AN EXPERIMENTAL COMPARISON OF GRAMMAR-TRANSLATION METHOD
AND DIRECT METHOD IN THE TEACHING OF FRENCH

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INTRODUCTION

A. RESUME OF MODERN LANGUAGE METHODOLOGY

Following carefully the different movements in modern language methodology, we notice that the vernacular languages assumed their importance in the different countries at the beginning of the sixteenth and seventeenth centuries.

Latin had dominated completely the curriculum during the Middle Ages as it was the universal medium of thought and communication and was well adapted to the needs of the time. After the introduction of vernacular languages in the schools, Latin was still retained for its disciplinary and cultural values, and its method of teaching influenced greatly the method of modern language teaching when they became a part of the curriculum. Latin was almost wholly taught through the use of the indirect method.

Montaigne was the first to criticise this method inherited from Latin study in the teaching of foreign language. He also, with Rabelais, began the effort of adjusting method to child rather than child to method as had previously been done.

Locke and Spenser followed, attacking classical education and methods of teaching employed. About the same time German psychologists discussed the difference between logical and psychological, contending that learner's interest must be aroused and held and that the student's approach must be analyzed, and his probable reactions anticipated and provided for.

As a reaction against the grammar method came the natural method and Henness, Sauveur, Kroch, van Daell, and

Berlitz are associated with this movement. It was carefully worked out by Gouin and popularized by Betis. With them the names of Kron, Swan, and Knorr should be associated.

From then we notice a certain progress in the development of methods. About the middle of the nineteenth century came the development of phonetics, which profoundly affected the teaching of modern languages. Various methods were developed during the nineteenth and twentieth centuries: the natural method, the psychological method, the phonetic method, the reading method, and, finally, the direct method.

The direct method was foreshadowed in the writings of Comenius, Basedow, Pestalozzi, and Herbart. During the latter half of the nineteenth century the intuitive method was revived in Germany but did not attract much attention until after 1880. In 1882 M. Viator published his revolutionary document "L'enseignement des langues vivantes doit faire volte-face," in which he upheld the importance of speaking the new language, the futility of translation of book-exercises, the value of the inductive method of teaching grammar, and the absolute necessity of a knowledge of phonetics.

Two groups developed different theories of the direct method--one under Viator and the other under Alge. In the meantime much controversy was waged in pedagogical magazines and both theories were put to practice.¹

¹ R. D. Cole, Modern Foreign Languages and their Teaching (New York: D. Appleton and Co., 1931), PP 49-62.

At the Congress of Vienna the Austrian professors half-heartedly upheld the reform movement, but they decided to give a place in each lesson to direct teaching--conversation--and to make the teaching of grammar as simple as possible.

At the Congress of Leipsiz the reform movement was bitterly attacked, but many of the new principles were inculcated in the program drawn up.

Miss Brebner in 1898 made a survey of the results of the reform measures as they had been tried in several schools in Germany and praised them highly.

In Switzerland the center of the movement was Saint-Gall, where Hartmann praised the enthusiasm which teachers succeeded in arousing in their pupils.

By 1900 the direct method was being favored in Austria. Translation was practically excluded from the teaching procedure. Dictation and questioning replaced the older method.

The Scandinavian countries were equally enthusiastic over the new method. Pupils eighteen years old were so eager that they easily learned three languages. In 1899 the free Institute of Mr. Palmgren was given the advantage of interchange of professors with schools in foreign countries. This project was managed by the government and the Swedish king came in person to attend some of the classes.

In Petrograd and in Finland the German influence was felt quite early--especially in the girls' schools and later in all cosmopolitan cities.

In Belgium and Holland have always had to teach two languages even in the primary and grammar schools. Emphasis

was laid on correct pronunciation and upon the construction of sentences, upon the use of objects and actions to teach vocabulary. Teacher and pupils were continually talking and little or no time was given to translation.

Although England has always been known as a conservative country, she, too, soon recognized that a change in the old method of teaching foreign languages was going to be necessary. M. Karl Breul of the University of Cambridge was foremost in spreading the German reform ideas. Several English professors went to Germany to study the new movement. A Modern Language Association was formed and a magazine published--Modern Language Teaching. M. Alge's books were introduced into the English schools.

In France the reform movement began in 1902 and was not merely borrowed from Germany. It was the outgrowth of much experimentation made by French teachers. Even from the time of Rabelais, Montaigne, and Rousseau men had protested against a school system that was too artificial, too far from the natural way. Carre and Gouin were two important figures in the early part of the reform. After M. Carre's experiment in Brittany, the new method was used in French colonies in Africa and Asia and in mission schools.

In 1891 the Society for the Propagation of Foreign Languages was established and directed by the Alsatians. In 1898 it studied the question of the direct method. Laudenbach, Paul Passey, and Delobel were interested participants in the discussion. In 1900 at the World Exhibition an International Congress of Modern Languages was held, in which the direct method was proposed and favored by a majority

of the members. In 1901 Schweitzer and Simonnot were the two principal leaders of the direct method movement in France. The term methode directe adopted in the United States apparently originated in France in a circular of the French minister of Public Instruction in 1901, though the principle of the method came rather from Germany. In 1902 the minister of Public Instruction in France made the direct method official and authorized a commission to revise the program of study.

By the time of the Second International Congress in 1909 the controversy had given way to harmony. Conditions were favorable for progress in evolving adequate methods of teaching foreign languages.

In the United States modern foreign languages found their way into the program of the modern secondary school via the academy, which contributed the study of French and German to the early high school. Thus French was introduced into the Girls' High School of Boston as an optional subject in 1826, and into the program of the English Classical High School of Boston in 1836.

The American Universities have always accorded a great place to the study of the living languages. Some of the professors, like Rambeau, of the University of Boston, and Grandgent, of Harvard, who began the use of the direct method¹ in the United States, belonged to the school of Viator.

Modern language teaching in the United States seems to have at least three rather indistinctly defined phases. The first phase presumably began with the initiation of

¹ Charles Schweitzer and Emile Simonnot, Methodologie des Langues Vivantes (Paris, France: Librairie Armand Colin, 1917), pp. 1-35.

modern language teaching, and lasted, generally speaking, until about the beginning of the twentieth century. In some cases it ended earlier, in others it extended past 1900, and may be still going on. In this primary phase of teaching, less publicity and, presumably, less thought were given to pedagogical matters. It was considered sufficient motive to study a foreign language to read in the original Faust, Don Quixote, of the Divina Commedia. Pronunciation and conversation were not taught so systematically or purposefully as now.¹

We may say that the pedagogical basis of the language teaching was culture, with a mixture of the elusive mental training.

The second stage of modern language teaching may be called the period of method. The natural, direct, and series methods received tremendous impetus. Phonetics, as applied to the teaching of pronunciation, came to the front. To the devotees of the new tendencies, the old notion of culture and mental training must have seemed naive and abstract.

The period when method was the watchword began in some cases before 1900. It seems to have reached its height at about the time of the outbreak of the World War. At that time American teachers were very conscious of their professions, as is amply proved by the foundation shortly afterward of numerous regional societies of teachers and by the establishment of the Modern Language Journal, and

1

John Van Horne, "The Years of Modern Language Methodology in America," Modern Language Journal, XIV (May, 1930), pp. 610-617.

later, of Hispania.

From the old reading-translation-culture method we have an ideal of literary and human values, a definite contribution to the building of worth-while knowledge, of imagination, and of character itself by acquaintance with great masterpieces. To the direct method we owe a vast enlivenment given to classroom operation, and to phonetics we owe an incalculable improvement in pronunciation.

B. OBJECTIVES OF MODERN FOREIGN LANGUAGE STUDY

A study made in 1926¹ of the most frequently occurring items in the modern-foreign-language bulletins of twenty-two states gave them in this order:

1. Ability to read.
2. Ability to write.
3. Ability to speak.
4. Acquaintance with the history, the literature, the people of the foreign country.
5. Ability to understand the foreign language when spoken.
6. Mastery of the grammar of the foreign language.
7. Ability to translate from English into the foreign language.
8. Better understanding and appreciation of English.
9. Mental discipline.

1. OBJECTIVES OF THE FIRST TWO YEARS

a. Immediate Objectives²

Progressive Development:

1. Of the ability to read books, newspapers, and magazines in the modern language within the scope of the student's interests and intellectual powers.
2. Of such knowledge of the grammar of the language as is demonstrated to be necessary for reading with comprehension.
3. Of the ability to pronounce correctly, to understand and to use the language orally within the limits of class materials.

¹ R. D. Cole, Modern Foreign Languages and Their Teaching, P. 25.

² Ibid. p. 39.

4. Of a knowledge of the foreign country, past and present, and of a special interest in the life and characteristics of its people.
5. Of increased knowledge of the derivations and meanings of English words, of the principles and leading facts of English grammar, and of the relationships between the foreign language and English.

b. Ultimate Objectives¹

1. Ability to read the foreign language with moderate ease and with enjoyment for recreative and for vocational purposes.
2. Ability to use orally in an intelligible fashion small stock of foreign words, phrases, and sentences.
3. A special interest in the history, the institutions and the ideals of the foreign country; a better understanding of its contributions to civilization, and a less provincial attitude toward the merits and achievements of other peoples.
4. Increased curiosity about the literature and the art of other nations, a greater ability to understand and enjoy them.
5. Greater interest in the accurate use of English.
6. Increased understanding of the development and the structure of the mother tongue and of other languages.

¹

R. D. Cole, op. cit., p. 39.

CHAPTER I

The Data

A. The Problem of This Study

This study was made in order to test and demonstrate the relative values of the grammar-translation method and the direct method of teaching French.

B. The Subjects of This Study

1. Personnel of Pupils Studied. A group of twenty-eight freshmen students of French at the Indiana State Teachers College Training School was used in the first and second semesters of the school year 1930-1931 for the purpose of determining results obtained in the teaching of elementary French through the application of the direct method and of the grammar-translation method.

2. Grouping. This group was divided in two sections; the grammar-translation method was used in the one and the direct method in the other. The two groups were equalized as far as equalization was possible, taking into consideration the following factor: the mental ability of each pupil in order that the two groups would approximately equal as far as mental ability is determined by tests.

The two methods used in this experiment will be described briefly in order to avoid any possible confusion.

The following points were observed in the direct method:

1. Great care given to pronunciation.
2. Extensive oral work in the foreign tongue and oral treatment of the text, excluding the vernacular as much as possible.

3. Grammar taught inductively but systematically in connection with oral work.
4. The written work based on matter which had been thoroughly assimilated by hearing and speaking it.
5. Translation to English reduced to a minimum.
6. Real reading for comprehension stressed.
7. Use of Realia.

In the grammar-translation method the following were observed:

1. Studying a list of disconnected words (vocabulary).
2. Memorizing grammatical rules and exceptions.
3. Oral translation from the native tongue into the foreign tongue and vice versa.
4. Written translation.
5. Teaching of pronunciation.
6. Practice in reading aloud and listening to some spoken French.

A conscious effort was made at all times through the year to keep the types of instruction just as distinct in the sections as might be, considering the fact that the same content was used for both groups.

C. Technique and Procedure

La Classe en Francais by Gourio was used in both sections as well as Colette et ses Freres and Les Aventures de la Famille Gautier, which were used as supplementary readers.

1. Other Tests. The Otis Self-Administering Test of Mental Ability, Higher Examination, Form B, was given to both groups in order to determine the mental ability of each pupil.

The Iowa Placement Examination, Series FA1, Revised A, Foreign Language Aptitude Test was given to determine a special aptitude or ability in French.

The Charter's Diagnostic Language Test and the Pressey English Test covering Grammar, Punctuation, Capitalization, and Sentence Structure were given to determine special abilities or weaknesses in the different phases of the English language.

Examinations were given at the end of each grade period in both semesters.

H. V. Wann's French Achievement Test was given at the end of the fifth grade period.¹

The American Council Beta French Tests, Forms B and A, were given at the end of the first and second semesters.

A special test was devised in order to test the two groups for the following purposes:

- a. Reading for speed and correct pronunciation.
- b. Aural comprehension.
- c. Dictation.
- d. Grammar.
- e. Translation.
- f. Vocabulary.
- g. Comprehension. (Written Questions.)
- h. Appreciation.

¹

The grade period is six weeks in length.

2. Significant Ratios. A study was made of the ratios between the differences of the means and the probable errors of these differences as a method of determining the significant differences between the grammar-translation group and the direct method group.

3. Zero Order Correlations. Zero order correlations were calculated in order to measure the relationship between the intelligence quotients and scores on tests at the middle and end of the year.

CHAPTER II

DISCUSSIONS OF COMPARISONS OF DIRECT AND
GRAMMAR-TRANSLATION GROUPS

A. Methods of Comparison

This chapter deals with tables, graphs, comparison of means and correlations and discussions on the different phases of the procedure and analysis of the results.

1. Purposes Served by Correlation. Coefficients of correlation serve two purposes: (1) they serve as an index of the existence or absence of relationship; (2) they serve as tools in the prediction of a trait when the other or others are known.¹

2. Discussion of the Significance of the Difference of Means. The problem under consideration is to determine whether or not the apparent difference between the two groups as indicated by the difference of the means is of real significance. The ratio between the difference of the means on the several factors and the probable error of this difference is a measure of the significance and is designated in this study as the significant ratio.

The significant ratio² is expressed by the formula:

$$\frac{M_1 + M_2}{(PE_{M_1})^2 + (PE_{M_2})^2} = \frac{Diff_M}{PE_{Diff}}$$

¹C. W. Odell, The Interpretation of the Probable Error and Coefficient of Correlation, Bulletin of the Bureau of Educational Research, No. 32. Urbana: University of Illinois, 1926, p. 37.

²H. E. Garrett, Statistics in Psychology and Education (New York: Longman, Green and Co., 1926), p. 133.

quotients of the other groups. The probable error of the

Garrett gives a convenient table for determining the chances of a difference greater than zero when this ratio is known, and points out that in order to be sure the difference of obtained means is really significant, it is necessary for the ratio to be at least 4.

B. Discussion of Intelligence Quotients as Derived from Otis Self-Administering Tests of Mental Ability

The Otis Self-Administering Test of Mental Ability, Form C. was given to the twenty-eight freshmen pupils of Indiana State Training School at the beginning of the first semester in order to determine the mental ability of each pupil. The pupils were then divided into two equal groups according to the scores made on the test.

The same test was also given at the beginning of the second semester and the average of those scores for the grammar-translation and direct method groups are to be found in Table I. This average, hereafter designated as I. Q., is used throughout this experiment in correlating intelligence quotients and the scores of the various tests.

Figure 1 shows graphically the information presented in Table I, the general ability of the direct method group and grammar-translation group as measured by the Otis Self-Administering Test. It is noted that so far as medians are concerned they are approximately the same. This indicates further that while several of the direct method pupils show a low intelligence quotient several of them are showing a higher intelligence quotient when compared to the intelligence quotients of the other group. Therefore it seems that the

TABLE I

INTELLIGENCE QUOTIENTS AS DERIVED FROM OTIS
SELF-ADMINISTERING TESTS OF MENTAL ABILITY
(FORM C)

Grammar-Translation Group				Direct Method Group			
Pupil*	Score Beginning of First Semester	Score Beginning of Second Semester	Average of I. Q.	Pupil	Score Beginning of First Semester	Score Beginning of Second Semester	Average of I. Q.
G 1	115	120	117.5	D 1	127	129	128
G 2	111	124	117.5	D 2	118	118	118
G 3	108	106	107	D 3	114	120	117
G 4	108	97	102.5	D 4	112	110	111
G 5	106	106	106	D 5	107	107	107
G 6	105	98	101.5	D 6	106	110	108
G 7	104	110	107	D 7	102	104	103
G 8	102	108	105	D 8	91	104	100.5
G 9	101	110	105.5	D 9	94	89	91.5
G10	99	100	99.5	D10	93	105	99.5
G11	99	95	97	D11	93	100	96.5
G12	98	105	101.5	D12	89	94	91.5
G13	98	106	102	D13	84	91	87.5
G14	96	100	98				

*Each pupil was given a number. Throughout this study the pupils are designated by this same number.

Figure 1. Average intelligence quotients as derived from Otis Self-Administering Tests of Mental Ability, Form C, for Direct Method and Grammar-Translation Method Groups. Data taken from Table I.

— Direct
— Grammar-Translation

two groups are rather well balanced with reference to ability when the two are considered as groups.

The discussion for the significance of the difference in means is found in Table II.

TABLE II

SIGNIFICANCE OF THE DIFFERENCES IN MEANS OF DIRECT METHOD
AND GRAMMAR-TRANSLATION GROUPS IN OTIS SELF-
ADMINISTERING TESTS OF MENTAL ABILITY HIGHER
EXAMINATION: FORM B

D=Direct Method Group G. T.=Grammar-Translation Group

Group	$M \pm PE_M$	Diff. in Means of I. Q's	In favor of	PE_{Diff}	Ratio of Diff. to PE_{Diff}	Chances in 100 that true difference is significant
G. T.	104.8 $\pm$ 1.1097	.3	G. T.	2.31	0.129	53
D.	104.5 $\pm$ 2.0289					

This table is read: The mean of the intelligence quotients of the grammar-translation group is 104.8. The mean of the direct method group is 104.5. The difference of the means between the two groups is .3 in favor of the grammar-translation group. The probable error of the difference is 2.31. The ratio of the difference of the means to the probable error of the difference is 0.129. There are 53 chances in 100 of the differences being significant. The original difference is, however, so small that it may be considered that the groups are almost perfectly matched. The one point in which the lack of matching does exist is found in the greater range of intelligence quotients for the direct method group than that for the grammar-translation group.

C. Relationship of Factors

1. Discussion and Comparison of Iowa Placement Examination Test Scores. The Iowa Placement Examination, Series FA1, Revised A, Foreign Language Aptitude Test, was given at the beginning of the first semester to determine if the pupils in both groups had any special aptitude or ability in French. The scores obtained in the above test are shown in Table III. They are represented graphically in Figure 2. The highest score for the direct method group was 76 and the lowest was 25, while the highest for the grammar-translation groups was 57 and the lowest 23, showing thus an advantage for the direct method group.

