

THE UNIVERSITY OF MINNESOTA

GRADUATE SCHOOL

Report
of
Committee on Thesis

The undersigned, acting as a Committee of the Graduate School, have read the accompanying thesis submitted by William Arthur Ziegler for the degree of Master of Arts.

They approve it as a thesis meeting the requirements of the Graduate School of the University of Minnesota, and recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Arts.

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Date May 22, 1922

THE UNIVERSITY OF MINNESOTA

GRADUATE SCHOOL

Report

of

Committee on Examination

This is to certify that we the undersigned, as a committee of the Graduate School, have given William Arthur Ziegler final oral examination for the degree of Master of Arts . We recommend that the degree of Master of Arts be conferred upon the candidate.

Minneapolis, Minnesota

May 23 1922

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CLASSIFICATION ACCORDING TO INTELLIGENCE TESTS,
SEVENTH AND EIGHTH GRADES,
THIEF RIVER FALLS, MINNESOTA

A Thesis
Submitted to the Graduate Faculty
of the
University of Minnesota

by

William Arthur Ziegler

In partial fulfillment of the requirements
for the
degree of

Master of Arts

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INTRODUCTION

Previous to September, 1921, the pupils in the seventh and eighth grades of the Thief River Falls, Minnesota, public schools had been divided into classes alphabetically, so that the letter with which a pupil's name began determined the class to which he was assigned. The project of this thesis grew out of the administrative problem of classifying these pupils on the basis of ability.

The thesis is a description of the solution of this problem, and the furnishing of evidence that the classes were formed according to the ability of the pupils. Brief chapters are included on similar projects described in current literature, and on objections to intelligence testing. Opinions of the teachers who conducted the classes, showing their reactions to this method of classification, are also included.

The Haggerty¹ Intelligence Examination, Delta II, and the Otis² Intelligence Scale, Advanced Examination, were

1. Haggerty, M.E., Intelligence Examination, Delta II, World Book Co., Yonkers, New York.
2. Otis, Arthur S., Intelligence Scale, Advanced Examination, World Book Co., Yonkers, New York.

used to classify the pupils. Of the entire number of pupils in the two grades, who took the tests in September, 1920, there were 87 in the seventh grade and 99 in the eighth grade who remained in school through the year, and whose records could be used for this thesis. The evidence that these pupils were classified according to ability is a record of the school marks earned throughout the year. The record of their marks was kept in a specially designed record book, sample pages of which are included in the appendix. The intelligence scores of the pupils, and their school marks are also listed in the appendix.

There was no attempt to make an exhaustive scientific analysis of the data. The specific purpose of the project was to determine the usability of intelligence tests as instruments for classification. So far, the tests projects described in current literature, have only been undertaken in the larger school systems, or on large scales. The administrator of the smaller school system will find intelligence tests equally serviceable for purposes of classification.

Chapter I

CLASSIFICATION PROJECTS DESCRIBED IN CURRENT LITERATURE

I.N.Madsen¹ and C.L.Harlan of the Lewiston, Idaho, State Normal School, used the Haggerty Intelligence Examination, Delta II, the Monroe Silent Reading Test, and the Monroe Reasoning Tests in Arithmetic in a tetst project in Idaho. In general, large schools, small schools and rural schools were tested. The report shows that the pupils of the large schools ranked highest in intelligence and achievement, and that the pupils of the rural schools ranked lowest, although there were large deviations from the median score for each group. Superintendents had only a vague consciousness of the situation revealed by the tests, and in some cases acted on the information obtained and did some reclassifying with satisfactory results.

Charles Fordyce² used the Haggerty Intelligence Examinations to classify elementary school children in the Lincoln, Nebraska, public schools. The Delta I was given to 602 children in the first two grades, and the Delta II to 476 children in the sixth grade. Fordyce found a correlation of .44, P.E. .02, between teachers' ratings and test scores. He concluded that the correla-

1. Madsen, I.N., Some results from a testing program in Idaho. School and Society, 13:624-8, May 28, 1921.
2. Fordyce, Charles, Intelligence tests in classifying children in the elementary school. Journal of Educational Research, 4:41-3, June, 1921.

tion was sufficiently high to warrant giving tests for purposes of proper grading.

James M. Glass³ used the Otis Intelligence Scale for grouping 343 seventh grade pupils in the Junior High School of Rochester, New York, in 1919. He ranked 296 of these pupils according to their scores, and formed groups of 37 pupils each. The remaining 47 pupils were special type cases and were placed in a group by themselves. Grouping was made flexible, permitting transfers wherever deemed advisable.

In September, 1920, Glass⁴ enlarged upon the grouping project begun the year before. Previously, teachers' ratings had been the basis of classifications. The sixth grade teachers in the various parts of the school system rated, by individual standards, their pupils for the divisions of the seventh grade for the Junior High School for the following September. Any one of these divisions was made up of pupils judged by various standards. The divisions were not homogeneous, and a great deal of transferring was necessary in the beginning of the school year to make heterogeneous groups homogeneous. This made unnecessary work and kept things in an unsettled state of affairs. Scientific grouping, with its uniform standards, did away almost entirely

3. Glass, J.M., Classification of pupils in ability groups.
School Review, 28:251-2, April, 1920.

4. Glass, J.M., Classification of pupils in ability groups.
School Review, 28:494-08, September, 1920.

with the need of transfers. Test scores plus teachers' judgments were used as the new basis for grouping. The whole project was conducted on conservative lines. The Stanford-Binet tests were used on extreme cases. Glass concluded that the tests furnished a reliable basis for standard grouping. "Administrative plans can materialize intelligently and in harmony with the real needs; secures individual justice, and an educational 'square deal'."

W.D.Armentrout ⁵ gave the Otis test to 397 seventh and eighth grade pupils in the Junior High School of Lawrence, Kansas, in 1920. He formed three groups according to ability as determined by the test scores in each of the seventh A and eighth A grades, and four groups each in the seventh B and eighth B grades with enrolment in each group as follows;

Groups and enrolment

Grade	I	II	III	IV
7A	33	32	26	
7B	29	30	27	20
8A	26	29	29	
8B	29	29	31	27

Enrolment in a group was subject to change wherever found necessary.

5. Armentrout, W.D., Grouping pupils by intelligence tests.
School Review, 28:249-52, April, 1920.

Superintendent T.W.Callahan⁶,Galesburg,Illinois,gave the Buckingham Intelligence and Silent Reading Tests to 285 seventh grade pupils in May,1920. The scores were used as a basis for forming groups according to ability for the eighth grade the following September. The group which ranked the highest did the greatest amount of work,and the group which ranked the lowest did the least amount of work.Each group did an amount of work corresponding to its rank in the tests.

Superintendent S.H.Layton,Altoona ,Pennsylvania,arranged to have C.E.Meyers⁷ and G.C.Meyers aid him in giving 6,774 pupils in the elementary grades the Meyers Mental Measure for diagnostic purposes in May,1920. Tables were worked out in order that they might really know the school system as shown by scientific testing. Layton remarks that "too long have school children been permitted a 'Niagra Falls' spot. They should be rescued 'up stream.'" After studying the results,the following recommendations were made:

"The first grade should be tested soon after the opening of school,and the children grouped according to scores."

"Failure of promotion should be reduced to zero by transferring pupils from one group to another as soon as the need therefor becomes apparent."

Other recommendations are not pertinent to this study.

6. Callihan,T.W.,Experiment in the use of intelligence tests as a basis for proper grading and promotions in the eighth grade. Elementary School Journal,21:465-9, Feb.,1921.

7. Meyers,C.E.,and G.C.,Group mental testing in Altoona,Pa. School and Society,13:624-8,May,28,1921.

Roy H. Bracewell⁸ of Burlington, Iowa, gave the Freeman-Rugg General Intelligence Test to high school freshmen in 1919, for the purpose of forming groups according to ability as determined by the test scores. He found the tests to have a high degree of reliability for purposes of grouping and concluded that tests are worthwhile.

Superintendent Reavis⁹ of the Altona, Illinois, public schools, conducted a kindergarten grouping project in 1920. The pupils were first rated by teachers' judgments, and the extreme cases were rated by the Stanford-Binet test. Reavis concluded that the experiment was successful and that tests are a great help in properly classifying children.

The New York State Department of Education, in response to requests, held eight conferences in November, 1920, in different Normal Schools of the State, and one at the Department offices in Albany. It also cooperated in giving tests in 45 districts, and made surveys in 4 districts during the year.¹⁰

In Michigan cities, wholesale intelligence examining has been attempted under the direction of a central administrative officer.¹¹

8. Bracewell, Roy E., Freeman-Rugg General Intelligence Tests as an aid to economy in school administration.
School Review, 29:460-6, June, 1921.

9. Elementary School Journal, 21:331-3, January, 1921.

10. School and Society, 14:428, November 12, 1921.

11. Whipple, Guy M., Journal of Educational Research, 4:21, June, 1921.

Pupils of the VIA grade of the Cleveland schools were given the Illinois Intelligence Test early in January, 1920, by W.W.Theisen¹². The results were utilized by the Junior High School Principals for arranging the pupils into VIIB groups of different ability as they entered the Junior High School on January 31. At the end of the following June, achievement tests were given to measure the reliability of the grouping. The Stone Reasoning Test in Arithmetic, the Monroe Silent Reading Test, Form II, and Charter's Language Test were used. "The results afford sufficient justification for the policy of grouping pupils on the basis of ability."

Frederich S. Breed¹³ has the following to say in commenting on the meeting of the Department of Superintendence at Chicago.

"It seems clear from reliable studies reported at the meeting, that intelligence tests are proving of service in the classification of first grade children at Detroit; in the organization of special classes in Jackson, Michigan; in the classification of pupils into homogeneous groups in the University of Minnesota High School; ...to mention only a few of the instances where tests are being carefully and practically employed."

12. Theisen, W.W., The relative progress of VIIB groups sectioned on the basis of ability.
Journal of Educational Research, 5:295-305, April, 1922.

13. Breed, Frederick S., The status of intelligence tests.
School Review, 30:242-4, April, 1922.

Verne A. Bird ¹⁴in working out a relationship between general-intelligence and ability to do a machine shop project, prefaced his article as follows,- "We may properly assume that recent experiments have established the existence of significantly high correlation between general intelligence as determined by intelligence tests, and ability to do the required amount of academic work in our public schools."

14. Bird, Verne A., General intelligence, machine shop work, and educational guidance in the Junior High School. School Review; 29:782-6, December, 1921.

Chapter II

THE TESTS PROJECT IN THE THIEF RIVER FALLS,
MINNESOTA, PUBLIC SCHOOLS.

The Haggerty Intelligence Examination, Delta II, and the Otis Intelligence Scale, Advanced Examination, were given to the seventh and eighth grade pupils of the Thief River Falls, Minnesota, public schools in September, 1920. The pupils of both grades were assembled in one large room, and were given the two tests in succession. The number 4, Proverbs, Otis Test, was omitted in this project because in some testing done the year before, many of the pupils failed to score in it.

The seventh and eighth grade teachers were drilled in the method of correcting the papers. The plan followed was to have the same teacher correct the same test in every paper to secure greater uniformity and reliability. The pupils in each grade were ranked according to their average scores in the two tests. They were then divided into four approximately equal groups. In this thesis, only those pupils are considered who remained in school for the whole year. There were 87 of these in the seventh grade and 99 in the eighth.

The two grades were housed in one building, and the work was organized on a departmental basis. There were four teachers for the seventh grade; one taught arithmetic to all four groups, one taught grammar to all four groups, one taught history to all four groups, and one taught geography to all four groups. Marks in these subjects only are included in this thesis. The program

for the seventh grade was worked out as follows;

Teacher of arithmetic	Teacher of grammar	Teacher of history	Teacher of geography
Group I	Group II	Group III	Group IV
Group II	Group III	Group IV	Group I
Group III	Group IV	Group I	Group II
Group IV	Group I	Group II	Group III

Study periods, work in reading, writing, industrial work, etc. were arranged for throughout the day in such a way that the program as a whole was organized as advantageously as possible.

There were three teachers in the eighth grade teaching three major subjects. Each teacher taught one of these to all four groups according to the following program;

Teacher of arithmetic	Teacher of grammar	Teacher of history	Study group
Group I	Group II	Group III	Group IV
Group II	Group III	Group IV	Group I
Group III	Group IV	Group I	Group II
Group IV	Group I	Group II	Group III

The relative arrangement of groups is identical with that of the seventh grade. The study group in each instance was divided into thirds and apportioned to the three teachers. Thus, while group I was reciting arithmetic, a third of group IV was in the same room studying, etc. While the eighth grade had only three so called major subjects, there was more industrial work for them, so that the pupils had fully as much to do in a day as those of the seventh grade. The next chapter contains a description of the groups .

Chapter III

DESCRIPTIONS OF GROUPS IN TERMS OF TEST SCORES

The data upon which the assumption was made that the groups differed in ability are contained in the following table.

TABLE I

Description of each group in terms of the median average score for the two tests, the standard deviation, the coefficient of variability, and the difference between the median scores of consecutive groups; the number of cases in each group.

SEVENTH GRADE

	No. of cases	Median score	Diff. between med. scores of con. groups	S.D.	Coefficient of var. $\frac{100 \text{ S.D.}}{M}$
Group I	20	105.0		7.97	7.60
Group II	24	94.5	10.5	2.64	2.80
Group III	21	81.0	13.5	6.09	7.50
Group IV	22	65.0	16.0	8.06	12.40

EIGHTH GRADE

Group I	24	127.5		6.25	4.90
Group II	25	114.5	13.0	3.15	2.75
Group III	26	101.5	13.0	3.63	3.57
Group IV	24	87.5	14.0	9.67	11.05

Table I means that there were 20 pupils in group I of the seventh grade, with a median average score, in the two tests, of 105.0; a standard deviation of 7.97; and a coefficient of variability of 7.60. The difference between the median scores of groups I and II was 10.5, etc.

This difference between the median scores of consecutive groups indicates that there was a difference of ability between the groups. The standard deviation and coefficient of variability for each group indicate variability within each group. It may therefore be expected that there will be a corresponding variation of marks. A distribution was made of the marks each teacher gave to each of the four groups in the subject which she taught, and of the total for the four groups. The marks, shown in tables in the appendix, were for the months of September, November, January, March, and May. There were 1696 marks for the seventh grade, and 1485 for the eighth. The distributions are shown in Chapter IV.

Chapter IV

DISTRIBUTIONS OF MARKS

Table 2 shows the distributions of marks for the seventh grade. The arithmetic teacher gave 99 marks to group I, of which 24 or 24.3% were A's; 43 or 43.4%, B's; etc. She gave a total of 424 marks to the four groups, of which 34 or 8.0% were A's; 139 or 32.8%, B's, etc. In a similar way, the table shows the distributions of the marks given by the teachers of grammar, history, and geography respectively. These data are shown graphically in Figure 1.

Group I ranked the highest in every subject in percentage of A's and B's, and the lowest in percentage of D's and EF's. These percentages for the different groups in any one subject can be reliably used for purposes of comparison because both the instruction and the marks were the work of the same teacher. It may be seen from both Table 2 and Figure 1 that the percentages of A's and B's decrease from group I to group IV, and that the percentages D's and EF's increase.

These skewed distributions of marks by groups are significant in the light of the approximately normal distribution of the total marks for the four groups combined. It signifies that a normal distribution of ability can be classified into groups, each of which is a skewed distribution. That is, intelligence tests can distinguish the good pupils from the poor ones.

Figure one shows that the seventh grade arithmetic and grammar teachers were high markers, that the history teacher was a low marker, and that the geography teacher gave practically a

Table II

Distribution of marks by number

and percent in SEVENTH GRADE subjects by groups.

ARITH.	EF		D		C		B		A		Total
	No.	%	No.	%	No.	%	No.	%	No.	%	
I			5	5.1	27	27.3	43	43.4	24	24.3	99
II	1	1.0	22	19.0	39	33.6	50	43.1	4	3.4	116
III	1	1.0	32	31.7	40	39.6	24	23.8	4	4.0	101
IV	3	2.8	34	31.5	47	43.5	22	20.4	2	1.9	108
Total	5	1.2	93	21.9	153	36.1	139	32.8	34	8.0	424
GRAM.											
I	2	2.0	2	2.0	26	26.3	62	62.6	7	7.0	99
II	1	1.0	14	12.1	41	35.3	54	46.6	6	5.2	116
III			31	30.7	49	48.5	21	21.8			101
IV	1	0.9	31	28.7	54	50.0	20	18.5	2	1.9	108
Total	4	1.2	78	18.4	170	40.1	157	37.0	15	3.5	424
HIST.											
I	2	2.0	10	10.1	62	62.6	25	25.3			99
II	3	2.6	36	31.0	61	52.6	15	13.0	1	1.0	116
III	11	10.9	55	54.4	31	30.7	4	4.0			101
IV	8	7.4	64	59.3	33	33.3					108
Total	24	5.7	165	39.0	190	44.8	44	10.4	1	0.2	424
GEOG.											
I	1	1.0	2	2.0	40	40.4	43	43.4	13	13.3	99
II	7	6.0	21	18.1	55	47.4	31	26.7	2	1.7	116
III	13	12.9	19	18.8	59	58.4	10	9.9			101
IV	14	13.0	54	50.0	27	25.0	11	10.2	2	1.9	108
Total	35	8.3	96	22.6	181	42.7	95	22.4	17	4.0	
Grand Total	68	4.0	432	25.5	694	40.9	435	25.6	67	4.0	1696

Table III

Distribution of marks by number

and percent in EIGHTH GRADE subjects by groups.

