

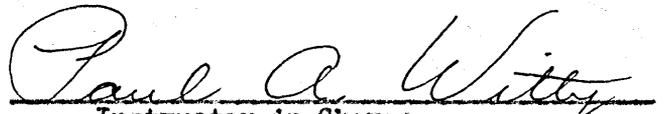
A STUDY OF THE EFFECTIVENESS OF TWO  
METHODS OF TEACHING PUNCTUATION

by

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A STUDY OF THE EFFECTIVENESS OF TWO  
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CHAPTER I

INTRODUCTION AND STATEMENT OF THE PROBLEM

"High school and college students are notoriously lacking in ability to punctuate properly." "I was occasionally exposed to punctuation-- but it did not take," facetiously but truthfully wrote a college student. Many statements of these kinds which the writer has read, led her to study punctuation.

This study sought to determine the relative efficiency of specific drills, and a deductive method of teaching in improving punctuation ability.

The writer found from rather extensive reading that the problem had provoked much discussion and writing.

"A very successful teacher of English and writer of textbooks says in a recently published address that in order to set up in our children habits of correctness in language 'we must devote five or ten minutes of nearly every recitation period to habit-forming drill--drill in spelling, in punctuation; in sentence analysis, construction, and manipulation; in the correction of common errors; in clear interpretation of

brief extracts; in planning and in thinking.' This proposal should provoke torrents of discussion, for it agrees neither with the practice of the conservatives nor with the theory of the progressives.<sup>1</sup>

In the last paragraph of the above quotation the writer said, "The pitiful thing is that nobody knows. The conservatives, the radicals, the distinguished gentlemen we have quoted, all have their opinions. Is it not time that someone set about settling this question by measured experiment?"

With the belief that the pupils in our classrooms should get the most for their time, and that it behooves us to make sure that the methods we employ are the most efficient that can be used under existing circumstances, and with a hope that scientific measurement may prove whether or not one method of teaching is more successful than the other, the author was led to this experiment.

#### Questions to Be Answered

It seemed to the writer that a possible solution of the above problem would be revealed in the answers to two pertinent questions:

1. Which of the two methods as shown by quantitative results seemed to lead most effectively to the

1. Editorial, The English Journal, Vol. 11, pp. 251-252.

2  
mastery of punctuation?

2. Which plan required the greater amount of time for the teacher outside the classroom?

2. The special methods are discussed in detail in Chapter III.

## CHAPTER II

## RELATED LITERATURE

From a review of the related literature dealing with punctuation, the writer found little reliable scientific study. In some investigations, dealing with the general subject of English compositions, punctuation has had a place in the study. These studies will be noted later.

In an article in the English Journal, May, 1924, entitled "A Statistical Study of Correct Usage in Punctuation," Helen Ruhlen and S. L. Pressey explained an experiment on which they had been working. The purpose of their study was to make a comparative evaluation of the various rules for punctuation.

The study consisted of a systematic report of all the punctuation found in one hundred business letters, and fifty professional letters received by one of the writers; and one issue each of magazines selected as representatives of the best current publications. Every tenth page of the magazines was studied. Of the newspapers, the front page only was gone over, as the part of the newspaper which is read most frequently. In examining the business letters, heading and complimentary close were omitted. "A grand total of 36,638 words were gone over, about the same amount of matter (approximately 12,000 words) for each type of material."

Usages were classified after careful study of handbooks in English composition and the total number of cases of each

usage for each of the three types of written work was summed.

The authors found that (in the mere matter of number of punctuation marks used) eighty-seven per cent, or about seven-eighths of all the marks used, were either periods or commas. These two marks were used with about equal frequency.

Detailed study of the frequency of various usages of punctuation marks revealed the fact that conspicuously few appear to be of major importance, while many, now commonly taught, are of little value in ordinary written work.

In the broader field of English composition more experiments have been conducted. George P. Wilson, of the University of Wisconsin, felt so seriously the weakness of high school graduates in the fundamental mechanics of English that he gave a questionnaire during the first semester of 1920 to seventy-four freshmen at the University of Wisconsin. The data were collected from sixty students only since the answers of twelve students were so general as not to be relied upon for accurate information.

Among the questions<sup>1</sup> which were asked in the questionnaire, four are of special significance to the present problem.

1. "Which did your teacher stress more, the thought of your composition or the mechanics? Discuss.

2. Was it the policy of your high school to demand

1. Wilson, George P. "What is Wrong with High School English?" The English Journal, Vol. 11, (June, 1922). p. 356.

of the student a fair degree of accuracy in mechanics before credit was given for English courses? Discuss.

3. What do you regard as your greatest weakness in freshman English? Discuss.

4. How do you account for this defect? Discuss."<sup>2</sup>

Further information was obtained in personal conferences with the sixty students.

As a result of his investigation, George Wilson concluded:

1. That 100 per cent of the students who received "F" (failure) were so graded primarily because of weak mechanics,

2. That students taught by high school teachers who stressed mechanics, made higher college grades than did those whose teachers stressed the thought of themes,

3. That the students who spent most time on composition received the best college grades with the exception of the three "A" students who were unusually intelligent.

At Northwestern High School, Detoit, the Committee on Examinations of the National Council of Teachers of English gave a standardized test (the Briggs English Form Test), in September, 1921, to determine the children's status in certain aspects of English usage. Tests were given also in punctuation, spelling, composition, and general intelligence.

2. Wilson, George P. "What is Wrong with High School English?" The English Journal, Vol. 11, (June, 1922). p. 356.

In order to make the plan a constructive one, it was decided that an analysis of all data should be carefully made, test results interpreted, remedial work planned, and tests given later to determine the effectiveness of the remedial work. Both initial and final tests in punctuation and in spelling were given, and every child was informed that this was being done in order that every one might check his progress.

The following errors occurred most frequently:

1. The apostrophe of possession (7,347 errors).
2. The comma before "but" co-ordinating the members of a compound sentence (3,385 errors).
3. The terminal interrogation point (1,428 errors).
4. The terminal period (535 errors).

The June test showed a marked improvement over the February test. A decline in per cent of error in every grade group indicated progress from February to June. The total drop in per cent of error from Grade IX, February, to Grade XII, February was 8.53%, whereas the drop in per cent of error from Grade IX, February, to Grade XII, June, was 15.54%. The drop in per cent of error in Grade IX, from February to June, was 7.47%; the drop in per cent of error in Grade X, from February to June, was 8.96%; in Grade XI, 6.05%; and in Grade XII, 7.01%.<sup>3</sup>

As a result of this investigation, definite teaching of punctuation is required in grades nine to twelve inclusive of

3. Certain, C. C. "The Briggs Form Test in Use," The English Journal, Vol. 12, (April, 1923). Pp. 255-256.

Northwestern High School.

In a report on the "Minimal Essentials in Elementary Language and Grammar," W. W. Charters gave a classification of several studies of the language errors of children. Eight were studies of oral errors and four of written errors.

One of these was a survey made by Annette Betz and Esther Marshall of the written errors of children of the third grade of Kansas City, Missouri. The entire list of errors was divided into three parts and classified as follows: (1) punctuation, (2) language, and (3) grammar.

As a result of their study, the authors found that "fifty-five per cent of all errors found were errors in punctuation; twenty-two per cent of all errors found were errors in the use of capitals; four per cent of all errors found were caused by the capitalization of common nouns, and so forth."<sup>4</sup>

Another study reported by Mr. Charters was the one in Kansas City made by him and Edith Miller. "It was supplemented," Mr. Charters said, "by a study of 11,000 oral grammatical errors of children in the schools of Detroit collected by S. A. Courtis and classified in the laboratories of the University of Missouri; by a study of the oral and written errors of the school children of Bonham, Texas, by Superintendent H. D. Fillers and corps; and by a study of the oral errors in the Columbia, Missouri, schools

4. Charters, W. W. "Minimal Essentials in Elementary Language and Grammar," The Sixteenth Yearbook of the N. S. S. E., Part I. p. 98.

by J. K. Jones."<sup>5</sup>

All of the investigators used the same procedure. The oral grammatical errors were collected by teachers for a week. All errors heard in the schoolrooms and in the school buildings were supposed to be recorded. All papers, except dictated exercises, written during one month in the grades of Kansas City were preserved. In Kansas City the written errors were collected from 5,000 pages. These studies found that forty per cent of the errors were in punctuation.

The first Kansas City investigation resulted in a course of study based upon the errors found in that city. In a discussion of the items to be included in the Kansas City course of study based upon grammatical errors, the author wrote:

"Every sentence must be followed by some mark of punctuation, an exclamation point, a period, or an interrogation point. The exclamatory type of sentence may be disregarded, as no examples were found. The kind of sentence that asks a question is called interrogative, and is followed by an interrogation point; and all others that the children used are followed by a period. Thirty per cent of the written errors were made because of the failure to put into practice this simple rule. The third type of sentence --the one that asks a question-- is followed by an interrogation point. As there are bound to be fewer sentences of this type, we naturally have a far lower percentage here. But usually when

5. Charters, W. W. "Minimal Essentials in Elementary Language and Grammar," Op. cit. p. 100.

this type of sentence does occur, it is punctuated incorrectly."<sup>6</sup>

In a comment made at the close of his report, Mr. Charters wrote:

"The similarity of frequencies in errors in cities widely distributed geographically indicates that a large proportion of the errors of school children are national rather than sectional errors."<sup>7</sup>

From the above statement it is evident that the lack of knowledge of the usages of punctuation is widespread.

The writer of this thesis found little reliable scientific study of punctuation and one dealing specifically with the methods of teaching this subject.

6. Charters, W. W. "Minimal Essentials in Elementary Language and Grammar," Op. Cit. p. 109.

7. Ibid. p. 110.

## CHAPTER III

## METHOD OF SECURING DATA

The data were secured by means of an experiment carried on during the first semester of the school year, 1929-1930, in Northeast Junior High School in Kansas City, Missouri. Two English classes of the ninth grade or second year junior high were divided into two groups equated by mental age computed from the National Intelligence Test.

In the Kansas City schools, the students are grouped with reference to their ability to do school work. The A classes refer to those pupils who are above average ability; the B, to those of average ability; and the C, to those below average ability.

The writer used two B groups for this experiment. In order to be further assured that the groups were equal in ability, the writer referred to the mental ages of the students. The scores of the students on the National Intelligence Test were available in the office of the school counselor. These scores were changed into mental ages by means of the table accompanying the test. Since many of the scores received on this test were higher than those given in the table, interpolation was used to convey these into mental ages. The mean mental age for each group was computed and found to be 194.97 months

for the B group and 196.4 months for the A group.

