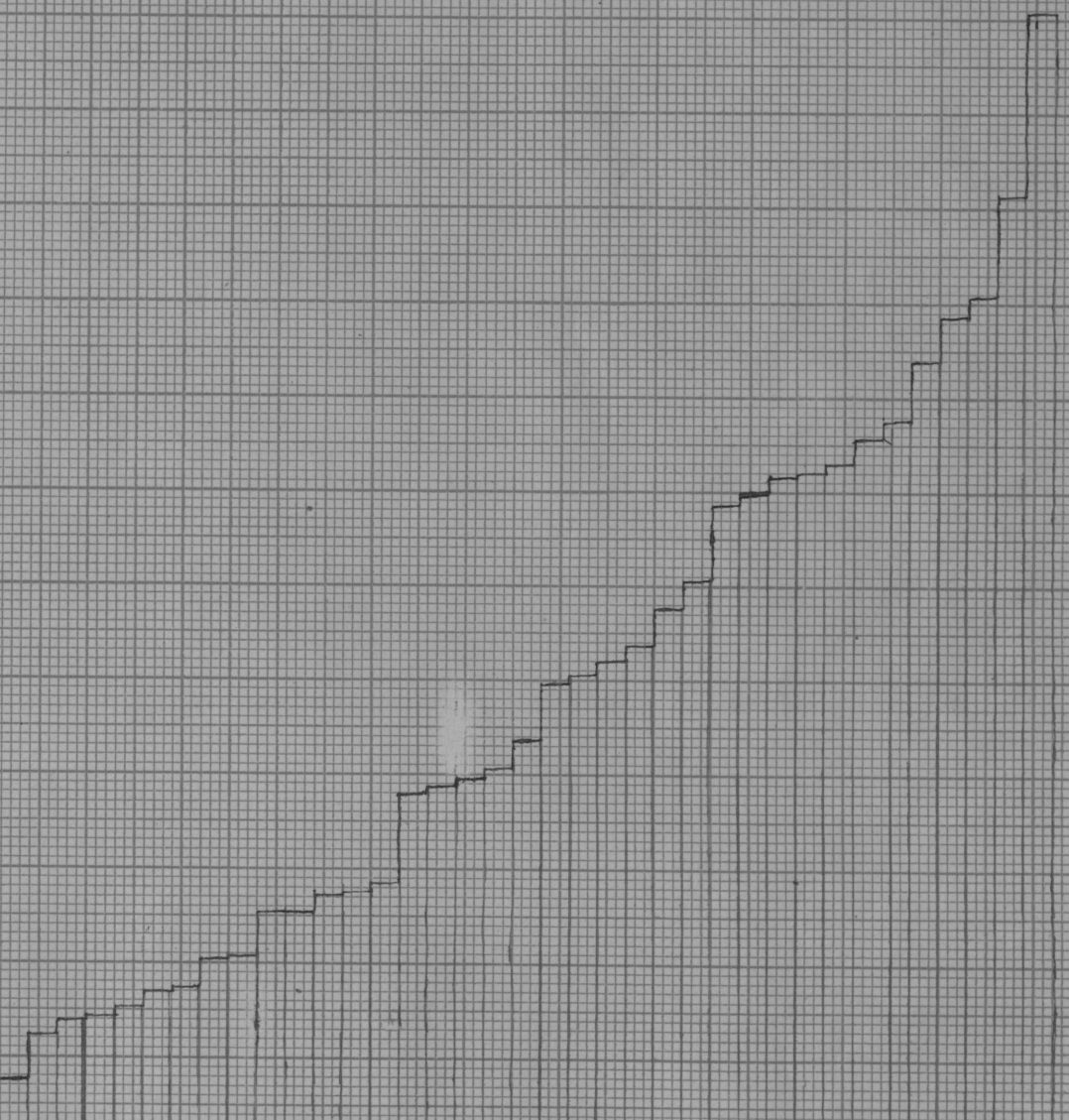
THIS CHART SHOWS THE TOTAL VARIATION OF EACH ANSWER FROM THE STANDARD. THE UPPER HORIZONTAL ROW OF NUMBERS IS THE ANSWER NUMBER, THE LOWER ROW OF NUMBERS IS THE GROUP NUMBER ROW. THE LETTER ON EACH VERTICAL COLUMN IS THE STANDARD ADOPTED FOR THE ANSWER REPRESENTED BY THE COLUMN.