ARITH.	EF		D		C		B		A		Total
	No.	%	No.	%	No.	%	No.	%	No.	%	
I			1	1.0	50	41.7	63	52.5	6	5.0	120
II	5	4.0	19	15.2	63	50.4	32	25.6	6	4.8	125
III	10	7.7	21	16.2	75	57.7	23	17.7	1	1.0	130
IV	3	2.5	58	48.3	51	42.5	8	6.7			120
Total	18	3.6	99	20.0	239	48.3	126	25.5	13	2.6	495
GRAM.											
I	4	3.3	31	25.8	30	25.0	39	32.5	16	13.3	120
II	8	6.4	21	16.8	50	40.0	32	25.6	14	11.2	125
III	28	21.5	32	24.6	42	32.3	27	20.8	1	1.0	130
IV	13	10.8	42	35.0	51	42.5	13	10.8	1	1.0	120
Total	53	10.7	126	25.5	173	34.9	111	22.4	32	6.5	495
HIST.											
I			11	9.2	36	30.0	58	48.3	15	12.5	120
II	8	6.4	20	16.0	42	33.6	44	35.2	11	8.8	125
III	10	7.7	28	21.5	55	42.3	34	26.2	3	2.3	130
IV	7	5.8	55	45.8	51	42.5	7	5.8			120
Total	25	5.1	114	23.0	184	37.2	143	28.9	29	5.9	495
Grand Total	96	6.5	339	22.8	596	40.2	380	25.6	74	5.0	1485

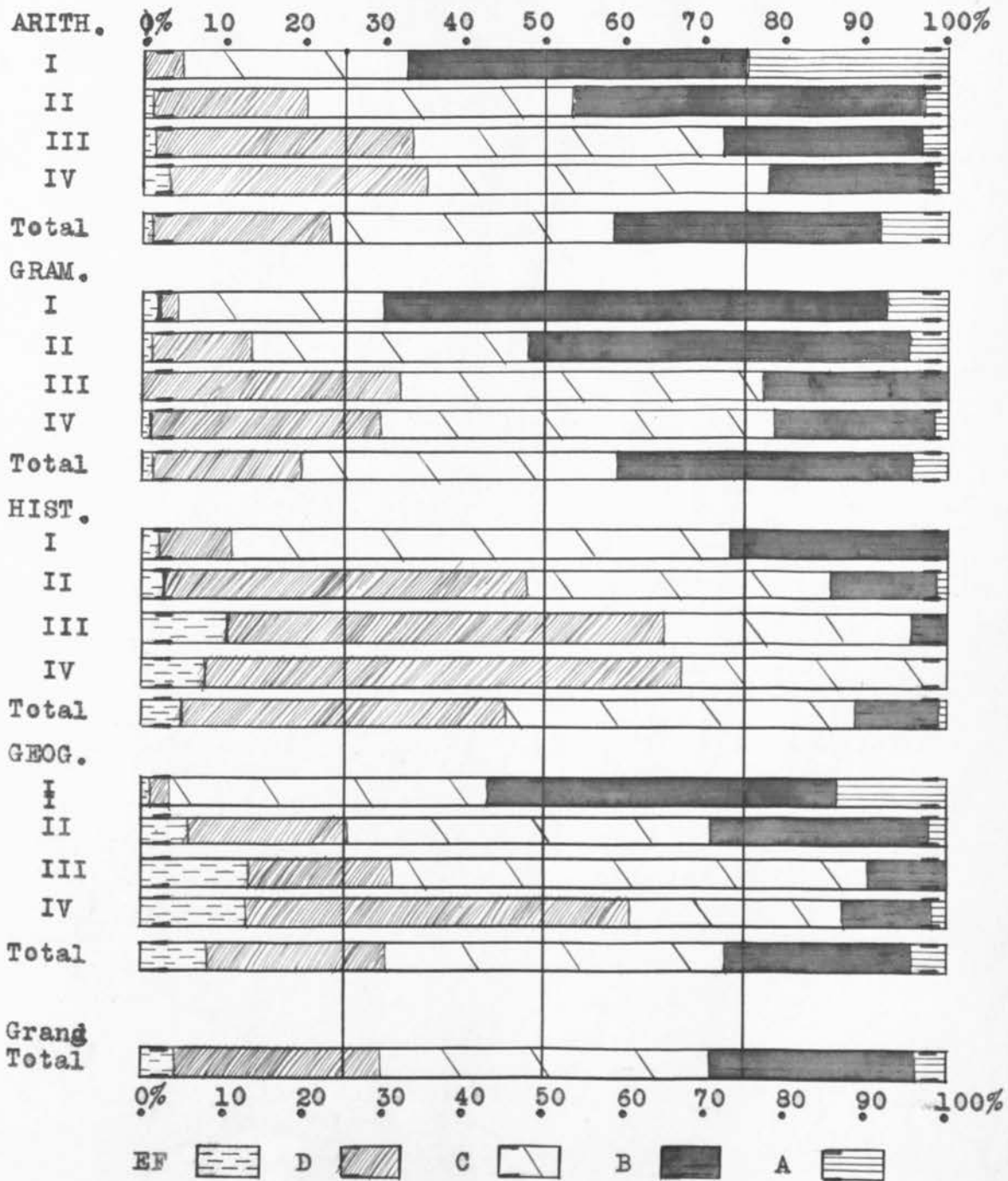


Figure 1

Distributions of marks shown in Table II in
SEVENTH GRADE subjects.

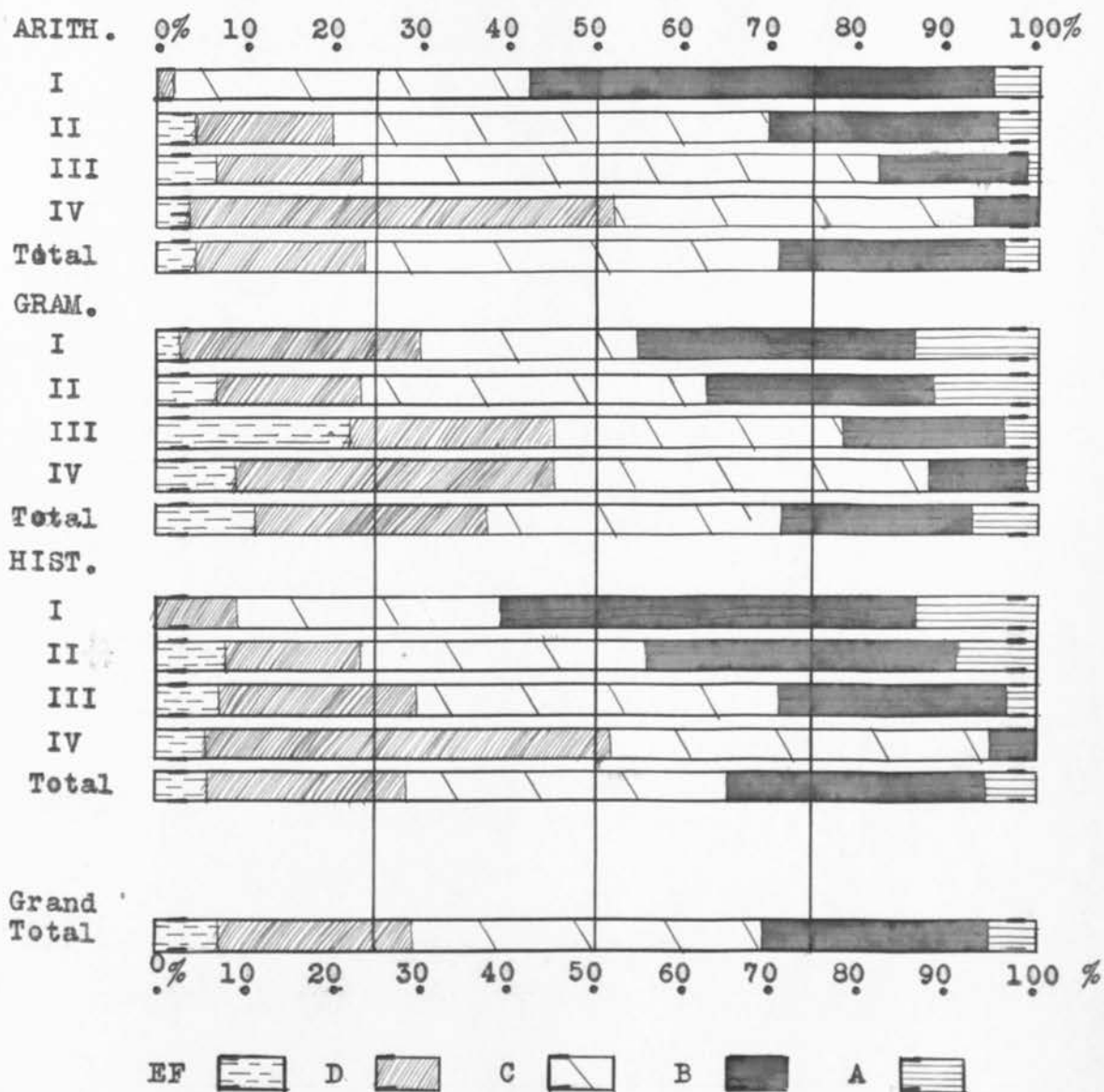


Figure 2

Distributions of marks shown in Table III in
EIGHTH GRADE subjects.

normal distribution of marks. The variations in the distributions of the totals counterbalance each other to such an extent that the grand total distribution for the seventh grade balances to within 0.1% of being perfect. The grand total distribution is 4.0%, A's; 25.6%, B's; 40.9% C's; 25.5% D's; and 4.0% EF's. This grand total is not the one from which the skewed distributions of the different groups are made up, however. They are made up directly from the totals of each teacher's marks.

Table III and Figure 2 show the distributions of marks by groups and by subjects in the eighth grade. The relationships and their interpretations are the same as those for the seventh grade. The percentage of A's and B's vary inversely with the rank of the groups, and the percentage of D's and EF's vary directly with the rank.

While it is true that the graphs and tables show distributions of marks skewed in accordance with the ability of the groups, it is also true that group I had some pupils who earned D's and EF's, and that group IV had some who earned A's and B's. In many cases, there is an explanation for this non-conformity. It is shown in Chapter V.

Chapter V

EXPLANATION OF WHY THE MARKS OF SOME PUPILS
DID NOT CONFORM TO THEIR TEST SCORES

Table VI, in Chapter VIII, shows that group I of the seventh grade received 6.1% D's and EF's, and that group IV received 13.1% A's and B's. Group I of the eighth grade received 13.0% D's and EF's, and group IV received 8.1% A's and B's. The individual cases whose marks do not conform to their test scores are listed in this chapter, and the reason for the non-conformity is explained by one or more of the following eight reasons.

Pupils in group I, receiving D's and EF's.

1. Pupil has only one or two or three poor marks. (The number of poor marks he has is listed after his record.) All the rest of his marks for the whole year were C's and better. Evidently the pupil did not apply himself at times, or the teacher did not mark him justly, as indicated by the preponderance of higher marks. Apparently, the D's and EF's are not true measures of the real ability of this pupil.
2. The eighth grade grammar teacher was a low marker. See Table III. She was responsible for 35 of the D's and EF's out of the 47 received by group I in all subjects. Her own distribution balanced to within 7.3%, but this was in favor of the poor marks, and the result was that she gave 74.4% of

the poor marks earned by group I.

3. Retarded pupil. This pupil is over-age for his grade. He possessed the maturity to score in group I, but he would have a comparatively low IQ. The fact that a pupil has the ability to score in group I does not necessarily mean that he can do exceptional work. It is perfectly normal for a retarded pupil in group I to have some poor marks.
4. The seventh grade history teacher was a low marker. See Table II. She was responsible for 12 of the 24 D's and EF's received by the seventh grade group I in all subjects. Her total distribution shows that she gave 34.1% more poor marks than good ones. (Note. This fact does not invalidate the results of this thesis in the least. Figure 2 shows the history groups to have skewed distributions of marks in perfect conformity to the distributions in other subjects. The whole is simply on a lower plane of marks. Group I shows the same relative superiority in marks over group IV that is shown in every other subject.) This situation resulted in the fact that the history teacher gave 50% of the poor marks earned by group I in all subjects.

Pupils in group IV, receiving A's and B's.

5. Accelerated pupil. This pupil is under-age for his grade. He is a pupil of such ability that he was able to score better than those in group I in the grade of his

chronological age. He was able to score in the group of the next consecutive rank, which was group IV in the grade above. Such a pupil would have a comparatively high IQ, and be capable of earning good marks. Since the project of this thesis was based upon classification according to intelligence scores, an accelerated pupil of this sort was naturally classified in group IV.

6. Pupil received a zero score in one or more tests. The pupil of adjacent rank made an appreciable score in the same test. This seems to indicate that the failure to score was due to a lack of comprehending just what was required, especially in view of the fact that the pupil made substantial scores in the rest of the tests. The examination evidently classified this pupil wrong, because he had the ability to earn good marks.
7. Pupil has only one or two or three good marks. All the rest of his marks for the whole year were C's and below. Evidently the high marks this pupil received were not a true measure of his ability as indicated by the preponderance of poor marks.
8. The seventh grade arithmetic and grammar teachers were high markers. They gave 46 of the 57 good marks received by group IV in all subjects. This pupil would not have received the good marks if these teachers' scheme of marking had been pitched on a lower plane.

The individual cases of the extreme groups, I and IV, whose marks did not conform to their test scores are listed in the following table. The marks of the pupils are included, and the one or more reasons for the non-conformity are indicated in the column at the right. A summary of these reasons follows the table.

Table IV

Cases whose marks did not conform to test scores,
their marks, and reasons for the non-conformity.

Pupil's RANK in tests, and AGE in yrs. and mos.		GROUP I SEVENTH GRADE					The one or more of the eight listed reasons for the non-conformity
4. 13 - 7	Arithmetic Grammar History Geography	B C <u>d</u> C	B C <u>d</u> B	B B C C	B B C B		Two poor marks. 4, Low marker. 3, Retarded.
8. 12 - 6	Arithmetic Grammar History Geography	B C C C	C C C B	C B C B	<u>d</u> B C C	C B C C	1, One poor mark
9. 12 - 9	Arithmetic Grammar History Geography	C C B B	C C <u>d</u> B	C C C C	C B <u>e</u> C	C B <u>d</u> C	1, Three poor marks 4, Low marker
10. 11 - 8	Arithmetic Grammar History Geography	B C <u>e</u> C	A B <u>d</u> B	B B C C	C B C C	B B C C	1, Two poor marks 4, Low marker
13. 12 - 8	Arithmetic Grammar History Geography	B B C B	<u>d</u> C C B	C B B B	C B C B	C B C B	1, One poor mark
16. 13 - 3	Arithmetic Grammar History Geography	C C B C	<u>d</u> <u>e</u> B C	C B B C	C C B C	C C B C	1, Two poor marks 3, Retarded
19.5 13 - 1	Arithmetic Grammar History Geography	<u>d</u> C <u>d</u> C	A B <u>d</u> B	A B C C	A B C B	A B C C	1, Three poor marks 4, Low marker
19.5 13 - 11	Arithmetic Grammar History Geography	<u>d</u> <u>d</u> <u>d</u> <u>d</u>	C <u>d</u> C B	C <u>e</u> C <u>d</u>	C C <u>d</u> C	C C C f	A strange case, respon- sible for 9 of the 24 D's and EF's received by group I, in all. 4, Retarded

Table IV, con't.

Pupil's RANK in tests, and AGE in yrs. and mos.		GROUP I EIGHTH GRADE					The one or more of the eight listed reasons for the non-conformity	
1.		Arithmetic	C	B	B	C	B	1, Three poor marks 2, Low marker
14 - 11		Grammar	C	$\frac{d}{B}$	C	$\frac{d}{C}$	$\frac{d}{C}$	
		History	C	$\frac{d}{B}$	C	$\frac{d}{C}$	$\frac{d}{C}$	
3.5		Arithmetic	C	C	B	C	C	1, Three poor marks 2, Low marker
13 - 6		Grammar	C	C	$\frac{d}{B}$	$\frac{d}{B}$	$\frac{d}{B}$	
		History	C	C	$\frac{d}{B}$	$\frac{d}{B}$	$\frac{d}{B}$	
5.		Arithmetic	B	B	C	B	C	2, Low marker 3, Retarded
14 - 3		Grammar	$\frac{d}{d}$	$\frac{d}{d}$	$\frac{d}{C}$	C	$\frac{d}{C}$	
		History	$\frac{d}{d}$	$\frac{d}{d}$	$\frac{d}{C}$	C	$\frac{d}{C}$	
8.5		Arithmetic	B	B	C	B	C	2, Low marker
13 - 6		Grammar	$\frac{d}{d}$	$\frac{d}{C}$	$\frac{d}{C}$	$\frac{f}{C}$	C	
		History	$\frac{d}{d}$	$\frac{d}{C}$	$\frac{d}{C}$	$\frac{f}{C}$	C	
10.		Arithmetic	C	C	C	C	C	3, Retarded
14 - 0		Grammar	C	C	$\frac{d}{d}$	C	$\frac{d}{d}$	
		History	$\frac{d}{d}$	B	$\frac{d}{d}$	B	$\frac{d}{B}$	
11.5		Arithmetic	C	C	C	C	$\frac{d}{d}$	3, Retarded
15 - 6		Grammar	C	C	$\frac{d}{d}$	$\frac{f}{C}$	$\frac{f}{B}$	
		History	C	C	C	C	B	
13.5		Arithmetic	C	B	B	C	C	2, Low marker
13 - 2		Grammar	B	B	$\frac{d}{B}$	$\frac{f}{B}$	$\frac{d}{B}$	
		History	$\frac{d}{d}$	B	$\frac{d}{B}$	B	$\frac{d}{B}$	
16.		Arithmetic	C	C	B	B	B	2, Low marker 3, Retarded
13 - 11		Grammar	$\frac{d}{d}$	$\frac{d}{B}$	$\frac{d}{B}$	$\frac{d}{B}$	$\frac{d}{B}$	
		History	C	$\frac{d}{B}$	$\frac{d}{B}$	$\frac{d}{B}$	$\frac{d}{B}$	
18.		Arithmetic	B	B	C	B	B	1, One poor mark 2, Low marker
12 - 5		Grammar	B	B	$\frac{d}{B}$	B	B	
		History	C	B	B	C	B	
19.5		Arithmetic	C	C	C	C	B	2, Low marker
13 - 3		Grammar	$\frac{d}{d}$	$\frac{d}{C}$	$\frac{d}{d}$	$\frac{d}{C}$	$\frac{d}{C}$	
		History	$\frac{d}{d}$	C	$\frac{d}{d}$	C	C	
21.		Arithmetic	B	B	B	A	B	1, Two poor marks
12 - 2		Grammar	B	B	$\frac{d}{d}$	C	C	
		History	B	B	$\frac{d}{d}$	B	B	
23.		Arithmetic	C	C	C	B	C	1, Three poor marks
12 - 6		Grammar	C	B	$\frac{d}{C}$	C	C	
		History	$\frac{d}{d}$	$\frac{d}{C}$	C	C	C	

Table IV con't.