Each group consisted of thirty pupils. For convenience a letter was assigned to each of these two groups.

Group I . . . B

Group II . . .A

This study sought to determine the relative efficiency of specific drills, and a deductive method of teaching in improving punctuation ability.

As a basis for the theory in the study of punctuation, the writer used the rules found in the official Manuscript Handbook compiled by a committee of English teachers and used in all of the high schools in Kansas City, Missouri.

In teaching punctuation to the two groups of students, two methods were used alternately. The two methods were called (1) Deductive, and (2) Drill.

In the deductive method, which was used during the first five weeks with group A, and during the second five weeks with group B, the writer carried out the following plan:

- I. The writer referred the pupils to pages 9-11, and 13-18 in the Manuscript Handbook for the following rules of punctuation:

#### The Period

1. A period is used to indicate the end of a declarative or imperative sentence.
2. A period should be placed after all abbreviations.

3. A period is used to separate dollars and cents when written in figures.
4. The period should always be placed within the quotation marks.

#### The Interrogation Point

1. The interrogation point is used after every direct question.
2. The interrogation point should be placed inside the quotation marks only where it is a part of the matter quoted.

#### The Exclamation Point

1. The exclamation point is used to indicate an expression of strong emotion.
2. The exclamation point is placed inside the quotation marks or parenthesis when it is a part of the quotation or parenthetical matter; outside when it belongs with the sentence as a whole.

#### The Comma

1. The comma is used to separate the members of a compound sentence when the conjunction is expressed.
2. The comma is used to separate the members of a compound predicate when the parts are long or are subdivided by commas.
3. The comma is used to set apart words or phrases

(a) in a series of like construction, (b) in pairs, or (c) in contrast.

4. The comma is used to set off words, phrases, or clauses that are (a) parenthetical or (b) explanatory.

5. The comma is used to separate from the rest of the sentence (a) the nominative absolute construction, (b) the noun used in direct address.

6. The comma is used to set off from the rest of the sentence a participial phrase which is (a) introductory, (b) explanatory, or (c) parenthetical in its nature.

7. The comma is used to indicate omissions in the heading and other formal parts of a letter.

8. The comma is used to separate from the rest of the sentence a long introductory phrase or clause which precedes the main statement; that is, which is transposed, or out of its natural order.

9. The comma is used to set off from the rest of the sentence a direct quotation not longer than one sentence.

10. In numbers the comma is used to set off each period of three figures, except in a date or a page reference.

11. The comma is used to separate month and year, and similar time divisions.

12. The comma is used to separate proper nouns meaning different persons or places.
  13. The comma is used to separate two consecutive numbers.
  14. The comma is used to separate from the rest of the sentence the exclamation oh when the exclamation point is placed after the entire phrase or sentence.
  15. The comma is always placed inside the quotation marks but following the parenthesis.
- II. The writer discussed in class the above rules as the need for them arose.
  - III. No direct drill in the use of the punctuation marks was given.
  - IV. The writer depended upon the student's ability to apply the class discussion concerning the above rules for punctuation to his subsequent work.
  - V. When the written composition was corrected, the writer referred the pupils to the pages in the Manuscript Handbook which present the rules.

In the drill method, which was used during the first five weeks in the B group, and during the second five weeks in the A group, the writer used the above mentioned rules as a basis for the study of punctuation, but she followed an entirely different plan of procedure than in the deductive method.

After the initial tests (which will be referred to later) had been given, and the papers checked to find the errors, the writer used a

ten-minute drill period every day at the beginning of the class hour. These drills the writer tried to motivate and make purposeful in order to improve each pupil's punctuation ability.

1

In supplying the drill the following plans were used:

- I. The writer chose a selection that had some literary or informational value, which was correctly punctuated, and had the pupils give the reasons for the punctuation.
- II. The writer chose an unpunctuated selection and had the pupils supply the correct punctuation and give reasons for their choices.
- III. The pupils punctuated their own compositions. The papers were checked for errors and all mistakes made by each student was discussed with him.

During the third five weeks' period, group B was taught by the drill method and group A by the deductive method. During the fourth five weeks' period, group B was taught by the deductive method and Group A by the drill method. In these two periods the writer studied four other punctuation marks: the colon, the semicolon, the apostrophe, and quotation marks.

1. Samples of drill material will be found in the Appendix.

Again the writer followed the rules given in the Manuscript Handbook, pages 11-13, 18, and 20-21.

### The Colon

1. The colon is used to separate from the main statement a clause or phrase which illustrates or amplifies the meaning of the statement, but which is not preceded by an introductory word or phrase.
2. The colon is used to precede a direct quotation longer than a sentence.
3. The colon is used after the salutation (a) of a formal letter, (b) of a speaker to the chairman and audience he is addressing.
4. Use the colon (a) between chapter and verse in Scripture references, (b) hours and minutes in time indications.
5. The colon should be placed outside the quotation marks, unless it is a part of the quotation.

### The Semicolon

1. The semicolon is used to separate the members of a compound sentence when the connective is omitted.
2. The semicolon is used between the members of a compound sentence when the conjunction is expressed, (a) if the break in thought is sharp, (b) if the members are long and are themselves punctuated with commas.

3. The semicolon is used to separate phrases or clauses used in a series, when they are very long or when they contain several commas.
4. The semicolon is used to precede such explanatory words and phrases as that is, for example, namely, as, and the corresponding abbreviations, i. e., e. g., viz., the expressions being followed by the comma.
5. The semicolon is used in Scripture references to separate passages containing chapters.
6. The semicolon should be placed outside the quotation marks unless it is a part of the quotation.

#### The Apostrophe

1. The apostrophe is used (a) to form the possessive case (except with the personal pronouns), (b) to indicate omitted letters in contractions.

#### Quotation Marks

1. The direct words of a speaker should be enclosed in quotation marks.
2. Double quotation marks are used for primary quotations; single marks for a quotation within a quotation.
3. An unusual, technical, or ironical word or phrase, to which attention is to be directed, should

be enclosed in quotation marks.

4. The titles of shorter poems may be quoted, but titles of books, plays, essays, and single poems of considerable length, usually printed in book form, should be italicized.

5. Names of ships should be enclosed in quotation marks.

6. Titles of pictures and works of art should be enclosed in quotation marks.

The school year in Kansas City, Missouri, is divided into two semesters of twenty weeks each. The writer conducted this experiment during the first term which is divided into four five-week periods. During the first five weeks the writer used the drill method in teaching group B, and the deductive method in instructing group A. The second five weeks the methods were alternated, but the same subject matter was presented. During the third five weeks, the rotation method was used. The B group was again taught by the drill method, while the A group received instruction by the deductive method. During the fourth five weeks' period, group B was taught by the deductive method and group A by the drill method.

On Wednesday of the first week of school in September, an initial test was given to each group. For this purpose the Pressey-Ruhlen Diagnostic Test in Punctuation, Form 1, was used. At the end of each five weeks' period, a different form of the

Pressey test was given to each group and the results of each test for both groups were compared.

## CHAPTER IV

## PRESENTATION OF DATA

The National Intelligence Test, Scale A, was given in the spring of 1929, by members of the Research Department of the Kansas City Schools, to all of the seventh grade pupils of the city. The scores of all the pupils used in this experiment were taken from this test. These scores were turned into mental ages from tables supplied by the authors of the test. Since many of the scores received on this test were higher than those given in the table, interpolation was used to convert these into mental ages. The groups were equated on the basis of these mental ages. Table I presents the data.

TABLE I

1  
PRESENTING THE MENTAL AGES OF  
PUPILS IN GROUPS B AND A

Group B		Group A	
Pupil	Mental Age Years - Months	Pupil	Mental Age Years - Months
1	15 - 9	1	16 - 9
2	13 - 4	2	13 - 4
3	19 - 6	3	18 - 3
4	18 - 3	4	15 - 6
5	16 - 12	5	13 - 11
6	13 - 11	6	15 - 1
7	20 - 0	7	15 - 9
8	15 - 6	8	17 - 3
9	18 - 0	9	14 - 0
10	18 - 9	10	18 - 0
11	22 - 3	11	18 - 6
12	13 - 11	12	19 - 6
13	16 - 3	13	15 - 6
14	18 - 6	14	17 - 3
15	17 - 9	15	16 - 9
16	12 - 11	16	16 - 3
17	15 - 9	17	16 - 6
18	15 - 6	18	17 - 9
19	17 - 3	19	13 - 4
20	14 - 6	20	15 - 6
21	17 - 3	21	14 - 6
22	15 - 1	22	15 - 9
23	14 - 0	23	13 - 7
24	14 - 7	24	18 - 9
25	13 - 7	25	20 - 0
26	13 - 4	26	12 - 11
27	15 - 9	27	14 - 7
28	16 - 9	28	16 - 0
29	15 - 6	29	15 - 9
30	17 - 3	30	22 - 3

Mean = 194.97 months

Mean = 196.4 months

or

or

Mean = 16 years, 2+  
months

Mean = 16 years, 4+  
months

1. The National Intelligence Test, Scale A.

After the groups B and A had been equated on the basis of mental ages, Form I of the Pressey<sup>2</sup> Punctuation Test was used as the initial examination. At the end of the first, third, and fourth five-week periods a different form of this test was given. At the end of the second five weeks, an informal test devised by the writer was administered. Table II presents the raw scores for these tests.

For convenience, the writer will use the following terms in designating these tests:

- (1) Initial Test.
- (2) Test II - given at the end of the first five weeks.
- (3) Test III - given at the end of the second five weeks.
- (4) Test IV - given at the end of the third five weeks.
- (5) Final Test.

Means and standard deviations were computed for each group on each test. Table III presents the data.

2. Form I devised by S. L. Pressey and Helen Ruhlen.  
 Form II devised by S. L. Pressey.  
 Form III devised by Blythe Pearce and S. L. Pressey.  
 Form IV devised by Blythe Pearce and S. L. Pressey.