TABLE III

INTELLIGENCE QUOTIENTS AS DERIVED FROM OTIS SELF-
ADMINISTERING TESTS OF MENTAL ABILITY (FORM C)
AND IOWA PLACEMENT EXAMINATIONS, SERIES FAL,
REVISED A, FOREIGN LANGUAGE APTITUDE TEST.

Grammar-Translation Group			Direct Method Group		
Pupil	I. Q.	Iowa Placement Examination Scores	Pupil	I. Q.	Iowa Placement Examination Scores
G 1	117.5	44	D 1	128	44
G 2	117.5	46	D 2	118	51
G 3	107	51	D 3	117	76
D 4	107	30	D 4	111	24
G 5	106	32	D 6	108	35
G 9	105.5	29	D 5	107	55
G 8	105	19	D 7	103	47
G 7	102.5	43	D 8	100.5	57
G 13	102	32	D 10	99.5	36
G 6	101.5	11	D 11	96.5	39
G 12	101.5	31	D 9	91.5	25
G 10	98.5	57	D 12	91.5	25
G 14	98	47	D 13	87.5	25
G 11	97	23

Figure 2. Scores for Direct Method and Grammar-Translation Method groups on Iowa Placement Examination, Series FA1, Revised A, Foreign Language Aptitude. Data from Table III.

— Direct
— Grammar-Translation

TABLE IV

COMPUTATION OF CORRELATION OF INTELLIGENCE QUOTIENTS AS
DERIVED FROM OTIS SELF-ADMINISTERING TESTS OF MENTAL
ABILITY (FORM C) AND IOWA PLACEMENT EXAMINATIONS
SERIES FAI, REVISED A, FOREIGN LANGUAGE APTITUDE TEST

Grammar-Translation Group

Pupil	Rank in Test Scores	Rank of I. Q.	D	D ²
10	1	12	-11	121
3	2	3.5	-1.5	2.25
14	3	13	-10	100
2	4	1.5	+2.5	6.25
1	5	1.5	-3.5	12.25
4	6	8	-2	4
5	7.5	5	-2.5	6.25
13	7.5	9	-1.5	2.25
12	9	10.5	-1.5	2.25
7	10	3.5	+6.5	42.45
9	11	6	+5	25
11	12	14	-2	4
8	13	7	+6	36
6	14	10.5	+3.5	12.25

$$N=14 \quad p = \frac{1 - 6 \sum D^2}{N(N^2-1)} = 1 - \frac{6 \times 376}{14(196-1)} = .1736 \quad \sum D^2 = 376 \quad 1$$

$$r = .1815$$

$$PE_r = \frac{.7063 [1 - (.1815)^2]}{\sqrt{N}} = .1825 \quad 2$$

$$r = .1815 + .1825$$

1. Hereafter in such tables this same formula was used in finding r.

2. H. E. Garrett, Statistics in Psychology and Education. (New York: Longmans, Green and Company, 1926). p. 191.

The r and PE for (a) Intelligence Quotients of the members of the grammar-translation group and (b) the ranking of the same group of students in the Iowa Placement Examinations, Foreign Language Aptitude Test, reveals that there is practically an absence of relationship between these two criteria. (Table IV) Neither does the PE add anything of significance to the computation. The conclusion to be reached is that, in so far as the Iowa Placement Examination is concerned, its results bear no relationship to the intelligence of this group of pupils.

TABLE V

COMPUTATION OF CORRELATION OF INTELLIGENCE QUOTIENTS AS
 DERIVED FROM OTIS SELF-ADMINISTERING TESTS OF MENTAL
 ABILITY (FORM C) AND IOWA PLACEMENT EXAMINATIONS
 SERIES FA1, REVISED A, FOREIGN LANGUAGE APTITUDE TEST

Direct Method Group

Pupil	Rank in Test Scores	Rank of I. Q.	D	D ²
D 3	1	3	2	4
D 6	2	8	6	36
D 5	3	6	3	9
D 2	4	2	2	4
D 7	5	7	2	4
D 1	6	1	5	25
D 11	7	10	3	9
D 10	8	9	1	1
D 6	9	5	4	16
D 13	11	13	2	4
D 9	11	11.5	0.5	0.25
D 12	11	11.5	0.5	0.25
D 4	13	4	9	81

N=13

 $\Sigma D^2 = 193.5$

$$p = 0.4634$$

$$r = 0.4856$$

$$PE_r = 0.1497$$

$$r = 0.4856 + 0.1497$$

The same statistical computations for the pupils of the direct method group are represented in Table V. In this instance r is somewhat higher than in that of the grammar-translation group, but is still so low that the positive relationship is negligible. Moreover whatever positive relation there does exist is almost wholly annulled by the PE. Unfortunately, the figures reveal the fact that the Iowa Placement Test gives no data for these two groups that are of any significance whatever in this study.

The significance of the difference in means is found in Table VI.

TABLE VI

SIGNIFICANCE OF THE DIFFERENCES IN MEANS OF DIRECT METHOD AND GRAMMAR-TRANSLATION GROUPS IN IOWA PLACEMENT EXAMINATIONS SERIES FAL, REVISED A, FOREIGN LANGUAGE APTITUDE TEST

D=Direct Method Group

G. T.=Grammar-Translation Group

Group	$M \pm PE_M$	Diff. in Means	In favor of	PE_{Diff}	Ratio of Diff. to PE_{Diff}	Chances in 100 that true difference is significant
G. T.	35.36 ± 2.27	5.33	D	3.6201	1.472	84
D	40.69 ± 2.82					

This table is read: The mean of the grammar-translation group is 35.36 ± 2.27 and the mean of the direct method group is 40.69 ± 2.82 . The difference of the means between the two groups is 5.33 in favor of the direct method group. The probable error of the difference of the means is 3.6201. The ratio of the difference of the means to the probable error of the difference is 1.472. There are 84 chances in 100 of the differences being significant.

2. Discussion and Comparison of Charter's Diagnostic Language Test and the Pressey English Tests. The Charter's Diagnostic Language Test and the Pressey English Test, covering Grammar, Punctuation, Capitalization, and Sentence Structure, were given at the beginning of the first semester to the grammar-translation group and the direct method group so that special abilities or weaknesses in the different phases of the English language could be determined. The results on the Charter's Test are shown in Table VII, and those of the Pressey Test are in Table XI for both the grammar-translation and direct method groups. The scores for the Charter's Diagnostic Language Test and the Pressey English Test are represented graphically in Figures 3 and 4, respectively.

The highest score on the Charter's Test for the grammar-translation group was 28 and lowest 10, while the highest for the direct method group was 33 and the lowest 17. This shows an advantage for the direct method.

The highest score on the Pressey English Test for the grammar-translation group was 78 and the lowest 52. The direct method group has the advantage in this test since its highest score was 89 and its lowest 60.

The computation of correlations of Intelligence Quotients and scores of the Charter's Diagnostic Test given on Table VIII show that the relationship between these two factors is high, while a zero order coefficient in Table XII indicates the absence of correlation for the Pressey English Test in the grammar-translation group. It is to be noticed also that probable error, 0.1887, is larger than its r , 0.0067,

annulling, thus, any degree of relationship.

The r on the Charter's Test for the direct method group is 0.7839. It then indicates a high degree of relationship with a small probable error, 0.0055. The r in the Pressey English Test, 0.8491, shows a relatively valuable relationship. Its probable error, 0.568, is small.

This shows us that in both of these tests the direct method group has a more significant relationship between intelligence quotients and test scores on both of these tests than does the grammar-translation group.

The discussion of the significance of means for the Charter's Diagnostic Language Test is on Table X; that for the Pressey English Test is on Table XIV.

TABLE VII

COMPARISON OF INTELLIGENCE QUOTIENTS AS DERIVED
FROM OTIS SELF-ADMINISTERING TESTS OF MENTAL ABILITY
(FORM C) AND THE SCORES MADE ON CHARTER'S
DIAGNOSTIC LANGUAGE TEST (MISCELLANEOUS A FORM 1)

Grammar-Translation Group			Direct Method Group		
Pupil	I. Q.	Diagnostic Language Test Scores	Pupil	I. Q.	Diagnostic Language Test Scores
G 1	117.5	19	D 1	128	30
G 2	117.5	24	D 2	118	32
G 3	107	21	D 3	117	33
G 7	107	10	D 4	111	20
G 5	106	11	D 6	108	22
G 9	105.5	23	D 5	107	28
G 8	105	12	D 7	103	25
G 4	102.5	24	D 8	100.5	26
G 13	102	26	D 10	99.5	19
G 6	101.5	24	D 11	96.5	25
G 12	101.5	19	D 9	91.5	20
G 10	99.5	28	D 12	91.5	17
G 14	98	27	D 13	87.5	18
G 11	97	26

Figure 3. Scores for Grammar-Translation and Direct Method groups on Charter's Diagnostic Language Test (Miscellaneous A, Form 1). Data taken from Table VII.

— Direct
— Grammar-Translation

TABLE VIII

COMPUTATION OF CORRELATION OF INTELLIGENCE QUOTIENTS AS
DERIVED FROM OTIS SELF-ADMINISTERING TESTS OF MENTAL
ABILITY (FORM C) AND CHARTER'S DIAGNOSTIC
LANGUAGE TEST (MISCELLANEOUS A FORM 1)

Grammar-Translation Method Group

Pupil	Rank in Test Scores	Rank of I. Q.	D	D ²
G 10	1	12	11	121
G 14	2	13	11	121
G 13	3.5	9	5.5	30.25
G 11	3.5	14	10.5	110.25
G 4	6	8	2	4
G 2	6	1.5	4.5	20.25
G 6	8	10.5	4.5	20.25
G 9	8	6	2	4
G 3	9	3.5	5.5	30.25
G 12	10.5	10.5	0	0
G 1	10.5	1.5	9	81
G 8	12	7	5	25
G 7	14	3.5	10.5	110.25
G 5	13	5	8	64

N=14

$\Sigma D^2 = 741.5$

$$p = -0.6296$$

$$r = -0.6474$$

$$PE_r = 0.1096$$

$$r = -0.6474 \pm 0.1096$$

TABLE IX

COMPUTATION OF CORRELATION OF INTELLIGENCE QUOTIENTS AS
DERIVED FROM OTIS SELF-ADMINISTERING TESTS OF MENTAL
ABILITY (FORM C) AND CHARTER'S DIAGNOSTIC
LANGUAGE TEST (MISCELLANEOUS A FORM 1)

Direct Method Group

Pupil	Rank in Test Scores	Rank of I. Q.	D	D ²
D 3	1	3	2	4
D 2	2	2	0	0
D 1	3	1	2	4
D 5	4	6	2	4
D 8	5	8	3	9
D 7	6.5	7	0.5	0.25
D 11	6.5	10	3.5	12.25
D 6	8	5	3	9
D 9	9.5	11.5	2	4
D 4	9.5	4	5.5	30.25
D 10	11	9	2	4
D 13	12	13	1	1
D 12	13	11.5	1.5	2.25

N=13

$\Sigma D^2=84$

$p=0.7692$
 $r=0.7839$
 $PE_r=0.0755$
 $r=0.7839 \pm .0755$

TABLE X

SIGNIFICANCE OF THE DIFFERENCES IN MEANS OF DIRECT METHOD AND GRAMMAR-TRANSLATION GROUPS IN CHARTER'S DIAGNOSTIC LANGUAGE TEST (MISCELLANEOUS A FORM 1)

D=Direct Method Group G. T.=Grammar-Translation Group

Group	$M \pm PE_M$	Diff. in Means	In favor of	PE_{Diff}	Ratio of Diff. to PE_{Diff}	Chances in 100 that true difference is significant
G. T.	$21. \pm 1.038$	3.23	D	1.415	2.283	94
D.	$24.23 \pm .0956$					

In the English Diagnostic test the difference of the means is 3.23 in favor of the direct method group. The probable error of the difference is 1.415. The significant ratio is 2.283, which indicates that there are 94 chances in 100 of the difference's being significant.

TABLE XI

COMPARISON OF THE INTELLIGENCE QUOTIENTS AS DERIVED FROM OTIS SELF-ADMINISTERING TESTS OF MENTAL ABILITY (FORM C) AND PRESSEY ENGLISH TEST COVERING GRAMMAR, PUNCTUATION, CAPITALIZATION, AND SENTENCE STRUCTURE

Grammar-Translation Group			Direct Method Group		
Pupil	I. Q.	Pressey Test Scores	Pupil	I. Q.	Pressey Test Scores
G 1	117.5	78	D 1	128	82
G 2	117.5	78	D 2	118	73
G 3	107	56	D 3	117	89
G 7	107	52	D 4	111	70
G 5	106	57	D 6	108	72
G 9	105.5	53	D 5	107	..
G 8	105	52	D 7	103	72
G 4	102.5	69	D 8	100.5	64
G 13	102	64	D 10	99.5	73
G 6	101.5	62	D 11	96.5	69
G 12	101.5	78	D 9	91.5	44
G 10	99.5	57	D 12	91.5	60
G 14	98	62	D 13	87.5	60
G 11	97	60

Figure 4. Scores for Grammar-Translation Method and Direct Method groups on Pressey English Tests covering Grammar, Punctuation, Capitalization, and Sentence Structure.

— Direct
— Grammar-Translation

TABLE XII

COMPUTATION OF CORRELATION OF INTELLIGENCE QUOTIENTS AS
 DERIVED FROM OTIS SELF-ADMINISTERING TESTS OF MENTAL
 ABILITY (FORM C) AND PRESSEY ENGLISH TESTS COVERING
 GRAMMAR, PUNCTUATION, CAPITALIZATION,
 AND SENTENCE STRUCTURE

Grammar-Translation Group

Pupil	Rank in Test Scores	Rank of I. Q.	D	D ²
G 12	2	10.5	8.5	72.25
G 1	2	1.5	.5	.25
G 2	2	1.5	.5	.25
G 4	4	8	4	16
G 13	5	9	4	16
G 14	6.5	13	6.5	42.25
G 6	6.5	10.5	4	16
G 11	8	14	6	36
G 10	9.5	12	2.5	6.25
G 5	9.5	6	3.5	12.25
G 3	11	3.5	7.5	56.25
G 9	12	6	6	36
G 8	13.5	7	6.5	42.25
G 7	13.5	3.5	10	100

N=14

 $\Sigma D^2 = 452$

$p=0.0066$
 $r=0.0067$
 $PE_r=0.1887$
 $r=0.0067$

TABLE XIII

COMPUTATION OF CORRELATION OF INTELLIGENCE QUOTIENTS AS
 DERIVED FROM OTIS SELF-ADMINISTERING TESTS OF MENTAL
 ABILITY (FORM C) AND PRESSEY ENGLISH TESTS COVERING
 GRAMMAR, PUNCTUATION, CAPITALIZATION,
 AND SENTENCE STRUCTURE

Direct Method Group

Pupil	Rank in Test Scores	Rank of I. Q.	D	D ²
D 3	1	3	2	4
D 1	2	1	1	1
D 9	3.5	8	4.5	20.25
D 2	3.5	2	1.5	2.25
D 6	5.5	6	0.5	0.25
D 5	5.5	5	0.5	0.25
D 4	7	4	3	9
D 10	8	9	1	1
D 7	9	7	2	4
D 11	10.5	10.5	0	0
D 12	10.5	12	1.5	2.25
D 8	12	10.5	1.5	2.25

N=12

$\Sigma D^2 = 46.5$

$$D = 0.8374$$

$$r = 0.8491$$

$$PE_r = 0.05689$$

$$r = 0.8491 + 0.05689$$

TABLE XIV

SIGNIFICANCE OF THE DIFFERENCES IN MEANS OF DIRECT METHOD
AND GRAMMAR-TRANSLATION GROUPS IN PRESSEY ENGLISH TESTS
COVERING GRAMMAR, PUNCTUATION, CAPITALIZATION,
AND SENTENCE STRUCTURE

G. T.=Grammar-Translation Group D=Direct Method Group

Group	$M \pm PE_M$	Diff. in Means	In fa- vor of	PE_{Diff}	Ratio of Diff. to PE_{Diff}	Chances in 100 that true difference is significant
G. T.	62.71 ± 1.638	6.29	D	2.664	2.361	94
D	69 ± 2.104					

In the Pressey English Tests covering Grammar, Punctuation, Capitalization, and Sentence Structure the difference of the means is 6.29 in favor of the direct method group. The probable error of the difference is 2.664. The significant ratio is 2.361, which indicates that there are 94 chances in 100 of the difference being significant.

3. Discussion of Examination Marks for First Semester.

Class examinations were given at the end of each six weeks which constitute a grade period for the Indiana State Training School. The scores made were ranked and averaged. The mean was used in the computation of correlations of intelligence quotients and scores for these examinations at the end of the first and second semester. The average for the first semester examination marks is shown in Table XV for the grammar-translation group and in Table XVI for the direct method group.

The graph on Figure 5 shows that the highest score for the grammar-translation group is 91 and the lowest 61. The highest is 96 and the lowest is 47.7 for the direct method group. We can see from this graph that the achievement of the direct method pupils is lower than that of the grammar-translation pupils at the end of the first semester.