Pupil's RANK in tests, and AGE in yrs. and mos.		GROUP IV SEVENTH GRADE					The one or more of the eight listed reasons for the non-conformity	
67.	13 - 1	Arithmetic	C	<u>b</u>	C	C	<u>b</u>	6, Zero in one test 8, High markers
		Grammar	C	<u>C</u>	C	<u>a</u>	<u>b</u>	
		History	D	C	C	<u>C</u>	<u>C</u>	
		Geography	C	C	C	<u>b</u>	<u>b</u>	
69.	13 - 1	Arithmetic	C	C	C	C	C	6, Zero in two tests 8, High marker
		Grammar	<u>b</u>	<u>b</u>	<u>b</u>	<u>b</u>	<u>b</u>	
		History	<u>D</u>	<u>D</u>	<u>C</u>	<u>C</u>	<u>D</u>	
		Geography	C	C	C	E	D	
70.	11 - 6	Arithmetic	C	C	C	<u>b</u>	<u>b</u>	5, Accelerated 8, High markers
		Grammar	C	C	<u>b</u>	<u>b</u>	<u>b</u>	
		History	D	D	<u>C</u>	<u>C</u>	<u>C</u>	
		Geography	C	C	D	C	D	
72.5	13 - 1	Arithmetic	D	D	C	<u>b</u>	<u>b</u>	6, Zero in one test 8, High markers
		Grammar	C	D	C	<u>b</u>	<u>b</u>	
		History	C	C	C	<u>C</u>	<u>C</u>	
		Geography	C	<u>b</u>	<u>b</u>	<u>a</u>	<u>a</u>	
73.	12 - 7	Arithmetic	<u>b</u>	<u>b</u>	<u>a</u>	<u>b</u>	<u>b</u>	5, Accelerated 8, High markers 6, Zero in two tests
		Grammar	<u>C</u>	<u>b</u>	<u>b</u>	<u>b</u>	<u>b</u>	
		History	D	D	D	D	D	
		Geography	D	C	C	C	C	
74.	15 - 1	Arithmetic	<u>b</u>	<u>a</u>	<u>b</u>	<u>b</u>	<u>b</u>	6, Zero in two tests 8, High markers
		Grammar	<u>D</u>	<u>b</u>	<u>b</u>	<u>D</u>	<u>D</u>	
		History	D	<u>D</u>	<u>C</u>	D	D	
		Geography	D	C	D	C	C	
76.	13 - 0	Arithmetic	C	C	C	C	<u>b</u>	7, Three good marks 8, High markers
		Grammar	C	D	D	<u>b</u>	<u>b</u>	
		History	D	D	D	<u>C</u>	<u>C</u>	
		Geography	D	C	C	C	F	
80.	14 - 1	Arithmetic	C	C	C	D	D	7, Two good marks 8, High marker
		Grammar	C	D	C	<u>b</u>	<u>b</u>	
		History	E	D	C	<u>C</u>	<u>C</u>	
		Geography	C	C	C	C	D	
82.	13 - 8	Arithmetic	<u>b</u>	<u>b</u>	<u>b</u>	<u>b</u>	<u>b</u>	6, Zero in one test 8, High marker
		Grammar	<u>C</u>	<u>C</u>	<u>C</u>	<u>C</u>	<u>C</u>	
		History	D	D	C	C	C	
		Geography	C	D	D	D	D	

Table IV con't.

Pupil's RANK in tests, and AGE in yrs. and mos.		GROUP IV SEVENTH GRADE					The one or more of the eighth listed reasons for the non-conformity	
85.		Arithmetic	D	$\frac{b}{C}$	$\frac{b}{D}$	D	D	5, Retarded
15 -	1	Grammar	D	$\frac{C}{D}$	$\frac{D}{C}$	D	F	7, Two good marks
		History	D	D	C	C	C	8, High marker
		Geography	D	C	C	D	F	
83.		Arithmetic	C	C	C	$\frac{b}{C}$	$\frac{b}{C}$	7, Two good marks
13 -	4	Grammar	C	C	C	$\frac{C}{D}$	$\frac{C}{D}$	8, High marker
		History	E	D	C	C	D	
		Geography	D	D	D	D	D	
GROUP IV EIGHTH GRADE								
79.5		Arithmetic	$\frac{b}{C}$	$\frac{b}{C}$	C	C	C	5, Accelerated
12 -	9	Grammar	$\frac{C}{b}$	$\frac{C}{b}$	C	C	D	
		History	$\frac{b}{C}$	$\frac{b}{C}$	C	C	C	
83.5		Arithmetic	$\frac{b}{C}$	$\frac{b}{C}$	$\frac{b}{D}$	$\frac{b}{D}$	$\frac{b}{D}$	6, Zero in one test
15 -	3	Grammar	$\frac{C}{b}$	$\frac{C}{b}$	$\frac{D}{C}$	$\frac{D}{C}$	$\frac{D}{C}$	
		History	C	C	C	C	C	
83.5		Arithmetic	D	D	D	C	$\frac{b}{C}$	7, One mark good
14 -	3	Grammar	D	D	C	D	$\frac{C}{b}$	
		History	D	D	D	C	C	
88.		Arithmetic	C	C	C	D	D	5, Accelerated
11 -	7	Grammar	$\frac{a}{C}$	$\frac{b}{C}$	$\frac{b}{b}$	$\frac{b}{b}$	C	
		History	$\frac{C}{b}$	$\frac{C}{b}$	$\frac{b}{b}$	$\frac{b}{b}$	C	
89.		Arithmetic	C	C	D	C	C	5, Accelerated
12 -	0	Grammar	$\frac{b}{C}$	$\frac{b}{C}$	D	C	C	
		History	$\frac{C}{b}$	$\frac{C}{b}$	C	C	$\frac{b}{C}$	
87.		Arithmetic	C	C	C	C	C	7, Two good marks
12 -	11	Grammar	C	D	D	$\frac{b}{D}$	$\frac{b}{D}$	
		History	D	D	D	D	D	

There are several well defined reasons brought out by Table IV explaining much of the non-conformity between test scores and marks. They are summarized as follows.

The seventh grade group I received 24 D's and EF's in all subjects. The 20th pupil alone, rank 19.5, received 9 of these 24 marks. The remaining 15 marks were received by seven pupils. Of these 15, the history teacher gave 9, and the other 6 were given by the other three teachers together. The history teacher was a low marker.

The seventh grade arithmetic and grammar teachers together gave 46 of the 57 A's and B's received by group IV in all subjects. These two teachers were high markers.

The eighth grade grammar teacher gave 35 of the 47 D's and EF's received by group I in all subjects. The other two teachers together gave 12. Five retarded cases received 22 of these 47 low marks.

The one persistent outstanding fact pertaining to the non-conformity of marks to test scores was the average age difference between the pupils whose marks did conform to test scores and those whose marks did not. For both grades, the average age of the pupils in group I who received low marks is higher than the age of the others; and in group IV, the average age of the pupils who earned A's and B's is lower than that of the rest in the group. These facts are summarized in Table V.

Table V

The average ages of pupils whose marks conformed to their test scores, and of those whose marks did not; and the percent of pupils involved in the non-conformity.

SEVENTH GRADE

Group	No. cases	Marks earned	Average age	Non-conformity
I	12	A's and B's	12 yrs. 1 mos.	40 %
	8	D's and EF's	12 " 11 "	
IV	11	A's and B's	13 " 5 "	50 %
	11	D's and EF's	13 " 7 "	

EIGHTH GRADE

I	12	A's and B's	13 " 0 "	50 %
	12	D's and EF's	13 " 7 "	
IV	6	A's and B's	13 " 2 "	25 %
	18	D's and EF's	13 " 11 "	

The percent of pupils involved in the non-conformity is not a criterion of the extent of non-conformity. The extent of non-conformity is shown in Table II, and Table III, and Table VI. From these, especially Table VI, it may be seen that the 40% (Table V above) of the pupils in group I of the seventh grade earned the 6.1% of non-conforming marks for the group. The same 40% also earned good marks of course.

Chapter VI

ON OBJECTIONS TO INTELLIGENCE TESTS

It cannot be argued that intelligence tests are infallible in classifying pupils according to ability. Table IV shows that there were seven pupils in group IV in both grades who scored zero in one or more tests, but these pupils scored appreciably in the rest of the tests, and pupils of adjacent rank also scored appreciably in the same tests. Those failing to score earned some A's and B's. The implication is that the tests did not classify these pupils properly. The same thing is true of some pupils in group I. The 20th pupil in the seventh grade earned 1 B and 9 D's and EF's. The 19th pupil in the eighth grade group I received 1 B and 7 D's. This discrepancy cannot all be charged to indifference on the part of the pupil. Table V shows that in the eighth grade,

50% of the pupils in group I received one or more D's and EF's,

25% " " " " " IV " " " " A's and B's,

and that in the seventh grade,

40% of the pupils in group I received one or more D's and EF's,

50% " " " " " IV " " " " A's and B's.

F.S. Breed and E.R. Breslich¹⁵ in a tests project with High School Freshmen found that intelligence tests failed to classify 18% of the pupils correctly according to their achieve-

15. Breed, F.S., and Breslich, E.R., Intelligence tests and the classification of pupils. The School Review, 30: January and March, 1922.

ments. "The problem of classifying pupils by intelligence tests is obviously, then, complicated by the following conditions:-

1. imperfect instruments for measuring intelligence,
2. imperfect instruments for measuring educational achievement,
3. imperfect correlation between intelligence and interest,
4. imperfect correlation between intelligence and will,
5. imperfect stability of pupil,
6. imperfect instruction.

All one should expect from the group intelligence tests ... is that they provide a preliminary classification which will be subject to ratification as the scholarly ability of the pupil becomes known. They did this in the present study more economically than any other means tried, and otherwise as satisfactorily. Other things being equal, the accuracy of such classifications will probably increase considerably as the reliability of the measuring instruments, both psychological and educational, is increased."

"W.W.Theisen¹⁶ in a Cleveland tests project says that "The results afford sufficient justification for the policy of grouping pupils on the basis of ability. However, in the future, it will probably prove advisable to take into account in addition to intelligence, previous scholarship, standard educational test records, and any unusual conditions."

16. Theisen, W.W., The relative progress of VII-B groups sectioned on the basis of ability. Journal of Educational Research, 5:295-305, April, 1922.

Intelligence tests are not infallible, but "For the sake of argument, suppose all the usual protests against standard tests are conceded. Grant that the tests themselves are not scientifically developed; that they are inaccurate; that judgment in their application is faulty; that the results are not what is claimed for them; that certain elements in good teaching are immeasurable - granting all these things and more, the fact still remains that the conclusions reached by such tests are far more accurate than those based upon vague impressions of what ought to be." 17

It is not within the scope of this thesis to discuss the merits and demerits of intelligence testing. One thing in particular, however, will be noted. Classification on the basis of ability is objected to in some quarters because of the purported class distinction engendered, an intolerable procedure in a democracy. It is not in the least necessary to have classification breed class distinctions. A deliberate program can be adopted to offset such tendencies. Each pupil in our project was assured that, no matter what his group, he would receive his completion certificate at the end of the year, providing he completed his work successfully. At the close of the year, the four groups in each grade were assembled in a unit for matters pertaining to the close of school. During the year, there were various programs in which the four groups participated as a whole. There was no evidence of class distinction. On the other

17. Bliss, Don C., in Educational Administration, 1:88.

hand, the homogeneity of the different groups was quite noticeable. This was especially true of group IV. The pupils in this group seemed to be conscious of the fact that each one had just as much chance as any one else in the group. This created a confidence that was lacking in many of these individuals when in a heterogeneous group in which many other pupils were undeniably more capable. One teacher remarked that she "had never seen the beat" of the way in which certain previously indifferent pupils showed strange consistent efforts. The teachers did not have to contend with such a range of differences in the same classes. The very fact of classification bred content because of the fact that the work of each group was suited to real needs. The pupils were all "too busy" to bother about "class distinction."

While it is true that class distinction is intolerable in a democracy, it is also true, never-the-less, that the success of a democracy depends upon class leaders. "Unless our schools and colleges, as well as our lower schools find some means of giving these best students a worthwhile job to perform, they are failing at a critical point in the training of the youth of the land, - namely, in the development of the leader to his highest intellectual and moral capacity."¹⁸

18. Colvin, Stephen S., The use of intelligence tests.
The Educational Review, 62:134-48, September, 1921.

John Lucius Horn¹⁹ made a study of some bright children, as determined by the Terman group test and the Stanford Revision of the Binet test, who were subjected to economic difficulties, making schooling difficult for them. "It is reported that German cities are beginning ^{to seek} out the well endowed children graduating from the Volkshule, to give them special school opportunities and to encourage them to continue their studies, even to the point of subsidizing their parents when necessary. ...Is it fair to subject her (a very bright girl) to the economic struggle described? Is the time approaching in America, as it has evidently arrived in some parts of Germany, when funds will be available to support highly endowed children of economically incompetent parents through their years of schooling?"

Cornelia James Cannon²⁰ in an article in the February, 1922, Atlantic Monthly, has the following to say regarding the possibilities of intelligence testing of school children. "They are tests of intelligence which is a measure of education....The imperative need in a democracy is,... that the opportunity... selective discipline be available to the qualified, wherever and whenever they appear...The average

19. Horn, John Lucius, Caring for highly endowed children.
The School Review, 29:776-81, December, 1921.
20. Cannon, Cornelia James, American misgivings.
Atlantic Monthly, 129:145-57, February, 1922.

man cannot better his fate without the help of the men of superior ability. To them he must look for leadership,...

They are the men who invent our machinery,...the steamship, the air-plane; who wipe out disease, write the great literature of the world, organize our industries and our method of distribution,...destroy superstition, read the mystery of the rocks. They are the members of our race who have led us up from barbarism and keep us from sinking back into it,... They bring prosperity and happiness to the rest of us.... In a democracy, our major hope, as well as our major responsibility, must always lie in the discovery and development of those among us who are endowed with the capacity to inspire us, and the ability to lead us to a fuller life."

At the present time, nearly every issue of leading educational journals, and other periodicals, contain articles descriptive of some project of one kind or another, in intelligence testing. Comments are uniformly favorable. There are objections to some items, but not to the idea as a whole. In the face of the demand that schools train leaders, and in the face of the fact that intelligence tests apparently find the leader material, the objection to the classification on the basis of ability cannot prevail. There was no evidence at any time during the project of this thesis, of any class distinction. On the other hand, the pupils were more contented

especially those in group IV, because of the greater ease and certainty with which the pupil of lesser ability could meet the requirements of his group. Not only were the pupils happier to be in a homogeneous group, but the teachers too liked the arrangement better. The opinions of the teachers of the groups are contained in the next chapter.

Chapter VII

TEACHERS' OPINIONS REGARDING THE PROJECT

No.1 "I certainly approve of grouping pupils according to ability by mental testing. I found that it was not only easier to teach a class of boys and girls of about the same mental capacity, but that more could be accomplished within the same period of time. The slower pupils had more responsive confidence in themselves, and really worked very conscientiously. The faster pupils were permitted to "sail on" unhindered."

No.2 "The mental tests have aided us greatly in placing children of like capacity into the same classes. It was a decided pleasure to work with them. There was greater responsiveness from the same individuals in the like minded groups than from the same pupils in the old grouping method based upon alphabetical divisions. There was considerable difference between the type and quantity of work done by the different groups."

No.3. "Grouping pupils in accordance with their mental rating has in my experience (this project) proven very satisfactory. Such a wide range was found between group I and group IV as to make at least a difference of a half grade in their work. Since using this method of grouping we have had much more satisfactory results. The teacher feels that she has a

scientific basis upon which to judge. She can prove more easily whether "little Johnny" is plain lazy or mentally sluggish."

No.4 "There was a noticeable difference in the work done by each group immediately after the regrouping according to ability. I believe that mental tests are a very accurate method of determining the mental ability of the child."

No.5 "I have taught in this school for some years. I taught several years ago in the 4th grade. This year, I am teaching in the 7th grade, and I have some of the same pupils that I had in the 4th grade. I remember several in particular who never did good work. They were always a problem. I have been considerably surprised at the change of attitude of these same boys. They work like Trojans at times now (in group IV.) The mental tests have correctly sorted out similar types, and it is a much pleasanter task to teach them in groups instead of having them mixed in all over."

The other two teachers expressed themselves similarly. They were much more satisfied to have the groups as established by test scores, than the old alphabetically formed groups. The enrolment was so large that it was necessary to have groups. The opinion of the teachers was unanimously in favor of the new method of forming them.

Chapter VIII

SUMMARY AND CONCLUSION

This thesis was not an attempt to make a scientific analysis of the questions and problems raised by the intelligence testing project herein described. The project was undertaken from the administrative standpoint of providing some more effective means of grouping pupils than the old method of grouping them according to the alphabet. Intelligence tests appeared to be the most effective instrument for reliable classification on the basis of ability. The purport of this thesis was to determine by means of the distribution of school marks earned by the pupils whether or not the intelligence scores were a reliable basis such classification.

Of all of the pupils in both grades, who were given the tests in September, 1920, there were 87 in the seventh grade, and 99 in the eighth grade who remained in school throughout the year, and whose marks were available for distribution. The pupils in each grade were divided into four approximately equal groups. The data upon which the assumption was made that the groups differed in ability were the differences between the median scores of consecutive groups, and the standard deviations which are restated in the following table, together with the percent of A's and B's, and of D's and EF's earned by each group.

Table VI

This table contains two sets of figures, -1-, the data upon which the assumption was made that the groups differed in ability, and -2-, the evidence of this difference in terms of a percentage distribution of A's and B's, and D's and EF's earned for the year.