TABLE II

PRESENTING THE RAW SCORES ON FIVE  
TESTS FOR GROUPS B AND A

GROUP B						GROUP A					
Pupil	Initial Test	Test II	Test III	Test IV	Final Test	Pupil	Initial Test	Test II	Test III	Test IV	Final Test
1	13	12	15	17	13	1	10	16	13	15	15
2	6	10	11	7	12	2	11	10	12	7	11
3	7	11	10	9	9	3	11	3	19	10	7
4	21	22	24	21	18	4	13	14	8	11	17
5	16	16	13	18	18	5	13	16	18	17	21
6	7	3	12	9	8	6	9	10	4	10	10
7	14	10	14	14	11	7	12	8	9	11	10
8	19	20	18	17	19	8	9	9	11	9	11
9	8	9	12	12	13	9	20	17	13	15	18
10	12	12	15	16	16	10	9	11	19	10	9
11	22	20	23	23	22	11	14	15	16	12	14
12	19	17	12	15	15	12	16	20	21	15	18
13	15	6	17	14	17	13	9	8	11	11	14
14	15	15	19	15	20	14	15	17	17	13	16
15	12	14	22	15	15	15	15	15	10	14	16
16	7	8	7	10	9	16	10	10	14	9	11
17	12	8	21	16	20	17	11	10	13	10	11
18	14	14	16	12	14	18	21	17	20	24	24
19	14	16	17	17	21	19	8	10	15	13	9
20	15	12	15	14	14	20	20	19	14	16	20
21	13	12	22	14	12	21	7	8	16	10	10
22	13	10	12	14	14	22	20	24	27	24	23
23	11	18	10	12	6	23	16	14	11	19	16
24	12	18	17	18	14	24	20	24	21	21	23
25	15	18	22	21	17	25	14	18	21	20	21
26	12	11	16	12	12	26	15	14	15	15	17
27	22	20	18	21	18	27	16	11	16	20	23
28	15	20	25	21	21	28	12	18	19	19	19
29	16	19	22	21	21	29	18	11	17	15	15
30	9	12	16	12	12	30	19	20	17	18	19

TABLE III

SHOWING MEANS AND S. D. OF RAW SCORES

	Initial Test		Test II		Test III		Test IV		Final Test	
	B	A	B	A	B	A	B	A	B	A
Mean	13.93	14.27	14.27	14.4	16.93	15.73	14.73	14.93	15.5	16.44
S. D.	4.3	4.08	4.7	4.9	4.6	4.7	4.0	4.5	4.1	4.7

The raw scores of the tests were converted into T-scores by means of the following formula given in Tests and Measurements<sup>3</sup> by Smith and Wright:

$$T = 50 + \frac{10 (x-m)}{\sigma}$$

Table IV presents the T-scores on all of these tests.

Means and standard deviations of T-scores were computed for each group on each test. Table V presents the data.

3. Smith, Henry L., and Wright, Wendell W. Tests and Measurements. Silver, Burdett and Company. p. 534.

TABLE IV

PRESENTING THE T-SCORES ON FIVE TESTS FOR GROUPS B AND A											
Pupil	Initial Test	Test II	Test III	Test IV	Final Test	Pupil	Initial Test	Test II	Test III	Test IV	Final Test
1	9.53	6.02	6.73	18.25	6.09	1	1.70	13.46	4.89	11.33	7.65
2	-6.74	1.55	-1.95	-6.75	3.65	2	4.14	1.22	2.76	-6.44	-0.85
3	-4.41	3.68	-4.13	-1.75	-3.65	3	4.14	-13.06	17.65	0.22	-9.36
4	28.13	27.08	26.30	28.25	18.29	4	9.02	9.38	-5.74	2.44	11.91
5	16.51	14.31	2.39	20.75	18.29	5	9.02	13.46	15.53	15.77	20.42
6	-4.41	-13.34	0.21	-1.75	-6.09	6	-0.73	1.22	-14.25	0.22	-2.97
7	11.86	1.55	4.56	10.75	1.21	7	6.58	-2.85	-3.61	2.44	-2.97
8	23.48	22.83	13.26	18.25	20.73	8	-0.73	-0.81	0.63	-2.00	-0.85
9	-2.09	-0.57	0.21	5.75	6.09	9	26.09	17.14	4.89	11.33	14.04
10	7.20	6.02	6.73	15.75	13.41	10	-0.73	3.26	17.65	0.22	-5.10
11	30.46	22.83	24.13	33.25	28.04	11	11.46	11.43	11.27	4.66	5.53
12	23.48	16.44	0.21	13.25	10.97	12	16.34	21.63	21.91	11.33	14.04
13	14.18	-6.95	11.08	10.75	15.85	13	-0.73	-2.85	0.63	2.44	5.53
14	14.18	12.19	15.43	13.25	23.17	14	13.90	17.14	13.40	3.88	9.79
15	7.20	10.06	21.95	13.25	10.97	15	13.90	11.43	-1.48	9.11	9.78
16	-4.41	-2.70	-10.65	0.75	-3.65	16	1.70	1.22	7.02	-2.00	-0.85
17	7.20	-2.70	19.78	15.75	23.17	17	4.14	1.22	4.89	0.22	-0.85
18	11.86	10.06	8.91	5.75	8.53	18	28.53	17.14	19.78	31.33	26.80
19	11.86	14.31	11.08	18.25	25.60	19	-3.17	1.22	9.14	6.88	-5.10
20	14.18	6.02	6.73	10.75	8.53	20	26.09	19.59	7.02	13.55	18.29
21	9.53	6.02	21.95	10.75	3.65	21	-5.60	-2.85	11.27	0.22	-2.97
22	9.53	1.55	0.21	10.75	6.09	22	26.09	29.79	34.68	31.33	24.68
23	4.88	18.57	-4.13	5.75	-10.97	23	16.34	9.38	0.63	20.22	9.78
24	7.20	18.57	11.08	20.75	8.53	24	26.09	29.79	21.91	24.66	24.68
25	14.18	18.57	21.95	28.25	15.85	25	11.46	17.55	21.91	22.44	20.42
26	7.20	3.68	8.91	5.75	3.65	26	13.90	9.38	9.14	11.33	11.91
27	30.46	22.83	13.26	28.25	18.29	27	16.34	3.26	11.27	22.44	24.68
28	14.18	22.83	28.47	28.25	25.60	28	6.58	17.55	17.65	20.22	16.17
29	16.51	20.70	21.95	28.25	25.60	29	21.21	3.26	13.40	11.33	7.65
30	0.23	6.02	8.91	5.75	3.65	30	23.65	21.63	13.40	18.00	16.17

TABLE V

SHOWING MEANS AND S. D. OF T-SCORES

	Initial Test		Test II		Test III		Test IV		Final Test	
	B	A	B	A	B	A	B	A	B	A
Mean	10.8	10.89	9.99	9.6	9.99	9.81	13.89	10.32	11.4	9.0
S. D.	9.84	9.78	9.93	9.6	9.9	9.6	10.2	9.81	9.6	9.9

The gain between the T-scores on the initial test and the T-scores on Test II was computed for both the B and the A groups. These data are given in Table VI.

The gain between the T-scores on the initial test and the T-scores on test III was computed for both the B and the A groups. These data are given in Table VII.

The gain between the T-scores on Test II and the T-scores on Test III was computed for both the B and the A groups. These data are presented in Table VIII.

The gain between the T-scores on Test III and the T-scores on Test IV was computed for both the B and the A groups. These data are presented in Table IX.

The gain between the T-scores on the initial test and the T-scores on Test IV was computed for both the B and the A groups. These data are presented in Table X.

The gain between the T-scores on Test IV and the T-scores on the final test was computed for both the B and the A groups. These data are presented in Table XI.

The gain between the T-scores on the initial test and the T-scores on the final test was computed for both the B and the A groups. These data are presented in Table XII.

For the purpose of comparison, the mean, the  $\sigma$  distribution, and  $\sigma$  average of the gains were computed. Table XIII presents

4. Garrett, Henry E. Statistics in Psychology and Education. Longmans, Green and Company. Pp. 53 and 145.

the data.

Garrett's formula<sup>5</sup> for finding the standard deviation of the difference was applied to the foregoing data in order to find whether or not the differences in the mean gains of the two groups were significant. Table XIV presents the data.

5.  $\sigma (\text{diff.}) = \sqrt{\sigma^2 (\text{aver.1}) + \sigma^2 (\text{aver.2})}$  Garrett, H. E.  
Op. cit., p. 146.

TABLE VI

PRESENTING THE GAIN BETWEEN THE  
T-SCORES ON THE INITIAL TEST AND THE T-SCORES ON TEST II

Group B				Group A			
Pupil	Initial Test	Test II	Gain	Pupil	Initial Test	Test II	Gain
1	9.53	6.02	-3.51	1	1.70	13.46	+11.76
2	-6.74	1.55	+8.29	2	4.14	1.22	-2.92
3	-4.41	3.68	+8.09	3	4.14	-13.06	-17.20
4	23.13	27.08	-1.05	4	9.02	9.38	+0.36
5	16.51	14.31	-2.20	5	9.02	13.46	+4.44
6	-4.41	-13.34	-8.93	6	-0.73	1.22	+1.95
7	11.86	1.55	-10.31	7	6.53	-2.85	-9.43
8	23.43	22.83	-0.65	8	-0.73	-0.81	-0.08
9	-2.09	-0.57	+1.52	9	26.09	17.14	-8.95
10	7.20	6.02	-1.18	10	-0.73	3.26	+3.99
11	30.46	22.83	-7.63	11	11.46	11.43	-0.03
12	23.43	16.44	-7.04	12	16.34	21.63	+5.29
13	14.18	-6.95	-21.13	13	-0.73	-2.85	-2.12
14	14.18	12.19	-1.99	14	13.90	17.14	+2.24
15	7.20	10.06	+2.86	15	13.90	11.43	-2.47
16	-4.41	-2.70	+1.71	16	1.70	1.22	-0.48
17	7.20	-2.70	-9.90	17	4.14	1.22	-2.92
18	11.86	10.06	-1.80	18	28.53	17.14	-11.39
19	11.86	14.31	+2.45	19	-3.17	1.22	+4.39
20	14.18	6.02	-8.16	20	26.09	19.59	-6.50
21	9.53	6.02	-3.51	21	-5.60	-2.85	+2.75
22	9.53	1.55	-7.98	22	26.09	29.79	+3.70
23	4.88	18.57	+13.69	23	16.34	9.38	-6.96
24	7.20	18.57	+11.37	24	26.09	29.79	+3.70
25	14.18	18.57	+4.39	25	11.46	17.55	+6.09
26	7.20	3.68	-3.52	26	13.90	9.38	-4.52
27	30.46	22.83	-7.63	27	16.34	3.26	-12.08
28	14.18	22.83	+8.65	28	6.53	17.55	+10.97
29	16.51	20.70	+4.19	29	21.21	3.26	-17.95
30	0.23	6.02	+5.79	30	23.65	21.63	-2.02