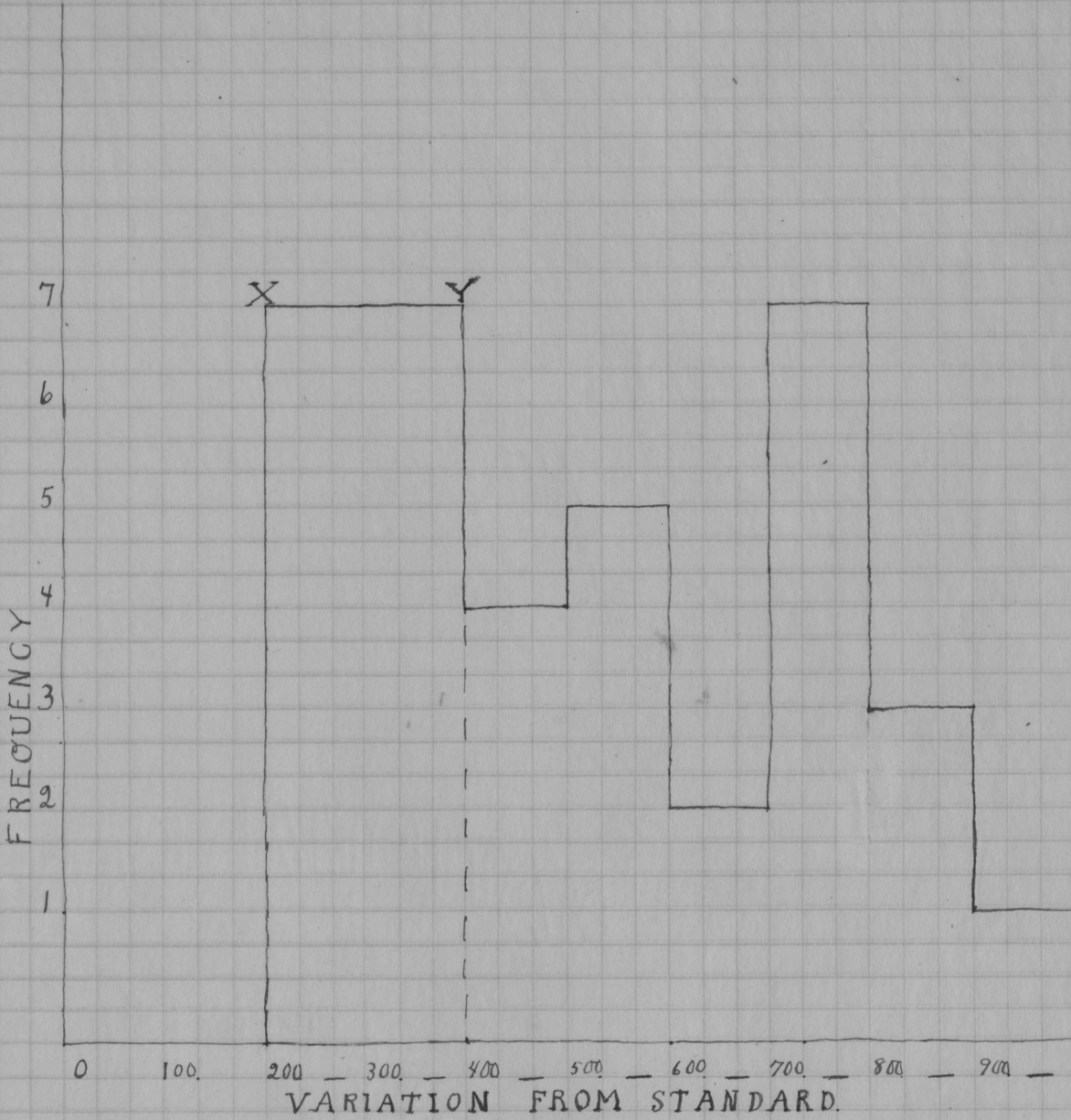
TOTAL VARIATION OF ANSWERS FROM STANDARD

1200
1120
1040
960
880
800
720
640
560
480
400
320
240
160
80

4	2	5	6	7	2	5	3	3	6	3	1	2	2	4	7	1	5	4	5	1	3	1	3	6	6	4	5	5	3	6	7	2	1	1	1	ANSW
6	6	4	6	1	1	1	4	2	1	1	4	5	2	3	5	3	6	5	4	2	1	5	3	3	5	4	6	3	6	4	1	5	2	3	3	GROUP
	P	E	F	F	F	F	F	F	G	E	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	STAND

80





THE CHART READS: 14 ANSWERS WERE GIVEN A TOTAL VARIATION OF FROM 200-400; 4, FROM 400-500; ETC.