SEVENTH GRADE

	----- 1 -----			----- 2 -----	
	Basis of assumption that groups differed in ability			Evidence of difference in ability, marks	
	:Median : :score :	:Diff.between : :med. scores : :of con.groups:	:S.D. :	: Percent : : A's, B's :	: Percent : : D's, EF's :
Group I	105.0		7.97	54.8	6.1
Group II	94.5	10.5	2.64	35.1	22.6
Group III	81.0	13.5	6.09	15.6	40.1
Group IV	65.0	16.0	8.06	13.7	48.3

EIGHTH GRADE

Group I	127.5		6.25	54.7	13.0
Group II	114.5	13.0	3.15	37.1	21.6
Group III	101.5	13.0	3.63	22.8	33.1
Group IV	87.5	14.0	9.67	8.1	49.5

The percentages, in Table VI, in -2- were derived from Table II according to the following table for group I of the seventh grade.

	A	B	C	D	EF	Total
Arithmetic I	24	43	27	5		99
Grammar I	7	62	26	2	2	99
History I		25	62	10	2	99
Geography I	13	43	40	2	1	99
	<hr/>			<hr/>		<hr/>
	227			24		396
	54.8%			6.1%		

Group I of the seventh grade earned 396 marks in all subjects for the year. Of these 396 marks, 227 or 54.8% were A's and B's, and 24 or 6.1% were D's and EF's. Table VI gives a comprehensive summary of the entire project.

The median score of group I of the seventh grade was higher than that of group III of the eighth grade. In the light of the classification experience of this project, the scores could have been used for promotion and demotion from one grade to the other to correct the overlapping of ability.

An outstanding reason for the fact that the marks of some pupils did not conform to test scores was the difference in ages as shown in Table V. Pupils in group I earning poor marks were older than those earning good marks, and pupils in group IV earning good marks were younger than those earning poor marks. When tests are used as a basis for classi-

fication, there will be a variety of IQ's in a group. An average pupil of the ability to make the score, will be classified in group I, and he is bound to earn in some cases, some poor marks. An accelerated pupil able to score beyond group I would be classed one group higher which would be group IV in the next grade. Classification by intelligence score would place him there. Such a pupil is bound to earn some good marks. Articles by Breed and Breslich, and Theisen, referred to previously (pages 28 and 29) imply that other things will be considered for classification besides intelligence scores. As school classes go, however, there is no particular objection to the relatively small percent of non-conformity between school marks and test scores. There are advantages in having pupils of the ability to make certain test scores in the same group; but the pupils in the best group having the lowest IQ's will tend to earn some poor marks, and pupils in the poorest group having the highest IQ's will tend to earn some good marks.

Even though there are discrepancies between test scores and school marks, the fact still remains that the discrepancy would probably be at its maximum if the groups were formed alphabetically. There would probably be considerable discrepancy if groups were formed by any other method than by intelligence tests. Intelligence tests would undoubtedly reduce the discrepancy to a minimum.

The fact that an individual teacher is either a high marker or a low marker does not interfere with group classi-

fication in the least. Inspection of the distributions of any one teacher's marks in Tables II and III shows uniform superiority of group I over group IV., etc., which was the purpose of the project of this thesis, namely, classification according to ability.

Classification of pupils according to ability as determined by intelligence tests is far more satisfactory than grouping them according to the alphabet, but the tests are not infallible. Pupil 74 (see page 24) in the seventh grade group IV was evidently classed wrongly. He earned six marks above C and six below C. He is a retarded pupil, and received zero in two tests (see page 62). All retarded pupils in group IV who earned good marks, evidently were classed wrongly. Wrong classification cannot all be due to imperfect tests, however. A careful study of the reasons for wrong classification would reveal probably ^{reveal} other attenuating factors. But the administrator can use intelligence tests to a very large extent for purposes of classification; they should not be the sole criterion.

"In conclusion, it is urged that in the management of a school or a school system the principal and the superintendent will find intelligence tests an indispensable aid in the analysis of their problems, for the simple reason that these problems cannot be dissociated from the quality of material with which the school works."¹⁵

15. Terman, Louis M., The use of intelligence tests in the grading school children. Journal of Educational Research, 1:20-32, January, 1920.

APPENDIX

The following pages contain the test scores of the pupils, and their school marks. One page will contain the scores, and the following page contains the school marks of the same pupils, etc.

GROUP I - 7th GRADE

Pupil's RANK
in tests, and
AGE in
yrs. and mos.

TEST SCORES, INTELLIGENCE EXAMINATIONS

	Test	1	2	3	4	5	6	7	8	9	10	Total	Average
1	Haggerty	34	13	15	28	10	24					124	
13 - 4	Otis	13	16	13		12	6	13	14	11	22	123	123.5
2	Haggerty	34	11	18	19	9	29					120	
13 - 1	Otis	12	12	13	4	4	8	17	17	18	22	123	121.5
3	Haggerty	34	11	17	23	12	28					125	
11 - 10	Otis	13	12	11		10	10	13	11	11	20	107	118.0
4	Haggerty	32	14	13	23	12	28					122	
13 - 7	Otis	11	15	3		11	8	16	12	11	22	109	115.5
5	Haggerty	38	11	15	15	12	29					120	
13 - 2	Otis	11	17	15		13	7	18	10		17	108	114.0
6	Haggerty	26	12	13	14	12	26					103	
11 - 1	Otis	12	12	13		4	8	17	17	18	22	123	113.0
7	Haggerty	32	11	13	16	10	28					110	
13 - 10	Otis	14	15	16		10	11	17	13		18	114	112.0
8	Haggerty	34	8	13	19	9	28					111	
12 - 6	Otis	12	13	7		6	8	9	11	20	23	109	110.0
9	Haggerty	26	13	17	14	8	25					103	
12 - 9	Otis	10	10	16		13	11	13	13	5	18	109	106.0

GROUP I - 7th GRADE

Pupil's RANK in tests, and AGE in yrs. and mos.	SCHOOL MARKS Subject	Month	Sep	Nov	Jan	Mar	May
1 13 - 4	Arithmetic		A	A	A	A	A
	Grammar		B	B	A	A	B
	History		C	C	B	B	B
	Geography		B	B	B	A	A
2 13 - 1	Arithmetic		B	B	B	C	B
	Grammar		B	B	B	B	B
	History		C	C	C	B	C
	Geography		C	B	C	B	B
3 11 - 10	Arithmetic		A	B	B	B	B
	Grammar		B	B	B	B	B
	History		C	C	C	B	C
	Geography		B	C	B	B	B
4 13 - 7	Arithmetic		B	B	B	B	
	Grammar		C	C	B	B	
	History		D	D	C	C	
	Geography		C	B	C	B	
5 13 - 2	Arithmetic		A	A	A	B	B
	Grammar		B	B	B	C	C
	History		C	C	C	C	C
	Geography		A	A	A	A	A
6 11 - 1	Arithmetic		B	B	B	B	C
	Grammar		B	B	B	B	B
	History		C	C	C	C	C
	Geography		C	B	C	B	B
7 13 - 10	Arithmetic		A	A	A	A	A
	Grammar		B	B	B	A	A
	History		C	C	B	B	B
	Geography		B	A	A	A	A
8 12 - 6	Arithmetic		B	C	C	D	C
	Grammar		C	C	B	B	B
	History		C	C	C	C	C
	Geography		C	B	B	C	C
9 12 - 9	Arithmetic		C	C	C	C	C
	Grammar		C	C	C	B	B
	History		B	D	C	E	B
	Geography		B	B	C	C	C

GROUP I - 7th GRADE

Pupil's RANK in tests, and AGE in yrs. and mos.		TEST SCORES, INTELLIGENCE EXAMINATIONS										Total	Average
Test		1	2	3	4	5	6	7	8	9	10		
10	Haggerty	27	12	10	20	8	25					102	
11 - 8	Otis	11	13	12		10	8	13	14	10	17	108	105.0
11.5	Haggerty	18	11	19	16	9	25					98	
11 - 6	Otis	12	13	11		9	9	11	11	15	20	111	104.5
11.5	Haggerty	30	10	12	16	7	24					99	
15 - 9	Otis	11	14	12		11	9	12	13	13	15	110	104.5
13	Haggerty	32	13	17	5	9	29					105	
12 - 8	Otis	12	13	11		10	7	14	14	5	16	102	103.5
15.0	Haggerty	30	9	13	23	9	19					103	
11 - 11	Otis	10	14	5		11	10	11	11	13	17	102	102.5
15.0	Haggerty	30	13	12	21	9	6					111	
15 - 1	Otis	8	12	11		9	9	14	8	2	21	94	102.5
15	Haggerty	36	10	12	25	8	20					111	
13 - 3	Otis	12	14	8		8	4	11	10	6	21	94	102.5
17	Haggerty	33	11	12	19	12	29					116	
13 - 3	Otis	11	10	10		10	2	6	8	12	18	87	101.5
18	Haggerty	34	11	11	24	10	25					115	
12 - 10	Otis	11	10	8		12	8	9	11	5	13	87	101.0

GROUP I - 7th GRADE

Pupil's RANK
in tests, and
AGE in
yrs. and mos.

SCHOOL MARKS

		Month	Sep.	Nov.	Jan.	Mar.	May
		Subject					
10		Arithmetic	B	A	B	C	B
11	- 8	Grammar	C	B	B	B	B
		History	E	D	C	C	C
		Geography	C	C	B	C	B
11.5		Arithmetic	B	E	B	B	B
11	- 6	Grammar	B	B	B	B	B
		History	C	C	B	B	B
		Geography	C	A	B	B	B
11.5		Arithmetic	B	A	B	B	B
15	- 9	Grammar	B	B	B	A	B
		History	C	C	C	C	C
		Geography	C	B	C	B	B
13		Arithmetic	B	D	C	C	C
12	- 8	Grammar	B	C	B	B	B
		History	C	C	B	C	C
		Geography	B	B	B	B	B
15		Arithmetic	B	B	B	B	B
11	- 11	Grammar	B	B	B	B	B
		History	C	C	C	B	C
		Geography	C	B	C	C	C
15		Arithmetic	C	B	C	C	B
15	- 1	Grammar	C	C	C	C	C
		History	C	C	B	B	B
		Geography	C	B	C	C	C
15		Arithmetic	C	D	C	C	C
13	- 3	Grammar	C	E	B	C	C
		History	B	B	B	B	B
		Geography	C	C	C	C	C
17		Arithmetic	B	A	A	A	A
13	- 3	Grammar	B	B	B	A	A
		History	C	C	B	B	B
		Geography	B	B	C	B	A
18		Arithmetic	C	C	B	B	B
12	- 10	Grammar	C	C	C	B	C
		History	C	B	B	C	C
		Geography	B	C	C	C	B

GROUP I - 7th GRADE

Pupil's RANK
in tests, and
AGE in
yrs. and mos.

TEST SCORES, INTELLIGENCE EXAMINATIONS

	Test	1	2	3	4	5	6	7	8	9	10	Total	Average
19.5	Haggerty	26	13	12	16	10	26					103	
13 - 1	Otis	9	13	9		14	7	11	11	7	17	98	
													100.5
19.5	Haggerty	34	10	17	6	25						92	
13 - 11	Otis	11	12	10		13	7	10	11	14	21	109	
													100.5

GROUP I - 7th GRADE

Pupil's RANK
in tests, and
AGE in
yrs. and mos.

SCHOOL MARKS

	Subject	Month	Sep.	Nov.	Jan.	Mar.	May
19.5	Arithmetic		D	A	A	A	A
13 - 1	Grammar		C	B	B	B	B
	History		D	D	C	C	C
	Geography		C	B	C	B	C
19.5	Arithmetic		D	C	C	C	C
13 - 11	Grammar		D	D	E	C	C
	History		D	C	C	D	C
	Geography		D	B	D	C	F

GROUP II ♀ 7th GRADE

Pupil's RANK in tests, and AGE in yrs. and mos.		Test	1	2	3	4	5	6	7	8	9	10	Total	Average
21.5		Haggerty	32	10	12	14	9	21					98	
12 -	2	Otis	7	15	13		9	7	12	12	6	20	101	99.5
21.5		Haggerty	32	11	10	20	9	19					101	
12 -	5	Otis	11	13	6		14	7	12	10	7	18	98	99.5
23		Haggerty	36	11	13	12	10	21					103	
12 -	4	Otis	10	15	11		8	5	9	11	7	18	94	98.5
24		Haggerty	10	14	22	17	13	27					103	
14 -	1	Otis	9	9	16		5	7	6	15	6	20	93	98.0
25.5		Haggerty	32	13	11	8	8	23					95	
14 -	6	Otis	9	15	9		14	8	11	11	7	15	99	97.0
25.5		Haggerty	24	13	11	11	7	21					87	
13 -	1	Otis	11	12	12		9	6	15	13	10	19	107	97.0
27.0		Haggerty	20	12	8	18	8	19					85	
12 -	6	Otis	11	13	7		10	9	13	14	9	22	108	96.5
28.0		Haggerty	20	9	10	15	12	30					96	
12 -	4	Otis	10	10	14		7	7	12	10	8	17	95	
30.5		Haggerty	21	10	9	17	7	29					93	
10 -	7	Otis	12	11	11		8	10	13	11	6	15	97	95.0

GROUP II - 7th GRADE

Pupil's RANK
in tests, and
AGE in
yrs. and mos.

SCHOOL MARKS

		Subject	Month	Sep.	Nov.	Jan.	Mar.	May
21.5 12 - 2	Arithmetic	B	C	C	C	C	C	C
	Grammar	C	B	B	B	B	B	B
	History	C	B	B	B	B	B	B
	Geography	C	C	C	B	C	C	C
21.5 12 - 5	Arithmetic	B	D	D	C	C	C	C
	Grammar	C	C	D	D	D	D	D
	History	D	D	C	D	D	D	D
	Geography	E	C	E	E	E	E	E
23 12 - 4	Arithmetic	D	D	D	D	D	D	D
	Grammar	D	C	D	C	D	D	D
	History	E	D	D	D	D	D	D
	Geography	D	C	D	D	D	F	F
24 14 - 1	Arithmetic	D	E	D	D	D	D	D
	Grammar	C	C	E	D	D	D	D
	History	D	C	C	C	C	C	C
	Geography	C	B	D	D	D	F	F
25.5 14 - 6	Arithmetic	C	C	C	C	C	C	C
	Grammar	C	D	C	C	C	C	C
	History	C	C	D	C	C	C	C
	Geography	D	D	C	B	C	C	C
25.5 13 - 1	Arithmetic	B	C	C	C	C	C	C
	Grammar	C	B	B	B	B	B	B
	History	C	C	C	C	C	C	C
	Geography	C	D	C	B	B	B	B
27 12 - 6	Arithmetic	B	C	C	B	B	B	B
	Grammar	C	B	B	B	B	B	B
	History	C	C	C	B	B	B	B
	Geography	C	B	C	B	B	B	B
28 12 - 4	Arithmetic	B	B	B	C	B	B	B
	Grammar	B	B	B	B	B	B	B
	History	D	D	B	B	B	B	B
	Geography	C	B	B	B	B	B	B
30.5 10 - 7	Arithmetic	B	B	B	B	B	B	B
	Grammar	C	B	B	B	B	B	B
	History	D	E	D	D	D	D	D
	Geography	E	D	D	D	D	D	D

GROUP II - 7th GRADE

Pupil's RANK in test scores, Age in yrs. and mos.		TEST SCORES, INTELLIGENCE EXAMINATIONS										Total	Average
Test		1	2	3	4	5	6	7	8	9	10		
30.5	Haggerty	32	11	11	16	9	17					96	
14 - 5	Otis	9	11	9		9	9	12	8	12	15	94	95.0
30.5	Haggerty	26	11	11	10	28	28					94	
12 - 0	Otis	12	10	9		10	6	10	11	10	18	96	95.0
30.5	Haggerty	29	11	9	14	9	26					98	
11 - 7	Otis	9	4	5		7	6	14	10	14	23	92	95.0
35.5	Haggerty	28	11	16	17	8	15					95	
12 - 6	Otis	7	12	10		12	7	13	9	6	17	93	94.0
35.5	Haggerty	32	9	16	14	8	22					101	
11 - 11	Otis	7	11	8		8	6	10	8	11	18	87	94.0
35.5	Haggerty	26	11	16	15	7	22					97	
11 - 8	Otis	8	7	0		13	8	15	10	9	21	91	94.0
35.5	Haggerty	22	7	14	18	6	26					93	
13 - 10	Otis	10	12	12		10	5	11	6	11	18	95	94.0
35.5	Haggerty	19	5	14	20	9	23					90	
12 - 9	Otis	8	11	13		8	4	9	13	11	21	98	94.0
35.5	Haggerty	32	10	12	16	8	24					102	
14 - 10	Otis	9	9	8		10	10	12	8	5	15	86	94.0

GROUP II - 7th GRADE

SCHOOL MARKS

Pupil's RANK
in tests, and
AGE in
yrs. and mos.

Month Sep. Nov. Jan. Mar. May

Subject

Pupil's RANK in tests, and AGE in yrs. and mos.	Subject	Month	Sep.	Nov.	Jan.	Mar.	May
30.5 14 -- 5	Arithmetic		B	B	C	D	D
	Grammar		C	C	B	B	B
	History		D	D	C	C	D
	Geography		D	C	D	C	D
30.5 12 - 0	Arithmetic		A	B	B	B	B
	Grammar		B	B	A	A	B
	History		C	C	C	B	C
	Geography		C	B	B	B	B
30.5 11 - 7	Arithmetic		C	C	D	C	C
	Grammar		C	C	C	B	B
	History		D	D	C	C	C
	Geography		C	B	C	B	C
35.5 12 - 6	Arithmetic		D	C	B	D	
	Grammar		D	D	C	C	
	History		D	C	D	C	
	Geography		C	B	C	C	
35.5 11 - 11	Arithmetic		B	B	C	C	C
	Grammar		C	B	B	B	B
	History		D	D	C	C	D
	Geography		C	B	C	C	C
35.5 11 - 8	Arithmetic		B	B	B	C	C
	Grammar		C	B	B	C	B
	History		C	C	C	C	C
	Geography		C	B	C	C	C
35.5 13 - 10	Arithmetic		B	B	B	B	B
	Grammar		B	A	A	A	B
	History		C	B	B	A	B
	Geography		B	A	B	A	B
35.5 13 - 9	Arithmetic		A	B	B	B	B
	Grammar		B	B	B	A	B
	History		C	C	C	B	C
	Geography		C	B	B	B	B
35.5 14 - 10	Arithmetic		C	D	D	D	C
	Grammar		D	C	C	C	C
	History		D	D	C	C	C
	Geography		D	C	C	C	C

GROUP II - 7th GRADE

TEST SCORES, INTELLIGENCE EXAMINATIONS

Pupil's RANK in tests, and AGE in yrs. and mos.		Test	1	2	3	4	5	6	7	8	9	10	Total	Average
39	Haggerty		26	11	9	15	8	27					96	
12 - 0	Otis		11	13	10		10	7	8	10	3	18	90	93.0
40.5	Haggerty		18	12	20	0	6	26					83	
11 - 11	Otis		9	12	11		10	7	11	11	9	20	100	92.5
40.4	Haggerty		34	12	16	12	9	22					105	
13 - 6	Otis		9	11	9		11	9	4	5	4	18	80	92.5
42	Haggerty		24	9	17	2	8	19					79	
13 - 11	Otis		8	13	17		6	10	12	13	9	17	105	92.0
43	Haggerty		25	10	9	8	8	21					81	
11 - 9	Otis		10	8	9		9	8	14	14	12	16	100	90.5
44	Haggerty		18	8	13	10	7	21					77	
13 - 2	Otis		9	11	14		10	9	12	9	10	17	101	89.0

GROUP II - 7th GRADE

Pupil's RANK
in tests, and
AGE in
yrs. and mos.