TABLE VII

SHOWING THE GAIN BETWEEN THE T-SCORES ON THE  
INITIAL TEST AND THE T-SCORES ON TEST III

Group B				Group A			
Pupil	Initial Test	Test III	Gain	Pupil	Initial Test	Test III	Gain
1	9.53	6.73	- 1.80	1	1.70	4.89	+ 3.19
2	- 6.74	- 1.95	+ 4.79	2	4.14	2.76	- 1.38
3	- 4.41	- 4.13	+ 0.28	3	4.14	17.65	+13.51
4	28.13	26.30	- 1.83	4	9.02	- 5.74	-14.76
5	16.51	2.39	-14.12	5	9.02	15.53	+ 6.51
6	- 4.41	0.21	+ 4.62	6	- 0.73	-14.25	-13.52
7	11.86	4.56	- 7.30	7	6.58	- 3.61	-10.19
8	23.48	13.26	-10.22	8	- 0.73	0.63	+ 1.36
9	- 2.09	0.21	+ 2.30	9	26.09	4.89	-21.20
10	7.20	6.73	- 0.47	10	- 0.73	17.65	+18.38
11	30.46	24.13	- 6.33	11	11.46	11.27	- 0.19
12	23.48	0.21	-23.27	12	16.34	21.91	+ 5.57
13	14.18	11.08	- 3.10	13	- 0.73	0.63	+ 1.36
14	14.18	15.43	+ 1.25	14	13.90	13.40	- 0.50
15	7.20	21.95	+14.75	15	13.90	- 1.48	-15.38
16	- 4.41	-10.65	- 6.24	16	1.70	7.02	+ 5.32
17	7.20	19.78	+12.58	17	4.14	4.89	+ 0.75
18	11.86	8.91	- 2.95	18	28.53	19.78	- 8.75
19	11.86	11.08	- 0.78	19	- 3.17	9.14	+12.31
20	14.18	6.73	- 7.45	20	26.09	7.02	-19.07
21	9.53	21.95	+12.42	21	- 5.60	11.27	+16.87
22	9.53	0.21	- 9.32	22	26.09	34.68	+ 8.59
23	4.88	- 4.13	- 9.01	23	16.34	0.63	-15.71
24	7.20	11.08	+ 3.88	24	26.09	21.91	- 4.18
25	14.18	21.95	+ 7.77	25	11.46	21.91	+10.45
26	7.20	8.91	+ 1.71	26	13.90	9.14	- 4.76
27	30.46	13.26	-17.20	27	16.34	11.27	- 5.07
28	14.18	28.47	-14.29	28	6.58	17.65	+11.07
29	16.51	21.95	- 5.44	29	21.21	13.40	- 7.81
30	0.23	8.91	+ 8.68	30	23.65	13.40	-10.25

TABLE VIII

SHOWING THE GAIN BETWEEN THE T-SCORES ON  
TEST II AND THE T-SCORES ON TEST III

GROUP B				GROUP A			
Pupil	Test II	Test III	Gain	Pupil	Test II	Test III	Gain
1	6.02	6.73	+ 0.71	1	13.46	4.89	- 8.57
2	1.55	- 1.95	- 3.40	2	1.22	2.76	+ 1.54
3	3.68	- 4.13	- 7.81	3	-13.06	17.65	+30.71
4	27.08	26.30	- 0.78	4	9.38	- 5.74	-15.12
5	14.31	2.39	-11.92	5	13.46	15.53	+ 2.07
6	-13.34	0.21	+13.55	6	1.22	-14.25	-15.47
7	1.55	4.56	+ 3.01	7	- 2.85	- 3.61	- 0.76
8	22.83	13.26	- 9.57	8	- 0.81	0.63	+ 1.44
9	- 0.57	0.21	+ 0.78	9	17.14	4.89	-12.25
10	6.02	6.73	+ 0.71	10	3.26	17.65	+14.39
11	22.83	24.13	+ 1.30	11	11.43	11.27	- 0.16
12	16.44	0.21	-16.22	12	21.63	21.91	+ 0.28
13	- 6.95	11.08	+18.03	13	- 2.85	0.63	+ 3.48
14	12.19	15.43	+ 3.24	14	17.14	13.40	- 3.74
15	10.06	21.95	+11.89	15	11.43	- 1.48	-12.91
16	- 2.70	-10.65	- 7.95	16	1.22	7.02	+ 5.80
17	- 2.70	19.78	+22.48	17	1.22	4.89	+ 3.67
18	10.06	8.91	- 1.15	18	17.14	19.78	+ 2.64
19	14.31	11.08	- 3.23	19	1.22	9.14	+ 7.92
20	6.02	6.73	+ 0.71	20	19.59	7.02	-12.57
21	6.02	21.95	+15.93	21	- 2.85	11.27	+14.12
22	1.55	0.21	- 1.34	22	29.79	34.68	+ 4.89
23	18.57	- 4.13	-22.70	23	9.38	0.63	- 8.75
24	18.57	11.08	- 7.49	24	29.79	21.91	- 7.88
25	18.57	21.95	+ 3.38	25	17.55	21.91	+ 4.36
26	3.68	8.91	+ 5.23	26	9.38	9.14	- 0.24
27	22.83	13.26	- 9.57	27	3.26	11.27	+ 8.01
28	22.83	28.47	+ 5.64	28	17.55	17.65	+ 0.10
29	20.70	21.95	+ 1.25	29	3.26	13.40	+10.14
30	6.02	8.91	+ 2.89	30	21.63	13.40	- 8.23

TABLE IX

SHOWING THE GAIN BETWEEN THE T-SCORES ON  
TEST III AND THE T-SCORES ON TEST IV

Group B				Group A			
Pupil	Test III	Test IV	Gain	Pupil	Test III	Test IV	Gain
1	6.73	18.25	+11.52	1	4.89	11.33	+ 6.44
2	- 1.95	- 6.75	- 4.80	2	2.76	- 6.44	- 9.20
3	- 4.13	- 1.75	+ 2.38	3	17.65	0.22	-17.43
4	26.30	23.25	+ 1.95	4	- 5.74	2.44	+ 8.18
5	2.39	20.75	+18.36	5	15.53	15.77	+ 0.24
6	0.21	- 1.75	- 1.96	6	-14.25	0.22	+14.47
7	4.56	10.75	+ 6.19	7	- 3.61	2.44	+ 6.05
8	13.26	18.25	+ 4.99	8	0.63	- 2.00	- 2.63
9	0.21	5.75	+ 5.54	9	4.89	11.33	+ 6.44
10	6.73	15.75	+ 9.02	10	17.65	0.22	-17.43
11	24.13	33.25	+ 9.12	11	11.27	4.66	- 6.61
12	0.21	13.25	+13.04	12	21.91	11.33	-10.58
13	11.08	10.75	- 0.33	13	0.63	2.44	+ 1.81
14	15.43	13.25	- 2.28	14	13.40	6.88	- 6.52
15	21.95	13.25	- 8.70	15	- 1.48	9.11	+10.59
16	-10.76	0.75	+11.40	16	7.02	- 2.00	- 9.02
17	19.78	15.75	- 4.03	17	4.89	0.22	- 4.67
18	8.91	5.75	- 3.16	18	19.78	31.33	+11.55
19	11.08	18.25	+ 7.17	19	9.14	6.88	- 2.26
20	6.73	10.75	+ 4.02	20	7.02	13.55	+ 6.53
21	21.95	10.75	-11.20	21	11.27	0.22	-11.05
22	0.21	10.75	+10.54	22	34.68	31.33	- 3.35
23	- 4.13	5.75	+ 9.88	23	0.63	20.22	+19.59
24	11.08	20.75	+ 9.67	24	21.91	24.66	+ 2.75
25	21.95	23.25	+ 6.30	25	21.91	22.44	+ 0.53
26	8.91	5.75	- 3.16	26	9.14	11.33	+ 2.19
27	13.26	23.25	+14.99	27	11.27	22.44	+11.17
28	28.47	23.25	- 0.22	28	17.65	20.22	+ 2.57
29	21.95	23.25	+ 6.30	29	13.40	11.33	- 2.07
30	8.91	5.75	- 3.16	30	13.40	18.00	+ 4.60

TABLE X

SHOWING THE GAIN BETWEEN THE T-SCORES ON THE  
INITIAL TEST AND THE T-SCORES ON TEST IV

Group B				Group A			
Pupil	Initial Test	Test IV	Gain	Pupil	Initial Test	Test IV	Gain
1	9.53	18.25	+ 8.72	1	1.70	11.33	+10.63
2	- 6.74	- 6.75	- 0.01	2	4.14	- 6.44	-10.58
3	- 4.41	- 1.75	+ 2.66	3	4.14	0.22	- 3.92
4	28.13	28.25	+ 0.12	4	9.02	2.44	- 6.58
5	16.51	20.75	+ 4.14	5	9.02	15.77	+ 6.75
6	- 4.41	- 1.75	+ 2.66	6	- 0.73	0.22	+ 0.95
7	11.86	10.75	- 1.11	7	6.58	2.44	- 4.14
8	23.43	18.25	- 5.23	8	- 0.73	- 2.00	- 1.27
9	- 2.09	5.75	+ 7.84	9	26.09	11.33	-14.76
10	7.20	15.75	+ 8.55	10	- 0.73	0.22	+ 0.95
11	30.46	33.25	+ 2.79	11	11.46	4.66	- 6.80
12	23.43	13.25	-10.23	12	16.34	11.33	- 5.01
13	14.13	10.75	- 3.43	13	- 0.73	2.44	+ 3.17
14	14.13	13.25	- 0.93	14	13.90	6.83	- 7.02
15	7.20	13.25	+ 6.05	15	13.90	9.11	- 4.79
16	- 4.41	0.75	+ 5.16	16	1.70	- 2.00	- 3.70
17	7.20	15.75	+ 8.55	17	4.14	0.22	- 3.92
18	11.86	5.75	- 6.11	18	28.53	31.33	+ 2.80
19	11.86	18.25	+ 6.39	19	- 3.17	6.83	+10.05
20	14.18	10.75	- 3.43	20	26.09	13.55	+12.54
21	9.53	10.75	+ 1.22	21	- 5.60	0.22	+ 5.82
22	9.53	10.75	+ 1.22	22	26.09	31.33	+ 5.24
23	4.88	5.75	+ 0.87	23	16.34	20.22	+ 3.88
24	7.20	20.75	+13.55	24	26.09	24.66	- 1.43
25	14.18	28.25	+14.07	25	11.46	22.44	+10.98
26	7.20	5.75	- 1.45	26	13.90	11.33	- 2.57
27	30.46	28.25	- 2.21	27	16.34	22.44	+ 6.10
28	14.18	28.25	+14.07	28	6.58	20.22	+13.74
29	16.51	28.25	+11.74	29	21.21	11.33	- 9.88
30	0.23	5.75	+ 5.52	30	23.65	18.00	- 5.65