TABLE XV

COMPARISON OF THE INTELLIGENCE QUOTIENTS AS DERIVED FROM
 OTIS SELF-ADMINISTERING TESTS OF MENTAL ABILITY (FORM C)
 AND AVERAGE OF EXAMINATION MARKS FOR THE
 FIRST SEMESTER, 1ST, 2ND, AND 3RD GRADE
 PERIODS, FOR GRAMMAR-TRANSLATION GROUP

Pupil	I. Q.	I	II	III	Mean
G 1	117.5	75	90	90	85
G 2	117.5	95	97	95	95.7
G 3	107	88	75	95	86
G 7	107	60	78	45	61
G 5	106	80	74	75	76.3
G 9	105.5	85	90	88	87.7
G 8	105	82	67	77	77
G 4	102.5	70	86	87	81
G 13	102	87	85	75	82.3
G 6	101.5	60	74	57	63.7
G 12	101.5	81	97	90	89.3
G 10	99.5	67	91	78	78.7
G 14	98	85	89	78	84
G 11	97	67	78	52	65.7

TABLE XVI

COMPARISON OF THE INTELLIGENCE QUOTIENTS AS DERIVED FROM
 OTIS SELF-ADMINISTERING TESTS OF MENTAL ABILITY (FORM C)
 AND AVERAGE OF EXAMINATION MARKS FOR THE
 FIRST SEMESTER, 1ST, 2ND, AND 3RD GRADE
 PERIODS, FOR DIRECT METHOD GROUP

Pupil	I. Q.	I	II	III	Mean
D 1	128	95	96	97	96
D 2	118	98	88	75	83.7
D 3	117	78	83	78	79.7
D 4	111	65	73	75	71
D 6	108	34	88	75	65.7
D 5	107	97	92	91	93.3
D 7	103	50	73	31	51.3
D 8	100.5	63	82	79	74.7
D 10	99.5	65	35	84	61.3
D 11	96.5	32	36	75	47.7
D 9	91.5	65	38	75	59.4
D 12	91.5	75	79	75	76.3
D 13	87.5	30	86	75	63.7

TABLE XVII

COMPUTATION OF CORRELATION OF INTELLIGENCE QUOTIENTS AS
DERIVED FROM OTIS SELF-ADMINISTERING TESTS OF MENTAL
ABILITY (FORM C) AND AVERAGE OF EXAMINATION MARKS AT THE
END OF FIRST SEMESTER

Grammar-Translation Group

Pupil	Rank in Test Scores	Rank of I. Q.	D	D ²
G 2	1	1.5	0.5	0.25
G 3	4	3.5	0.5	0.25
G 13	7	9	2	4
G 14	6	13	7	49
G 9	3	6	3	9
G 8	10	7	3	9
G 12	2	10.5	8.5	72.25
G 5	11	5	6	36
G 1	5	1.5	3.5	12.25
G 4	8	8	0	0
G 10	9	12	3	9
G 11	12	14	2	4
G 7	14	3.5	10.5	110.25
G 6	13	10.5	2.5	6.25

N=14

D²=321.5

$p=0.2931$
 $r=0.3065$
 $PE_r=0.1729$
 $r=0.3065 \pm 0.1729$

Figure 5. Scores for grammar-translation and direct method groups on Examinations given during the first semester. Data taken from Tables XV and XVI.

— Direct
— Grammar-Translation

TABLE XVIII

COMPUTATION OF CORRELATION OF INTELLIGENCE QUOTIENTS AS
DERIVED FROM OTIS SELF-ADMINISTERING TESTS OF MENTAL
ABILITY (FORM C) AND AVERAGE OF EXAMINATION MARKS AT THE
END OF FIRST SEMESTER

Direct Method Group

Pupil	Rank in Test Scores	Rank of I. Q.	D	D ²
D 5	2	6	4	16
D 1	1	1	0	0
D 2	3	2	1	1
D 3	4	3	1	1
D 12	5	11.5	6.5	42.25
D 9	11	11.5	0.5	0.25
D 4	7	4	3	9
D 10	10	9	1	1
D 8	6	8	2	4
D 7	12	7	5	25
D 6	8	5	3	9
D 11	13	10	3	9
D 13	9	13	4	16

N=13

 $\Sigma D^2 = 133.5$

$$p = 0.6333$$

$$r = 0.6494$$

$$PE_r = 0.11326$$

$$\bar{r} = 0.6494 + 0.11326$$

TABLE XIX

SIGNIFICANCE OF THE DIFFERENCES IN MEANS OF DIRECT METHOD
AND GRAMMAR-TRANSLATION METHOD GROUPS IN AVERAGE OF
EXAMINATION MARKS FOR FIRST SEMESTER

G. T.=Grammar-Translation Group D=Direct Method Group

Group	$M \pm PE_M$	Diff. in Means	In fa- vor of	PE_{Diff}	Ratio of Diff. to PE_{Diff}	Chances in 100 that difference is signifi- cant
G. T.	79.18 ± 1.977	8.13	G. T.	2.005	4.054	100
D	71.05 ± 3.545					

In the Examination Marks for the first semester the difference of the means is 8.13 in favor of the grammar-translation group. The probable error of the difference is 2.005. The significant ratio is 4.054, which indicates that there are 100 chances in 100 of the difference being significant.

Discussion of results shown in Tables XVII, XVIII, and XIX. The r for the grammar-translation group is 0.3065 ± 0.1729 showing a low degree of relationship with too large probable error. The r for the direct method group is 0.6494 ± 0.1132 , indicating a slight degree of positive relationship between intelligence quotients and examination marks.

The discussion for the significance of means for the examination marks is given above.

4. Discussion and Comparison of Dictation Scores at End of First Semester. In order to determine to what extent the ability to write was developed at the end of the first semester French sentences were dictated as an examination on dictation to both groups. Scores on dictation for both groups are interpreted graphically in Figure 6, the data for which is taken from Table XX. The highest score was 94 and the lowest 47 for the grammar-translation group. The direct method group showed a greater ability in taking dictation at the end of the first semester, having a high score of 95 and low score of 69.

Very little relationship is indicated in the computation of correlation of intelligence quotients and dictation scores for the grammar-translation group. The r is 0.2445, which shows a very low coefficient of correlation, while the probable error, r , is too large, being 0.177.

The direct method group shows in the same case 0.54 of positive correlation with 0.1373 for probable error. Although the correlation is not very high, there is an advantage shown by the direct method group over the grammar-translation group.

The discussion of the significance in means is shown on Table XXIII.

TABLE XX

COMPARISON OF THE INTELLIGENCE QUOTIENTS AS DERIVED FROM
 OTIS SELF-ADMINISTERING TESTS OF MENTAL ABILITY (FORM C)
 AND DICTATION SCORES AT END OF FIRST SEMESTER

Grammar-Translation Group			Direct Method Group		
Pupil	I. Q.	Dictation Scores	Pupil	I. Q.	Dictation Scores
G 1	117.5	85	D 1	128	95
G 2	117.5	89	D 2	118	79
G 3	107	73	D 3	117	82
G 7	107	47	D 4	111	80
G 5	106	83	D 6	108	80
G 9	105.5	72	D 5	107	91
G 8	105	54	D 7	103	67
G 4	102.5	76	D 8	100.5	86
G 13	102	72	D 10	99.5	75
G 6	101.5	80	D 11	96.5	70
G 12	101.5	94	D 9	91.5	73
G 10	99.5	79	D 12	91.5	69
G 14	98	70	D 13	87.5	80
G 11	97	70

Figure 6. Scores for Grammar-Translation Method and Direct Method groups on Dictation at end of first semester. Data taken from Table XX.

— Direct
— Grammar-Translation

TABLE XXI

COMPUTATION OF CORRELATION OF INTELLIGENCE QUOTIENTS AS
DERIVED FROM OTIS SELF-ADMINISTERING TESTS OF MENTAL
ABILITY (FORM C) AND DICTATION SCORES
AT END OF FIRST SEMESTER

Grammar-Translation Group

Pupil	Rank in Test Scores	Rank of I. Q.	D	D ²
G 13	9.5	9	0.5	0.25
G 14	11.5	13	1.5	2.25
G 4	7	8	1	1
G 2	2	1.5	0.5	0.25
G 5	4	5	5	1
G 1	3	1.5	1.5	2.25
G 10	6	12	6	36
G 7	14	3.5	10.5	110.25
G 3	8	3.5	4.5	20.25
G 6	5	10.5	5.5	30.25
G 9	9.5	6	3.5	12.25
G 11	11.5	14	2.5	6.25
G 12	1	10.5	9.5	90.25
G 8	13	7	6	36

N=14

$\Sigma D^2=348.5$

$p=0.2341$
 $\bar{r}=0.2445$
 $PE_r=-0.177$
 $\bar{r}=0.2445 \pm 0.177$

TABLE XXII

COMPUTATION OF CORRELATION OF INTELLIGENCE QUOTIENTS AS
 DERIVED FROM OTIS SELF-ADMINISTERING TESTS OF MENTAL
 ABILITY (FORM C) AND DICTATION SCORES
 AT END OF FIRST SEMESTER

Direct Method Group

Pupil	Rank in Test Scores	Rank of I. Q.	D	D ²
D 7	13	7	6	36
D 11	11	10	1	1
D 6	6	5	1	1
D 1	1	1	0	0
D 12	12	11.5	0.5	0.25
D 5	2	6	4	16
D 8	3	8	5	25
D 13	6	13	7	49
D 9	10	11.5	1.5	2.25
D 4	6	4	2	4
D 10	9	9	0	0
D 3	4	3	1	1
D 2	8	2	6	36

N=13

$\Sigma D^2 = 171.5$

$D = 0.5288$

$r = 0.5466$

$PE_r = 0.1373$

$\bar{r} = 0.5466 \pm 0.1373$

TABLE XXIII

SIGNIFICANCE OF THE DIFFERENCES IN MEANS OF DIRECT METHOD
AND GRAMMAR-TRANSLATION GROUPS IN
DICTATION AT END OF FIRST SEMESTER

D=Direct Method Group G. T.=Grammar-Translation Group

Group	$M \pm PE_M$	Diff. in Means	In favor of	PE_{Diff}	Ratio of Diff. to PE_{Diff}	Chances in 100 that true dif- ference is significant
G. T.	0.749 ± 0.00216	0.045	D	0.015	3	98
D	0.794 ± 0.01488					

In the Dictation the difference of the means is 0.045 in favor of the direct method group. The probable error of the difference is 0.015. The significant ratio is 3, which indicates that there are 98 chances in 100 of the difference being significant.

5. Discussion and Comparison of Scores of American Council Beta French Test, Form B. As a means of measuring more accurately the achievement of the grammar-translation and direct method groups at the end of the first semester the American Council Beta French Test, Form B, was given to those groups.

The data on Table XXIV is represented graphically by Figure 7. The median for the direct method is 59, and for the grammar-translation is 63, in favor of the grammar-translation group. We can, therefore, draw the conclusion that the achievement of the grammar-translation group was greater at the end of the first semester.

Practically no relationship is shown in the computation of correlation of intelligence quotients and test scores. The r is 0.0287 with a too large probable error, 0.1957. There is a higher degree of relation shown in the direct method group, the r being 0.5522 ± 0.136 .

The discussion for the significance of means is in Table XXVII.

TABLE XXIV

COMPARISON OF THE INTELLIGENCE QUOTIENTS AS DERIVED FROM
 OTIS SELF-ADMINISTERING TESTS OF MENTAL ABILITY (FORM C)
 AND AMERICAN COUNCIL BETA FRENCH TEST (FORM B)
 FOR GRAMMAR-TRANSLATION GROUP AND DIRECT METHOD GROUP
 END OF FIRST SEMESTER

Grammar-Translation Group			Direct Method Group		
Pupil	I. Q.	American Council Scores	Pupil	I. Q.	American Council Scores
G 1	117.5		D 1	123	108
G 2	117.5	90	D 2	118	56
G 3	107	75	D 3	117	78
G 7	107	48	D 4	111	65
G 5	106	47	D 6	108	59
G 9	105.5	66	D 5	107	90
G 8	105	55	D 7	103	47
G 4	102.5	63	D 8	100.5	58
G 13	102	56	D 10	99.5	60
G 6	101.5	49	D 11	99.5	45
G 12	101.5	93	D 9	91.5	69
G 10	99.5	64	D 12	91.5	46
G 14	97	54

Figure 7. Scores for Grammar-Translation Method and Direct Method groups on American Council Beta French Test (Form B). Data taken from Table XXIV. This graphic representation of the results of the American Council Beta French Test reveals the following facts: (1) A significant achievement of student D 1; (2) A remarkable parallelism of the two graphs of achievement, with the Grammar-Translation group being in the ascendancy in more than half of the cases; (3) A considerable similarity between these graphs and those showing the intelligence quotients as shown in Figure 1, thus revealing the fact that there is considerable positive correlation between results of the American Council Beta French Test and the intelligence quotients for these groups. This fact holds good for the groups, but not for individuals in the group.

TABLE XXV

COMPUTATION OF CORRELATION OF INTELLIGENCE QUOTIENTS AS
DERIVED FROM OTIS SELF-ADMINISTERING TESTS OF MENTAL
ABILITY (FORM C) AND AMERICAN COUNCIL BETA FRENCH
TEST (FORM B), END OF FIRST SEMESTER

Grammar-Translation Group

Pupil	Rank in Test Scores	Rank of I. Q.	D	D ²
G 12	1	9.5	8.5	72.25
G 2	2	1	1	1
G 3	3	2.5	0.5	0.25
G 14	4	12	8	64
G 9	5	5	0	0
G 10	6	11	5	25
G 4	7	7	0	0
G 13	8	8	0	0
G 8	9	6	3	9
G 11	10	13	3	9
G 6	11	9.5	1.5	2.25
G 7	12	2.5	9.5	90.25
G 5	13	4	9	81

N=13

 $\Sigma D^2=354$

$p=0.0275$
 $r=0.0287$
 $PE_r=0.1957$
 $r=0.0287 \pm 0.1957$

TABLE XXVI

COMPUTATION OF CORRELATION OF INTELLIGENCE QUOTIENTS AS
DERIVED FROM OTIS SELF-ADMINISTERING TESTS OF MENTAL
ABILITY (FORM C) AND AMERICAN COUNCIL BMA FRENCH
TEST (FORM B), END OF FIRST SEMESTER

Direct Method Group

Pupil	Rank in Test Scores	Rank of I. Q.	D	D ²
D 1	1	1	0	0
D 5	2	6	4	16
D 3	3	3	0	0
D 9	4	11.5	7.5	56.25
D 4	5	4	1	1
D 10	6	9	3	9
D 6	7	5	2	4
D 8	8	8	0	0
D 2	9	2	7	49
D 13	10	13	3	9
D 7	11	7	4	16
D 12	12	11.5	0.5	0.25
D 11	13	10	3	9

N=13

$\Sigma D^2 = 169.5$

$p = 0.5343$
 $r = 0.5522$
 $PE_r = 0.13616$
 $r = 0.5522 \pm 0.13616$

TABLE XXVII

SIGNIFICANCE OF THE DIFFERENCES IN MEANS OF DIRECT METHOD
AND GRAMMAR-TRANSLATION GROUPS IN AMERICAN COUNCIL
BETA FRENCH TEST, (FORM B), END OF FIRST SEMESTER

G. T.=Grammar-Translation Group D=Direct Method Group

Group	$M \pm PE_M$	Diff. in Means	In favor of	PE_{Diff}	Ratio of Diff. to PE_{Diff}	Chances in 100 that true dif- ference is significant
G. T.	64.07 ± 2.683	0.30	G. T.	4.266	0.0703	68
D	63.77 ± 3.3246					

In the American Council Beta French Test, Form B, at the end of the first semester the difference of the means is 0.30 in favor of the grammar-translation group. The probable error of the difference is 4.266. The significant ratio is 0.0703, which indicates that there are 68 chances in 100 of the difference's being significant.

6. Discussion and Comparison on Wann's First Year French Achievement Test. At the end of the second grade period of the second semester Wann's First Year French Achievement Tests were taken by the pupils of both groups. Table XXVIII contains the basic data from which Figure 8 is drawn. The highest score in the grammar-translation group was 62 and the lowest 22. The highest for the direct method group was 76 and the lowest 23. This shows a slight advantage for the direct method group.

An unsatisfactory degree of relationship is shown in r , 0.333 ± 0.1678 , which indicates that the probable error is about half of the r , for the grammar-translation group.

r , 0.6808 ± 0.1051 , indicates a fairly high degree of relation with the probable error about one-sixth of the r .

The discussion of the significance of the differences of means is in Table XXXI.

TABLE XXVIII

A COMPARISON OF THE INTELLIGENCE QUOTIENTS AS DERIVED FROM
 OTIS SELF-ADMINISTERING TESTS OF MENTAL ABILITY (FORM C)
 AND WANN'S FIRST YEAR FRENCH ACHIEVEMENT TEST,
 GIVEN AT END OF SECOND GRADE PERIOD OF
 THE SECOND SEMESTER

Grammar-Translation Group			Direct Method Group		
Pupil	I. Q.	Achievement Test Scores	Pupil	I. Q.	Achievement Test Scores
G 1	117.5	47	D 1	128	76
G 2	117.5	62	D 2	118	50
G 3	107	45	D 3	117	50
G 7	107	52	D 4	111	44
G 5	106	31	D 6	108	36
G 9	105.5	45	D 7	103	33
G 8	105	55	D 8	100.5	45
G 4	102.5	43	D 5	107	59
G 13	102	45	D 10	99.5	36
G 6	101.5	22	D 11	96.5	34
G 12	101.5	62	D 9	91.5	39
G 10	99.5	35	D 12	91.5	28
G 14	98	44	D 13	87.5	41
G 11	97	43

Figure 8. Scores for Grammar-Translation Method and Direct Method groups on Wann's First Year French Achievement Test, given at end of second grade period of the second semester. Data taken from Table XXVIII.