SCHOOL MARKS

		Subject	Month	Sep.	Nov.	Jan.	Mar.	May
39 12 - 0		Arithmetic	B	A	B	C	C	
		Grammar	B	B	B	B	B	
		History	E	D	C	C	C	
		Geography	D	B	C	C	C	
40.5 11 - 11		Arithmetic	A	B	B	C	B	
		Grammar	C	B	B	B	C	
		History	C	C	B	B	C	
		Geography	C	C	C	C	C	
40.5 13 - 6		Arithmetic	C	C	B			
		Grammar	C	C	C			
		History	C	C	C			
		Geography	B	C	C			
42 13 - 11		Arithmetic	C	B	D	D		
		Grammar	D	C	C	C		
		History	D	D	D	C		
		Geography	D	C	C	D		
43 11 - 9		Arithmetic	C	B	C	B	C	
		Grammar	C	C	C	C	C	
		History	D	D	C	C	C	
		Geography	D	C	D	C	C	
44 13 - 2		Arithmetic	B	B	B	B	B	
		Grammar	D	D	C	B	B	
		History	D	D	C	B	C	
		Geography	D	C	C	C	C	

GROUP III - 7th GRADE

Pupil's RANK in tests, and AGE in yrs. and mos.		Test	1	2	3	4	5	6	7	8	9	10	Total	Average
47		Haggerty	26	10	11	12	7	32					89	
14	- 6	Otis	5	15	11		9	3	14	10	6	15	88	88.5
47		Haggerty	28	9	15	6	9	19					86	
12	- 8	Otis	8	8	11		8	10	9	13	7	17	91	88.5
47		Haggerty	24	3	15	23	7	16					92	
12	- 2	Otis	8	11	8		8	8	7	9	18	8	85	88.5
47		Haggerty	16	10	12	14	9	25					86	
12	- 1	Otis	9	13	11		10	8	13	13	11	0	91	88.5
47		Haggerty	10	26	13	18	9	24					100	
12	- 0	Otis	8	9	5		6	7	8	6	11	17	77	88.5
50		Haggerty	30	10	14	10	8	23					95	
11	- 4	Otis	7	5	8		11	8	9	13	6	14	81	88.0
51		Haggerty	32	8	19	10	0	19					88	
11	- 7	Otis	8	5	13		6	4	13	11	11	15	85	86.5
52		Haggerty	22	12	13	20	0	22					89	
12	- 5	Otis	6	8	8		10	5	6	8	13	19	83	86.0
53		Haggerty	22	10	14	17	9	21					93	
14	- 4	Otis	10	9	13		9	5	2	10	0	15	73	83.0

GROUP III - 7th GRADE

Pupil's RANK
in tests, and
AGE in
yrs. and mos.

SCHOOL MARKS

		Month	Sep.	Nov.	Jan.	Mar.	May
Subject							
47	Arithmetic		C	C			
14 - 6	Grammar		C	B			
	History		D	D			
	Geography		C	B			
47	Arithmetic		B	C	C	D	D
12 - 8	Grammar		C	D	D	D	D
	History		E	D	D	D	D
	Geography		D	C	C	D	F
47	Arithmetic		D	D	D	D	D
12 - 2	Grammar		C	C	C	C	C
	History		C	C	D	D	C
	Geography		C	B	B	D	F
47	Arithmetic		C	B	C	D	
12 - 1	Grammar		C	C	C	C	
	History		D	D	C	C	
	Geography		D	C	C	C	
47	Arithmetic		B	B	B	B	B
12 - 0	Grammar		B	B	B	B	B
	History		C	D	C	C	C
	Geography		C	B	C	B	B
50	Arithmetic		B	C	D	B	B
11 - 4	Grammar		D	D	D	B	B
	History		D	D	D	D	D
	Geography		E	D	C	C	C
51	Arithmetic		C	D	D	C	C
11 - 7	Grammar		D	D	C	C	C
	History		D	E	D	E	D
	Geography		D	C	D	C	F
52	Arithmetic		C	C	C	C	C
12 - 5	Grammar		C	B	C	B	B
	History		D	D	C	C	D
	Geography		C	C	C	C	C
53	Arithmetic		D	D	C	C	C
14 - 4	Grammar		D	C	C	C	C
	History		D	D	D	D	D
	Geography		D	D	D	D	D

GROUP III - 7th GRADE

Pupil's RANK in tests, and AGE in yrs, and mos.		Test	1	2	3	4	5	6	7	8	9	10	Total	Average
54	Haggerty		20	9	14	13	7	20					83	
12 - 9	Otis		7	8	11		8	4	9	12	6	16	81	82.0
55	Haggerty		29	12	17	15	5	18					96	
13 - 6	Otis		4	8	5		13	6	11	5	2	12	66	81.0
56	Haggerty		25	7	17	6	8	11					74	
13 - 3	Otis		9	12	10		5	9	11	10	7	12	85	79.5
57	Haggerty		36	8	10	12	9	22					97	
13 - 5	Otis		8	6	1		15	4	3	4	5	14	60	78.5
58	Haggerty		22	9	8	20	5	17					81	
12 - 6	Otis		9	9	10		6	8	4	8	5	14	73	77.0
59	Haggerty		24	10	9	9	7	20					79	
12 - 4	Otis		8	10	6		8	7	6	9	4	16	74	76.5
60	Haggerty		20	9	11	26	7	17					90	
13 - 5	Otis		5	9	3		7	3	8	9	5	12	61	75.5
62.5	Haggerty		20	11	12	6	7	15					71	
13 - 6	Otis		8	9	11		8	3	13	7	6	12	77	74.0
62.5	Haggerty		16	10	13	17	8	14					78	
12 - 11	Otis		8	14	6		9	3	0	7	7	16	70	74.0

GROUP III - 7th GRADE

Pupil's RANK
in tests, and
AGE in
yrs. and mos.

SCHOOL MARKS

		Month	Sep.	Nov.	Jan.	Mar.	May
		Subject					
54		Arithmetic	B	B	B	C	B
12 - 9		Grammar	D	D	C	B	B
		History	D	D	C	D	C
		Geography	D	C	D	C	D
55		Arithmetic	C	C	C	C	B
13 - 6		Grammar	C	C	C	C	C
		History	C	C	C	C	C
		Geography		D	C	C	C
56		Arithmetic	D	D	D	D	C
13 - 3		Grammar	C	D	D	D	D
		History	D	D	D	D	D
		Geography	D	C	C	D	F
57		Arithmetic	D	C	C	B	B
13 - 5		Grammar	C	C	B	B	B
		History	C	C	B	B	B
		Geography	D	C	C	B	B
58		Arithmetic	D	E	D	D	D
12 - 6		Grammar	D	D	D	C	C
		History	E	E	D	D	D
		Geography	E	E	E	E	E
59		Arithmetic	C	D	C	D	C
12 - 4		Grammar	B	E	D	D	C
		History	D	D	C	D	D
		Geography	D	C	C	C	C
60		Arithmetic	D	A	A	A	A
13 - 5		Grammar	C	B	B	B	B
		History	E	D	D	C	D
		Geography	C	B	D	B	C
62.5		Arithmetic	C	B	B	C	B
13 - 6		Grammar	B	D	D	C	C
		History	E	D	D	D	D
		Geography	D	D	D	D	D
62.5		Arithmetic	C	B	B	C	B
12 - 11		Grammar	D	C	C	D	D
		History	E	E	D	D	C
		Geography	D	D	D	D	E

GROUP III - 7th GRADE

Pupil's RANK
in tests, and
AGE in

TEST SCORES, INTELLIGENCE EXAMINATIONS

yrs. and mos.	Test	1	2	3	4	5	6	7	8	9	10	Total	Average
62.5	Haggerty	20	7	7	15	8	16					73	
12 - 0	Otis	7	8	7		6	5	7	14	6	15	75	74.0
62.5	Haggerty	22	6	10		19	0	20				77	
13 - 11	Otis	7	9	11		5	4	8	8	2	17	71	74.0
65	Haggerty	26	9	14	13	0	16					78	
13 - 4	Otis	7	4	8		8	7	11	13	1	9	68	73.0

GROUP III - 7th GRADE

Pupil's RANK
in tests, and
AGE in
yrs. and mos.

SCHOOL MARKS

		Month	Sep.	Nov.	Jan.	Mar.	May
62.5	Arithmetic		C	D	D	D	D
12 - 0	Grammar		C	D	C	C	C
	History		E	E	D	D	D
	Geography		D	C	D	D	F
62.5	Arithmetic		D	D	C	C	C
13 - 11	Grammar		D	D	D	C	C
	History		C	C	C	C	C
	Geography		C	C	C	C	C
65	Arithmetic		D	C	B	C	C
13 - 4	Grammar		C	C	C	B	D
	History		C	C	C	B	D
	Geography		D	C	D	C	F

GROUP IV - 7th GRADE

Pupil's RANK in tests, and AGE in yrs. and mos.		TEST SCORES, INTELLIGENCE EXAMINATIONS										Total	Average
Test		1	2	3	4	5	6	7	8	9	10		
67	Haggerty	14	6	14	12	6	19						71
13 - 6	Otis	10	11	0		6	7	7	11	6	16		74
													72.5
67	Haggerty	14	0	15	13	8	18						68
13 - 1	Otis	11	11	9		5	7	11	7	4	12		77
													72.5
67	Haggerty	6	7	15	6	0	21						55
12 - 10	Otis	10	12	7		9	7	12	9	7	17		90
													72.5
69	Haggerty	22	10	12	0	0	16						60
13 - 1	Otis	9	4	12		9	7	11	13	3	16		84
													72.0
70	Haggerty	24	12	10	16	9	13						84
11 - 6	Otis	7	9	8		6	6	8	4	3	7		58
													71.0
71	Haggerty	20	8	13	14	0	21						76
15 - 6	Otis	9	11	0		6	4	7	8	6	13		64
													70.0
72.5	Haggerty	22	10	15	0	8	13						68
12 - 7	Otis	10	4	7		7	5	8	8	7	14		70
													69.0
72.5	Haggerty	28	9	13	6	7	19						82
13 - 1	Otis	0	5	8		8	3	10	7	0	15		56
													69.0
74	Haggerty	30	8	13	0	5	16						72
15 - 1	Otis	3	6	0		7	6	11	7	7	14		61
													66.5

GROUP IV - 7th GRADE

Pupil's RANK
in tests, and
AGE in
yrs, and mos.

SCHOOL MARKS

		Subject	Month	Sep.	Nov.	Jan.	Mar.	May
67		Arithmetic		D	E	D	C	D
13 - 6		Grammar		D	D	D	C	D
		History		D	D	D	C	D
		Geography		E	D	D	D	C
67		Arithmetic		C	B	C	C	B
13 - 1		Grammar		C	C	C	A	A
		History		D	C	C	C	C
		Geography		C	C	C	B	B
68		Arithmetic		D	C	C	C	D
12 - 10		Grammar		C	C	D	C	C
		History		E	D	D	D	D
		Geography		D	C	D	C	E
69		Arithmetic		C	C	C	C	C
13 - 1		Grammar		B	B	B	B	B
		History		D	D	C	C	D
		Geography		C	C	D	E	D
70		Arithmetic		C	C	C	B	B
11 - 6		Grammar		C	C	B	B	B
		History		D	D	C	C	C
		Geography		C	C	D	C	D
71		Arithmetic		C	D	D	C	C
15 - 6		Grammar		D	C	D	C	C
		History		C	D	D	D	D
		Geography		E	C	D	D	E
72.5		Arithmetic		D	C	C	B	B
13 - 1		Grammar		C	D	C	B	B
		History		C	C	C	C	C
		Geography		C	B	B	A	A
72.5		Arithmetic		B	B	A	B	B
12 - 7		Grammar		C	B	B	B	B
		History		D	D	D	D	D
		Geography		D	C	C	C	C
74		Arithmetic		B	A	B	B	
15 - 1		Grammar		D	B	B	D	
		History		D	D	C	D	
		Geography		D	C	D	C	

GROUP IV - 7th GRADE

Pupil's RANK in tests, and AGE in yrs. and mos.		TEST SCORES, INTELLIGENCE EXAMINATIONS										Total	Average
	Test	1	2	3	4	5	6	7	8	9	10		
75	Haggerty	18	10	8	7	5	12					60	
12 - 4	Otis	8	6	5		5	5	8	12	4	18	71	65.5
76	Haggerty	19	6	8	8	4	21					66	
13 - 0	Otis	5	3	7		7	7	5	9	7	14	64	65.0
77.5	Haggerty	30	10	10	13	6	12					81	
13 - 9	Otis	6	1	4		12	3	3	6	0	13	48	64.5
77.5	Haggerty	16	6	15	12	6	15					70	
13 - 1	Otis	8	7	3		4	4	2	11	5	15	59	64.5
79.5	Haggerty	10	5	13	6	11	19					64	
13 - 1	Otis	6	7	0		7	6	6	10	8	14	64	64.0
79.5	Haggerty	32	8	11	11	8	12					82	
14 - 1	Otis	8	0	6		7	1	8	0	4	12	48	64.0
81	Haggerty	28	8	9	4	0	12					61	
12 - 4	Otis	10	8	0		7	1	5	8	8	15	62	61.5
82.5	Haggerty	15	10	7	12	5	20					69	
13 - 8	Otis	0	4	3		11	5	2	10	6	11	52	60.5
82.5	Haggerty	10	6	12	5	6	10					49	
13 - 4	Otis	7	8	9		8	3	2	11	13	11	71	60.5

GROUP IV - 7th GRADE

Pupil's RANK
in tests, and
AGE in
yrs. and mos.

SCHOOL MARKS

	Subject	Month	Sep.	Nov.	Jan.	Mar.	May
75	Arithmetic		D	C	C	C	C
12 - 4	Grammar		C	D	C	C	C
	History		D	E	D	D	D
	Geography		D	D	D	D	D
76	Arithmetic		C	C	C	C	B
13 - 0	Grammar		C	D	D	B	B
	History		D	D	D	C	C
	Geography		D	C	C	C	F
77.5	Arithmetic		D	E	D	D	C
13 - 9	Grammar		D	C	C	C	C
	History		D	D	D	D	D
	Geography		C	D	D	D	E
77.5	Arithmetic		D	C	D	D	C
13 - 1	Grammar		C	C	C	C	C
	History		E	D	C	D	C
	Geography		E	D	D	D	D
79.5	Arithmetic		C	C	C	C	C
13 - 1	Grammar		C	C	D	D	C
	History		D	E	D	D	D
	Geography		E	D	D	D	D
79.5	Arithmetic		C	D	D	C	C
14 - 1	Grammar		C	D	C	B	B
	History		E	D	C	C	C
	Geography		C	C	C	C	D
81.	Arithmetic		D	D	D	D	D
12 - 7	Grammar		C	C	C	D	D
	History		D	E	D	D	D
	Geography		E	D	D	E	E
85.5	Arithmetic		B	B	B	B	
13 - 8	Grammar		C	C	C	C	
	History		D	D	C	C	
	Geography		C	D	D	D	
85.5	Arithmetic		C	C	C	B	B
13 - 4	Grammar		C	C	C	C	C
	History		E	D	C	E	D
	Geography		D	D	D	D	D

GROUP IV - 7th GRADE

Pupil's RANK
in tests, and
AGE in
yrs. and mos.

TEST SCORES, INTELLIGENCE EXAMINATIONS

Test	1	2	3	4	5	6	7	8	9	10	Total	Average
84 13 - 1	Haggerty	16	7	11	7	4	7				52	
	Otis	7	7	7		6	7	12	4	0	11	61
												56.5
85 15 - 1	Haggerty	32	8	8	11	0	14				73	
	Otis	6	0	0		5	4	0	5	0	12	32
												52.5
86 15 - 1	Haggerty	16	6	9	10	0	12				53	
	Otis	4	6	0		6	3	5	3	6	6	39
												46.0
87 13 - 10	Haggerty	16	5	11	0	0	10				42	
	Otis	8	4	5		4	2	3	8	5	9	48
												45.0

GROUP IV - 7th GRADE

Pupil's RANK
in tests, and
AGE in
yrs. and mos.