TABLE XI

SHOWING THE GAIN BETWEEN THE T-SCORES ON  
TEST IV AND THE T-SCORES ON THE FINAL TEST

Group B				Group A			
Pupil	Test IV	Final Test	Gain	Pupil	Test IV	Final Test	Gain
1	18.25	6.09	-12.16	1	11.33	7.65	- 3.68
2	- 6.75	3.65	+10.40	2	- 6.44	- 0.85	+ 5.49
3	- 1.75	- 3.65	- 1.90	3	0.22	- 9.36	- 9.58
4	28.25	18.29	- 9.96	4	2.44	11.91	+ 9.47
5	20.75	18.29	- 2.46	5	15.77	20.42	+ 4.65
6	- 1.75	- 6.09	- 4.34	6	0.22	- 2.97	- 3.19
7	10.75	1.21	- 9.54	7	2.44	- 2.97	- 5.41
8	18.25	20.73	+ 2.48	8	- 2.00	- 0.85	+ 1.15
9	5.75	6.09	+ 0.34	9	11.32	14.04	+ 2.71
10	15.75	13.41	- 2.34	10	0.22	- 5.10	- 5.32
11	33.25	28.04	- 5.21	11	4.66	5.53	+ 0.87
12	13.25	10.97	- 2.28	12	11.33	14.04	+ 2.71
13	10.75	15.85	+ 5.10	13	2.44	5.53	+ 3.09
14	13.25	23.17	+ 9.92	14	6.83	9.78	+ 2.90
15	15.25	10.97	- 2.28	15	9.11	9.78	+ 0.67
16	0.75	- 3.65	- 4.40	16	- 2.00	- 0.85	+ 0.67
17	15.75	23.17	+ 7.42	17	0.22	- 0.85	- 1.07
18	5.75	8.53	+ 2.78	18	31.33	26.80	- 4.53
19	18.25	25.60	+ 7.35	19	6.83	- 5.10	-11.98
20	10.75	8.53	- 2.22	20	15.55	18.29	+ 4.74
21	10.75	3.65	+ 7.10	21	0.22	- 2.97	- 3.19
22	10.75	6.09	+ 4.66	22	31.33	24.68	- 6.65
23	5.75	-10.97	-16.72	23	20.22	9.78	-10.44
24	20.75	8.53	-12.22	24	24.66	24.68	+ 0.02
25	28.25	15.85	-12.40	25	22.44	20.42	- 2.02
26	5.75	3.65	- 2.10	26	11.33	11.91	+ 0.58
27	28.25	18.29	- 9.96	27	22.44	24.68	+ 2.24
28	28.25	25.60	- 2.65	28	20.22	16.17	- 4.05
29	28.25	25.60	- 2.65	29	11.33	7.65	- 3.68
30	5.75	3.65	- 2.10	30	18.00	16.16	- 1.83

TABLE XII

SHOWING THE GAIN BETWEEN THE T-SCORES ON THE INITIAL  
TEST AND THE T-SCORES ON THE FINAL TEST

Group B				Group A			
Pupil	Initial Test	Final Test	Gain	Pupil	Initial Test	Final Test	Gain
1	9.53	6.09	- 2.44	1	1.70	7.65	+ 5.95
2	- 6.74	3.65	+10.39	2	4.14	- 0.85	- 4.99
3	- 4.41	- 3.65	+ 0.76	3	4.14	- 9.36	-13.50
4	28.13	18.29	- 9.84	4	9.02	11.91	+ 2.89
5	16.51	18.29	+ 1.78	5	9.02	20.42	+11.40
6	- 4.41	- 6.09	- 1.68	6	- 0.73	- 2.97	- 2.24
7	11.86	1.21	-10.65	7	6.58	- 2.97	- 2.24
8	23.48	20.73	- 2.75	8	- 0.73	- 0.65	- 0.12
9	- 2.09	6.09	+ 8.18	9	26.09	14.04	-12.05
10	7.20	15.41	+ 6.21	10	- 0.73	- 5.10	- 4.37
11	30.46	28.04	- 2.42	11	11.46	5.53	- 5.93
12	23.48	10.97	-12.51	12	16.34	14.04	- 2.30
13	14.18	15.85	+ 1.67	13	-0.73	5.53	+ 6.26
14	14.18	23.17	+ 8.99	14	13.90	9.78	- 4.12
15	7.20	10.97	+ 3.77	15	13.90	9.78	- 4.12
16	- 4.41	- 3.65	+ 0.76	16	1.70	- 0.85	- 2.55
17	7.20	23.17	+15.97	17	4.14	- 0.65	- 4.99
18	11.86	3.53	- 3.33	18	28.53	26.60	- 1.73
19	11.86	25.60	+13.74	19	- 3.17	- 5.10	- 1.93
20	14.18	8.53	- 5.65	20	26.09	18.29	- 7.80
21	9.53	3.65	- 5.88	21	- 5.60	- 2.97	+ 2.63
22	9.53	6.09	- 3.44	22	26.09	24.68	- 1.41
23	4.88	10.97	-15.85	23	16.34	9.78	- 6.56
24	7.20	8.53	+ 1.33	24	26.09	24.68	- 1.41
25	14.18	15.85	+ 1.67	25	11.46	20.42	+ 8.96
26	7.20	3.65	- 3.55	26	13.90	11.91	+ 1.99
27	30.46	18.29	-12.17	27	16.34	24.68	+ 8.34
28	14.18	25.60	+11.42	28	6.58	16.17	+ 9.59
29	16.51	25.60	+ 9.09	29	21.21	7.55	-13.56
30	0.23	3.65	+ 3.42	30	23.65	16.17	- 7.48

TABLE XIII

SHOWING THE MEAN,  $\sigma$  DISTRIBUTION, AND  $\sigma$  AVERAGE  
OF THE GAINS FOR THE TWO GROUPS

	Mean	$\sigma$ dis.	$\sigma$ aver.
<u>Group B</u>			
Initial and Test II	-1.11	6.87	1.25
Test II and Test III	0.69	9.54	1.74
Initial and Test III	-1.8	8.4	1.53
Test III and Test IV	4.32	6.99	1.27
Initial and Test IV	3.32	5.98	1.09
Test IV and Final	-1.26	6.46	1.18
Initial and Final	0.6	7.4	1.35
<u>Group A</u>			
Initial and Test II	-1.11	6.63	1.21
Test II and Test III	0.72	9.36	1.70
Initial and Test III	-1.02	10.44	1.90
Test III and Test IV	0.9	8.4	1.53
Initial and Test IV	-0.2	7.28	1.32
Test IV and Final	-0.68	4.5	0.82
Initial and Final	-1.2	6.2	1.13

TABLE XIV

$\sigma$  (DIFF.),  $\frac{D}{\sigma \text{ (DIFF.)}}$  AND THE CHANCES<sup>6</sup>  
IN 100 OF A TRUE DIFFERENCE

Tests	<u>Group B</u>	<u>Group A</u>	<u>D</u>	$\sigma$ Diff	$\frac{D}{\sigma \text{ diff.}}$	Chances
	Mean	Mean	$M_B - M_A$			
Initial and Test II	- 1.11	- 1.11	0	1.74	0	50
Test II and Test III	0.69	0.72	-0.03	2.43	0.01	50
Initial and Test III	- 1.8	- 1.02	-0.78	2.44	0.32	62
Test III and Test IV	4.32	0.9	3.42	1.98	1.72	96
Initial and Test IV	3.32	- 0.2	3.52	1.71	2.05	98
Test IV and Final	- 1.26	- 0.68	-0.58	1.43	0.40	65
Initial and Final	0.6	- 1.2	+1.8	1.76	1.02	84

6. Garrett, Henry E. Statistics in Psychology and Education.  
Longmans Green and Company. p. 134.

## CHAPTER V

## INTERPRETATION OF DATA

The mental age as given by the National Intelligence Test was the basis for equating the two groups of students.

Two methods of teaching punctuation were used in rotation. During the first and the third five-week periods, group B was taught by the drill method and group A by the deductive method. During the second and the fourth five-week periods, group B was taught by the deductive method and group A by the drill method. Both groups were given also an initial test in punctuation at the beginning of school. At the end of the first, the third, and the fourth five-week periods, a standardized test was given to each group. At the end of the second five-week period, an informal test was administered to each group. To compare more accurately, the scores on these tests were converted into T-scores.<sup>1</sup> The two methods of instructing the two groups were compared on the basis of the T-scores. Hereafter, the writer, when mentioning scores will refer to T-scores.

The gain for each pupil in each group was figured between the initial test and each following test. The mean gain was computed. Table V shows a loss for both groups, B and A, at the end of the first five weeks. However, group A shows the greater loss. It will

1. Smith, Henry L., and Wright, Wendall W. Tests and Measurements. Silver, Burdett and Company. p. 534.

be recalled that group A was taught by the deductive method. The means at the end of the second five weeks compared with the means on the initial test still show a loss; but if one compares the means on Test III with the means on Test II (given at the end of the first five weeks), group B's mean has not changed while group A's mean shows a gain for the second period. During this second period group A was taught by the drill method. The means of both groups at the end of the third five weeks show a gain over all the preceding tests. Group B taught by the drill method shows a greater gain than group A which was taught by the deductive method. The final test shows a gain for group B and a loss for group A over the initial test. During this period group B was taught by the deductive method and group A by the drill method.

In order to ascertain whether or not these differences in means were significant, Garrett's formula<sup>2</sup> for finding  $\sigma$  of the difference was applied. Table XIV presents these data with the chances<sup>3</sup> in 100 of a true difference greater than zero.

The table shows that the chances in 100 of a true difference range from 50 to 98. Previous to Test IV there is no significant difference in the gains for the two groups. The difference in the mean gains for test III and Test IV, however, is significant; the chances are 96 in 100. The difference is

2.  $\sigma$  (diff.) =  $\frac{\sigma^2 (av._1) + \sigma^2 (av._2)}{\dots}$  Garrett, Henry E.  
 Statistics in Psychology and Education. p.129.