— Direct
 — Grammar-Translation

TABLE XXIX

COMPUTATION OF CORRELATION OF INTELLIGENCE QUOTIENTS AS
 DERIVED FROM OTIS SELF-ADMINISTERING TESTS OF MENTAL
 ABILITY (FORM C) AND WANN'S FIRST YEAR FRENCH
 ACHIEVEMENT TEST, GIVEN AT END OF SECOND GRADE
 PERIOD OF THE SECOND SEMESTER

Grammar-Translation Method Group

Pupil	Rank in Test Scores	Rank of I. Q.	D	D ²
G 12	1.5	10.5	9	81
G 2	1.5	1.5	0	0
G 9	3	6	3	9
G 1	4	1.5	2.5	6.25
G 8	6	7	1	1
G 13	6	9	3	9
G 3	6	3.5	2.5	6.25
G 14	8	13	5	25
G 4	9.5	8	1.5	2.25
G 11	9.5	14	4.5	20.25
G 10	11	12	1	1
G 7	12	3.5	8.5	72.25
G 5	13	5	8	64
G 6	14	10.5	3.5	12.25

N=14

$\Sigma D^2=309.5$

$p=0.3198$

$r=0.3333$

$PE_r=0.1678$

$\bar{r}=0.3333 \pm 0.1678$

TABLE XXX

COMPUTATION OF CORRELATION OF INTELLIGENCE QUOTIENTS AS
 DERIVED FROM OTIS SELF-ADMINISTERING TESTS OF MENTAL
 ABILITY (FORM C) AND WANN'S FIRST YEAR FRENCH
 ACHIEVEMENT TEST, GIVEN AT END OF SECOND GRADE
 PERIOD OF THE SECOND SEMESTER

Direct Method Group

Pupil	Rank in Test Scores	Rank of I. Q.	D	D ²
D 1	1	1	0	0
D 5	2	6	4	16
D 3	3.5	3	0.5	0.25
D 2	3.5	2	1.5	2.25
D 8	5	8	3	9
D 4	6	4	2	4
D 13	7	13	6	36
D 9	8	11.5	3.5	12.25
D 7	9	7	2	4
D 10	10.5	9	1.5	2.25
D 6	10.5	5	5.5	30.25
D 11	12	10	2	4
D 12	13	11.5	1.5	2.25

N=13

$\Sigma D^2 = 122.5$

$$p = 0.6634$$

$$r = 0.6808$$

$$PE_r = 0.1051$$

$$r = 0.6808 + 0.1051$$

TABLE XXXI

SIGNIFICANCE OF THE DIFFERENCES IN MEANS OF DIRECT METHOD
AND GRAMMAR-TRANSLATION GROUPS IN WANN'S
FIRST YEAR FRENCH ACHIEVEMENT TEST

G. T. =Grammar-Translation Group D=Direct Method Group

Group	$M \pm PE_M$	Diff. in Means	In favor of	PE_{Diff}	Ratio of Diff. to PE_{Diff}	Chances in 100 that true difference is signifi- cant
G. T.	43.64 $\pm$ 1.96	0.67	D	2.976	0.225	55
D	44.31 $\pm$ 2.245					

In the Wann's Achievement test the difference of the means is 0.67 in favor of the direct method group. The probable error of the difference is 2.976. The significant ratio is 0.225, which indicates that there are 55 chances in 100 of the difference being significant.

7. Discussion and Comparison of Examination Marks of Second Semester. The examination marks for the first, second, and third grade periods for the second semester were again averaged, as shown in Table XXXIII. Figure 9 gives the graphic picture of the data. The highest score for the grammar-translation group is 89.17 and the lowest is 40.83. The highest for the direct method is 97.17 and the lowest is 36.7. From this we can see that the direct method has a slight advantage over the grammar-translation group, although two pupils in the direct method group made lower scores than any pupil in the grammar-translation group. So far as intelligence alone is concerned, one would expect the results to be as they are.

The r , 0.1368 ± 0.1852 , indicates a very little degree of relationship, with a probable error larger than the r .

This is also the case with the direct method group, which shows an r of 0.1682 ± 0.1903 .

The discussion of the significance of means is on Table XXXVI.

TABLE XXXII

INTELLIGENCE QUOTIENTS AS DERIVED FROM OTIS SELF-
ADMINISTERING TESTS OF MENTAL ABILITY (FORM C)
AND AVERAGE OF EXAMINATION MARKS FOR THE
SECOND SEMESTER, 1ST, 2ND, AND 3RD GRADE
PERIODS, FOR GRAMMAR-TRANSLATION GROUP

Pupil	I. Q.	1st Period	2nd Period	3rd Period	Average
G 1	117.5		56	76.5	66.3
G 2	117.5	95	97	74	88.7
G 3	107	77	65	45.5	62.5
G 7	107	43	59	20.5	40.83
G 5	106	64	64	35	54.3
G 9	105.5	75	65	60.5	66.83
G 8	105	47	45	37.5	43.17
G 4	102.5	59	59	45.5	54.5
G 13	102	60	61	46.5	55.83
G 6	101.5	56	41	33	43.3
G 12	101.5	95	94	78.5	89.17
G 10	99.5	54	67	45.5	55.5
G 14	98	79	59	53.5	67.17
G 11	97	58	42	26.5	42.17

TABLE XXXIII

INTELLIGENCE QUOTIENTS AS DERIVED FROM OTIS SELF-
ADMINISTERING TESTS OF MENTAL ABILITY (FORM C)
AND AVERAGE OF EXAMINATION MARKS FOR THE
SECOND SEMESTER, 1ST, 2ND, AND 3RD GRADE
PERIODS, FOR DIRECT METHOD GROUP

Pupil	I. Q.	1st Period	2nd Period	3rd Period	Average
D 1	128	98	98	95.5	97.17
D 2	118	69	77	53.5	66.5
D 3	117	55	63	51	56.3
D 4	111	32	51	30	37.6
D 6	108	45	43	22	36.7
D 5	107	86	87	81.5	84.83
D 7	103	57	55	45.5	53
D 8	100.5	71	55	58.5	61.5
D 10	99.5	74	68	33	58.3
D 11	96.5	69	55	45.5	56.5
D 9	91.5	78	47	58	61
D 12	91.5	75	38	26	46.3
D 13	87.5	70	52	60.5	60.83

Figure 9. Scores for grammar-translation and direct method groups on Examinations given during the second semester. Data taken from Tables XXXII and XXXIII. The graphs in Figure 9 indicate that the achievement of the groups as revealed by the results of the various tests is entirely too erratic. This may of course be due to faulty tests, but the peculiarities of the graphs are hardly to be ascribed to the testing alone. In other words the direct method is within itself no assurance of a successful performance nor is the grammar-translation method a certain indication of poor performance.

— Direct
— Grammar-Translation

TABLE XXXIV

COMPUTATION OF CORRELATION OF INTELLIGENCE QUOTIENTS AS
DERIVED FROM OTIS SELF-ADMINISTERING TESTS OF MENTAL
ABILITY (FORM C) AND EXAMINATION MARKS AT THE
END OF THE SECOND SEMESTER

Grammar-Translation Group

Pupil	Rank in Test Scores	Rank of I. Q.	D	D ²
G 2	2	1.5	0.5	0.25
G 12	1	10.5	9.5	90.25
G 14	3	13	10	100
G 3	6	3.5	2.5	6.25
G 9	4	6	2	4
G 5	10	5	5	25
G 13	7	9	2	4
G 4	9	8	1	1
G 11	13	14	1	1
G 6	11	10.5	0.5	0.25
G 10	8	12	4	16
G 8	12	7	5	25
G 7	14	3.5	10.5	110.25
G 1	5	1.5	3.5	12.25

N =14

$\Sigma D^2=395.5$

$p=0.1308$

$r=0.1368$

$PE_r=0.1852$

$\bar{r}=0.1368 \pm 0.1852$

TABLE XXXV:

COMPUTATION OF CORRELATION OF INTELLIGENCE QUOTIENTS AS
DERIVED FROM OTIS SELF-ADMINISTERING TESTS OF MENTAL
ABILITY (FORM C) AND EXAMINATION MARKS AT THE
END OF THE SECOND SEMESTER

Direct Method Group

Pupil	Rank in Test Scores	Rank of I. Q.	D	D ²
D 5	1	1	0	0
D 1	2	6	4	16
D 9	5	11.5	6.5	42.45
D 12	11	11.5	0.5	0.25
D 10	7	9	2	4
D 8	4	8	4	16
D 13	6	13	7	49
D 2	3	2	1	1
D 11	8	10	2	4
D 7	10	7	3	9
D 3	9	3	6	36
D 6	13	5	8	64
D 4	12	4	8	64

N=13

$\Sigma D^2=3055$

$$p=0.1608$$

$$r=0.1682$$

$$PE_r=0.190348$$

$$\bar{r}=0.1682 \pm 0.190348$$

TABLE XXXVI

SIGNIFICANCE OF THE DIFFERENCES IN MEANS OF DIRECT METHOD
AND GRAMMAR-TRANSLATION METHOD GROUPS IN AVERAGE OF
EXAMINATION MARKS FOR SECOND SEMESTER

G. T.=Grammar-Translation Group D=Direct Method Group

Group	$\bar{M} \pm PE_M$	Diff. in Means	In fa- vor of	PE_{Diff}	Ratio of Diff. to PE_{Diff}	Chances in 100 that true dif- ference is significant
G. T.	58.763 $\pm$ 3.002	.98	D	0.219	4.47	100
D	59.74 $\pm$ 30.308					

In the Examination Marks for the second semester the difference of the means is 0.98 in favor of the direct method group. The probable error of the difference is 0.219. The significant ratio is 4.47, which indicates that there are 100 chances in 100 of the difference being significant.

8. Discussion and Comparison of American Council Beta French Test, Form A. : The American Council Beta French Test, Form A, was used at the end of the second semester to judge the achievement of both groups. Table XXXVII gives the tabulation of the results of this test, and Figure 10 represents the findings reported in this table. The highest score was 122 for the grammar-translation and the lowest 61. The highest score was 139 for the direct and the lowest 50. These show practically the same results.

r , 0.2368 ± 0.2218 , shows no degree of relation, since the probable error is too large for the r . This is for the grammar-translation group.

The direct method group is showing a high degree of correlation, the r being 0.764 ± 0.081 , which is a very small probable error.

Table XL contains the discussion of the significance of means.

TABLE XXXVII

COMPARISON OF THE INTELLIGENCE QUOTIENTS AS DERIVED
FROM OTIS SELF-ADMINISTERING TESTS OF MENTAL
ABILITY (FORM C) AND AMERICAN COUNCIL BETA FRENCH
TEST (FORM A) FOR GRAMMAR-TRANSLATION AND DIRECT
METHOD GROUPS END OF SECOND SEMESTER

Grammar-Translation Group			Direct Method Group		
Pupil	I. Q.	American Council Scores	Pupil	I. Q.	American Council Scores
G 1	117.5	83	D 1	128	139
G 2	117.5	120	D 2	113	89
G 3	107	79	D 3	117	110
G 7	107	68	D 4	111	95
G 5	106	68	D 6	108	78
G 9	105.5	92	D 5	107	92
G 8	105	76	D 7	103	54
G 4	102.5	82	D 8	100.5	81
G 13	102	73	D 10	99.5	90
G 6	102.5	78	D 11	96.5	57
G 12	101.5	122	D 9	91.5	56
G 10	99.5	68	D 12	91.5	50
G 14	98	76	D 13	87.5	70
G 11	97	61			

Score

TABLE XXXVIII

COMPUTATION OF CORRELATION OF INTELLIGENCE QUOTIENTS AS
 DERIVED FROM OTIS SELF-ADMINISTERING TESTS OF MENTAL
 ABILITY (FORM C) AND AMERICAN COUNCIL BETA FRENCH
 TEST (FORM A), END OF SECOND SEMESTER

Grammar-Translation Group

Pupil	Rank in Test Scores	Rank of I. Q.	D	D ²
G 12	1	9.5	8.5	72.25
G 2	2	1	1	1
G 3	5	2.5	2.5	6.25
G 14	7.5	12	4.5	20.25
G 9	3	5	2	4
G 10	11	11	0	0
G 4	4	7	3	9
G 13	9	8	1	1
G 8	7.5	6	1.5	2.25
G 11	13	13	0	0
G 6	6	9.5	3.5	12.25
G 7	11	2.5	8.5	72.25
G 5	11	4	9	81

N=13

 $\Sigma D^2 = 281.5$

$$p = 0.2267$$

$$r = 0.2368$$

$$PE_r = 0.2218$$

$$r = 0.2368 \pm 0.2218$$

TABLE XXXIX

COMPUTATION OF CORRELATION OF INTELLIGENCE QUOTIENTS AS
DERIVED FROM OTIS SELF-ADMINISTERING TESTS OF MENTAL
ABILITY (FORM C) AND AMERICAN COUNCIL BETA FRENCH
TEST (FORM A), END OF SECOND SEMESTER

Direct Method Group

Pupil	Rank in Test Scores	Rank of I. Q.	D	D ²
D 1	1	1	0	0
D 5	4	6	2	4
D 3	2	3	1	1
D 9	11	11.5	0.5	0.25
D 4	3	4	1	1
D 10	5	9	4	16
D 6	8	5	3	9
D 8	7	8	1	1
D 2	6	2	4	16
D 13	9	13	4	16
D 7	12	7	5	25
D 12	13	11.5	1.5	2.25
D 11	10	10	0	0

N=13

$\Sigma D^2=91.5$

$p=0.7486$
 $PE_r=0.08155$
 $\bar{r}=0.7640$
 $r=0.7640 \pm 0.08155$

TABLE XL

SIGNIFICANCE OF THE DIFFERENCES IN MEANS OF DIRECT METHOD
AND GRAMMAR-TRANSLATION GROUPS IN AMERICAN COUNCIL
BETA FRENCH TEST, (FORM A), END OF SECOND SEMESTER

G. T.=Grammar-Translation Group D=Direct Method Group

Group	$M \pm PE_M$	Diff. in Means	In fa- vor of	PE_{Diff}	Ratio of Diff. to PE_{Diff}	Chances in 100 that true difference is signifi- cant
G. T.	81.77 ± 3.382	0.61	D	5.53	0.1103	50
D	82.38 ± 4.376					

In the American Council Beta French Test, Form A, at the end of the second semester the difference of the means is 0.61 in favor of the direct method group. The probable error of the difference is 5.53. The significant ratio is 0.1103, which indicates that there are 50 chances in 100 of the difference being significant.

9. Final Test. An original test was devised at the end of the year in order to test the grammar-translation group and direct method group for the following purposes:

1. Reading for speed and correct pronunciation.
2. Aural comprehension.
3. Dictation.
4. Grammar.
5. Translation.
6. Vocabulary
7. Comprehension. (Written questions).
8. Appreciation.

It was devised as a further means of comparison between the two groups.

a. Oral Individual Test. The test in Reading for Speed and Correct Pronunciation was given individually. Two minutes were allowed for each; a stop watch was used to check time. Mispronounced words were underlined and the teacher, at the end of the two minutes, checked on the number of words read by each of the pupils.

The correlation between Intelligence Quotients and scores for the Writer's Individual Reading Test in Speed and Correct Pronunciation for the direct method group is in Table XLI. The correlation between the two tests is 0.61 ± 0.12 , indicating a moderate degree of relationship. The inference to be drawn from these two tables (XLII and XLIII) is that the achievement of the two groups as revealed by the Reading Test in Speed and and Correct Pronunciation in relation to their intelligences is that the direct method has resulted in an achievement of

considerably greater significance than with the grammar-translation group. In fact the relationship between the two factors in the latter group is nil. The relation in the other group is only moderately marked but is still decidedly advantageous to the former group in comparison with the latter. The direct method has added appreciably to the achievement of the group in speed in reading and in correct pronunciation. It is then clear that the scores attained by the direct method group are, in terms of its median intelligence rating, (104.5), much better than the scores of the other group in terms of the latter's intelligence rating (104.8).

TABLE XLI

COMPARISON OF THE INTELLIGENCE QUOTIENTS AS DERIVED FROM OTIS SELF-ADMINISTERING TESTS OF MENTAL ABILITY (FORM C) AND WRITER'S INDIVIDUAL READING TEST IN SPEED AND CORRECT PRONUNCIATION AT END OF SECOND SEMESTER

Grammar-Translation Group

Pupils	I. Q.	Words Attempted	Words Mispron.	Test Score
G 1	117.5	95	7	88*
G 2	117.5	127	10	117
G 3	107	108	15	93
G 4	102.5	105	11	94
G 5	106	85	11	74
G 6	101.5	56	15	41
G 7	107	102	29	73
G 8	105	73	13	60
G 9	105.5	101	3	98
G 10	99.5	103	4	99
G 11	97	99	8	91
G 12	101.5	100	1	99
G 13	102	81	10	71
G 14	98	122	8	114

Direct Method Group

D 1	128	132	4	128
D 2	118	128	5	123
D 3	117	129	8	121
D 4	111	105	10	95
D 5	107	124	4	120
D 6	108	129	8	121
D 7	103	157	13	144
D 8	100.5	95	1	94
D 9	91.5	98	6	92
D 10	99.5	101	8	93
D 11	96.5	142	10	132
D 12	91.5	85	0	85
D 13	87.5	91	5	86

*These scores are obtained by a count of the number of words attempted in the two minutes allowed. From this total all incorrectly pronounced words were deducted at the rate of one per mispronounced word.

Score

TABLE XLII

COMPUTATION OF CORRELATION OF INTELLIGENCE QUOTIENTS AS
DERIVED FROM OTIS SELF-ADMINISTERING TESTS OF MENTAL
ABILITY (FORM C) AND WRITER'S INDIVIDUAL READING
TEST IN SPEED AND CORRECT PRONUNCIATION AT END
OF SECOND SEMESTER

Grammar-Translation Group

Pupil	Rank in Test Scores	Rank of I. Q.	D	D ²
G 14	1	13	12	144
G 2	2	1.5	0.5	0.25
G 3	7	3.5	3.5	12.25
G 4	6	8	2	4
G 10	3.5	12	8.5	72.25
G 7	11	3.5	7.5	56.25
G 9	5	6	1	1
G 12	3.5	10.5	7	49
G 11	8	14	6	36
G 1	9	1.5	7.5	56.25
G 5	10	5	5	25
G 13	12	9	3	9
G 8	13	7	6	36
G 6	14	10.5	3.5	12.25

N=14

$\Sigma D^2=513.5$

$p=0.1285$
 $r=0.1344$
 $PE=0.1853$
 $r=0.1344 \pm 0.1853$

TABLE XLIII

COMPUTATION OF CORRELATION OF INTELLIGENCE QUOTIENTS AS
 DERIVED FROM OTIS SELF-ADMINISTERING TESTS OF MENTAL
 ABILITY (FORM C) AND WRITER'S INDIVIDUAL READING
 TEST IN SPEED AND CORRECT PRONUNCIATION AT END
 OF SECOND SEMESTER

Direct Method Group

Pupil	Rank in Test Scores	Rank of I. Q.	D	D ²
D 7	1	7	6	36
D 11	2	10	8	64
D 1	3	1	2	4
D 6	4.5	5	0.5	0.25
D 3	4.5	3	1.5	2.25
D 2	6	2	4	16
D 5	7	6	1	1
D 4	8	4	4	16
D 10	9	9	0	0
D 9	11	11.5	0.5	0.25
D 8	10	8	2	4
D 13	12	13	1	1
D 12	13	11.5	1.5	2.25

N=13

$\Sigma D^2=147$

$p=0.596$
 $r=0.614$
 $PE_r=0.122$
 $\bar{r}=0.614 \pm 0.122$

The Intelligence Quotients and scores for the Writer's Individual Reading Test in Speed and Correct Pronunciation, given at the end of the second semester, for both the grammar-translation and the direct method groups are represented in Table XLI.