SCHOOL MARKS

		Manth	Sep.	Nov.	Jan.	Mar.	May
84	Arithmetic	E	D	D	D	D	C
13 - 1	Grammar	D	D	C	D	D	C
	History	D	D	D	D	D	D
	Geography	C	C	D	C	D	D
85	Arithmetic	D	B	B	D	D	D
15 - 1	Grammar	D	C	D	D	D	F
	History	D	D	C	C	C	C
	Geography	D	C	C	D	D	D
86	Arithmetic	D	D	D	D	D	D
15 - 1	Grammar	D	D	D	D	D	D
	History	D	D	D	E	D	D
	Geography	D	D	D	D	D	E
87	Arithmetic	D	C	C	C	C	C
13 - 10	Grammar	D	C	C	C	C	C
	History	C	C	C	C	C	C
	Geography	D	C	D	C	D	D

GROUP I - 8th GRADE

Pupil's RANK in tests, and AGE in yrs. and mos.		TEST SCORES, INTELLIGENCE EXAMINATIONS										Total	Average
Test		1	2	3	4	5	6	7	8	9	10		
1	Haggerty	36	13	16	31	15	34					145	
14 - 11	Otis	14	15	20		13	12	13	14	20	17	138	141.5
25	Haggerty	35	15	12	25	14	32					133	
13 - 2	Otis	15	8	16		18	9	14	17	23	24	144	138.5
2.5	Haggerty	36	20	14	26	12	30					138	
13 - 6	Otis	14	13	23		13	9	16	13	20	18	139	138.5
4	Haggerty	37	16	16	14	13	32					128	
13 - 0	Otis	11	13	13		13	11	17	12	22	23	135	136.5
5	Haggerty	34	11	17	25	14	31					132	
14 - 3	Otis	11	17	19		9	13	17	15	15	22	138	135.0
6	Haggerty	36	12	14	22	13	34					130	
13 - 7	Otis	12	19	18		13	11	15	10	20	20	138	134.0
7	Haggerty	36	10	11	30	14	29					130	
13 - 0	Otis	12	17	16		12	11	15	13	23	18	137	133.5
8.5	Haggerty	36	12	16	21	14	32					131	
13 - 6	Otis	12	13	14		12	11	12	11	19	25	130	130.5
8.5	Haggerty	30	9	15	25	12	28					119	
13 - 5	Otis	13	18	13		10	11	13	15	22	27	142	130.5

GROUP I - 8th GRADE

Pupil's RANK
in tests, and
AGE in
yrs. and mos.

SCHOOL MARKS

		Month	Sep.	Nov.	Jan.	Mar.	May
1	Arithmetic		C	B	B	C	B
14 - 11	Grammar		C	D	C	D	D
	History		C	B	C	C	C
2.5	Arithmetic		B	A	A	A	B
13 - 2	Grammar		A	A	B	A	A
	History		A	A	B	A	A
2.5	Arithmetic		C	C	B	C	C
13 - 6	Grammar		C	C	D	D	D
	History		C	C	B	B	B
4	Arithmetic		B	B	B	B	B
13 - 0	Grammar		B	B	C	B	C
	History		C	B	B	B	B
5	Arithmetic		B	B	C	B	C
14 - 3	Grammar		D	D	D	C	D
	History		D	D	C	C	C
6	Arithmetic		C	C	B	B	C
13 - 7	Grammar		C	C	B	B	B
	History		C	C	C	B	C
7	Arithmetic		B	B	B	C	B
13 - 0	Grammar		B	B	B	B	C
	History		B	A	B	B	B
8.5	Arithmetic		B	B	C	B	C
13 - 6	Grammar		D	D	D	F	C
	History		D	C	C	C	C
8.5	Arithmetic		B	B	C	C	C
13 - 0	Grammar		C	C	B	B	B
	History		B	B	B	B	B

GROUP I - 8th GRADE

Pupil's RANK in tests, and AGE in yrs. and mos.		INTELLIGENCE EXAMINATIONS, TEST SCORES										Total	Average
Test		1	2	3	4	5	6	7	8	9	10		
10	Haggerty	40	10	17	22	10	34					133	
14 - 0	Otis	12	16	13		11	8	17	11	16	23	127	130.0
11.5	Haggerty	34	11	15	29	12	30					131	
15 - 6	Otis	13	11	13		12	8	16	15	12	24	124	127.5
11.5	Haggerty	30	12	12	21	11	31					117	
12 - 1	Otis	10	18	13		14	10	16	13	20	24	138	127.5
13.5	Haggerty	36	14	10	24	11	32					127	
13 - 2	Otis	15	16	18		17	7	15	12	9	18	127	127.0
13.5	Haggerty	30	10	12	28	12	30					122	
12 - 4	Otis	16	15	11		12	10	14	13	21	20	132	127.0
15	Haggerty	24	10	14	25	13	30					116	
13 - 6	Otis	14	15	15		12	7	15	16	24	19	137	126.5
16	Haggerty	38	13	14	21	11	30					127	
13 - 11	Otis	11	18	13		13	8	14	17	9	22	125	126.0
17	Haggerty	30	14	13	22	13	30					122	
13 - 9	Otis	17	18	7		13	8	13	12	19	22	129	125.5
18	Haggerty	32	13	12	20	10	28					115	
12 - 5	Otis	13	12	14		14	11	16	17	16	21	134	124.5

GROUP I - 8th GRADE

Pupil's RANK
in tests, and
AGE in
yrs. and mos.

SCHOOL MARKS

		Subject	Month	Sep.	Nov.	Jan.	Mar.	May
10		Arithmetic		C	C	C	C	C
14	- 0	Grammar		C	C	D	C	D
		History		D	B	D	B	B
11.5		Arithmetic		C	C	C	C	D
15	- 6	Grammar		C	C	D	F	F
		History		C	C	C	C	B
11.5		Arithmetic		B	B	B	B	B
12	- 1	Grammar		B	B	B	B	C
		History		A	A	A	A	B
13.5		Arithmetic		C	B	B	C	C
13	- 2	Grammar		B	B	D	F	D
		History		D	B	B	B	B
13.5		Arithmetic		B	C	B	C	B
12	- 4	Grammar		B	B	C	B	B
		History		B	B	B	B	B
15		Arithmetic		B	B	B	B	C
13	- 6	Grammar		B	A	B	A	A
		History		B	A	A	A	A
16		Arithmetic		C	C	B	B	B
13	- 11	Grammar		D	D	D	D	D
		History		C	B	B	B	B
17		Arithmetic		C	B	B	A	B
13	- 9	Grammar		B	A	A	A	B
		History		B	A	B	A	A
18		Arithmetic		B	B	B	C	B
12	- 5	Grammar		B	B	D	B	B
		History		C	B	B	C	B

GROUP I - 8th GRADE

Pupil's RANK in tests, and AGE in yrs. and mos.		TEST SCORES, INTELLIGENCE EXAMINATIONS										Total	Average
Test	1	2	3	4	5	6	7	8	9	10	Total	Average	
19.5 13 - 3	Haggerty	28	13	20	18	12	32					123	
	Otis	14	18	10		15	8	13	14	11	21	124	
												123.5	
19.5 13 - 0	Haggerty	36	14	14	19	12	32					128	
	Otis	14	14	14		14	11	14	14	0	24	119	
												123.5	
21 12 - 2	Haggerty	38	15	16	26	8	30					133	
	Otis	11	13	9		11	8	9	11	22	17	111	
												122.0	
22 12 - 9	Haggerty	30	14	15	15	11	28					113	
	Otis	13	14	15		12	14	14	11	18	19	130	
												121.5	
23 12 - 6	Haggerty	34	11	12		22	12	32				123	
	Otis	13	13	16		9	17	13	16	10	22	119	
												121.0	
24 13 - 1	Haggerty	20	13	18	23	11	33					118	
	Otis	15	13	17		13	10	10	10	17	16	121	
												119.5	

GROUP I - 8th GRADE

Pupil's RANK
in tests, and
AGE in
yrs. and mos.

SCHOOL MARKS

	Month	Sep.	Nov.	Jan.	Mar.	May
19.5 13 - 3	Subject					
	Arithmetic	C	C	C	C	B
	Grammar	D	D	D	D	D
	History	D	C	D	C	C
19.5 13 - 0	Arithmetic	B	B	A	B	B
	Grammar	A	A	A	A	A
	History	B	B	B	B	B
21 12 - 2	Arithmetic	B	B	B	B	A
	Grammar	B	B	D	C	C
	History	B	B	D	B	B
22 12 - 9	Arithmetic	B	B	B	C	B
	Grammar	B	B	C	B	C
	History	C	B	B	B	C
23 12 - 6	Arithmetic	C	C	C	B	C
	Grammar	C	B	D	C	C
	History	D	D	C	C	C
24 13 - 1	Arithmetic	C	C	C	C	C
	Grammar	C	C	B	B	C
	History	C	C	C	B	B

GROUP II - 8th GRADE

Pupil's RANK in tests, and AGE in yrs. and mos.		Test	1	2	3	4	5	6	7	8	9	10	Total	Average
26		Haggerty	32	15	16	14	12	28					117	
14	- 1	Otis	11	14	11		14	8	11	14	12	23	118	117.5
26		Haggerty	34	13	9	22	12	29					119	
13	- 7	Otis	11	16	11		8	7	14	12	19	18	116	117.5
26		Haggerty	24	12	19	22	14	32					123	
16	- 5	Otis	13	17	10		15	9	12	12	0	24	112	117.5
28		Haggerty	26	12	18	22	11	31					120	
14	- 0	Otis	9	14	13		10	8	9	21	12	21	114	117.0
29		Haggerty	30	10	9	27	12	29					117	
12	- 4	Otis	12	15	12		7	5	16	16	16	17	116	116.5
30		Haggerty	30	12	15	26	9	22					114	
14	- 7	Otis	12	16	12		13	7	15	17	6	18	117	115.5
32		Haggerty	26	13	10	20	13	29					111	
14	- 0	Otis	9	16	12		14	10	12	11	13	22	119	115.0
32		Haggerty	34	10	19	22	12	28					125	
14	- 5	Otis	8	14	11		13	7	15	13	6	18	105	115.0
32		Haggerty	34	10	17	14	10	32					118	
13	- 5	Otis	11	18	0		12	12	19	13	12	15	112	115.0

GROUP II - 8th GRADE

Pupil's RANK
in tests, and
AGE in
yrs. and mos.

SCHOOL MARKS

		Subject	Month	Sep.	Nov.	Jan.	Mar.	May
26		Arithmetic		B	B	C	C	B
14	- 1	Grammar		B	A	B	B	A
		History		B	C	C	C	C
26		Arithmetic		C	C	B	B	B
13	- 7	Grammar		A	B	C	B	B
		History		B	B	B	B	B
26		Arithmetic		C	C	F	F	F
16	- 6	Grammar		D	C	D	D	C
		History		D	F	F	C	C
28		Arithmetic		B	B	C	C	C
14	- 0	Grammar		B	B	C	C	C
		History		B	B	B	B	B
29		Arithmetic		D	D	C	D	D
12	- 4	Grammar		C	C	C	D	D
		History		D	C	C	B	C
30		Arithmetic		C	C	C	C	C
14	- 7	Grammar		C	C	D	C	D
		History		D	C	D	D	B
32		Arithmetic		A	B	B	A	B
14	- 0	Grammar		A	A	B	A	A
		History		A	A	B	A	A
32		Arithmetic		C	D	C	D	D
14	- 5	Grammar		C	C	D	F	F
		History		C	D	F	D	F
32		Arithmetic		C	C	C	C	C
13	- 5	Grammar		B	B	C	C	D
		History		C	C	D	C	C

GROUP II - 8th GRADE

Pupil's RANK
in tests, and
AGE in
yrs. and mos.

TEST SCORES, INTELLIGENCE EXAMINATIONS

Pupil's RANK in tests, and AGE in yrs. and mos.	Test	1	2	3	4	5	6	7	8	9	10	Total	Average
35.5	Haggerty	34	14	15	15	10	26					114	
12 - 1	Otis	11	13	6		11	10	14	15	13	21	115	114.5
35.5	Haggerty	24	12	12	19	11	28					106	
13 - 3	Otis	12	16	14		11	8	11	13	11	27	123	114.5
35.5	Haggerty	34	10	9	15	12	28					108	
13 - 1	Otis	11	17	11		12	5	13	9	20	23	121	114.5
35.5	Haggerty	36	11	10	10	12	29					108	
12 - 1	Otis	12	14	13		12	8	13	11	20	18	121	114.5
38.5	Haggerty	36	8	11	15	12	31					113	
14 - 0	Otis	10	15	14		12	8	14	13	7	21	114	113.5
38.5	Haggerty	24	10	14	11	10	28					97	
16 - 9	Otis	10	15	14		10	9	15	12	22	23	130	113.5
40	Haggerty	30	16	11	16	12	29					114	
13 - 8	Otis	9	14	9		18	10	9	13	11	19	112	113.0
41	Haggerty	24	11	19	20	9	31					114	
14 - 9	Otis	13	13	9		14	6	10	11	15	19	110	112.0
42	Haggerty	32	13	12	28	12	35					132	
12 - 6	Otis	6	9	9		12	9	15	9	3	19	91	111.5

GROUP II - 8th GRADE

Pupil's RANK
in tests, and
AGE in
yrs. and mos.

SCHOOL MARKS

		Subject	Month	Sep.	Nov.	Jan.	Mar.	May
35.5	12 - 1	Arithmetic		C	C	C	B	C
		Grammar		B	C	C	B	B
		History		C	B	C	B	A
35.5	13 - 3	Arithmetic		C	C	C	C	C
		Grammar		B	B	F	F	C
		History		C	B	D	D	C
35.5	13 - 1	Arithmetic		C	C	C	C	C
		Grammar		B	C	C	C	D
		History		B	B	C	B	D
35.5	12 - 1	Arithmetic		B	C	B	C	B
		Grammar		B	B	B	B	B
		History		B	B	B	B	B
38.5	14 - 0	Arithmetic		C	C	D	D	D
		Grammar		C	D	D	C	D
		History		D	C	D	C	C
38.5	16 - 9	Arithmetic		A	A	B	B	B
		Grammar		B	A	B	A	A
		History		B	A	B	A	A
40	13 - 9	Arithmetic		C	C	B	B	C
		Grammar		B	C	F	C	C
		History		C	C	F	C	B
41	14 - 9	Arithmetic		B	C	C	C	D
		Grammar		C	B	D	D	C
		History		B	C	D	D	C
42	12 - 6	Arithmetic		C	C	B	C	B
		Grammar		C	C	B	D	C
		History		C	B	B	C	B

GROUP II - 8th GRADE

Pupil's RANK in tests, and AGE in yrs. and mos.		TEST SCORES, INTELLIGENCE EXAMINATIONS										Total	Average
Test		1	2	3	4	5	6	7	8	9	10		
43.5	Haggerty	30	13	11	17	10	29					110	
13 - 9	Otis	14	12	10		17	7	14	14	6	18	112	111.0
43.5	Haggerty	30	10	15	13	11	29					108	
13 - 7	Otis	9	12	22		9	7	11	11	17	16	114	111.0
45	Haggerty	30	11	20	14	12	30					117	
13 - 10	Otis	12	12	17		8	4	11	9	14	16	103	110.0
46	Haggerty	28	9	13	14	12	27					103	
14 - 4	Otis	13	13	15		5	7	14	11	18	20	116	109.5
47	Haggerty	30	11	16	21	10	19					107	
12 - 6	Otis	10	14	8		9	8	10	14	14	24	111	109.0
48	Haggerty	26	11	17	19	8	25					106	
12 - 3	Otis	11	14	13		13	7	12	14	9	18	111	108.5
49	Haggerty	36	10	10	22	12	30					120	
12 - 9	Otis	11	17	9		10	8	9	12	2	18	96	108

GROUP II - 8th GRADE

Pupil's RANK
in tests, and
AGE in
yrs. and mos.

SCHOOL MARKS

	Subject	Month	Sep.	Nov.	Jan.	Mar.	May
43.5 13 - 9	Arithmetic		C	B	A	A	B
	Grammar		C	B	C	B	C
	History		C	B	B	A	B
43.5 13 - 7	Arithmetic		B	C	C	C	B
	Grammar		B	C	C	C	B
	History		B	B	B	B	B
45 13 - 10	Arithmetic		D	D	C	C	C
	Grammar		C	C	C	B	C
	History		D	D	D	C	C
46 14 - 4	Arithmetic		C	D	F	D	F
	Grammar		C	C	F	F	F
	History		C	C	F	F	F
47 12 - 6	Arithmetic		C	D	C	D	D
	Grammar		C	C	C	C	D
	History		D	D	C	C	B
48 12 - 3	Arithmetic		C	C	D	C	C
	Grammar		C	D	D	C	D
	History		D	D	C	C	B
49 12 - 9	Arithmetic		B	B	B	B	B
	Grammar		A	A	B	A	A
	History		A	A	B	B	B

GROUP III - 8th GRADE

Pupil's RANK
in tests, and
AGE in

INTELLIGENCE EXAMINATIONS, TEST SCORES

yrs. and mos.	Test	1	2	3	4	5	6	7	8	9	10	Total	
50.5	Haggerty	32	13	15	20	9	26					115	
12 - 3	Otis	12	11	9		13	8	0	13	14	20	100	107.5
50.5	Haggerty	32	10	10	12	13	27					104	
12 - 9	Otis	10	11	14		9	3	12	16	17	19	111	105.5
52	Haggerty	26	14	15	15	10, 27						107	
12 - 5	Otis	11	5	15		14	9	13	11	10	19	107	107.0
53	Haggerty	36	12	12	17	7	23					107	
13 - 11	Otis	11	12	13		13	7	11	11	11	17	106	106.5
54	Haggerty	34	9	15	17	10	31					116	
14 - 6	Otis	12	12	10		11	6	16	10	0	19	96	106.0
56	Haggerty	34	9	9	24	10	25					111	
13 - 3	Otis	13	10	7		9	5	13	13	8	22	100	105.5
56	Haggerty	24	15	13	13	9	32					106	
14 - 10	Otis	11	10	8		16	7	16	11	6	20	105	105.5
56	Haggerty	32	11	18	17	11	24					113	
15 - 7	Otis	11	14	10		11	8	13	10	0	22	98	105.5
58	Haggerty	30	13	14	24	0	31					112	
13 - 9	Otis	9	10	8		11	7	14	12	9	18	98	105.0

GROUP III - 8th GRADE

Pupil's RANK
in tests, and
AGE in
yrs. and mos.