3. Ibid. p. 134.

in favor of group B which during this period was taught by the drill method. In comparing the initial test with Test IV, the chances are 98 in 100 of a true difference. Again, this difference is in favor of group B taught by the drill method. There is an appreciable difference in favor of group B between the two groups on the initial and final tests. During this period, group B was taught by the deductive method. However, the chances are only 84 in 100, which Garrett<sup>4</sup> says is not a reliable difference.

The foregoing data, if one compares the results of the initial and the final tests, show a slight difference in favor of the group which was last taught by the deductive method. Whether or not the fact that this group was first taught by the drill method has any bearing on the results is an open question. Further experimentation with these groups or similar groups needs to be carried on.

This study was undertaken with two questions in mind. The first question regarding quantitative results was answered in preceding paragraphs. The second, concerning time spent by the teacher, can be answered from opinion only. The writer believes that the drill method requires the greater amount of time on the part of the teacher. It is possible that during the periods of deductive teaching more was gained in initiative, independence, and reasoning on the part of the pupil. Probably the ideal method would be a combination of both methods used by the writer.

4. Garrett, Henry E. Op. cit. p. 133.

The variable in this study was method of instruction. Every effort was made to keep this a true variable with no overlapping of method. The subject matter was constant, the pupils were equated according to mental ages, and the teacher factor was constant. Therefore, whatever differences were found may be attributed to difference in method.

## CHAPTER VI

## SUMMARY AND CONCLUSIONS

1. The pupils were equated according to mental ages. An initial punctuation test<sup>1</sup> was given to both groups.
2. During the four five weeks' periods of the semester two methods of teaching punctuation were rotated. During the first and the third five weeks' period, Group B was taught by the drill method and group A by the deductive method. During the second and the fourth five weeks' period, group B was taught by the deductive method and group A by the drill method. The classes were taught by the same teacher and the subject matter was the same.
3. At the end of each five weeks' period the following tests were given:

Pressey Punctuation Test, Form 2.

"Self-made" test.<sup>2</sup>

Pearce-Pressey Punctuation Test, Form 3.

Pearce-Pressey Punctuation Test, Form 4.

The raw scores on these tests were converted into

1. Pressey-Ruhlen Punctuation Test, Form 1.
2. Test devised by the writer, Isabel E. Gilmore.

T-scores.<sup>3</sup> The classes were compared by means of gains between each test and its preceding test and each test and the initial test. The mean gain was found for each group, and  $\sigma$  difference of the means for the two groups. The chances in 100 of a true difference greater than zero were found.

4. The comparison of the two groups showed no appreciable difference until the end of the third five weeks, where a significant difference in favor of the drill group was found. However, a comparison on the basis of initial and final scores shows the chances to be 84 in 100 of a true difference in favor of the group which was last taught by the deductive method.
  5. Subject matter, mental age, and the teacher factor were the constants for the two groups. Whatever differences were found seemed to be due to difference in the method of instruction.
  6. It is the judgment of the writer that the deductive method develops initiative, independence, and reasoning. However, it is probable that a combination of the two methods would be ideal.
3. Smith, Henry L., and Wright, Wendell W. Tests and Measurements. Silver, Burdett and Company. p. 534.

## CHAPTER VII

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## CHAPTER VIII

### APPENDIX

Chapter VIII includes all the tests and samples of drill material used in this study.

## DIAGNOSTIC TEST IN PUNCTUATION

TEST III . . . . . Devised by Isabel E. Gilmore

NAME \_\_\_\_\_ AGE \_\_\_\_\_

GRADE \_\_\_\_\_ SCHOOL \_\_\_\_\_

CITY \_\_\_\_\_ STATE \_\_\_\_\_ DATE \_\_\_\_\_

**DIRECTIONS**<sup>1</sup>--- Read carefully! The sentences below ... lack all punctuation marks, except the period at the end of each sentence. You are to supply all further punctuation, changing periods to exclamation points or interrogation marks where necessary. In most of the sentences more than one mark is needed; be sure you put in all the marks that should be used. In a few sentences no further punctuation is required; do not put in marks where they are not needed. Make all your marks clear and plain; any doubtful marks will be counted against you. Work rapidly.

1. Mr Smith went to St Louis.
2. Oh he cried out.
3. He bought many articles of furniture tables  
chairs desks cabinets and dressing tables.
4. The following officers were elected President  
John Smith Vice-President Helen Brown Secretary  
Mary Ann Jones Treasurer William Ames  
Sergeant-at-Arms Paul Blythe.
5. Where is your book Edith.
6. The boy ran around the house and without  
pausing for a last backward look leaped the  
fence.

1. Directions taken from the Pressey Punctuation Tests.

7. James however had not come.
8. Tennyson the poet wrote In Memoriam.
9. Helen please bring me that book.
10. He said I am going home.
11. Hearing her name called the girl turned.
12. I dont want to go said the little boy.
13. Where are you going he asked.
14. Hurrah weve won the game.
15. Yes John I will go.
16. Did you bring your book.
17. Get on your mark Get set Go.
18. Toms hat was lost.
19. I asked whether he could go.
20. Frank who won the prize for the best  
composition is in the ninth grade.
21. Have you seen Ethel lately Yes she called  
on me last evening.
22. Arent you Mr. Hall Yes I am he.
23. Run for the doctor.
24. This occurred Thursday July 18 1928 in  
St. Joseph Missouri.
25. Ladies and Gentlemen It is with regret that I  
announce that owing to the illness of  
Professor Tyler there will be no lecture  
tomorrow evening.

26. The pocketbook which was left on the table was black.
27. The equipment includes a locker for each girl sewing tables and chairs four sewing machines and a mirror.
28. Dr William H Carter presented the flag.
29. No it cannot be done.
30. What has he not returned.

## SCORING KEY

TEST III . . . . . Devised by Isabel E. Gilmore

Punctuation marks in parentheses are optional.

1. Mr. St.
2. "Oh!"
3. furniture: tables, chairs, desks, cabinets and dressing tables.
4. elected: President, John Smith; Vice-President, Helen Brown; Secretary, Mary Ann Jones; Treasurer, William Ames; Sergeant-at-Arms, Paul Blythe.
5. book, Edith?
6. house, lock,
7. James, however,
8. Tennyson, the poet, wrote "In Memoriam."
9. Helen,
10. said, "I am going home."
11. called,
12. "I don't want to go," said the little boy.
13. "Where are you going?" he asked.
14. Hurrah! we've
15. Yes, John,
16. book?
17. Mark! set! Go!
18. Tom's
19. No punctuation
20. Frank, composition,

21. lately? Yes,
22. Aren't you Mr. Hall? Yes,
23. doctor!
24. Thursday, July 18, St. Joseph,
25. Gentlemen:
26. No punctuation.
27. girl, chairs, machines
28. Dr. William H.
29. No,
30. What? or (,) returned?

## DRILL MATERIAL

## Exercises in Punctuation

1. I think William that you have done your best
2. Morning is the best time to study Mary
3. The boat leaves promptly at six oclock
4. Thats all settled Theres nothing more to be done
5. J. M. Jones Jr. captained the track team
6. He is an author a journalist and an editor
7. We the people of the United States do ordain and establish this Constitution
8. On November 10 1723 at Pallas Ireland Oliver Goldsmith was born
9. Where are you going he asked
10. Every proper noun should be capitalized as John Smith
11. He walked beside her in silence but his every feature expressed disapproval of her errand
12. Jane however has not come
13. He exclaimed Alas poor country
14. I asked whether he could go
15. The girl singing merrily went her way
16. She wore a "lobster-colored" gown
17. He did not go to Canada he went to Mexico
18. He said I am sorry
19. He cried Fire and began to run
20. In your letter there are too many Is and also too many ands

EXERCISES FOR DICTATION OR COPYING<sup>2</sup>

A boy in our school is champion of the Junior "aeroplane makers. He won first place among local competitors last July; this fall he was awarded the national championship. I am eager to see the model which won him such high place. It has been announced that he will fly his plane in the auditorium at our assembly next week.

2

It was a bright, cold wintry day when I arrived at my aunt's house in the country. She was at the door waiting for me. After hugging her and telling her how glad I was to be with her, I rushed upstairs to bathe and put on fresh clothes. Then came a most delicious fried chicken supper with rich home-made ice cream to top it off. I ate as if I had been hungry all my life. As I had had a long tiresome day traveling, I went to bed early. In the morning I arose refreshed, ready to enjoy all the winter sports of the country.

## EXERCISES IN PUNCTUATION

One day three Indian maidens who had gone some distance from the village to gather flowers were chased by three bears to escape they climbed on top of a large rock the bears started to climb up after them the gods seeing that the maidens were about to be taken caused the rock to grow up out of the ground the higher the bears climbed the higher the rock grew at last the bears becoming exhausted fell to their death on the rocks below the maidens then made chains from the flowers which they had gathered and lowered themselves to the ground the rock upon which the maidens took refuge is today the Devils Tower and the marks made by the bears claws can still be seen on its steep sides.

## 2

My little brother Jack went down to the stable one day and persuaded the stable man to let him ride the colt though Jack was only five years old he could ride quite well the colt however began to prance and soon Jack fell off he happened to land on a pile of grass cut the day before and so could not have been hurt much though he came down quite hard he did not cry but picked himself up and came walking somewhat glumly up the path to the house his hands in his pockets did the colt hurt you I asked he replied crossly no but the ground did.

## 3.

We arose at five o'clock in the morning in order to leave the house at seven and reached the picnic grounds at nine we piled into the waiting cars promptly at seven then we started singing on our way we had hardly gone a mile when there was a loud report one of the cars had a blow-out this was repaired after some delay and again we were rolling along smoothly all four cars in a straight line and only about two feet apart a small rabbit suddenly ran across the road and startled Bob who was driving the first car he jerked the steering wheel and the car swerved to the side of the road and rolled over a small embankment the other three cars went on for a few yards and then their terrified drivers brought them to a stop we all jumped out and ran back fearing the worst to our joy we saw all six occupants sitting on the side of the road they had a lucky escape a telegraph pole had caught the car as it fell and they had been dumped softly into a little stream they were wet and muddy and a little bruised but that was all we turned around and came home thankful that our accident had been no worse.