VARIATIONS IN NAMING THE FAULTS IN ANSWERS:

Potent questions in regard to faults in answers are:

To what extent are pupils able to tell what is wrong with answers?

In what ways do pupils differ in ability to name faults in answers?

How do answers differ in difficulty of evaluation?

There are three main types of faults in the answers in the evaluation test,- incomplete answers, answers that are off the subject and answers that are too broad. The following table shows the number of pupils who called each answer incomplete, off the subject and too broad, respectively.

The table also shows what the main fault in the answers is and the percent of pupils who gave the main fault for each answer. The percent of pupils is based on the number of pupils who actually named some fault for the answer.

TABLE X.

VARIATION IN NAMING FAULTS

GROUP 1

Answer Number	Pupils Calling Incomplete	Pupils calling Off subject	Pupils calling Too Broad	Main Fault in Answer	Percent Pupils Giving Right Fault
1	183	11	100	T. Br.	34
2	109	21	86	T. Br.	39
3	68	55	93	Inc.	31
4	40	10	41	----	66
5	99	33	119	T. Br	47
6	38	26	47	T. Br.	42
7	50	44	103	O. S.	22

GROUP 2

1	123	33	24	O. S.	18
2	88	105	58	Inc.	35
3	101	10	19	-9-	52
4	112	57	60	O. S.	24
5	20	2	33	T. Br.	60

GROUP 3

1	28	21	44	O. S.	22
2	62	26	63	----	41
3	69	32	124	O. S.	14
4	47	105	79	O. S.	45
5	47	70	60	O. S.	39
6	27	27	51	O. S.-	25

GROUP 4

Answer Number	Pupils Calling Incomplete	Pupils Calling Off subject	Pupils Calling Too Broad	Main Fault in Answer	Percent Pupils Giving Right Fault
1	59	36	49	O.S.	24
2	107	20	45	Inc.	60
3	110	20	40	Inc.	60
4	76	40	63	O.S.	22
5	28	10	31	---	65
6	61	67	44	O.S.	38

GROUP 5

1	26	143	55	Inc.	11
2	24	36	37	O.S.	36
3	56	38	76	T.Br.	44
4	103	33	72	O.S.	15
5	90	21	51	---	31
6	45	38	58	O.S.	26
7	39	75	53	O. S.	44

Group 6

1	22	159	25	O.S.	77
2	104	36	96	Inc.	39
3	54	23	66	O.S.	16
4	14	12	49	----	68
5	26	8	28	O.S.	11
6	89	24	86	Inc.	44

GIRLS		GROUP 1				
Answer Number	Pupils : Calling Incomplete	Pupils : Calling Off Subject	Pupils : Calling Too Broad	Main Fault In Answer	Percent Pupils Recognizing Fault	
1	109	4	71	T.Br.	38	
2	80	13	54	T.Br.	36	
3	45	37	64	Inc.	30	
4	21	4	28	---	67	
5	64	11	81	T.Br.	51	
6	30	18	27	T.Br.	36	
7	35	24	78	O.S.		
GROUP 2						
1	73	28	8	O.S.	25	
2	51	45	37	Inc.	38	
3	56	2	12	---	52	
4	62	34	30	O.S.	26	
5	13	2	24	T.Br.	61	
GROUP 3						
1	14	12	22	O.S.	25	
2	29	10	35	---	46	
3	39	17	67	O.S.	13	
4	28	64	44	O.S.	47	
5	24	36	34	O.S.	38	
6	17	14	31	O.S.	22	

GROUP 4

Answer Number	Pupils Calling Incomplete	Pupils Calling Off subject	Pupils Calling Too Broad	Main fault in Answer	Percent Pupils Giving Right Fault
1	35	18	25	O. S.	22
2	55	14	20	Inc.	61
3	61	12	20	Inc.	65
4	43	20	35	O.S.	20
5	12	6	22	---	67
6	34	33	17	O.S.	39

GROUP 5

1	17	79	28	Inc.	12
2	13	23	23	O.S.	38
3	31	24	30	T.Br.	35
4	52	17	43	O.S.	15
5	54	11	33	---	27
6	24	20	36	O.S.	25
7	19	43	28	O. S.	47

GROUP 6

1	9	94	15	O. s.	79
2	63	21	53	Inc.	46
3	30	15	33	O.S.	19
4	9	5	34	---	64
5	10	4	15	O.S.	13
6	51	12	44	Inc.	47