SCHOOL MARKS

		Subject	Month	Sep.	Nov.	Jan.	Mar.	May
50.5 12 - 3	Arithmetic	C	C	C	C	C		
	Grammar	B	B	B	B	B		
	History	C	C	C	C	C		
50.5 12 - 9	Arithmetic	D	C	C	B	C		
	Grammar	C	D	C	B	A		
	History	D	D	C	B	C		
52 12 - 5	Arithmetic	C	C	C	C	B		
	Grammar	C	C	C	C	D		
	History	D	B	C	B	B		
53 13 - 11	Arithmetic	B	C	C	C	C		
	Grammar	B	B	C	B	C		
	History	B	C	C	C	C		
54 14 - 6	Arithmetic	C	C	D	C	B		
	Arithmetic	D	F	C	C	C		
	History	F	F	C	C	B		
56 13 - 3	Arithmetic	B	C	B	B	C		
	Grammar	C	B	C	B	C		
	History	C	B	C	B	B		
56 14 - 10	Arithmetic	C	C	B	B	B		
	Grammar	D	C	D	F	D		
	History	C	C	C	C	C		
56 15 - 7	Arithmetic	D	C	D	F	F		
	Grammar	F	F	F	F	F		
	History	F	F	D	D	F		
58 13 - 9	Arithmetic	F	D	F	C	C		
	Grammar	F	D	F	C	D		
	History	F	D	F	D	C		

GROUP III - 8th GRADE

Pupil's RANK
in tests, and
AGE in
yrs. ans mos.

TEST SCORES, INTELLIGENCE EXAMINATIONS

	Test	1	2	3	4	5	6	7	8	9	10	Total	Average
59	Haggerty	32	11	11	21	10	25					110	
13 - 5	Otis	11	9	10		6	6	10	14	9	22	97	103.5
60	Haggerty	32	11	11	11	12	21					98	
14 - 1	Otis	9	11	13		9	10	13	16	10	16	107	102.5
61	Haggerty	20	11	11	22	9	21	21				94	
15 - 1	Otis	11	16	12		6	8	13	12	12	20	110	102.0
62	Haggerty	32	13	13	20	9	20					107	
15 - 1	Otis	10	9	9		14	6	16	12	5	15	96	101.5
64	Haggerty												
13 - 5	Otis	10	13	5		8	7	14	11	16	17	101	101.0
64	Haggerty	31	12	11	3	11	25					93	
13 - 9	Otis	10	13	4		11	10	14	12	20	15	109	101.0
64	Haggerty	30	12	14	11	11	31					109	
13 - 8	Otis	10	10	12		8	5	12	10	11	15	93	101.0
66	Haggerty	32	11	16	14	3	29					105	
12 - 11	Otis	8	10	9		11	7	12	12	10	17	96	100.5
67	Haggerty	22	11	14	20	8	19					94	
13 - 10	Otis	11	11	10		9	6	14	14	13	18	106	100.0

GROUP III - 8th GRADE

Pupil's RANK
in tests, and
AGE in
yrs. and mos.

SCHOOL MARKS

		Subject	Month	Sep.	Nov.	Jan.	Mar.	May
59		Arithmetic		C	C	B	C	C
13 -	5	Grammar		C	B	B	C	C
		History		B	B	B	B	B
60		Arithmetic		C	C	C	B	C
14 -	1	Grammar		C	B	C	C	B
		History		C	B	C	C	C
61		Arithmetic		D	D	C	D	D
15 -	1	Grammar		F	F	C	F	D
		History		C	B	C	B	AA
62		Arithmetic		C	D	C	B	B
15 -	1	Grammar		D	D	D	D	F
		History		D	D	C	C	C
64		Arithmetic		C	C	C	C	C
13 -	5	Grammar		B	D	D	D	D
		History		B	B	D	C	C
64		Arithmetic		C	C	C	C	C
13 -	9	Grammar		C	C	C	C	D
		History		B	B	B	C	B
64		Arithmetic		C	C	C	C	C
13 -	8	Grammar		D	C	C	D	C
		History		D	C	D	D	C
66		Arithmetic		C	C	C	B	C
12 -	11	Grammar		B	B	B	B	C
		History		C	B	B	B	B
67		Arithmetic		D	C	D	D	C
13 -	10	Grammar		C	D	D	F	F
		History		C	C	D	D	C

GROUP III - 8th GRADE

Pupil's RANK in tests, and AGE in yrs. and mos.		Test	1	2	3	4	5	6	7	8	9	10	Total	Average
68.5	Haggerty		29	9	10	22	9	22					101	
13 - 5	Otis		10	10	7		6	5	13	13	17	17	98	99.5
68.5	Haggerty		20	9	15	17	9	27					97	
13 - 2	Otis		10	10	9		11	9	12	10	8	23	102	99.5
70	Haggerty		30	11	8	15	11	23					98	
14 - 9	Otis		13	10	12		11	9	10	13	7	15	100	99.0
71	Haggerty		20	13	7	12	12	28					92	
15 - 2	Otis		12	14	11		12	8	12	9	13	14	105	98.5
72	Haggerty		30	11	11	18	21	12					103	
13 - 9	Otis		11	11	7		7	6	13	11	11	15	92	97.5
74	Haggerty		30	12	12	16	9	27					106	
14 - 2	Otis		11	9	12		14	5	10	11	1	15	88	97.0
74	Haggerty		32	10	11	10	8	25					96	
14 - 7	Otis		10	12	8		6	8	12	9	5	28	98	97.0
74	Haggerty		20	12	12	19	7	24					94	
13 - 5	Otis		9	11	7		14	6	13	12	10	18	100	97.0

GROUP III - 8th GRADE

Pupil's RANK in tests, and AGE in yrs. and mox.	SCHOOL MARKS Subject	Month				
		Sep.	Nov.	Jan.	Mar.	May
68.5 13 - 5	Arithmetic	D	D	D	D	D
	Grammar	C	D	D	F	F
	History	D	D	D	D	C
68.5 13 - 2	Arithmetic	C	C	F	F	F
	Grammar	F	F	F	F	F
	History	D	F	D	C	C
70 14 - 9	Arithmetic	C	C	A	B	B
	Grammar	C	B	B	B	B
	History	C	C	B	B	A
71 15 - 2	Arithmetic	C	D	C	C	C
	Grammar	B	C	F	D	D
	History	D	B	C	C	C
72 13 - 9	Arithmetic	C	C	C	C	B
	Grammar	B	B	C	C	C
	History	B	B	C	C	B
74 14 - 2	Arithmetic	D	D	B	C	C
	Grammar	F	D	F	F	F
	History	D	C	D	D	D
74 14 - 7	Arithmetic	F	D	F	C	C
	Grammar	F	D	D	C	C
	History	F	D	F	C	D
74 13 - 5	Arithmetic	B	B	C	B	B
	Grammar	C	D	C	D	D
	History	D	C	C	C	C

GROUP IV - 8th GRADE

Pupil's RANK
in tests, and
AGE in
yrs. and mos. Test 1 2 3 4 5 6 7 8 9 10 Total Average

76		Haggerty	20	10	12	20	10	22						94	
13	-	4	Otis	12	14	12		10	9	9	10	7	16	99	96.5
77		Haggerty	32	10	9	17	7	20						95	
12	-	1	Otis	12	10	5		9	6	12	9	14	20	97	96.0
78		Haggerty	29	5	11	21	11	25						101	
13	-	1	Otis	10	8	11		7	8	13	9	5	17	88	94.5
79.5		Haggerty	30	14	13	22	13	30						122	
13	-	9	Otis	8	6	7		6	3	6	3	7	17	63	92.5
79.5		Haggerty	32	12	10	21	9	19						103	
12	-	8	Otis	11	9	5		14	8	9	10	4	12	82	92.5
81		Haggerty	34	9	8	18	9	21						99	
13	-	4	Otis	10	10	13		9	6	12	7	0	18	85	92.0
82		Haggerty	34	7	9	14	11	25						100	
13	-	3	Otis	8	14	12		3	6	9	11	8	12	83	91.5
83.5		Haggerty	28	11	13	17	6	24						99	
15	-	3	Otis	9	11	9		11	7	11	9	0	15	82	90.5
83.5		Haggerty	20	11	17	8	8	25						89	
14	-	3	Otid	9	6	11		8	5	13	10	12	18	92	90.5

GROUP IV - Syh GRADE

Pupil's RANK
in tests, and
AGE in
yrs. and mos.

SCHOOL MARKS

		Subject	Month	Sep.	Nov.	Jan.	Mar.	May
76 13 - 4	Arithmetic	C	D	C	D	C		
	Grammar	B	B	C	C	C		
	History	C	C	C	C	C		
77 13 - 1	Arithmetic	D	C	D	C	C		
	Grammar	C	C	D	C	C		
	History	C	C	C	D	C		
78 13 - 4	Arithmetic	C	C	D	C	C		
	Grammar	C	D	C	D	D		
	History	C	D	D	D	D		
79.5 13 - 9	Arithmetic	D	D	C	C	D		
	Grammar	C	C	C	C	C		
	History	D	D	D	C	C		
79.5 12 - 9	Arithmetic	B	B	C	C	C		
	Grammar	C	C	C	C	D		
	History	B	B	C	C	C		
81 13 - 4	Arithmetic	D	C	D	D	D		
	Grammar	C	D	F	F	C		
	History	D	D	F	D	C		
82 13 - 3	Arithmetic	C	C	C	C	D		
	Grammar	B	B	C	C	C		
	History	C	C	D	D	C		
83.5 15 - 3	Arithmetic	B	B	B	B	B		
	Grammar	C	C	D	D	F		
	History	C	C	C	C	C		
83.5 14 - 3	Arithmetic	D	D	D	C	B		
	Grammar	D	D	C	D	C		
	History	D	D	D	C	C		

GROUP IV - 8th GRADE

Pupil's RANK
in tests, and
AGE in
yrs. and mos.

TEST SCORES, INTELLIGENCE EXAMINATIONS

	Test	1	2	3	4	5	6	7	8	9	10	Total	Average
85	Haggerty	30	8	12	16	8	20					94	
13 - 10	Otis	9	10	9		6	6	11	11	7	16	85	89.5
86	Haggerty	26	9	11	10	13	26					95	
16 - 1	Otis	10	11	13		8	4	7	9	0	21	83	89.0
87	Haggerty	28	8	13	0	9	29					87	
12 - 11	Otis	13	9	9		7	4	11	9	7	19	88	87.5
88	Haggerty	28	10	11	18	11	22					100	
11 - 7	Otis	9	9	12		4	9	7	8	0	16	74	87.0
89	Haggerty	16	11	11	16	7	22					83	
12 - 0	Otis	9	9	9		8	7	12	15	3	17	89	86.0
90	Haggerty	26	11	12	12	6	16					83	
13 - 11	Otis	10	11	10		5	5	10	12	0	20	83	83.0
91.5	Haggerty	30	9	8	18	8	13					86	
13 - 2	Otis	10	11	9		5	6	6	9	5	18	79	82.5
91.5	Haggerty	28	9	13	0	13	22					85	
12 - 11	Otis	10	7	9		8	6	9	8	4	19	80	82.5
93	Haggerty	18	9	17	10	0	24					78	
14 - 5	Otis	11	7	17		8	5	5	10	6	17	86	82.0

GROUP IV - 8th GRADE

Pupil's RANK
in tests, and
AGE in
yrs. and mos.

SCHOOL MARKS

	Subject	Month	Sep.	Nov.	Jan.	Mar.	May
85 13 - 10	Arithmetic		D	C	D	D	C
	Grammar		C	C	F	F	F
	History		D	C	F	D	C
86 16 - 1	Arithmetic		D	D	D	D	D
	Grammar		C	D	D	D	C
	History		D	D	D	D	C
87 12 - 11	Arithmetic		C	C	C	C	C
	Grammar		C	D	D	B	B
	History		D	D	D	D	D
88 11 - 7	Arithmetic		C	C	C	D	D
	Grammar		A	B	B	B	C
	History		C	C	B	B	C
89 12 - 0	Arithmetic		C	C	D	C	C
	Grammar		B	B	D	C	C
	History		C	C	C	C	B
90 13 - 11	Arithmetic		D	D	C	C	C
	Grammar		D	C	D	C	B
	History		D	D	C	C	C
91.5 13 - 2	Arithmetic		D	D	D	C	C
	Grammar		C	D	D	C	B
	History		C	D	D	C	C
91.5 12 - 11	Arithmetic		D	D	C	D	D
	Grammar		D	D	D	C	D
	History		D	D	D	D	D
93 14 -	Arithmetic		D	D	D	C	D
	Grammar		C	C	D	C	D
	History		D	D	C	D	C

GROUP IV - 8th GRADE

Pupil's RANK
in tests, and
AGE in
yrs. and mos.

TEST SCORES, INTELLIGENCE EXAMINATIONS

	Test	1	2	3	4	5	6	7	8	9	10	Total	Average
94	Haggerty	36	8	7	12	6	23					92	
14 - 2	Otis	12	4	7		4	8	2	11	0	16	64	78.0
95	Haggerty	14	10	6	5	5	26					66	
13 - 9	Otis	10	5	11		8	3	7	9	8	19	80	73.0
96	Haggerty	29	2	9	17	9	25					89	
13 - 5	Otis	4	7	0		8	6	9	11	0	8	53	71.0
97	Haggerty	24	9	8	15	7	15					78	
14 - 10	Otis	7	3	12		10	3	1	5	9	10	60	69.0
98	Haggerty	22	7	9	18	7	15					78	
14 - 10	Otis	8	5	6		5	4	4	9	3	13	57	67.5
99	Haggerty	30	8	7	5	0	25					75	
15 - 2	Otis	5	4	10		7	3	7	7	0	16	59	67.0

GROUP IV - 8th GRADE

Pupil's RANK
in tests, and
AGE in
yrs. and mos.

SCHOOL MARKS

	Month	Sep.	Nov.	Jan.	Mar.	May
94	Subject					
14 - 2	Arithmetic	F	D	C	D	D
	Grammar	D	D	D	F	F
	History	F	D	D	C	C
95	Subject					
13 - 9	Arithmetic	D	D	C	D	F
	Grammar	C	D	D	D	F
	History	C	C	D	D	C
96	Subject					
13 - 5	Arithmetic	C	C	C	C	C
	Grammar	C	D	D	C	C
	History	D	D	D	D	C
97	Subject					
14 - 10	Arithmetic	D	D	C	D	D
	Grammar	D	D	C	C	D
	History	D	D	C	C	B
98	Subject					
14 - 10	Arithmetic	D	D	D	D	D
	Grammar	C	C	D	D	D
	History	D	D	D	D	D
99	Subject					
15 - 2	Arithmetic	D	D	C	D	F
	Grammar	F	F	D	F	F
	History	F	F	D	F	F

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Grade

Teacher

Year

COMPOSITE SCHOOL RECORD

FOR
GRADED SCHOOLS

By
W. A. ZIEGLER

Superintendent Thief River Falls Public Schools
Thief River Falls, Minn.

to c
desl
unt
No

Write program on the opposite page. If program is changed during the year, enter new program with date of change under the old one.

Briefly record the work done each day in each class. Ordinarily, it will be sufficient to record brief titles of the work together with the pages of the text covered. List classes in identical order each month.

FOR

On last pages, enter names and ages of pupils; and month, day and year of birth. For a whole day's absence, draw a diagonal in the proper space. For a forenoon absence, draw first half of diagonal. For an afternoon absence, draw the last half of diagonal. Record "Attendance", "Arithmetic", "Grammar", etc., standings to right and left on same line where printed, uniformly for all students. Under "Book" write number of book loaned to pupil.

W. A. MICKLER
Superintendent Third River Falls Public Schools

MAKE THE RECORDS EVERY DAY WHILE THEY ARE FRESH IN MIND.

SEPTEMBER

	First Week	Date	Second Week	Date
ARITHMETIC TEXT	M		M	
	T		T	
	W		W	
	T		T	
	F		F	
GRAMMAR TEXT	M		M	
	T		T	
	W		W	
	T		T	
	F		F	
HISTORY TEXT	M		M	
	T		T	
	W		W	
	T		T	
	F		F	

ATTENDANCE

Book Sep Oct Nov Dec Jan Feb Mar Apr May Av. Mo 1 wk 2 wk 3 wk 4 wk

Book Sep Oct Nov Dec Jan Feb Mar Apr May Av.

ATTENDANCE

Book Sep Oct Nov Dec Jan Feb Mar Apr May Av.

NAME	AGE	1	2	3	4	5	6	7	8	9
Birth										

NAME	AGE	1	2	3	4	5	6	7	8	9
Birth	Att.									
	Arith.									
	Gram.									
	Hist.									
	Geog.									
	Read.									

NAME	AGE	1	2	3	4	5	6	7	8	9
Birth										

NAME	AGE	1	2	3	4	5	6	7	8	9
Birth										

NAME	AGE	1	2	3	4	5	6	7	8	9
Birth	Att.									
	Arith.									
	Gram.									
	Hist.									
	Geog.									
	Read.									

NAME	AGE	1	2	3	4	5	6	7	8	9
Birth										

NAME	AGE	1	2	3	4	5	6	7	8	9
Birth										

NAME	AGE	1	2	3	4	5	6	7	8	9
Birth	Att.									
	Arith.									
	Gram.									
	Hist.									
	Geog.									
	Read.									

NAME	AGE	1	2	3	4	5	6	7	8	9
Birth										

NAME	AGE	1	2	3	4	5	6	7	8	9
Birth										

NAME	AGE	1	2	3	4	5	6	7	8	9
Birth	Att.									
	Arith.									
	Gram.									
	Hist.									
	Geog.									
	Read.									

NAME	AGE	1	2	3	4	5	6	7	8	9
Birth										

NAME	AGE	1	2	3	4	5	6	7	8	9
Birth										

NAME	AGE	1	2	3	4	5	6	7	8	9
Birth	Att.									
	Arith.									
	Gram.									
	Hist.									
	Geog.									
	Read.									

NAME	AGE	1	2	3	4	5	6	7	8	9
Birth										

to d
desk
until

Now

	YEAR ENDING JULY 31, 192		
	Males	Females	Total
1. Children of school age according to census taken....., 192			
2. Number of pupils entitled to apportionment			
3. Not entitled to apportionment - - - - -			
4. Total number pupils enrolled			
5. Number between 5 and 8 years of age enrolled (aged 5-7 inclusive)			
6. Number between 8 and 16 years of age enrolled (aged 8-15 inclusive)			
7. Number between 16 and 21 years of age enrolled (aged 16-20 inclusive)			
8. Total between 5 and 21 years of age enrolled (aged 5-20 inclusive)			
*9. Number between 8 and 16 who have attended school during entire term			
10. Total attendance in days by all pupils - - - - -	X	X	
11. Total days of school including holidays - - - - -	X	X	
12. Average daily attendance (divide item 10 by 11) - - - - -	X	X	
13. Number of books taken from library - - - - -	X	X	
14. Monthly wages of teacher - - - - -			
15. Highest school teacher has attended (High School, Normal School or College)			
16. Highest school of which teacher is a graduate (High School, High School Training Department, Normal School or College)			
17. Date and place of last institute or training school teacher has attended?			