Figure 11 represents graphically Table XLI. The achievement of both groups in Reading for Speed and Correct Pronunciation is clearly shown in this figure with a reasonable advantage for the direct method group.

The correlation between Intelligence Quotients and scores for the Writer's Individual Reading Test in Speed and Correct Pronunciation, for the grammar-translation group is shown in Table XLII. The correlation between the two tests is 0.13 ± 0.18 , indicating no significant relationship between intelligence quotients and test scores.

TABLE XLIV

SIGNIFICANCE OF THE DIFFERENCES IN MEANS OF DIRECT METHOD
AND GRAMMAR-TRANSLATION GROUPS IN WRITER'S INDIVIDUAL
READING TEST IN SPEED AND CORRECT PRONUNCIATION
AT END OF SECOND SEMESTER

G. T.=Grammar-Translation

D=Direct Method Group

Group	$M \pm PE_M$	Diff. in Means	In fa- vor of	PE_{Diff}	Ratio of Diff. to PE_{Diff}	Chances in 100 that true difference is signifi- cant
G. T.	87 ± 3.538	23.31	D	5.006	4.656	100
D	110.31 ± 3.54					

In the Speed and Pronunciation test the difference of the means is 23.31 in favor of the direct method group. The probable error of the difference is 5.006. The significant ratio is 4.656, which indicates that there are 100 chances in 100 of the difference being significant. It is therefore clear that the direct method offers undoubted advantages in so far as rate and pronunciation are concerned.

(I). Discussion and Comparison of Writer's Individual Aural Comprehension Test Scores. The test in aural comprehension was also given individually and consisted of two short stories. Each story was read twice. After the first story five English questions were asked. They were to be answered in English. At the end of the second story five French questions were asked with an answer required in French.

Table XLV contains the basic data developed by this test from which Figure 12 is made. This indicates a higher achievement for the direct method group in Aural Comprehension. Comparing the graphs showing the I. Q.'s with this graph however, it is clear that the advantage in aural comprehension is only very slightly greater than one is led to predict.

The r is 0.3786 ± 0.1617 , showing a little degree of relation for the grammar-translation group. The r for the direct method groups is 0.595 ± 0.1265 , indicating a fairly good degree of relation.

The discussion of the significance of means is shown on Table XLVIII.

TABLE XLV

COMPARISON OF THE INTELLIGENCE QUOTIENTS AS DERIVED
FROM OTIS SELF-ADMINISTERING TESTS OF MENTAL ABILITY
(FORM C) AND WRITER'S INDIVIDUAL TEST IN AURAL COM-
PREHENSION AT END OF SECOND SEMESTER

Grammar-Translation Group			Direct Method Group		
Pupil	I. Q.	Test Scores	Pupil	I. Q.	Test Scores
G 1	117.5	50	D 1	128	60
G 2	117.5	40	D 2	118	60
G 3	107	50	D 3	117	80
G 7	107	30	D 4	111	50
G 5	106	40	D 6	108	30
G 9	105.5	30	D 5	107	30
G 8	105	30	D 7	103	50
G 4	102.5	50	D 8	100.5	30
G 13	102	30	D 10	99.5	30
G 6	101.5	20	D 11	96.5	40
G 12	101.5	60	D 9	91.5	40
G 10	99.5	40	D 12	91.5	50
G 14	98	30	D 13	87.5	30
G 11	97	30

Figure 12. Scores for Grammar-Translation Method and Direct Method groups on Writer's Individual Test in Aural Comprehension given at end of second semester. Data taken from Table XLV.

— Direct
— Grammar-Translation

TABLE XLVI

COMPUTATION OF CORRELATION OF INTELLIGENCE QUOTIENTS AS
DERIVED FROM OTIS SELF-ADMINISTERING TESTS OF MENTAL
ABILITY (FORM C) AND WRITER'S INDIVIDUAL TEST IN
AURAL COMPREHENSION AT END OF SECOND SEMESTER

Grammar-Translation Group

Pupil	Rank in Test Scores	Rank of I. Q.	D	D ²
G 12	1	10.5	9.5	90.25
G 11	3	1.5	1.5	2.25
G 4	3	8	5	25
G 3	3	3.5	0.5	0.25
G 2	6	1.5	4.5	20.25
G 10	6	12	6	36
G 5	6	5	1	1
G 14	10.5	13	2.5	6.25
G 7	10.5	3.5	7	49
G 11	10.5	14	3.5	12.25
G 9	10.5	6	4.5	20.25
G 13	10.5	9	1.5	2.25
G 8	10.5	7	3.5	12.25
G 6	14	10.5	3.5	12.25

N=14

 $\Sigma D^2 = 289.5$

$$p = 0.3637$$

$$r = 0.3786$$

$$PE_r = 0.1617$$

$$\bar{r} = 0.3786 \pm 0.1617$$

The amount of positive relationship in the two sets of data is entirely negligible.

TABLE XLVII

COMPUTATION OF CORRELATION OF INTELLIGENCE QUOTIENTS AS
 DERIVED FROM OTIS SELF-ADMINISTERING TESTS OF MENTAL
 ABILITY (FORM C) AND WRITER'S INDIVIDUAL TEST IN
 AURAL COMPREHENSION AT END OF SECOND SEMESTER

Direct Method Group

Pupil	Rank in Test Scores	Rank of I. Q.	D	D ²
D 3	1	3	2	4
D 2	2.5	2	0.5	0.25
D 1	2.5	1	1.5	2.25
D 12	5	11.5	6.5	42.25
D 4	5	4	1	1
D 7	5	7	2	4
D 11	7.5	10	2.5	6.25
D 9	7.5	11.5	4	16
D 6	11	5	6	36
D 5	11	6	5	25
D 10	11	9	2	4
D 8	11	8	3	9
D 13	11	13	2	4

N=13

$\Sigma D^2 = 154$

$$p = 0.5769$$

$$r = 0.595$$

$$PE_T = 0.1265$$

$$r = 0.595 \pm 0.1265$$

The positive relationship shown between intelligence scores and the aural comprehension of the direct method group is very slight, in fact, almost negligible.

TABLE XLVIII

SIGNIFICANCE OF THE DIFFERENCES IN MEANS OF DIRECT METHOD
AND GRAMMAR-TRANSLATION GROUPS IN WATTER'S INDIVIDUAL
TEST IN AURAL COMPREHENSION AT END OF SECOND SEMESTER

G. T.=Grammar-Translation Group D=Direct Method Group

Group	$M \pm PE_M$	Diff. in Means	In fa- vor of	PE_{Diff}	Ratio of Diff. to PE_{Diff}	Chances in 100 that true difference is signi- ficant
G. T.	37.8 ± 1.925	6.8	D	3.37	2.0178	91
D	44.6 ± 2.772					

In the Aural Comprehension test the difference of the means is 6.8 in favor of the direct method group. The probable error of the difference is 3.37. The significant ratio is 2.0178, which indicates that there are 91 chances in 100 of the difference being significant. Thus it is revealed that the per minute score of the direct method group is 3.4 better than that of the grammar-translation group. Since the final average score of the former group is 110 and that of the grammar-translation group is 87 the per minute score of each group is 55 and 43.5 respectively. The advantage of 3.4 thus becomes about 6 per cent for the direct method group. This is not a heavy advantage at all, yet is clearly worth achieving.

b., Written Tests

(I). Discussion and Comparison of Writer's Dictation Test Scores. A short Dictation of seventy-two words was given to both groups. The sentences were repeated twice and no questions were allowed.

The scores on Dictation are represented on Table XLIX. Their graphic illustration is shown on Figure 13, showing an advantage for the direct group.

The r , 0.0344 ± 0.1885 , indicates very little relation for the grammar-translation group. r , 0.4169 ± 0.1618 , for the direct method group shows a rather low relationship.

Table LII contains the discussion of the significance of means.

TABLE XLIX

INTELLIGENCE QUOTIENTS AS DERIVED FROM OTIS SELF-
ADMINISTERING TESTS OF MENTAL ABILITY (FORM C)
AND DICTATION SCORES AT END OF SECOND SEMESTER

Grammar-Translation Group			Direct Method Group		
Pupil	I. Q.	Dictation Scores	Pupil	I. Q.	Dictation Scores
G 1	117.5	79	D 1	128	94
G 2	117.5	81	D 2	118	65
G 3	107	65	D 3	117	83
G 7	107	63	D 4	111	63
G 5	105	68	D 6	108	77
G 9	105.5	80	D 5	107	91
G 8	105	41	D 7	103	76
G 4	102.5	66	D 8	100.5	77
G 13	102	66	D 10	99.5	68
G 6	101.5	63	D 11	96.5	66
G 12	101.5	38	D 9	91.5	56
G 10	99.5	66	D 12	91.5	56
G 14	98	69	D 13	87.5	75
G 11	97	73			
Average of scores		69			74

Figure 13. Scores for Grammar-Translation and Direct Method groups in Dictation at end of second semester. Data taken from Table XLIX.

— Direct
— Grammar-Translation

TABLE I

COMPUTATION OF CORRELATION OF INTELLIGENCE QUOTIENTS AS
DERIVED FROM OTIS SELF-ADMINISTERING TESTS OF MENTAL
ABILITY (FORM C) AND DICTATION SCORES
AT END OF SECOND SEMESTER

Grammar-Translation Group

Pupil	Rank in Test Scores	Rank of I. Q.	D	D ²
G 12	1	10.5	9.5	90.25
G 2	2	1.5	0.5	0.25
G 9	3	6	3	9
G 1	4	1.5	2.5	6.25
G 11	5	14	9	81
G 14	6	13	7	49
G 5	7	5	2	4
G 4	9	8	1	1
G 13	9	9	0	0
G 10	9	12	3	9
G 3	11	3.5	7.5	56.25
G 6	12.5	10.5	2	4
G 7	12.5	3.5	9	81
G 8	14	7	7	49

N=14

$\Sigma D^2 = 440$

$p = 0.0329$
 $r = 0.0344$
 $PE_r = 0.1885$
 $r = 0.0344 \pm 0.1885$

Very little relation indicated.

TABLE LI

COMPUTATION OF CORRELATION OF INTELLIGENCE QUOTIENTS AS
DERIVED FROM OTIS SELF-ADMINISTERING TESTS OF MENTAL
ABILITY (FORM C) AND DICTATION SCORES
AT END OF SECOND SEMESTER

Direct Method Group

Pupil	Rank in Test Scores	Rank of I. Q.	D	D ²
D 1	1	1	0	0
D 5	2	6	4	16
D 3	3	3	0	0
D 6	4	5	1	1
D 7	5	7	2	4
D 8	6.5	8	1.5	2.25
D 13	6.5	13	6.5	42.25
D 10	8	9	1	1
D 9	8.5	11.5	2	4
D 11	9.5	10	0.5	0.25
D 2	11	2	9	81
D 4	12	4	8	64
D 12	13	11.5	1.5	2.25

N=13

$\Sigma D^2 = 218$

$p = 0.4011$

$r = 0.4169$

$PE_r = 0.1618$

$r = 0.4169 \pm 0.1618$

The value of r in this case indicates practically no positive relationship between the two sets of scores.

TABLE LII

SIGNIFICANCE OF THE DIFFERENCES IN MEANS OF DIRECT METHOD
AND GRAMMAR-TRANSLATION GROUPS IN WRITER'S TEST
IN DICTATION AT END OF SECOND SEMESTER

G. T.=Grammar-Translation Group D=Direct Method Group

Group	$M \pm PE_M$	Diff. in Means	In fa- vor of	PE_{Diff}	Ratio of Diff. to PE_{Diff}	Chances in 100 that true difference is signifi- cant
G. T.	0.697 ± 0.0194	0.042	D	0.0275	1.527	84
D	0.739 ± 0.0195					

In the Dictation test the difference of the means is 0.042 in favor of the direct method group. The probable error of the difference is 0.0275. The significant ratio is 1.527, which indicates that there are 84 chances in 100 of the difference being significant.

(II). Discussion and Comparison of Scores on Writer's Test in Grammar. Completion sentences were given to the students for a test in Grammar. The scores made in this test are shown in Table LIII. Their graphic reproduction is in Figure 14. It is interesting to notice that only one pupil made a high score of 100. This pupil belonged to the direct method group. The next score was 50, which was the highest score for the grammar-translation group. However, no great advantage is shown for either group.

The computation of correlation of Intelligence Quotients and Grammar scores was 0.5972 ± 0.1214 , indicating a certain degree of relationship for the grammar-translation group.

The r for the direct method group was 0.6237 ± 0.1197 , indicating a fairly high degree of relationship.

The discussion of the significance of means is in Table LVI.

TABLE LIII

INTELLIGENCE QUOTIENTS AS DERIVED FROM OTIS SELF-
ADMINISTERING TESTS OF MENTAL ABILITY (FORM C)
AND WRITER'S TEST IN GRAMMAR
AT END OF SECOND SEMESTER

Grammar-Translation Group			Direct Method Group		
Pupil	I. Q.	Grammar Scores	Pupil	I. Q.	Grammar Scores
G 1	117.5	37	D 1	128	100
G 2	117.5	50	D 2	118	50
G 3	107	25	D 3	117	16
G 7	107	50	D 4	111	16
G 5	106	16	D 6	108	25
G 9	105.5	50	D 5	107	25
G 8	105	0	D 7	103	16
G 4	102.5	37	D 8	100.5	16
G 13	102	0	D 10	99.5	16
G 6	101.5	37	D 11	96.5	16
G 12	101.5	25	D 9	91.5	37
G 10	99.5	0	D 12	91.5	16
G 14	98	25	D 13	87.5	0
G 11	97	0			
Average of Scores		25			25.6
Range		50			100

TABLE LIV

COMPUTATION OF CORRELATION OF INTELLIGENCE QUOTIENTS AS
 DERIVED FROM OTIS SELF-ADMINISTERING TESTS OF MENTAL
 ABILITY (FORM C) AND WRITER'S TEST IN GRAMMAR AT
 END OF SECOND SEMESTER

Grammar-Translation Group

Pupil	Rank in Test Scores	Rank of I. Q.	D	D ²
G 9	2	6	4	16
G 7	2	3.5	1.5	2.25
G 2	3	1.5	0.5	0.25
G 6	5	10.5	5.5	30.25
G 4	5	8	3	9
G 1	5	1.5	3.5	12.25
G 14	8	13	5	25
G 12	8	10.5	2.5	6.25
G 3	8	3.5	4.5	20.25
G 5	10	5	5	25
G 13	12.5	9	3.5	12.25
G 11	12.5	14	1.5	2.25
G 8	12.5	7	5.5	30.25
G 10	12.5	12	0.5	0.25

N=14

 $\Sigma D^2 = 191.5$

$$p = 0.5791$$

$$r = 0.5972$$

$$PE_r = 0.1214$$

$$r = 0.5972 \pm 0.1214$$

TABLE IV

COMPUTATION OF CORRELATION OF INTELLIGENCE QUOTIENTS AS
DERIVED FROM OTIS SELF-ADMINISTERING TESTS OF MENTAL
ABILITY (FORM C) AND WRITER'S TEST IN GRAMMAR AT
END OF SECOND SEMESTER

Direct Method Group

Pupil	Rank in Test Scores	Rank of I. Q.	D	D ²
D 1	1	1	0	0
D 2	2	2	0	0
D 9	3	11.5	8.5	72.25
D 5	4.5	6	1.5	2.25
D 6	4.5	5	0.5	0.25
D 3	8.5	3	5.5	30.25
D 4	8.5	4	4.5	20.25
D 7	8.5	7	1.5	2.25
D 8	3.5	8	0.5	0.25
D 10	8.5	9	0.5	0.25
D 12	12.5	13	0.5	0.25
D 13	8.5	11.5	3	9
D 11	12.5	10	2.25	6.25

N=13

$\Sigma D^2=143.5$

$D=0.6057$

$r=0.6237$

$PE_r=0.1197$

$r=0.6237 \pm 0.1197$

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TABLE LVI

SIGNIFICANCE OF THE DIFFERENCES IN MEANS OF DIRECT METHOD
AND GRAMMAR-TRANSLATION GROUPS IN WRITER'S TEST
IN GRAMMAR AT END OF SECOND SEMESTER

G. T.=Grammar-Translation Group D=Direct Method Group

Group	$M \pm PE_M$	Diff. in Means	In fa- vor of	PE_{Diff}	Ratio of Diff. to PE_{Diff}	Chances in 100 that true dif- ference is significant
G. T.	0.253 ± 0.033	0.006	D	0.0566	0.106	53
D	0.259 ± 0.046					

In the Grammar test at the end of the second semester the difference of the means is 0.006 in favor of the direct method group. The probable error of the difference is 0.0566. The significant ratio is 0.106, which indicates that there are 53 chances in 100 of the difference being significant.

(III). Discussion and Comparison of Scores on Writer's Test in Translation. English sentences were given to be translated into French. These sentences are given on page of the appendix.

The scores of Table LVII are represented graphically in Figure 15. From the medians we can deduct that the grammar-translation method has advantage over the direct method.