BOYS

GROUP 1

Answer Number	Pupils : Calling Incomplete	Pupils : Calling Off sub-ject	Pupils : Calling Too Broad	Main : Fault in Answer	Percent : Pupils giving Right Fault
1	74	7	29	T.Br.	26
2	29	8	32	T.Br.	54
3	23	18	29	Inc.	32
4	19	6	15	---	59
5	35	22	38	T.Br.	40
6	8	8	20	T.Br.	55
7	15	20	25	O.S.	33

GROUP 2

1	50	5	16	O.S.	70
2	37	60	21	Inc.	31
3	45	8	7	---	51
4	50	23	30	O.S.	22
5	7	0	9	T.Br.	56

GROUP 3

1	14	9	22	O. S.	20
2	33	16	28	---	34
3	30	15	57	O.S.	14
4	19	41	35	O. S.	43
5	23	34	26	O.S.	40
6	10	13	20	O.S.	30

GROUP 4

Answer Number	Pupils calling incomplete	Pupils calling Off subject	Pupils calling Too broad	Main Fault in Answer	Percent Pupils giving right fault
1	24	18	24	O. S.	28
2	52	6	25	Inc.	62
3	49	8	20	Inc.	63
4	33	20	28	O.S.	24
5	16	4	19	---	66
6	27	34	27	O.S.	40

GROUP 5

1	9	64	27	Inc.	9
2	11	13	14	O.S.	34
3	25	14	46	T.Br.	54
4	51	16	29	O.S.	16
5	36	10	18	---	39
6	21	18	22	O.S.	41
7	20	32	25	O.S.	41

GROUP 6

1	13	65	10	O. S.	72
2	41	15	43	Inc.	41
3	24	8	33	O.S.	12
4	5	7	15	---	74
5	16	4	13	O. S.	12
6	38	12	42	Inc.	41

TABLE XI.

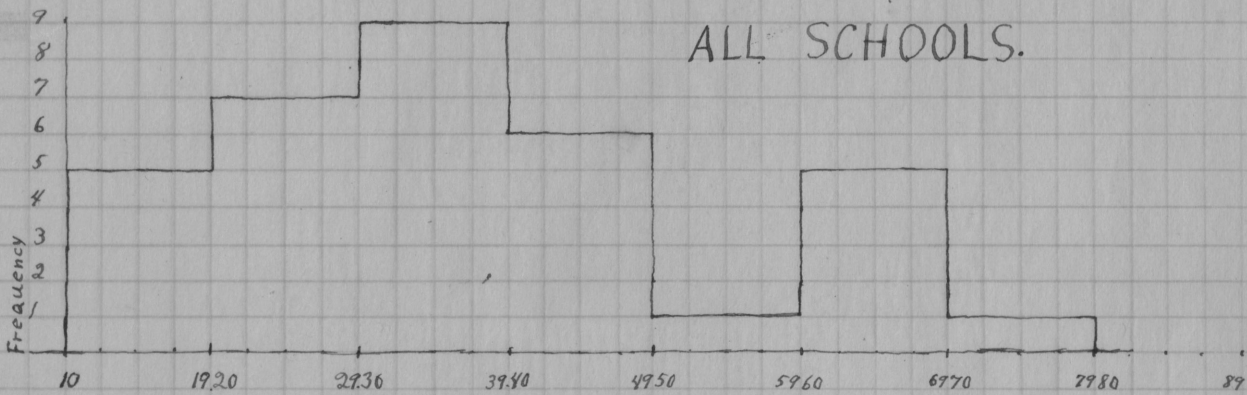
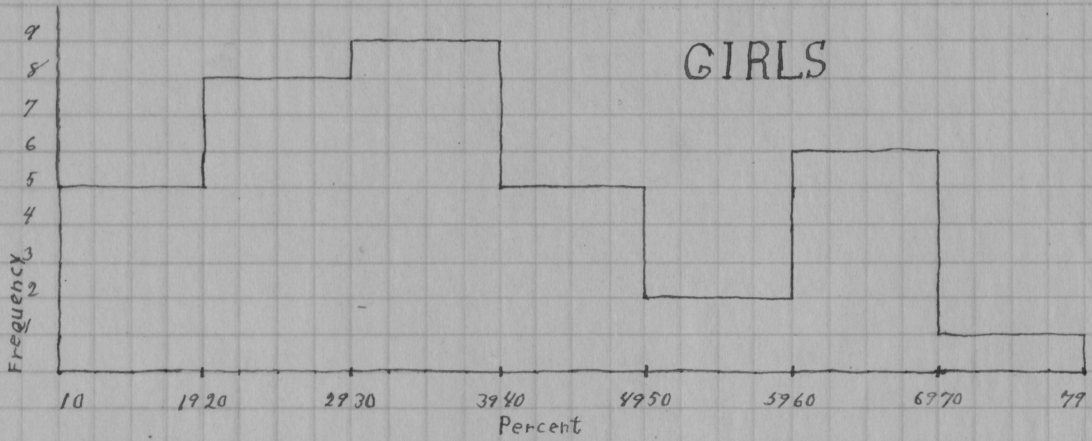
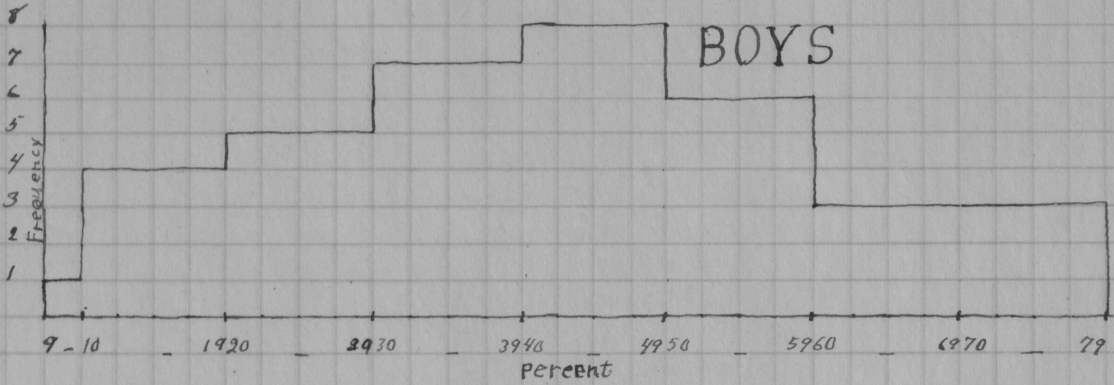
PERCENT OF PUPILS NAMING THE MAIN FAULT IN THE DIFFERENT
TYPES OF ANSWERS