*Chapter 356, Laws 1911, as amended, provides: That children between eight and sixteen years of age must attend school during entire time unless excused by the School Board.

I certify to the report for year ending July 31, 192

....., Teacher.

Standard Educational Tests

Intelligence Examination

DELTA 2, FOR GRADES 3—9

Arranged and standardized by M. E. HAGGERTY, University of Minnesota

An adaptation of the Army Intelligence Examinations. Used in the Virginia School Survey

My name is..... I am a.....
 First name Last name Write boy or girl

This is the..... day of..... 19..... I am..... years old.

My next birthday will be..... 19..... I am in..... half of Grade.....

The name of my school is..... The name of my city (county) is.....

The name of my state is.....

Do not turn this page until you are told to do so.

(To be read silently by pupils while examiner reads aloud)

This little book contains some exercises which will show how well you can do certain things. Some of the things are very easy and some are very hard. There are six exercises in all. You will be shown them one at a time and will finish each one before you see the next one. Do not turn any page until you are told to do so. As soon as you turn the page, lift your pencil, with your elbow on your desk, and do not put your pencil down until we have read the instructions and until I say, GO!

Now turn the page to Exercise 1.

EXERCISE 6

Look at this sentence; People hear with the eyes — ears — nose — mouth.

The correct word is "ears," because it makes the truest sentence. In each of the sentences below you have four choices for the last word. Only one of them is correct. In each sentence draw a line under the one of these four words that makes the truest sentence. If you cannot be sure, guess. The first one is already marked as it should be.

France is in Europe Asia Africa Australia.

1	The apple grows on a shrub vine tree bush	1
2	The day before Thursday is Tuesday Wednesday Friday Saturday	2
3	America was discovered by Drake Hudson Cabot Columbus	3
4	The first President of the United States was Lincoln Washington Jackson Garfield	4
5	The capital of the United States is New York Chicago Washington New Orleans	5
6	Wool is obtained from the ocean the ground a plant an animal	6
7	The Amazon is a river city mountain country	7
8	Boston is in Connecticut Rhode Island Maine Massachusetts	8
9	The capital of France is London Rome Paris Berlin	9
10	The second month before July is August May June April	10
11	The number of days in a year is 144 287 365 412	11
12	The Leghorn is a kind of cow horse granite fowl	12
13	Charlie Chaplin is noted as an actor soldier preacher physician	13
14	The commander of the allied armies was Wilson Foch Lloyd George Hindenburg	14
15	Moses was a great Greek Roman Japanese Jew	15
16	Shakespeare is noted as a soldier statesman writer scientist	16
17	A pound of tea usually costs about 10 cts. 5 cts. \$2.00 50 cts.	17
18	Ivory is obtained from elephants oysters mines reefs	18
19	The Durham is a kind of horse cow goat sheep	19
20	Indigo is a food drink color fabric	20
21	It is usually coldest at sunrise sunset noon midnight	21
22	The U. S. School for army officers is at Annapolis West Point New Haven St. Paul	22
23	Leap year comes every two years four years six years eight years	23
24	Rubber is obtained from ore petroleum trees hides	24
25	Darwin was most famous in literature politics war science	25
26	The battle of Lexington was fought in 1620 1775 1812 1864	26
27	Combustible things will rip fight burn break	27
28	Emeralds are usually red blue yellow green	28
29	Diamonds are obtained from mines reefs elephants oysters	29
30	Turpentine is obtained from rivers rocks trees animals	30
31	The saber is a kind of musket sword cannon pistol	31
32	The larynx is in the head neck shoulder abdomen	32
33	Larceny is a term used in medicine theology law pedagogy	33
34	Alfalfa is a kind of corn hay print rice	34
35	Maroon is a kind of food fabric drink color	35
36	The clarinet is used in music stenography lithography drawing	36
37	The mimeograph is a kind of typewriter copying machine phonograph pencil	37
38	The constitution of the league of nations was written in France Russia England Germany	38
39	Monogamy is a term relating to electricity business the family manufacture	39
40	A five-sided figure is called a scholium pentagon parallelogram trapezium	40

Score.....

EXERCISE 1

DIRECTIONS.

1. Read this question: Do cats see? NO YES
 The right answer is Yes; so a line is drawn under Yes.
2. Read the next question: Is coal white? NO YES
 The right answer is No; so a line is drawn under No.

Below are a great many more questions. Read them carefully, one at a time, and draw a line under the right answer. When you are not sure, guess.

- | | | | |
|--|--|-----|----|
| | 1. Do dogs run?..... | YES | NO |
| | 2. Can a doll sing?..... | YES | NO |
| | 3. Does the sun shine?..... | YES | NO |
| | 4. Do men drink water?..... | YES | NO |
| | 5. Are all apples red?..... | YES | NO |
| | 6. Does a table have legs?..... | YES | NO |
| | 7. Are eggs good to eat?..... | YES | NO |
| | 8. Are two more than four?..... | YES | NO |
| | 9. Are children's dresses always blue?..... | YES | NO |
| | 10. Are houses sometimes made of bricks?..... | YES | NO |
| | 11. Do soldiers ever live in camps?..... | YES | NO |
| | 12. Does it rain every morning?..... | YES | NO |
| | 13. Do all travelers have companions?..... | YES | NO |
| | 14. Is south different from north?..... | YES | NO |
| | 15. Do pupils attend school at midnight?..... | YES | NO |
| | 16. Does lightning sometimes occur at night?..... | YES | NO |
| | 17. Do guards ever take captives?..... | YES | NO |
| | 18. Are all barbers wealthy persons?..... | YES | NO |
| | 19. Does the country need patriotic citizens?..... | YES | NO |
| | 20. Should school teachers be continually tardy?..... | YES | NO |
| | 21. Are all swimming animals quadrupeds?..... | YES | NO |
| | 22. Is the development of trees ever stunted?..... | YES | NO |
| | 23. Is electricity used only for lighting?..... | YES | NO |
| | 24. Do all foreigners make good citizens?..... | YES | NO |
| | 25. Is the government of colonies important?..... | YES | NO |
| | 26. Are future events definitely predictable?..... | YES | NO |
| | 27. Is hospitality likely to be appreciated?..... | YES | NO |
| | 28. Are missionaries ever persecuted by natives?..... | YES | NO |
| | 29. Is a faithless commander deserving of reward?..... | YES | NO |
| | 30. Do governors ever issue proclamations?..... | YES | NO |
| | 31. Does the ascent of a mountain conduce to fatigue?..... | YES | NO |
| | 32. Do arguments arise over political questions?..... | YES | NO |
| | 33. Should a sentinel's challenge be ignored?..... | YES | NO |
| | 34. Are integrity and obedience virtues?..... | YES | NO |
| | 35. Are historians infallible?..... | YES | NO |
| | 36. Are "patriotism" and "elocution" synonyms?..... | YES | NO |
| | 37. Does allegiance imply loyalty?..... | YES | NO |
| | 38. Is surgery the vocation of diplomats?..... | YES | NO |
| | 39. Are all lunatics in penitentiaries?..... | YES | NO |
| | 40. Are judicial decisions ever enforced?..... | YES | NO |

Score.....

EXERCISE 5

This is a test of common sense. Below are sixteen questions. Three answers are given to each question. You are to look at the answers carefully; then make a cross in the square before the best answer to each question, as in the sample:

- SAMPLE {
- Why do we use stoves? Because
 - they look well
 - they keep us warm
 - they are black

Here the second answer is the best one and is marked with a cross. Begin with No. 1 and keep on until time is called.

- | | |
|--|--|
| <p>1 Cats are useful animals, because</p> <ul style="list-style-type: none"> <input type="checkbox"/> they catch mice <input type="checkbox"/> they are gentle <input type="checkbox"/> they are afraid of dogs <p>2 Why are chairs made of wood? Because</p> <ul style="list-style-type: none"> <input type="checkbox"/> wood is cheap and light <input type="checkbox"/> wood burns <input type="checkbox"/> wood is easily broken <p>3 A house is better than a tent, because</p> <ul style="list-style-type: none"> <input type="checkbox"/> it costs more <input type="checkbox"/> it is more comfortable <input type="checkbox"/> it is made of wood <p>4 Shoes are made of leather, because</p> <ul style="list-style-type: none"> <input type="checkbox"/> it is tanned <input type="checkbox"/> it is tough, pliable, and warm <input type="checkbox"/> it can be blackened <p>5 Why judge a man by what he does rather than by what he says? Because</p> <ul style="list-style-type: none"> <input type="checkbox"/> what a man does shows what he really is <input type="checkbox"/> it is wrong to tell a lie <input type="checkbox"/> a deaf man cannot hear what is said <p>6 If you were asked what you thought of a person whom you didn't know, what should you say?</p> <ul style="list-style-type: none"> <input type="checkbox"/> I will go and get acquainted <input type="checkbox"/> I think he is all right <input type="checkbox"/> I don't know him and can't say <p>7 Why does it pay to get a good education? Because</p> <ul style="list-style-type: none"> <input type="checkbox"/> it makes a man more useful and happy <input type="checkbox"/> it makes work for teachers <input type="checkbox"/> it makes demand for buildings for schools and colleges <p>8 If the grocer should give you too much money in making change, what is the right thing to do?</p> <ul style="list-style-type: none"> <input type="checkbox"/> buy some candy from him with it <input type="checkbox"/> give it to the first poor man you meet <input type="checkbox"/> tell him of his mistake | <p>9 If you are lost in a forest in the daytime, what is the thing to do?</p> <ul style="list-style-type: none"> <input type="checkbox"/> hurry to the nearest house you know of <input type="checkbox"/> look for something to eat <input type="checkbox"/> use the sun or a compass for a guide <p>10 The feathers on a bird's wings help him to fly, because they</p> <ul style="list-style-type: none"> <input type="checkbox"/> make a wide, light surface <input type="checkbox"/> keep the air off his body <input type="checkbox"/> keep the wings from cooling off too fast <p>11 Why are criminals locked up?</p> <ul style="list-style-type: none"> <input type="checkbox"/> to protect society <input type="checkbox"/> to get even with them <input type="checkbox"/> to make them work <p>12 Why should all parents be made to send their children to school? Because</p> <ul style="list-style-type: none"> <input type="checkbox"/> it prepares them for later life <input type="checkbox"/> it keeps them out of mischief <input type="checkbox"/> they are too young to work <p>13 Why do inventors patent their inventions? Because</p> <ul style="list-style-type: none"> <input type="checkbox"/> it gives them control of their inventions <input type="checkbox"/> it creates a greater demand <input type="checkbox"/> it is the custom to get patents <p>14 A train is harder to stop than an automobile, because</p> <ul style="list-style-type: none"> <input type="checkbox"/> it is longer <input type="checkbox"/> it is heavier <input type="checkbox"/> the brakes are not so good <p>15 We see no stars at noon, because</p> <ul style="list-style-type: none"> <input type="checkbox"/> they have moved around to the other side of the earth <input type="checkbox"/> they are so much fainter than the sun <input type="checkbox"/> they are hidden by the sun <p>16 Why is it colder nearer the poles than near the equator? Because</p> <ul style="list-style-type: none"> <input type="checkbox"/> the poles are always farther from the sun <input type="checkbox"/> the sunshine falls obliquely at the poles <input type="checkbox"/> there is more ice at the poles |
|--|--|

☛ Go to No. 9 above

Score.....

EXERCISE 2

Get the answers to these problems as quickly as you can. Use the side of this page to figure on if you need to.

- SAMPLES {
- | | | |
|--|--|---------------|
| | 1 How many are 5 men and 10 men?..... | Answer (15) |
| | 2 If one pencil costs 5 cents, what will 4 pencils cost?.... | Answer (20) |
-
- 1 How many are 30 men and 7 men?..... Answer ()
 - 2 A boy had 10 cents and spent 4 cents. How many cents had he left?.. Answer ()
 - 3 If you save \$7 a month for 4 months, how much will you save?..... Answer ()
 - 4 If 24 men are divided into groups of 8, how many groups will there be?..... Answer ()
 - 5 A boy had 12 marbles. He bought 3 more, and then lost 6. How many marbles did he have left?..... Answer ()
 - 6 Mary was carrying a dozen eggs in her apron. Two eggs fell out and were broken. How many eggs had she left?..... Answer ()
 - 7 An army advanced 5 miles and retreated 3 miles. How far was it then from its first position?..... Answer ()
 - 8 How many hours will it take to drive a team 66 miles at the rate of 6 miles an hour?..... Answer ()
 - 9 How many apples can you buy for 50 cents at the rate of 2 for 5 cents?..... Answer ()
 - 10 A regiment marched 40 miles in five days. The first day it marched 9 miles, the second day 6 miles, the third 10 miles, the fourth 8 miles. How many miles did it march the last day?..... Answer ()
 - 11 If you buy two writing tablets at 7 cents each and a book for 65 cents, how much change should you get from a two-dollar bill?..... Answer ()
 - 12 If there are 5 school days in a week, 4 weeks in a month, and 9 months in a school year, how many school days are there in a school year?..... Answer ()
 - 13 A dealer bought some mules for \$800. He sold them for \$1000, making \$40 on each mule. How many mules were there?..... Answer ()
 - 14 A rectangular bin holds 400 cubic feet of corn. If the bin is 10 feet long and 5 feet wide, how deep is it?..... Answer ()
 - 15 If it takes 6 men 3 days to dig a 180-foot drain, how many men are needed to dig it in half a day?..... Answer ()
 - 16 A soldier spent one eighth of his money for post cards and four times as much for a box of letter paper, and then had 90 cents left. How much money did he have at first?..... Answer ()
 - 17 If $3\frac{1}{2}$ tons of coal cost \$21, what will $5\frac{1}{2}$ tons cost?..... Answer ()
 - 18 A ship has food to last her crew of 500 men 6 months. How long would it last 1200 men?..... Answer ()
 - 19 If a man runs a hundred yards in 10 seconds, how many feet does he run in a fifth of a second?..... Answer ()
 - 20 A submarine makes 8 miles an hour under water and 15 miles on the surface. How long will it take to cross a 100-mile channel, if it has to go two fifths of the way under water?..... Answer ()

Score.....

EXERCISE 4

Look at these two words :

little—small

same—opposite

They mean the same thing ; so a line is drawn under same.

Now look at the next two words :

good—bad

same—opposite

These two words do not mean the same. They mean just the opposite ; so a line is drawn under opposite.

Now look at all the other words on this page. If the words of a pair mean the same or nearly the same, draw a line under same. If they mean the opposite or nearly the opposite, draw a line under opposite. If you cannot be sure, guess.

1	no—yes	.....	same—opposite	1
2	big—large	.....	same—opposite	2
3	leap—jump	.....	same—opposite	3
4	day—night	.....	same—opposite	4
5	cold—hot	.....	same—opposite	5
6	wet—dry	.....	same—opposite	6
7	in—out	.....	same—opposite	7
8	wide—broad	.....	same—opposite	8
9	bitter—sweet	.....	same—opposite	9
10	slim—slender	.....	same—opposite	10
11	go—leave	.....	same—opposite	11
12	begin—commence	.....	same—opposite	12
13	take—accept	.....	same—opposite	13
14	find—lose	.....	same—opposite	14
15	joy—happiness	.....	same—opposite	15
16	asleep—awake	.....	same—opposite	16
17	command—obey	.....	same—opposite	17
18	beg—entreat	.....	same—opposite	18
19	appeal—beseech	.....	same—opposite	19
20	legible—readable	.....	same—opposite	20
21	ancient—modern	.....	same—opposite	21
22	lax—strict	.....	same—opposite	22
23	acquire—lose	.....	same—opposite	23
24	sacred—hallowed	.....	same—opposite	24
25	compute—calculate	.....	same—opposite	25
26	repress—restrain	.....	same—opposite	26
27	bestow—confer	.....	same—opposite	27
28	amenable—tractable	.....	same—opposite	28
29	avert—prevent	.....	same—opposite	29
30	contradict—corroborate	.....	same—opposite	30
31	dearth—scarcity	.....	same—opposite	31
32	prefix—append	.....	same—opposite	32
33	amiable—surlly	.....	same—opposite	33
34	docile—refractory	.....	same—opposite	34
35	celibate—married	.....	same—opposite	35
36	extinct—extant	.....	same—opposite	36
37	pertinent—relevant	.....	same—opposite	37
38	diatribe—invective	.....	same—opposite	38
39	apathy—indifference	.....	same—opposite	39
40	fallacy—verity	.....	same—opposite	40
			Score.....	

EXERCISE 3

Each of these pictures has something missing, and you are to put in with your pencil the missing part. Look at the first one. It is the picture of a boy's face, but it has no mouth. Now with your pencil mark in a mouth. The woman has no eye. Give her an eye. The other pictures are to be finished in the same way.



A

B



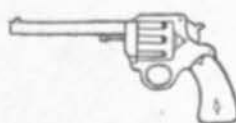
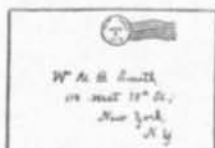
1

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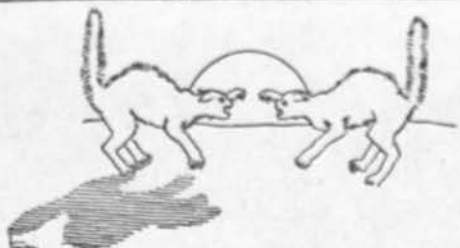
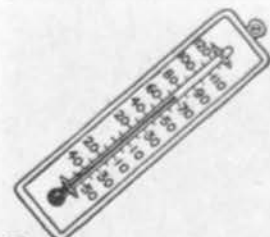


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15

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17



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19

20

Score.....