The r on Table LVIII for the grammar-translation group is 0.257 ± 0.176 , indicating no positive relationship. The r of Table LIX is 0.5495 ± 0.1367 , indicating a small degree of relationship.

The significance of means is in Table LX.

TABLE LVII

COMPARISON OF THE INTELLIGENCE QUOTIENTS AS DERIVED
FROM OTIS SELF-ADMINISTERING TESTS OF MENTAL
ABILITY (FORM C) AND WRITER'S TEST IN TRANSLATION
AT END OF SECOND SEMESTER

Grammar-Translation Group			Direct Method Group		
Pupil	I. Q.	Translation Scores	Pupil	I. Q.	Translation Scores
G 1	117.5	62	D 1	128	91
G 2	117.5	77	D 2	118	62
G 3	107	54	D 3	117	65
G 7	107	75	D 4	111	40
G 5	106	62	D 6	108	68
G 9	105.5	74	D 5	107	51
G 8	105	60	D 7	103	71
G 4	102.5	65	D 8	100.5	65
G 13	102	31	D 10	99.5	62
G 6	101.5	75	D 11	96.5	47
G 12	101.5	82	D 9	91.5	37
G 10	99.5	45	D 12	91.5	44
G 14	98	68	D 13	87.5	60
G 11	97	37

Figure 15. Scores for Grammar-Translation Method and Direct Method groups in Writer's Test in Translation given at end of second semester. Data taken from Table LVII.

— Direct
— Grammar-Translation

TABLE LVIII

COMPUTATION OF CORRELATION OF INTELLIGENCE QUOTIENTS AS
DERIVED FROM OTIS SELF-ADMINISTERING TESTS OF MENTAL
ABILITY (FORM C) AND WRITER'S TEST IN TRANSLATION
AT END OF SECOND SEMESTER

Grammar-Translation Group

Pupil	Rank in Test Scores	Rank of I. Q.	D	D ²
G 12	1	10.5	9.5	90.25
G 2	2	1.5	0.5	0.25
G 6	3.5	10.5	7	49
G 7	3.5	3.5	0	0
G 9	5	6	1	1
G 14	6	13	7	49
G 4	7	8	1	1
G 5	8.5	5	3.5	12.25
G 1	8.5	1.5	7	49
G 8	10	7	3	9
G 3	11	3.5	7.5	56.25
G 10	12	12	0	0
G 11	13	14	1	1
G 13	14	9	5	25

N=14

$\Sigma D^2 = 343$

$p = 0.246$

$r = 0.257$

$PE_r = 0.176$

$r = 0.257 \pm 0.176$

TABLE LIX

COMPUTATION OF CORRELATION OF INTELLIGENCE QUOTIENTS AS
 DERIVED FROM OTIS SELF-ADMINISTERING TESTS OF MENTAL
 ABILITY (FORM C) AND WRITER'S TEST IN TRANSLATION
 AT END OF SECOND SEMESTER

Direct Method Group

Pupil	Rank in Test Scores	Rank of I. Q.	D	D ²
D 1	1	1	0	0
D 7	2	7	5	25
D 6	3	5	2	4
D 3	4.5	3	1.5	2.25
D 8	4.5	8	3.5	12.25
D 2	6.5	2	4.5	20.25
D 10	6.5	9	2.5	6.25
D 13	8	13	5	25
D 5	9	6	3	9
D 11	10	10	0	0
D 12	11	11.5	0.5	0.25
D 4	12	4	8	64
D 9	13	11.5	1.5	2.25

N=13

$\Sigma D^2 = 170.5$

$p = 0.5316$

$r = 0.5495$

$PE_r = 0.1367$

$r = 0.5495 \pm 0.1367$

TABLE LX

SIGNIFICANCE OF THE DIFFERENCES IN MEANS OF DIRECT METHOD
AND GRAMMAR-TRANSLATION GROUPS IN WRITER'S TEST
IN TRANSLATION AT END OF SECOND SEMESTER

G. T.=Grammar-Translation Group D=Direct Method Group

Group	$M \pm PE_M$	Diff. in Means	In fa- vor of	PE_{Diff}	Ratio of Diff. to PE_{Diff}	Chances in 100 that true difference is signifi- cant
G. T.	0.623 ± 0.0264	0.033	G. T.	0.0375	0.88	72
D	0.590 ± 0.0266					

In the Translation test at the end of the second semester the difference of the means is 0.033 in favor of the grammar-translation group. The probable error of the difference is 0.0375. The significant ratio is 0.88, which indicates that there are 72 chances in 100 of the difference being significant.

(IV). Discussion and Comparison of Scores on Writer's Test on Vocabulary. A list of English words was given, the equivalent of each one to be given in French. A similar list of French words was given, the equivalent of each one to be given in English.

The scores on Vocabulary are given on Table LXI and are represented graphically on Figure 16. The graph shows plainly the advantage of the grammar-translation method over the direct method.

The r of Table LXII is 0.4416 ± 0.1519 , showing very little relationship between Intelligence Quotients and test scores, for the grammar-translation group.

The direct method group shows an r of 0.4688 ± 0.1528 . The relationship is low. (Table LXIII).

The significance of means is on Table LXIV.

TABLE LXI

COMPARISON OF THE INTELLIGENCE QUOTIENTS AS DERIVED
FROM OTIS SELF-ADMINISTERING TESTS OF MENTAL ABILITY
(FORM C) AND WRITER'S TEST IN VOCABULARY
AT END OF SECOND SEMESTER

Grammar-Translation Group			Direct Method Group		
Pupil	I. Q.	Vocabulary Scores	Pupil	I. Q.	Vocabulary Scores
G 1	117.5	55	D 1	128	85
G 2	117.5	75	D 2	118	55
G 3	107	70	D 3	117	55
G 7	107	55	D 4	111	45
G 5	106	35	D 6	108	35
G 9	105.5	75	D 5	107	50
G 4	102.5	50	D 8	100.5	40
G 13	102	70	D 10	99.5	35
G 6	101.5	25	D 11	96.5	35
G 12	101.5	90	D 9	91.5	30
G 10	99.5	35	D 12	91.5	70
G 14	98	45	D 13	87.5	45
G 11	97	45

Figure 16. Scores for Grammar-Translation Method and Direct Method groups in Writer's Test in Vocabulary given at end of second semester. Data taken from Table LXI.

— Direct
— Grammar-Translation

TABLE LXII

COMPUTATION OF CORRELATION OF INTELLIGENCE QUOTIENTS AS
DERIVED FROM OTIS SELF-ADMINISTERING TESTS OF MENTAL
ABILITY (FORM C) AND WRITER'S TEST IN
VOCABULARY AT END OF SECOND SEMESTER

Grammar-Translation Group

Pupil	Rank in Test Scores	Rank of I. Q.	D	D ²
G 12	1	10.5	9.5	90.25
G 9	2.5	6	3.5	12.25
G 2	2.5	1.5	1	1
G 13	4.5	9	4.5	20.25
G 3	4.5	3.5	1	1
G 7	6.5	3.5	3	9
G 1	6.5	1.5	5	25
G 4	8	8	0	0
G 11	10	14	4	16
G 14	10	13	3	9
G 8	10	7	3	9
G 5	12.5	5	7.5	56.25
G 10	12.5	12	0.5	0.25
G 6	14	10.5	3.5	12.25

N=14

$\Sigma D^2 = 261.5$

$p = 0.4252$

$r = 0.4416$

$PE_r = 0.1519$

$r = 0.4416 + 0.1519$

TABLE IXIII

COMPUTATION OF CORRELATION OF INTELLIGENCE QUOTIENTS AS
DERIVED FROM OTIS SELF-ADMINISTERING TESTS OF MENTAL
ABILITY (FORM C) AND WRITER'S TEST IN
VOCABULARY AT END OF SECOND SEMESTER

Direct Method Group

Pupil	Rank in Test Scores	Rank of I. Q.	D	D ²
D 1	1	1	0	0
D 3	3.5	3	0.5	0.25
D 2	3.5	3	1.5	2.25
D 5	5	6	1	1
D 4	6.5	4	2.5	6.25
D 12	6.5	12	6.5	42.25
D 8	8	8	0	0
D 10	10	9	1	1
D 6	10	5	5	25
D 11	10	10	0	0
D 7	12.5	7	5.5	30.25
D 9	12.5	11.5	1	1

N=12

$\Sigma D^2 = 199.5$

$p = 0.4519$

$r = 0.4638$

$PE_r = 0.1528$

$r = 0.4688 \pm 0.1528$

TABLE LXIV

SIGNIFICANCE OF THE DIFFERENCES IN MEANS OF DIRECT METHOD
AND GRAMMAR-TRANSLATION GROUPS IN WRITER'S TEST
IN VOCABULARY AT END OF SECOND SEMESTER

G. T.=Grammar-Translation Group D=Direct Method Group

Group	$M \pm PE_M$	Diff. in Means	In fa- vor of	PE_{Diff}	Ratio of PE_{Diff} to Diff.	Chances in 100 that true difference is signifi- cant
G. T.	55 ± 0.03315	8.1	G. T.	0.0439	1.845	89
D	46.9 ± 0.0287					

In the Vocabulary test at the end of the second semester the difference of the means is 8.1 in favor of the grammar-translation group. The probable error of the difference is 0.0439. The significant ratio is 1.845, which indicates that there are 89 chances in 100 that the difference is significant.

(V). Discussion and Comparison of Scores on Writer's Test on Comprehension. Fifteen questions in French were submitted to the pupils of both groups to be answered in French.

The scores of the answers are on Table LXV. The graphic picture of this table is Figure 17. Neither group has a definite advantage.

The computation of correlations on Table LXVI for the grammar-translation groups is -0.0092 ± 0.1887 , showing practically no relation. This tends to be an inverse relation because of its negativeness.

The r for the direct method group is 0.5258 ± 0.1417 , showing a small degree of relation. The probable error is a little high for r . (Table LVII)

The significance of means is on Table LVIII.

TABLE LXV

INTELLIGENCE QUOTIENTS AS DERIVED FROM OTIS SELF-
ADMINISTERING TESTS OF MENTAL ABILITY (FORM C)
AND WRITER'S TEST IN COMPREHENSION OF FRENCH SENTENCES
AND ABILITY TO ANSWER THEM IN FRENCH

Grammar-Translation Group			Direct Method Group		
Pupil	I. Q.	Comprehension Scores	Pupil	I. Q.	Comprehension Scores
G 1	117.5	73	D 1	128	100
G 2	117.5	86	D 2	118	73
G 3	107	33	D 3	117	66
G 7	107	46	D 4	111	40
G 5	107	60	D 6	108	66
G 9	105.5	93	D 5	107	73
G 8	105	80	D 7	103	60
G 4	102.5	66	D 8	100.5	53
G 13	102	40	D 10	99.5	73
G 6	101.5	33	D 11	96.5	60
G 12	101.5	86	D 9	91.5	60
G 10	99.5	66	D 12	91.5	66
G 14	98	86	D 13	87.5	40
G 11	97	66			
Mean		65			64

Figure 17. Scores for Grammar-Translation Method and Direct Method groups in Writer's Test in Comprehension given at end of second semester. Data taken from Table LXV. The comprehension test works rather to the disadvantage of the direct method group. If there is any one time that this method should show an advantage, it would be in the ability to comprehend French and to answer in French. The grammar-translation group appear to be slightly superior in this achievement as measured by the test given and the computation in this Table LXVIII shows that one may expect this difference to be significant.

— Direct
— Grammar-Translation

TABLE LXVI

COMPUTATION OF CORRELATION OF INTELLIGENCE QUOTIENTS AS
DERIVED FROM OTIS SELF-ADMINISTERING TESTS OF MENTAL
ABILITY (FORM C) AND WRITER'S TEST IN COMPREHEN-
SION AT END OF SECOND SEMESTER

Grammar-Translation Group

Pupil	Rank in Test Scores	Rank of I. Q.	D	D ²
G 9	1	6	5	25
G 2	3	1.5	1.5	2.25
G 12	3	10.5	7.5	56.25
G 14	3	13	10	100
G 8	5	7	2	4
G 1	6	1.5	4.5	20.25
G 10	8	12	4	16
G 11	8	14	6	36
G 4	8	8	0	0
G 5	10	5	5	25
G 7	11	3.5	7.5	56.25
G 13	12	9	3	9
G 3	13.5	3.5	10	100
G 6	13	10.5	3	9

N=14

$\Sigma D^2=459$

$p = -0.00879$

$r = -0.0092$

$PE_r = 0.1887$

$r = -0.0092 \pm 0.1887$

TABLE LXVII

COMPUTATION OF CORRELATION OF INTELLIGENCE QUOTIENTS AS
DERIVED FROM OTIS SELF-ADMINISTERING TESTS OF MENTAL
ABILITY (FORM C) AND WRITING TEST IN COMPREHEN-
SION AT END OF SECOND SEMESTER

Direct Method Group

Pupil	Rank in Test Scores	Rank of I. Q.	D	D ²
D 1	1	1	0	0
D 2	3	3	1	1
D 10	3	9	6	36
D 4	3	6	3	9
D 12	6	1.5	5.5	30.25
D 3	6	3	3	9
D 6	6	5	1	1
D 7	9	7	2	4
D 11	9	10	1	1
D 9	9	11.5	2.5	6.25
D 8	11	3	3	9
D 4	12.5	4	8.5	72.25
D 13	12.5	13	0.5	0.25

N=13

$\Sigma D^2=179$

$D=0.5082$

$r=0.5258$

$PE_r=0.1417$

$r=0.5258+0.1417$

TABLE LXVIII

SIGNIFICANCE OF THE DIFFERENCES IN MEANS OF DIRECT METHOD
AND GRAMMAR-TRANSLATION GROUPS IN WRITER'S TEST
IN COMPREHENSION AT END OF SECOND SEMESTER

G. T.=Grammar-Translation Group D=Direct Method Group

Group	$\bar{M} \pm PE_M$	Diff. in Means	In fa- vor of	PE_{Diff}	Ratio of Diff. to PE_{Diff}	Chances in 100 that true difference is signifi- cant
G. T.	65.6 ± 0.035	1.5	G. T.	0.0442	0.3393	58
D	64.1 ± 0.0275					

In the Comprehension test at the end of the second semester the difference of the means is 1.5 in favor of the grammar-translation group. The probable error of the difference is 0.0442. The significant ratio is 0.3393, which indicates that there are 58 chances in 100 of the difference being significant.

(VI). Discussion and Comparison of Scores on Writer's Test on Appreciation. A set of English questions based on the appreciation of the French language and on French life were **given** to the pupils. These were to be answered in English. The following phases of appreciation were used as bases for these questions:

1. Enjoyment (derived from knowledge).

(Sample: (1) What help do you get from your French in the meaning of English words and the interpretation of English passages? (2) What are the different classes constituting the French nation? (3) Do the peasants in France wear the same costume? (4) Are French people very proud of their traditions and of the great heritage of their past?)

2. Genuineness of taste.

(Sample: What attitude do you have toward next year's French?)

3. Aesthetic pleasure.

(Sample: (1) What is your reaction when you are able to understand French words and passages in songs and in the movies? (2) Do you enjoy speaking French with your fellow-students in everyday conversation?)

4. Mental growth.

(Sample: Do you detect any increasing ability to understand French words, written or spoken?)

All the possible answers were selected. These answers were scored by two persons, independently, and the average of the marks given by the two scorers was taken as a means

of comparison between the two groups.

The scores are shown in Table LXIX.

The average of the marks is 81.25 for the grammar-translation group and 94 for the direct method group, showing an advantage of 12 points for the direct method group. This difference is sufficiently large that a considerable point of advantage is scored for the direct method group.

TABLE LXIX

A COMPARATIVE STUDY OF SCORES OF GRAMMAR-TRANSLATION
AND DIRECT METHOD GROUPS ON WRITER'S INDIVIDUAL
TEST ON APPRECIATION

	Groups	Questions								Totals
		I				II	III		IV	
		A	B	C	D	A	A	B	A	
Miss C.	G. T.	11	11	7	11	9	13.5	13.5	9	85
	D	11	11	9	11	18	13.5	13.5	6	93
Mrs. P.	G. T.	11	11	9	9	9	13.5	6	9	77.5
	D	11	11	11	11	18	13.5	13.5	6	95
Totals for both graders	G. T.	22	22	16	20	18	27	19.5	18	162.5
	D	22	22	20	22	36	27	27	12	188
Average	G. T.	11	11	8	10	9	13.5	9.75	9	81.25
	D	11	11	10	11	18	13.5	13.5	6	94

IV. COMPARISON OF EXPERIMENTAL GROUPS AND CITY SCHOOLS

Through the courtesy of the Superintendent of City Schools the writer was permitted to give the Otis Self-Administering Test, Form C, and the American Council Beta French Tests, Forms B and A, to freshman groups in three city schools, which are designated as Schools X, Y, and Z, as further means of comparing results between the two methods in question.

In schools X and Y the pupils were taught by the grammar-translation method and in school Z the direct method was used.

The mean of the intelligence quotients for schools X and Y combined was 111, while the mean of intelligence quotients for the grammar-translation group of the Indiana State Training School was 104. The difference is 7. The intelligence quotients as derived from the Otis Self-Administering Tests of Mental Ability (Form C) and the American Council Beta French Tests, Form B and A, given at the end of the first and second semester to Schools X and Y are shown in Table LXX.

The mean of the intelligence quotients for school Z was 112, while the direct method group of the Indiana State Training School had a mean of 105, thus giving a difference of 7. The intelligence quotients and scores of the American Council Tests, Form B and A, for School Z are given in Table LXXI.