## 4.

Integrity and industry are the best possessions which any man can have and every man can have them nobody can give them to him or take them from him he cannot acquire them by

inheritance he cannot buy them or beg them or borrow them they belong to the individual and are his unquestionable property he alone can part with them they are a good thing to have and to keep they make happy homes they achieve success in every walk of life they have won the greatest triumphs for mankind they will bring you a comfortable living and make you respect yourself and command the respect of your fellows they are indispensable to success they are invincible the merchant requires the clerk whom he employs to have them the railroad corporation inquires whether the man seeking employment possesses them every avenue of human endeavor welcomes them they are the only keys to open with certainty the door of opportunity to struggling manhood employment waits on them capital requires them citizenship is not good without them if you don't already have them get them

---William McKinley

## DIAGNOSTIC TESTS IN ENGLISH COMPOSITION: (B) PUNCTUATION

### Directions and Record Sheet for Forms 1, 2, 3, and 4.

For use from the seventh grade through college.

**PLAN OF THE TEST:** The test is based upon a detailed analytical study of current usages in punctuation as shown in business letters, newspapers, and magazines. It covers systematically common practices as thus determined. These rules are listed on the inside of this folder.<sup>1</sup> The tests investigate systematically knowledge of these rules. In each group of six sentences in forms 1 and 3, the first two have to do with the use of commas; the third, with use of semicolon, colon, dash or parentheses; the fourth, with full stops; the fifth, with the apostrophe; and the sixth, with the use of quotation marks. In each group of six sentences in forms 2 and 4, the first has to do with the use of full stops; the second and third involve commas; the fourth presents an apostrophe problem, and the fifth a problem in handling quotations; the sixth requires use of semicolon, colon, dash, or parentheses.<sup>2</sup>

**GIVING:** Before distributing the blanks, make certain that every one has a pencil (or pen). Then give each pupil a blank, face down; see to it that no one turns over his blank before he is told to do so. As soon as all are supplied with blanks say:

Now turn over your blanks. Write on the lines at the top of the page your name, and the other information called for. (Allow time for this.) Now read the directions just below where you have been writing and do what they tell you to do. Work rapidly!

Do not permit any questions about the test. Collect the papers when all but the slowest two or three have finished. The test does not ordinarily take more than ten minutes.

**SCORING:** Count each correct sentence one point; the highest possible score is, thus, 30 points. Do not count any sentence correct unless all the marks required, and no others, have been put in. Score according to the key given on page 4 of this folder. Where alternative punctuation is indicated, score either usage correct. Marks in parentheses are optional. Each sentence correct should be checked. The check marks may then be counted, and the total score written on the pupil's blank.

**RECORDING:** For the convenience of the teacher in analyzing results from her class the diagnostic record sheet<sup>3</sup> on the two inside pages of this folder has been prepared. This will be found very easy to fill in if the directions below are carefully followed. Use a separate record sheet for each grade (yearly or half-yearly) and for each class.

(a) After the pupils' blanks have been scored, they should be arranged in alphabetical order. The name of the first child should then be written under "Pupil's Name" on line 1. Suppose now this child had right sentences 1, 2, 5, 14, and 21. Check marks should be made beside sentences 1, 2, 5, 14, and 21, and the total score, "5," written in the "Total" column. Each pupil's results should be recorded in similar fashion.

(b) After all the pupils' results have been thus entered the number of marks in each column should be counted, and this total entered at the bottom of the record sheet in the "Total right, each sentence" row. Evidently those sentences which the fewest pupils had right need most class drill.

<sup>1</sup> These rules include one use of the semicolon not mentioned in the *Student's Guide to Correctness in Written Work* (published by Public School Publishing Co.; sample set, including Teacher's Manual 10c) and goes beyond the *Guide* in mention of use of the dash. These additions are on the ground that although these usages need not be in the minimal punctuating repertoire of the average student, nevertheless he should be acquainted with them, as fairly frequent in printed matter.

<sup>2</sup> Two omissions from the test deserve mention. (a) Use of the period at the end of a sentence receives the emphasis of special mention in the directions, but is not included as part of the test; instead, knowledge of the fact of this most elementary usage is assumed—and the troublesome problem of sentence division reserved for the test in sentence structure. (b) Punctuation of heading, salutation, and complimentary close of letters is not included, as a special subject outside the scope of this test.

<sup>3</sup> Teachers who do not wish to tabulate the scores of the individual pupils on the record sheet, but wish merely to know the class median, can use the "Class Record" column only and obtain the various scores direct from the test booklets. The median can be computed as given in paragraph "a" on page 4.

# PUNCTUATION TEST

## RULES COVERED BY TEST

**FULL STOPS:** At the end of a sentence use a period, or a question mark or an exclamation point. Use (1) a question mark after a direct question (do not use the mark after an indirect question). Use (2) an exclamation point after an expression to show strong emotion or surprise. Use (3) a period (a) at the end of all other sentences and (b) after abbreviations and initials.

**PAUSES WITHIN A SENTENCE:** Within a sentence, divisions are usually marked by commas, or by semicolons or colons. Use (4) a comma (a) to set off slightly parenthetical or inserted ideas, (b) to set off clearly introductory ideas at the beginning of a sentence, or obviously added elements at the end, (c) to separate clauses joined by *and*, *but*, *for*, as or any other simple conjunctions, (d) to separate words, phrases, or clauses in a series,<sup>1</sup> (e) to separate the parts of a date, or an address, and (f) to separate a short quotation from the rest of the sentence. Use (5) a semicolon (a) between clauses of a compound sentence when not joined by a conjunction, and (b) to make prominent a division within a sentence when the parts separated are very long, or have commas within themselves. Use (6) a colon (a) after an expression formally introducing a list, or a long quotation,<sup>2</sup> (b) between the hours and minutes in a statement of time. Use (7) a dash to indicate a marked break in the progress of thought in a sentence, as when an explanatory element is obviously inserted. The parentheses may also be used for this last purpose.

**SPECIAL MARKS:** Two marks, the apostrophe, and quotation marks, are used for certain special purposes. Use (8) quotation marks (a) to enclose a direct quotation (do not thus set off an indirect quotation), (b) to enclose the titles of poems, stories, plays, pictures,<sup>3</sup> and (c) to call attention to technical, foreign, or unusual words, or words used with some special—as ironical or humorous—meaning. Use (9) the apostrophe (a) to indicate the possessive case (however, the pronominal forms *his*, *hers*, *theirs*, *yours*, *ours*, *its* do not require the apostrophe), and (b) to indicate the omission of a letter or letters in contractions.

<sup>1</sup> Comma before *and* in such a series as "salt, sugar, flour, and eggs" is best usage. Omission of this comma is, however, common enough in reputable publishing that such omission has been called permissible in the scoring key.

<sup>2</sup> The colon is also used in letters after the salutation.

<sup>3</sup> Names of books, magazines (in contrast to short compositions such as poems or articles) are best italicized—italics being indicated in manuscript by underlining.

Grade.....School.....City.....

Form of test.....  
(1, 2, 3, or 4)

Pupil's Name	Sentence →	1	2	3	4	5
	1					
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Total right—each sentence →						
Rule illustrated (Forms 1 and 3)		4d	4e	5a	3b	9b
Rule illustrated (Forms 2 and 4)		3b	4e	4d	9b	4f 8a

Compare with rules in column to left. Notice w

## DIAGNOSTIC TESTS IN ENGLISH COMPOSITION (b) PUNCTUATION

Devised by S. L. Pressey and Helen Ruhlen  
Department of Psychology Ohio State University

NAME..... AGE.....

GRADE OR CLASS..... SCHOOL.....

CITY..... STATE..... DATE.....

**DIRECTIONS—READ CAREFULLY!** The sentences below and on the other side of this sheet lack all punctuation marks—except the period at the end of each sentence. You are to supply all further punctuation, changing periods to exclamation points or interrogation marks where necessary. In most of the sentences **MORE THAN ONE** mark is needed; be sure you put in **ALL** the marks that should be used. In a few sentences no further punctuation is required; do not put in marks where they are not needed. Make all your marks clear and plain; any doubtful marks will be counted against you. Work rapidly.

1. He ordered salt sugar flour and eggs.
2. His office is at 231 Beacon Street Boston Massachusetts.
3. John thinks the money was stolen the others believe it was lost.
4. J P Morgan and E H Harriman were men of great ability.
5. Its strange that you havent seen him.
6. He said This is the house.
7. He was a big fat blond man.
8. The armistice was signed November 11 1918.
9. He has the mat desk and table however the rug and fan were delayed.
10. Miss Martin came with Mr and Mrs Frank Jones and Dr James Smith.
11. He wont believe Ive done it.
12. Here she said is the bill.

(TURN OVER THE PAGE)

13. He was we believe in the insurance business.
14. The telephone rang violently but no one answered.
15. Johnny ran away you know how he does and hid in the barn.
16. What time is it.
17. Johns kite fell at the ladys feet.
18. He said that it was time to start.
19. We sent the goods yesterday in accordance with your telegram.
20. We asked Jones the manager of the concern about the bill.
21. The list begins as follows Jones Smith Peters Jenkins.
22. He asked to what party you belonged.
23. Boys and mens clothes are sold here.
24. The choir sang Rock of Ages.
25. Ever since he has disliked hunting.
26. Mary who is prompt will go in place of the girl who is late.
27. The train leaves at 10 30 in the morning.
28. Quick Come What a sight.
29. The cat with its nose scratched is theirs.
30. Telegraphers call a poor operator a ham op.

**WHEN YOU FINISH GO BACK OVER YOUR WORK TO BE SURE YOU HAVE  
MADE NO MISTAKES.**

**DIAGNOSTIC TESTS IN ENGLISH COMPOSITION (b) PUNCTUATION**

Devised by S. L. Pressey  
Department of Psychology, Ohio State University

NAME..... AGE.....

GRADE OR CLASS..... SCHOOL.....

CITY..... STATE..... DATE.....