An- swer No.	INCOMPLETE		An- swer No.	TOO BROAD		Per- cent- of Pupils	OFF SUBJECT		Per- cent of Pupils
	Group No.	Per- cent of Pupils		Group No.	Per- cent- of Pupils		Answer No.	Group No.	
1	5	11	1	1	34	1	5	11	
3	1	31	2	1	39	3	3	14	
2	2	35	6	1	42	4	5	15	
2	6	39	3	5	44	3	6	16	
6	6	44	5	1	47	1	2	18	
2	4	60	5	2	60	1	3	22	
3	4	60				7	1	22	
						4	4	22	
						1	4	24	
						4	2	24	
						6	3	25	
						6	5	26	
						2	5	36	
						6	5	38	
						7	5	44	
						3	3	45	
						1	6	77	

Column 1 shows percent of pupils who gave the main fault in the incomplete answers.

Column 2 shows percent of pupils who gave the main fault in the too broad answers.

Column 3 shows percent of pupils who gave the main fault in the off subject answers.



Percent of pupils who recognized the main fault in answers. Percent is based on the number of pupils who named faults, not on the whole group.

CONCLUSIONS

The lowest variation from standard is shown for the excellent answers. Pupils have greater ability in recognizing an excellent answer than they have in detecting poor and unsatisfactory answers. Practically all the answers with a variation from the standard of 224-367 are excellent, fair or good. There is but one exception and this one is, poor. The greatest variation for an excellent answer is 501.

Although more ability is shown in evaluating excellent answers than for the low grade answers, yet the ability in evaluating excellent answers is very low.

Only 54 percent of the judgments on excellent answers were on standard,- in 46 percent of the cases pupils did not recognize an excellent answer when they saw it or distinguish it from less satisfactory answers.

Some of the poorest answers are statements that have been copied in the exact words of the text. For example, Answer 1, Group 3 is an unsatisfactory answer which was copied verbatim from the text. Most

of the pupils marked this answer excellent. It has a total variation from the standard of 1126,- the greatest variation from standard of any answer. The same situation is found in the case of other obviously poor or unsatisfactory answers which have been copied word for word from the original paragraphs.

The main fault is not recognized by a majority of the pupils in many of the answers. For example:

Answer 2, Group 1 is too broad and was called "Incomplete" by 109, "Off subject" by 21, and "Too broad" by 86.