TABLE LXX

INTELLIGENCE QUOTIENTS AS DERIVED FROM OTIS SELF-
ADMINISTERING TESTS OF MENTAL ABILITY (FORM C)
AND AMERICAN COUNCIL BETA FRENCH TEST (FORM B)
AND (FORM A) AT END OF FIRST AND SECOND SEMESTERS
AT SCHOOLS X AND Y

Grammar-Translation Groups

Pupil	I. Q.	American Council Scores (Form B)	American Council Scores (Form A)
59	130	109	116
61	128	107	116
62	126	105	92
83	122		89
64	122	100	113
70	121	78	80
65	121	97	83
74	120	65	66
63	119	101	67
71	119	78	81
60	119	109	111
68	118	86	94
72	116	69	79
73	116	66	73
47	114	93	100
81	112	43	65
79	111	53	74
66	109	95	96
78	109	53	69
75	108	59	71
80	106	50	65
82	106	36	76
77	106	53	68
48	105	76	58
51	105	64	101
69	105	79	80
67	101	88	82
49	99	74	75
50	99	65	50
56	98	42	38
52	94	61	51
53	89	56	42
54	84	54	56

TABLE LXXI

INTELLIGENCE QUOTIENTS AS DERIVED FROM OTIS SELF-
ADMINISTERING TESTS OF MENTAL ABILITY (FORM C)
AND AMERICAN COUNCIL BETA FRENCH TEST (FORM B)
AND (FORM A) AT END OF FIRST AND SECOND SEMESTERS
AT SCHOOL Z

Direct Method Group

Pupil	I. Q.	American Council Scores (Form B)	American Council Scores (Form A)
34	121	77	79
33	118	82	58
30	115	108	106
28	115	127	129
42	114	51	84
36	111	68	71
31	110	94	91
35	110	75	74
29	109	108	108
32	109	91	99
38	107	65	74
43	104	47	49
46	102	86	86
37	101	66	115
39	98	61	70
40	94	58	53
44	92	41	67
45	91	37	106

It is interesting to notice that the difference in means between the intelligence quotients of schools X, Y, and Z and those of the experimental groups in the Teachers College Training School is in both cases, in favor of the former schools. From this we can deduct the fact that the pupils in schools X, Y, and Z were of higher mental ability as far as mental ability can be determined by such a test as the Otis Self-Administering Test.

The American Council Beta French Tests (Forms A and B) were given to schools X, Y, and Z at the same time that it was given to the experimental groups. In both groups it was administered at the end of the first semester and at the end of the second semester.

The comparison of the difference for the Beta French Test for schools X, Y, and Z and the experimental groups is found in Tables LXII and LXXIII.

DIFFERENCE IN SCORES ACHIEVED IN THE AMERICAN COUNCIL BETA FRENCH TEST (FORM B AND A) FOR SCHOOLS X, Y, AND Z AND GRAMMAR-TRANSLATION AND DIRECT METHOD GROUPS AS SHOWN IN TABLE LXXII

	Form B	Form A	Difference in Scores
X & Y	71.4	73.8	2.4
G. T.	64	81.7	17.7
Z	74.5	84.4	9.9
D	63.7	82.4	18.7

SIGNIFICANCE OF THE DIFFERENCES IN MEANS OF SCORES IN THE
AMERICAN COUNCIL BETA FRENCH TESTS (FORMS B AND A)
FOR SCHOOLS X, Y, AND Z AND GRAMMAR-TRANSLATION
AND DIRECT METHOD GROUPS AS SHOWN IN TABLE LXXXIII

Groups Com- pared	Diff. in Means		In Favor of on	
	Form B	Form A	Form B	Form A
X & Y-G. T.	7.37	7.91	X & Y	G. T.
Z-D	10.78	2.01	Z	Z

X & Y=Schools X and Y

G. T.=Grammar-Translation Method Group, State Training School

Z=School Z

D=Direct Method Group, State Training School

The difference in means of scores of schools X and Y and the grammar-translation group on Form B is 7.37 in favor of schools X and Y, while the difference in means of school Z and the direct method group is 10.78 for school Z.

The difference in means of the scores of schools X and Y on Form A is 7.91 in favor of the grammar-translation group. The difference of means of school Z and the direct method group is 2.01 in favor of school Z, which is taught by the direct method.

The above results coincide with the results obtained in the Training School in as much as the grammar-translation groups in all the schools involved show a higher degree of achievement at the end of the first semester.

At the end of the second semester the achievement of the direct method group is slightly greater according to the results shown; whereas school Z, where the direct method was used, and the direct method group of the Indiana State

Training School show a slight advantage over the grammar-translation groups.

V. CONCLUSIONS

From the techniques and procedures pursued in this study one arrives at the following conclusions. These conclusions are not offered as final. The writer hopes that further investigation by those interested in the study, development, and success of modern foreign language teaching in the United States will be undertaken in order to successfully solve the many problems existing today in the teaching of languages in the high school.

The following conclusions may be deduced in favor of the grammar-translation group. The average of the marks of the three class examinations given during the first semester indicate that the achievement of the pupils in the grammar-translation group was greater during the first semester than that of the pupils in the direct method group.

The American Council Beta French Test scores (Form B) coincide with the findings stated above as there is an advantage shown in the results of this test in favor of the grammar-translation group.

Also in the city schools the pupils of the grammar-translation groups seem to have achieved more during their first semester of study in French.

The results in Translation, Vocabulary, and Comprehension (of written questions) are clearly in favor of the grammar-translation group, although the correlation between intelligence quotients and test scores in these three tests is comparatively insignificant. The differ-

ence of means for the regular examinations is quite significant for this group.

In the following respects the direct method has the lead:

1. A higher degree of achievement was attained by the pupils of the direct method group during the second semester as shown by the average of the marks of the class examinations given during the second semester.

2. The American Council Beta French Test scores, (Form A), indicate the same results. The scores for the second semester show the progress of the direct method group. The pupils of the direct method group on the city schools seem to confirm the above statements as their marks are higher than those of the grammar-translation groups.

3. The direct method pupils seem to show better results on dictation at the end of the first semester.

4. The difference in Wann's First Year Achievement Test, although in favor of the direct method group, is too small to be considered of any great significance.

5. In the writer's Individual Test in Reading for Speed and Correct Pronunciation, although the correlation indicates a moderate degree of relationship, the difference in means is clearly in favor of the direct method group.

6. In the writer's Aural Comprehension Test, Dictation, and Appreciation Tests the difference is significantly in favor of the direct method group.

7. In the Grammar Tests, while the results show that both groups have reached just about the same degree

of achievement, the advantage is nevertheless in favor of the direct method group.

Concluding briefly, the grammar-translation method has the advantage of more concrete progress in the early stages, whereas the direct method students seem to achieve more at the end of their first year of study in French. One may also conclude that the direct method leads to a greater ability in reading than the grammar-translation method does.

Advantages for grammar-translation method:

1. Higher results during first semester
2. Higher results for
 - a. Translation
 - b. Vocabulary
 - c. Comprehension (written questions)

Advantages for direct method group:

1. Higher results during second semester
2. Higher results in
 - a. Dictation
 - b. Reading
 - c. Pronunciation
 - d. Aural Comprehension
 - e. Appreciation
 - f. Grammar

VI.

APPENDIX

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TABLE LXXIV

COEFFICIENTS OF CORRELATION BETWEEN AVERAGE OF
INTELLIGENCE QUOTIENTS AS DERIVED FROM OTIS
SELF-ADMINISTERING TESTS OF MENTAL ABILITY
(FORM C) AND SIXTEEN OTHER VARIABLES

Otis Intelligence Quotients correlated with:	Grammar-Translation Group			Direct Method Group		
	r	PE	N	r	PE	N
Iowa Placement Examination	0.18	0.1825	14	0.4856	0.14	13
Charter's Diagnostic Test	0.64	0.1096	14	0.7839	0.07	13
Pressey English Test	0.0067	0.1887	14	0.8491	0.05	13
Test on Dictation	0.24	0.177	14	0.5466	0.13	13
Examination First Semester	0.30	0.172912	14	0.6494	0.11	13
Examination Second Semester	0.13	0.1852	14	0.1632	0.19	13
Wann's Achievement Test	0.33	0.1678	14	0.6808	0.10	13
American Council Form B	0.02	0.1957	14	0.5522	0.13	13
American Council Form A	0.23	0.2218	14	0.764	0.08	13
Tests: Reading	0.13	0.1853	14	0.614	0.12	13
Aural Comprehension	0.37	0.1617	14	0.59	0.1265	13
Dictation	0.03	0.1885	14	0.4169	0.16	13
Grammar	0.59	0.1214	14	0.6237	0.11	13
Translation	0.25	0.176	14	0.5495	0.13	13
Vocabulary	0.44	0.1519	14	0.4688	0.15	13
Comprehension	0.009	0.1387	14	0.5258	0.14	13

EXAMINATION AT THE END OF 1ST SEMESTER

GRAMMAR-TRANSLATION METHOD

Jan. 29, 1931

I. (Question)

1. What are the endings of the er verbs in the present indicative? Give example.
2. Position of pronouns with reflexive verbs in the present imperative in positive and negative sentences. Example.
3. How do we form an interrogative sentence?
4. What is the peculiarity of ger verbs in the present indicative?

I. (Answer)

1. The endings of the er verbs in the present indicative are:

e	j'aime
ez	vous aimez
e	il aime
ons	nous aimons
ez	vous aimez
ent	ils aiment

2. The pronoun is placed before reflexive verbs in negative imperative sentences. e. g., ne vous en allez pas
The pronoun is placed after reflexive verbs in positive imperative sentences. e. g., allez-vous-en
3. We form an interrogative sentence by the use of any one of several interrogative words: est-ce que, qu'est-ce que; or by inverting the order as in avez-vous.
4. Ger verbs in the present indicative insert an e after the g in the first person plural in order to preserve the soft sound of the g. Thus:
je mange
vous mangez
il mange
nous mangeons
vous mangez
ils mangent

II. (Question)

Conjugate in the present indicative: pouvoir, se pencher, entendre, voir, sortir;

Conjugate in the past indefinite: écrire, lire.

Give the past participles of: avoir, dire, mettre.

II. (Answer)

je peux
vous pouvez
il peut
nous pouvons
vous pouvez
ils peuvent

je me penche
vous vous penchez
il se penche
nous nous penchons
vous vous penchez
ils se penchent

j'entends
vous entendez
il entend
nous entendons
vous entendez
ils entendent

je vois
vous voyez
il voit
nous voyons
vous voyez
ils voient

je sors
vous sortez
il sort
nous sortons
vous sortez
ils sortent

j'ai écrit
vous avez écrit
il a écrit
nous avons écrit
vous avez écrit
ils ont écrit

j'ai lu
vous avez lu
il a lu
nous avons lu
vous avez lu
ils ont lu

Past participles: eu, dit, mis.

III. (Question)

Translate:

1. The teacher writes the story of a bird.
2. In the forest there is a crow.
3. The crow has taken the cheese.
4. The old woman cries.
5. The cherries are red.

III. (Answer)

1. La maîtresse écrit l'histoire d'un oiseau.
2. Dans la forêt il y a un corbeau.
3. Le corbeau a pris la fromage.
4. La vieille femme crie.
5. Les cerises sont rouges.

IV; (Question)

Dictée:

La Leçon D'Ecriture

Si vous voulez bien écrire, prenez une bonne plume, placez bien votre cahier devant vous, tenez bien votre plume et écrivez lentement. Tenez votre plume comme Eugène qui écrit très bien; son écriture est grosse et droite et très lisible. Il ne faut pas tenir votre plume comme Jules; voici comment il tient sa plume, et il écrit beaucoup trop vite; son écriture est fine et trop penchée.

EXAMINATION AT THE END OF 1ST SEMESTER

DIRECT METHOD

Jan. 29, 1931

I. (Question)

Conjuguez: se coucher, voir, tenir, sortir, pouvoir, au présent de l'indicatif.

I. (Answer)

je me couche	je tiens	je sors
vous vous couchez	vous tenez	vous sortez
il se couche	il tient	il sort
nous nous couchons	nous tenons	nous sortons
vous vous couchez	vous tenez	vous sortez
ils se couchent	ils tiennent	ils sortent
je peux	je vois	
vous pouvez	vous voyez	
il peut	il voit	
nous pouvons	nous voyons	
vous pouvez	vous voyez	
ils peuvent	ils voient	

II. (Question)

Participe passé de: fermer, écrire, dire, mettre, faire.

Passe indéfini de: comprendre, entendre, casser.

Futur de: réciter.

Futur antérieur de: dire.

II. (Answer)

Participe passé: forme, écrit, dit, mis, fait.

Passe indéfini: compris, entendu, cassé.

Futur de: je réciterai
vous récitez
il récitera
nous réciterons
vous récitez
ils réciteront

Futur antérieur: j'aurai lu
vous aurez lu
il aura lu
vous aurez lu
nous aurons lu
ils auront lu

III. (Question)

1. Qu'est-ce que c'est qu'un bavard?
2. Portez-vous des lunettes?
3. Que signifie repasser?
4. Combien faut-il de secondes pour faire une minute?
5. Quel est le contraire de: ancien?

III. (Answer)

1. Un bavard est une personne qui parle tout le temps.
2. Qui or non.
3. Repasser veut dire: relire, répéter ce qu'un a appris.
4. Il faut soixante secondes pour faire une minute.
5. Nouveau.

IV. (Question)

Donnez le féminin de: long, court, gras, facile, lisible.
Faites accorder les adjectifs et les participes passés:

1. Jeanne et Marie sont (assis).
2. Eugénie n'est pas (distrain) en classe.
3. Voici une faute qui n'est pas (souligné).
4. La boîte est (fermé).
5. Leurs mains sont (levé).

IV. (Answer)

Le féminin: longue, courte, grasse, facile, lisible.
Les adjectifs:

1. Jeanne et Marie sont assises.
2. Eugénie n'est pas distrain en classe.
3. Voici une faute qui n'est pas soulignée.
4. La boîte est fermée.
5. Leurs mains sont levées.

V. (Question)

Dictee:

V. (Answer)

La Leçon D'Ecriture

Si vous voulez bien écrire, prenez une bonne plume, placez bien votre cahier devant vous, tenez bien votre plume et écrivez lentement. Tenez votre plume comme Eugène, qui écrit très bien; son écriture est grosse et droite et très lisible. Il ne faut pas tenir votre plume comme Jules; voici comment il tient sa plume, et il écrit beaucoup trop vite; son écriture est fine et trop penchée.

TEST IN READING FOR SPEED AND CORRECT PRONUNCIATION

LE PETIT CHAPERON ROUGE

Il y avait une fois une petite fille de village qui était très jolie; sa mère en était folle et sa grand'mère plus folle encore. Cette bonne femme lui fait faire un petit chaperon rouge qui lui allait si bien que partout on l'appelait le petit Chaperon Rouge.

Un jour, sa mère ayant fait des galettes lui dit: Va voir comment se porte ta grand'mère, car on m'a dit qu'elle était malade. Porte-lui une galette et ce petit pot de beurre.

Le petit Chaperon Rouge partit aussitôt pour aller chez sa grand'mère qui demeurait dans un village voisin. En passant dans un bois, elle rencontra compère Loup qui eut bien envie de la manger, mais il n'osa pas à cause de quelques bûcherons qui étaient dans la forêt. Il lui demanda où elle allait; La pauvre enfant, qui ne savait pas que il était dangereux de s'arrêter à écouter un loup, lui dit:

Je vais voir ma grand'mère et lui porter une galette avec un pot de beurre que ma mère lui envoie.

Demeure-t-elle bien loin? lui demanda le loup.

Oh! oui, dit le petit Chaperon Rouge; c'est au delà du moulin que vous voyez là-bas, là-bas à la première maison du village.

Eh bien! dit le loup, je veux aller la voir aussi; je m'en vais par ce chemin-ci, et toi par ce chemin-là, et nous verrons qui arrivera le premier.

Le loup se mit à courir de toute sa force par le chemin le plus court, et la petite fille s'en alla par le chemin le plus long, s'amusant à cueillir des noisettes, à courir après les papillons, et à faire des bouquets de petites fleurs qu'elle rencontrait.

Le loup ne fut pas longtemps à arriver à la maison de la grand'mère; il frappe: toc, toc.

Qui est là?

C'est votre petite-fille, le petit Chaperon Rouge, répondit le loup en contrefaisant sa voix, qui vous apporte une galette et un petit pot de beurre que ma mère vous envoie.

La bonne grand'mère qui était dans son lit, parce qu'elle était malade, lui cria:

Tire la cheville et la porte s'ouvrira.

Le loup tira la cheville et la porte s'ouvrit. Il se jeta sur la bonne femme et la dévora en moins de rien; car il y avait plus de trois jours qu'il n'avait pas mangé. Ensuite il ferma la porte et alla se coucher dans le lit de la grand'mère, en attendant le petit Chaperon Rouge, qui, quelque temps après, vint frapper à la porte: toc, toc.

Qui est là?

Le petit Chaperon Rouge, qui entendit la grosse voix du loup, eut peur d'abord, mais, croyant que sa grand'mère était enrhumée, répondit.

C'est votre petite-fille, le petit Chaperon Rouge qui vous apporte une galette et un petit pot de beurre que ma mère vous envoie.

AURAL COMPREHENSION TEST

Questions on the oral comprehension test to be answered in complete sentences in English. Each question to be read twice.

J'ai une lettre à écrire. Je prends une feuille de papier à lettre et je la pose devant moi sur la table. Je prends une porte-plume, je trempe ma plume dans l'encre et j'écris. Je sèche l'écriture avec du papier buvard. Je prends une enveloppe, je l'ouvre, je plie ma lettre en deux, je la glisse dans l'enveloppe, je ferme l'enveloppe, et j'écris l'adresse. Je colle un timbre dans le coin supérieur de l'enveloppe et je jette la lettre dans la boîte aux lettres.

1. What have I to do?
2. In order to write, what do I take?
3. What do I use to dry my writing?
4. When I finish my letter, what do I do?
5. After I seal the envelope, what do I do?

Questions on the aural comprehension test to be answered in complete sentences in French. Each question to be read twice.

Le Chat et Le Rat

Un rat sort de son trou; il court dans sa chambre. Le chat est couché dans un coin; il aperçoit le rat. Il se relève sans bruit; il bondit sur lui. Le rat crie; le chat le laisse s'échapper. Il court bien vite vers son trou, mais le chat le rattrape, et le mange. Pauvre petit rat!