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1. Miss Anderson is visiting with Mr and Mrs Lambert.
2. His office is located at 51 Broad Avenue Lynn Wisconsin.
3. Black Creek is a swift deep dangerous stream.
4. Its so cold that I cant start the car.
5. She said It has begun to rain.
6. He soon fixed the car a wire was loose.
7. Jones nominated R N Smith for secretary.
8. Lincoln was born February 12 1809.
9. He is very fond of fishing hunting and boating.
10. Im certain he doesnt know what youve done.
11. Whatever you do she said come home for supper.
12. The records cover the following facts name sex age address grade.
13. Did you sleep well last night.
14. Smith with his wife and daughter arrived last night.
15. The teacher slowly opened the door and the children started home.
16. Marys mother bandaged the dogs paw.
17. John shouted that he would be back soon.
18. The play begins promptly at 8 15.
19. She asked why you moved to Cleveland.
20. Harry Wilcox the coach spoke briefly about the game.
21. With Abbott was his wife wheeling a baby-carriage.
22. Childrens games are very different from adults amusements.
23. Jack wrote a paper on Learning to Swim.
24. He fished morning noon and night nevertheless he caught nothing.
25. Hurry Run How slow you are.
26. Dodging quickly Ralph ran on toward the goal.
27. A boy who is well reads less than Tom who is ill.
28. This book is either yours or hers.
29. Foreign laborers are sometimes called hunkies.
30. We climbed the hill it is very steep to watch the sun set.

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## DIAGNOSTIC TESTS IN ENGLISH COMPOSITION (b) PUNCTUATION

FORM 3, Devised by BLYTHE PEARCE and S. L. PRESSEY

Department of Psychology, Ohio State University

NAME..... AGE.....

GRADE OR CLASS..... SCHOOL.....

CITY..... STATE..... DATE.....

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**DIRECTIONS—READ CAREFULLY!** The sentences below and on the back of this sheet lack all punctuation marks—except the period at the end of each sentence. You are to supply all further punctuation, changing periods to exclamation points or interrogation marks where necessary. In most of the sentences MORE THAN ONE mark is needed; be sure you put in ALL the marks that should be used. In a few sentences no further punctuation is required; do not put in marks where they are not needed. Make all your marks clear and plain; any doubtful marks will be counted against you. Work rapidly.

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1. In the purse were a dime two nickels and a penny.
2. He lives at 1493 Euclid Avenue Cleveland Ohio.
3. The noise of the thunder was deafening lightning flashed.
4. M L Davey asked D A Anderson to be present.
5. Ill tell him whos waiting.
6. She said The package was mailed yesterday.
7. They were lost in a big dense black wood.
8. July 4 1776 is an important date.
9. She had an umbrella nevertheless the rain ruined her dress hat and gloves.
10. Dr. James White introduced Miss Johnson to Mr. and Mrs. Frank Casey.
11. I dont believe its wrong to do that.
12. These she said are right.

(TURN OVER THE PAGE)

13. Mary is coming I suppose this morning.
14. I read the book through but it was not interesting.
15. My best chum you surely remember meeting her is ill.
16. Are we on time.
17. Marys hat matches her sisters dress.
18. She said that she liked the house.
19. John accepted the money immediately in spite of my opposition.
20. John Howe the oldest man in town lives alone.
21. Put these words in alphabetical order apples cat pencil bag.
22. He asked which way we were going.
23. The two dogs barks and the childrens shouts made a great hubbub.
24. We sang the first stanza of The Star Spangled Banner.
25. Close by a deer plunged into the forest.
26. Charles who skates well helps any boy who does not.
27. School begins at 8 30.
28. Help. Help. Fire.
29. The mistake is either yours or hers.
30. A freshman used to be called a plebe.

**WHEN YOU FINISH GO BACK OVER YOUR WORK TO BE SURE YOU HAVE MADE NO MISTAKES.**

## DIAGNOSTIC TESTS IN ENGLISH COMPOSITION (b) PUNCTUATION

FORM 4, Devised by BLYTHE PEARCE and S. L. PRESSEY,  
Department of Psychology, Ohio State University

NAME \_\_\_\_\_ AGE \_\_\_\_\_

GRADE OR CLASS \_\_\_\_\_ SCHOOL \_\_\_\_\_

CITY \_\_\_\_\_ STATE \_\_\_\_\_ DATE \_\_\_\_\_

**DIRECTIONS—READ CAREFULLY!** The sentences below and on the back of this sheet lack all punctuation marks—except the period at the end of each sentence. You are to supply all further punctuation, changing periods to exclamation points or interrogation marks where necessary. In most of the sentences MORE THAN ONE mark is needed; be sure you put in ALL the marks that should be used. In a few sentences no further punctuation is required; do not put in marks where they are not needed. Make all your marks clear and plain; any doubtful marks will be counted against you. Work rapidly.

1. Dr Charles Brown told Miss Ryan her arm was broken.
2. The new store is at 86 Walnut Street Muncie Indiana.
3. There are pink white and yellow flowers in her garden.
4. Theyll count those who cant go.
5. He said Be ready to start early.
6. Mary waited for the bus the other girls walked.
7. R A Hardy and M S Benson are the chief candidates.
8. Columbus discovered America on October 12 1492.
9. She likes skating swimming and tennis.
10. Hes positive they wont forget what Ive said.
11. The sun he said is shining already.
12. Their grades run as follows 98 93 86 85 79.

(TURN OVER THE PAGE)

13. Is the train on time.
14. The mountain though far away seems very near.
15. He threw the ball from the porch and I caught it.
16. That boys sled is longer than Helens.
17. Jack yelled that the game had begun.
18. The train arrives at 10 41.
19. He asked where she lived.
20. James Kennedy the secretary read the minutes.
21. There is the boy putting on his hat.
22. The mens and girls tickets are sold at different places.
23. The title of my last theme was My Summer in Camp.
24. His coat hat and gloves were stolen however his watch is safe.
25. We won. We won. How glad I am.
26. Changing her mind she destroyed the letter.
27. A boy who is tall should stand back of James who is short.
28. The honor is both yours and ours.
29. Strike-breakers are called scabs.
30. The road to Akron it is newly paved is very crowded now.

**WHEN YOU FINISH GO BACK OVER YOUR WORK TO BE SURE YOU HAVE  
MADE NO MISTAKES.**



(c) The "Class Record" column should now be filled in. Simply count, from the "Total" column at the right of the individual scores, the number of pupils making a score of "0." Suppose two pupils so scored; a "2" should be written in the "No. of Pupils" column, besides "0." If three pupils made a score of 5 a "3" should be written beside "5"—and so on. The figures in the "No. of Pupils" column should now be added and the sum written at the bottom of this table in the "Total" space. After this has been done, count up from the bottom to the median, or middle case, and write the number of the space in which this case falls opposite the word "Median."<sup>4</sup>

**USE OF THE RESULTS:** The general standing of the class can be determined for any form by comparison of total scores with the medians which are given above the class record, on the record sheet. (For further information regarding medians, percentiles, etc., see the report on Project No. 2 of our Fourth Annual Nation-Wide Testing Survey—furnished free, upon request.)

Study of total scores should be considered simply preliminary, however, to such analysis as described above. Give special instruction on points in which the class is shown to be weak (as indicated by the "total right, each sentence" figures), and also provide individual work to cover each pupil's special weaknesses. In such instruction the test itself will be found of great value. The test papers should always be returned to the pupils, and talked over with them. Each group of sentences should be given close study and, with the rules given on the inside of this folder, should form the basis for class discussion and individual study of these various points. However, after such class discussion, all test booklets should be returned to the teacher.<sup>5</sup>

<sup>4</sup> So if there are 85 pupils, the median is the eighteenth score. If the number of pupils is even, the median is the average of the two middle cases; thus if there were 34 cases, the median would be the average of the 17th and 18th scores.

<sup>5</sup> For further suggestions and materials for such remedial work—together with a summary of the general plan of the test and drill material and the research basis for the entire scheme of testing and remedial teaching—see the Pressy-Coupling *Student's Guide to Correctness in Written Work*, and the explanatory Teacher's Manual accompanying. (Published by Public School Publishing Co.; sample set, 10c.)

### SCORING KEY

Punctuation marks in parentheses are optional.

	FORM 1	FORM 2	FORM 3	FORM 4
1	salt, sugar, flour(,)	Mr. Mrs.	Dime, nickels(,)	Dr.
2	Street, Boston,	Avenue, Lynn,	Avenue, Cleveland,	Street, Muncie,
3	stolen;	swift, deep,	deafening;	pink, white(,)
4	J.P. E.H.	It's can't	M. L. D. A.	They'll can't
5	It's haven't	said, "It-rain."	I'll who's	said, "Be-early."
6	said, "This—house."	car; or —	said, "The - yesterday."	bus; or —
7	big, fat,	R. N. Smith	big, dense,	R. A. M. S.
8	11,	February 12,	4, 1776,	October 12,
9	mat, desk(,) table;	fishing, hunting(,)	umbrella; nevertheless(,)	skating, swimming(,)
	however,		dress, hat(,)	
10	Mr. Mrs. Jones(,) Dr.	I'm doesn't you've	Dr. Mr. Mrs.	He's won't I've
11	won't I've	"What-do," said, "come-	don't it's	"The sun," said, "is -
12	"Here," said, "is the	facts: name, sex, age,	"These," said, "are right."	already."
	bill."	address,		follows: 98, 93, 86, 85,
13	was, believe,	night!	coming, suppose,	time!
14	violently, or; or no	Smith, daughter,	through, or; or no	mountain, away,
	punctuation		punctuation.	
15	away—you does—	door, or no punctuation	chum—you her - or ( )	porch, or no punctuation
	or ( )			
16	it!	Mary's dog's	time!	boy's Helen's
17	John's lady's	No punctuation	Mary's sister's	No punctuation.
18	No punctuation.	8:15	No punctuation.	10:41
19	yesterday, or — or as	No punctuation.	immediately, or - or no	No punctuation.
	punct.		punctuation.	
20	Jones, concern, or ( )	Wilcox, coach, or ( )	Howe, town, or ( )	Kennedy, secretary, or ( )
21	follows: Jones, Smith,	wife,	order: apples, cat, pencil,	boy,
	Peters,			
22	No punctuation.	Children's adults'	No punctuation.	men's girls'
23	Boys' men's	"Learning-Swim" or	dogs' children's	"My - Camp" or
		italics*		italics*
24	"Rock of Ages" or	morning, noon(,) night;	"The Star Spangled Ban-	coat, hat(,) stolen;
	italics.*	-less(,)	ner" or italics*	however,
25	since,	Hurry! Run! are!	by,	won't won't am!
26	Mary, prompt, go(,)	quickly,	Charles, well,	mind,
27	10:30	Tom,	8:30	James,
28	Quick! Come! sight!	No punctuation.	Help! Help! Fire!	No punctuation
29	No punctuation.	"hunkies."	No punctuation.	"scabs"
30	"ham op."	hill - steep - or ( )	"plebe"	Akron - paved - or ( )

\* Either quotation marks or underlinings for all titles may be considered permissible, though the rule given on page 2 of this folder is the best usage.