Answer 1, Group 2, is off the subject and was called "Incomplete" by 123, "Too broad" by 24 and "Off subject" by 33.

Answer 4, Group 2, is off the subject and was called "Incomplete" by 112, "Too broad" by 60 and "Off subject" by 57.

Answer 3, Group 3, is off subject and was called "Too broad" by 124, "Incomplete" by 69 and "Off subject" by 32.

Answer 4, Group 5 is off the subject and was called "Incomplete" by 103, "Too broad" by 72 and "Off subject" by 33.

On some of the answers pupils' judgments are about equally divided. Examples are, Answer 5, Group 3; Answer 1, Group 4; Answer 6, Group 4; Answer 2, Group 5; Answer 6, Group 5.

Pupils have less ability in evaluating answers which are off the subject:

- a. The variation of answers which are off subject is uniformly greater than the variation of incomplete and too broad answers (See distribution table).
- b. The percent of pupils who recognized the main fault in "Off subject" answers was proportionately less than in the "incomplete" and "Too broad" answers.

CHAPTER VI.

SUMMARY OF CONCLUSIONS.

1. A large percent of the pupils marked answers off the standard. The median percent of the judgments that did not agree with the standard mark was 79%. Ninety to 99% is the model group of judgments off the standard. That is, a larger number of answers were marked off standard by the 90-99% group than by any of the lower percent groups.
2. Possible variations of individual judgments from the standard grade adopted for each of the 37 answers, range from 0-4, depending on whether the standard grade of the answer is excellent, good, fair, poor or unsatisfactory. The lowest possible total variation, sum of the variations of the 37 answers, is 0, and the highest possible variation is 128. Actual variations in judgment range from 26 to 100. The median variation from standard is 61.5. Since 61.5 is 48% of 128, the median score or variation from the standard of 61.5 represents a grade of 52% on a 100%.

grading system.

This grade of 52% is the median score of 8th grade pupils from several of the best city schools of Kansas and Missouri.

3. Pupils who have had some training in answer evaluation and criticism have greater ability in grading answers than pupils who have had practically no training. As is shown by the medians, the school which trained in answer evaluation and criticism ranks best both in regard to percent of answers off standard and amount of variation from the standard.

The medians for the various schools are as follows:

<u>School</u>	<u>Median, % off Standard</u>	<u>School</u>	<u>Median extent of variation</u>
B	76	B	54
D	82	C	57
C	83	D	61
G	88	G	63
A	91	A	63
E	93	E	63
F	97	F	70

School B, in which pupils were training in answer criticism ranks best both in percent of answers off standard and extent of variations from the standard.

The difference between the median percent off standard for School B and School F is 21.

The difference between the median amount of variation for School B and School F is 16. These differences are rather large.

4. Boys and girls rank about the same in ability to evaluate answers. In extent of variation, the modal group for the girls is 60-64, for the boys it is 54-59. The median in extent of variation from the standard is 63 for the girls and 55 for the boys.

In percent of pupils off the standard, the modal group for the girls is 80-89%, for the boys it is 90-99%. The median percent off the standard is 81 for the girls and 79 for the boys.

5. Some types of answers offer greater difficulty than others. Answers which were copied verbatim from the text and low grade answers gave the most difficulty. The answers which were copied

verbatim from the text and the low grade answers were graded farthest from the standard. Eight out of ten answers which showed the greatest variation from the standard are answers copied almost word for word from the text. All of these ten answers showing greatest extent of variation from the standard are unsatisfactory answers, except one and it is a poor answer.

Excellent answers show the least variation from the standard, but only 54% of the judgments on excellent answers were on standard. The variation of the excellent answers was high.

6. Answers with certain kinds of faults have greater variation from the standard than others. The 14 answers with the greatest variation from the standard are all off the subject except one. It is significant that the incomplete answers and the answers that are too broad, as a group, have the lowest variation from the standard and the answers that are off the subject have the greatest variation from the standard.

It is also shown that pupils have less proficiency in recognizing the main faults in answers that are off the subject than in answers that are incomplete

or too broad.

7. The main purpose of this study is to show the actual facts in regard to pupils' ability to evaluate answers. It has been shown that pupils have very little ability in answer evaluation. And comparisons between different schools have shown that some schools rank much better than others in ability to evaluate answers. The school ranking highest uses the socialized recitation. In the socialized recitation is found a method of instruction that affords special opportunity for training in answer evaluation.

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Text.....	100		
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Thorndike key.....	15		
Time.....	15		