1. Que fait le rat?
2. Où est le chat?
3. Que fait le chat quand il voit le rat?
4. Quand le rat crie, que fait le chat?
5. Pourquoi est-ce que le chat n'entre pas dans son trou?

DICTATION

Read the sentences twice. No questions.

Ce canif ne m'appartient pas; mais il est joli, et je veux le garder; je le mets dans ma poche. Eugénie, ce livre-là n'est pas à vous, c'est le mien; cette règle est la mienne. Lucie, apportez-moi votre cahier et celui de Marie. Votre dessin est meilleur que le sien; allez à votre place. Montrez-moi vos mains; Julie, les vôtres sont sales, les siennes sont propres. (72 words.)

COMPREHENSION

Complete sentences will be required in your answers.

1. Est-ce qu'il y a une casquette sur mon bureau?
2. Est-ce qu'il y a une carte de France dans notre classe de français?
3. Aimez-vous votre nouveau livre de français, "Les Aventures de la Famille Gauthier"?
4. Avez-vous des gâteaux dans votre poche?
5. Quelles sont les trois couleurs du drapeau français?
6. Comment vous appelez-vous?
7. Portez-vous des lunettes?
8. Est-ce que vos mains sont toujours propres?
9. Que met-on par-dessus son habit?
10. Est-ce que vous chantez bien?
11. Savez-vous une chanson française?
12. Avez-vous quelquefois mal aux dents?
13. Donnez le féminin de "boiteux;"
14. Quel est le contraire de "large"?
15. Est-ce qu'il fait beau temps aujourd'hui?

TEST ON GRAMMAR, COMPREHENSION, AND VOCABULARY

1. Je n'ai pas _____ papier bleu.
2. Nous avons _____ (our) crayons; ils ont _____ (theirs).
3. Je cherche le livre. (Remplacez par un pronom.)
4. Je donne la plume à Jean. " " " "
5. Nous donnons des crayons à Marie. " " "

Traduire en français:

1. We have French exercises every day.
2. Your house is white and green.
3. The picture represents a French class.
4. This little girl is wearing a coat and a hat.
5. I gave my pencil to my sister.

VOCABULARY

English:	French:
1. diligent	1. le dessin
2. lazy	2. le plaisir
3. absent-minded	3. la fille
4. attentive	4. le neveu
5. difficult	5. la maison
6. the necktie	6. la santé
7. to comb	7. la gorge
8. the knee	8. la corde
9. a gown	9. un oiseau
10. a shoe	10. la cour

APPRECIATION

Written questions:

1. What help do you get from your French in the meaning of English words and the interpretation of English passages?
2. What is your reaction when you are able to understand French words and passages in songs and in the movies?
3. Do you detect any increasing ability to understand French words, written or spoken?
4. Do you enjoy speaking French with your fellow-students in everyday conversation?
5. What attitude do you have toward next year's French?
6. What are the different classes which constitute the French nation?
7. Do peasants in France wear the same costume?
8. Are French people very proud of their traditions and of the great heritage of their past?

Key , AURAL COMPREHENSION TEST

1. J'ai une lettre à écrire.
 2. Je prends une feuille de papier à lettre et une porte-plume et de l'encre.
 3. Je sèche l'écriture avec du papier buvard.
 4. Je prends une enveloppe, je l'ouvre, je plie ma lettre en deux, je la glisse dans l'enveloppe, je ferme l'enveloppe, et j'écris l'adresse.
 5. Je colle un timbre dans le coin supérieur de l'enveloppe et je jette la lettre dans la boîte aux lettres.
-
1. Le rat sort de son trou; il court dans la chambre.
 2. Le chat est couché dans un coin.
 3. Il se relève sans bruit; il bondit sur lui.
 4. Le chat le laisse s'échapper.
 5. Le rat n'entre pas dans son trou parce que le chat le mange.

COMPREHENSION

1. Oui, il y a une casquette sur mon bureau.
Non, il n'y a pas de casquette sur mon bureau.
2. Oui ou non.
3. Oui, j'aime mon nouveau livre de français.
Non, je n'aime pas mon nouveau livre de français.
4. Non, je n'ai pas de gâteaux dans ma poche.
Oui, j'ai des gâteaux dans ma poche.
5. Les trois couleurs du drapeau français sont rouge, blanc, et bleu.
6. Je m'appelle Madame Peters.
7. Non, je ne porte pas de lunettes.
Oui, je porte des lunettes.
8. Non, mes mains ne sont pas toujours propres.
Oui, mes mains sont toujours propres.
9. Par-dessus son habit on met un manteau.
10. Oui, je chante bien.
Non, je ne chante pas bien.
11. Oui, je sais une chanson française.
Non, je ne sais pas de chanson française.
12. Non, je n'ai pas mal aux dents.
Oui, j'ai quelquefois mal aux dents.
13. Le féminin de "boîteux" est "boiteuse."
14. Le contraire de "large" est "étroit."
15. Oui, il fait beau temps aujourd'hui.
16. Non, il ne fait pas beau temps aujourd'hui.

TEST ON GRAMMAR, COMPREHENSION, AND VOCABULARY

1. Je n'ai pas de papier bleu.
2. Nous savons nos crayons; ils ont les leurs.
3. Je le cherche.
4. Je la lui donne.
5. Nous lui en donnons.

1. Nous avons des exercices français tous les jours.
2. Votre maison est blanche et verte.
3. Votre gravure représente une classe de français.
4. Cette petite fille porte un manteau et un chapeau.
5. J'ai donné mon crayon à ma sœur.

VOCABULARY

English:

1. The drawing
2. The pleasure
3. The girl
4. The nephew
5. The house
6. The health
7. The throat
8. The rope
9. A bird
10. The schoolyard

French:

1. Diligent
2. Paresseux
3. Distract
4. Attentif
5. Difficile
6. La cravate
7. Peigner
8. Le genou
9. Une robe
10. Un soulier

APPRECIATION

1. Enjoyment (that comes from knowledge.)
 A. What help do you get from your French in the meaning of English words and the interpretation of English passages?

Direct

1. French helps me to understand new words which I meet in English. By that I mean that the English words derived from French words are of a larger number in my vocabulary than before I took French.
2. I get help from my French because when I read books there are usually several French words in it and several English words derived from the French.
3. Unless there is a French word in the passage I get practically no help at all.
4. It helps me to understand words and passages that I have had difficulty with.
5. I understand English grammar better since I have taken French.
6. When the word in English and in French look something alike it helps me to remember them. Also the phrases I say out of class a lot and remember them that way.
7. It has been a great help to me in my English because of the conjugations.

Indirect

1. There are many French words that are the same or which have some likenesses of English words and the derivation is often helpful in English.
2. If you have a word like "diligent", which means diligent or to work diligently, it helps you. Before I took French I did not know what it meant, but now I do.
3. French has helped me in the meaning of English words and the interpretation of English passages and also in conjugations. By taking such things up in a different language than English many points are cleared up better than if they were studied in English.

- B. What are the different classes constituting the French nation?

Direct

1. The different classes constituting the French nation are: peasants (poorer type of people), the middle class (who do different trades), and the noblemen (people of good standing who are in the professions or of "good standing").

Indirect

1. The classes are high, middle, and peasants.
2. The different classes of people are the peasants, middle class, the aristocrats.

2. The classes I know of in France are the peasant, the middle, and the nobility.
3. The noble or rich, the merchant, and the peasant.
4. Nobles, peasants and middle or common people.
5. The different classes are: peasants, middle class, and nobles.
6. The French classes are: peasants, middle class, and nobles.

C. Do the peasants in France wear the same costume?

Direct

1. No, peasants in France don't wear the same costume as the others in France because in the southern part of France they wear much different costumes than in Brittany or northern France.
2. No, they dress bright on sabbath and holidays but only poorly on week days.
3. The peasants dress very similarly. Of course now they are gradually adopting the American dress. The peasant dress consists of bright colors over black and laces. The men wear dark clothes. The children wear bright colors. The majority of the peasants wear wooden shoes.

Indirect

1. The peasants in France and some of the people wear the old costumes and others dress modern.
2. No, the peasants wear practically the same costumes their ancestors did, while the other classes dress more modern. They wear more modern clothes.
3. Not all the people of France wear the same kind of costume; peasants wear large, colorful skirts, wooden shoes, etc., and the better class dress like we do.

D. Are French people very proud of their traditions and of the great heritage of their past?

Direct

1. If they aren't they should be, because French, I think, is the most noted language in the world.
2. Yes, the people in France are very proud of their traditions of great heritage because they had great people in their country such as Napoleon Bonaparte,

Indirect

1. They are very proud of their country. They love their country and would fight to hold it in case of invasion.
2. They are a nation that thinks very much of their country and pay much tribute and show love and gratitude toward their country.

Lafayette, and have had great kings, also many wise men who helped improve their country in many ways. So there is no wonder that the French people are proud of their past and their present.

3. Yes, a Frenchman speaks almost as well of his country as a Britainer speaks of his.
4. French people, as a rule, are very patriotic, and never tire of talking about the glories of France.
5. The noblemen are proud of their traditions and of their heritage more so than the peasants. France, however, does not compare with England in this respect.

3. They are very proud of their traditions and of the great heritage of their past as they save one day each year in honor of Joan of Arc, etc.

4. If they are not, they ought to be, because of Joan of Arc and all of the great wars they have won and great men and women who were born in France and died there.
5. Yes, the French people are proud. This is proved by the fact that the peasants wear the same costumes as their ancestors. It is a custom!

II. Genuineness of taste.

A. What attitude do you have toward next year's French?

Direct

1. I look toward next year's French as a great pleasure and opportunity. I hope to be able to know all I can about French during my second year of French, so that I will be able to carry on a good conversation with other people.
2. Next year I want to take French and I feel that I want to start out better with a better understanding than I did this year. I know how interesting it is and feel that it will be more so next year. Also I want to keep one notebook just for my French.
3. I think that next year's French will be much more interesting than this year's has been, because of the more advanced fields it goes into.
4. I am not too anxious because French is too hard for me to write and if I have to express my idea about anything in French, I can hardly do it. As next year's French is composition work, I guess I will just naturally have to work hard.

Indirect

1. I am going to try harder for my next year's French class. I love it and want to do something in it later on. I was surprised to find when I first took it up how easy the subject was.
2. I want to go ahead and finish my next year's work because I like it better than I would Latin.
3. I'm interested in taking French again next year and feel that I'll be able to do more because I have a start in the course.
4. I want to take French next year and try my best to do better in it.

Dad always said to me
that if you say can't do a
thing it holds you back from doing
it.

5. I am extremely interested in taking French next year.
6. I want to take French very much next year because I like it and I feel as if I have learned a lot in French already.
7. Well, most second year French students say second year French is hard. But I like French so well that I have a feeling it won't be hard.
8. I am looking forward to it with pleasure, because I would like to speak French fairly well.

III. Pleasure(feeling).

A. What is your reaction when you are able to understand French words and passages in songs and in the movies?

Direct

1. I feel like I know a little more than what I used to and that it is much fun to translate it or just think the French.
2. I feel proud to think that I can understand the words and the people sitting around me in a movie cannot understand it.
3. It makes the song or picture more pleasing to know and understand the French word or phrase.
4. It is interesting to me to be able to understand French, and there is a great deal of satisfaction in getting a return for the work put in.
5. I am proud of myself to know that I have conquered at last that most of a foreign language. It seems as if my standing (as to knowledge) is better when I am able to understand. I also get a certain thrill.
6. When I am able to understand French words and passages in songs and in the movies, it makes me feel sort of proud and glad that I have taken French.

Indirect

1. I feel very much interested in the drama or movie when there is some French in it and it often attracts my attention, although with one year of French I can make very little of it out as fast as they speak it.
2. You feel superior to other people that don't know what the movies are saying.
3. My reaction is a feeling of knowledge, of thinking that I can understand such things and this makes me feel as if I might be advancing in the work. In other words it gives me a feeling of eagerness to be able to understand things later on in reading, etc.
4. My reaction is a quick, pleasant sensation. It makes you proud of yourself.
5. It makes me feel as if I have learned something when I see a French word in a picture show and can translate the word and know what it means. I enjoy the show more.

6. When I hear a French passage at a picture show and someone asks me if I know what the person is saying or if I hear someone say, "I wish I knew what he is saying", I get a lot of satisfaction in letting them know what he is saying.
7. When I see French passages in songs and hear them in the movies, I feel as if I am learning something after all in French. I am rather thrilled sometimes.
8. I become "swelled-up" on myself and think I have accomplished something.

B. Do you enjoy speaking French with your fellow-students in every day conversation?

Direct

1. Yes, I do. I think it great sport to see if I know more words than the other person in a conversation.
2. Yes, I do. I often catch myself saying "oui", "non", "merci", "s'il vous plaît" around the house.
3. Yes, another girl and I speak French altogether when we are alone--that is when it's possible.
4. Yes. We say many phrases we learn in French when they are connected with what we have to say in English. At home I have told my parents some of them and they say them, too. Whenever I learn a new one I put it into use so I won't forget it.

Indirect

1. I enjoy speaking French very much with people around me although it often takes a long time to think of how to say it. I often talk it with people.

IV. Growth (mental)

A. Do you detect any increasing ability to understand French words, written or spoken?

Direct

1. Yes, the longer and more French I study the more interested I am and the more I understand it.
2. Yes, I can always detect an improvement as time goes on. I can usually see progress by

Indirect

1. Yes, I seem to be able to talk and to understand and translate French better than at the first of this year.
2. Yes, there is a boy at our house who can talk French

and I understand what he says and the first of the year I could not understand what he was talking about.

3. Yes, the first morning that I came into the class, I thought to myself, "I'll never be able to understand this stuff;" but now I can understand it much better even if it did take a little work.
4. Yes, I can feel that when a person talks French to me, the words don't run together like they used to do.

Pupil No.	1*	2*	3*	4*	5*	6*	7*	8*	9*	10*	11*	12*	13*	14*	15*	16*	Composite Rank
G 1	1.5	5	10.5	2	5	4	2	11	5	4	8	3	5	8.5	6.5	6	3
G 2	1.5	4	6	2	1	2	3	1.5	2	2	1	6	2	2	2.5	3	1
G 3	2.5	2	9	11	4	11	12	6	6	6	6	3	8	11	4.5	13.5	2
G 7	2.5	10	14	13.5	14	12.5	13	12	14	12	10	10.5	2	3.5	6.5	11	13
G 5	3	7.5	13	9.5	11	7	5	13	10	12	9	6	10	8.5	12.5	10	10
G 9	4	11	8	12	3	3	9	3	4	3	4	10.5	2	5	2.5	1	4
G 8	5	13	12	13.5	10	14	7	6	11	8.5	12	10.5	12.5	10	10	5	12
G 4	6	8	6	4	8	9	8	9.5	9	5	5	3	5	7	8	8	5
G 13	7	7.5	3.5	5	7	9	11	6	7	10	11	10.5	12.5	14	4.5	12	9
G 6	8.5	14	6	6.5	13	12.5	1	14	12	7	13	14	5	3.5	14	13.5	11
G 12	8.5	9	10.5	2	2	1	6	1.5	1	1	3.5	1	8	1	1	3	2
G 10	9	1	1	9.5	9	9	4	11	8	12	3.5	6	12.5	12	12.5	8	8
G 14	10	3	6.5	6	6	6	10	8	3	8.5	2	10.5	8	6	10	3	6
G 11	11	12	3.5	8	12	5		9.5	13	14	7	10.5	12.5	13	10	8	14

1* Otis Self-Administering Test (Form C)

2* Iowa Placement

3* Charter's Diagnostic Language

4* Pressey English

5* Average of First Semester

6* Dictation Scores

7* American Council Beta French (Form B)

8* Wann's First Year French Achievement Test

9* Average of Second Semester

10* American Council Beta French (Form A)

11* Reading Test for Speed and Pronunciation

12* Aural Comprehension

13* Grammar

14* Translation

15* Vocabulary

16* Comprehension

Pupil No.	1*	2*	3*	4*	5*	6*	7*	8*	9*	10*	11*	12*	13*	14*	15*	16*	Composite Rank
D 1	1	6	3	2	1	1	1	1	1	1	3	2.5	1	1	1	1	1
D 2	2	4	2	3.5	3	11		3.5	3		4	2.5	2	6.5	3.5	3	2
D 3	3	1	1	1	4	3	3	3.5	9	2	5.5	1	8.5	4.5	3.5	5.5	3
D 4	4	13	9.5	7	7	12	5	6	12	3	7	5	8.5	12	6.5	12.5	9
D 6	5	9.5	8	5.5	8	4	7	10.5	13	8	5.5	11	4.5	3	10	10	6.5
D 5	6	3	4		2	2	2	2	2	4	6	11	4.5	9	5	3	44
D 7	7	5	6.5	5.5	12	5	11	9	10	12	1	5	8.5	2	12.5	8	8
D 8	8	2	5	9	6	6.5	8	5	6	7	8	11	8.5	4.5	8	11	5
D 10	9	8	11	3.5	10	8	6	10.5	7	5	9	11	8.5	6.5	10	3	6.5
D 11	10	7	6.5	8	13	9.5	13	12	8	10	2	7.5	12.5	10	10	8	112
D 9	11.5	11.5	9.5	12	11	9.5	4	8	5	11	10	7.5	3	13	12.5	8	10
D 12	11.5	11.5	13	10.5	5	13	12	13	11	13	12	5	8.5	11	2	5.5	13
D 13	12	9.5	12	10.5	9	6.5	10	7	6	9	11	11	12.5	8	6.5	12.5	11

1* Otis Self-Administering Test (Form C)

2* Iowa Placement

3* Charter's Diagnostic Language

4* Friesey English

5* Average of First Semester

6* Dictation Scores

7* American Council Beta French (Form B)

8* Wann's First Year French Achievement Test

9* Average of Second Semester

10* American Council Beta French (Form A)

11* Reading Test for Speed and Pronunciation

12* Aural Comprehension

13* Grammar

14* Translation

15* Vocabulary

16* Comprehension