

A STUDY IN THE RELATIVE FREQUENCY
AND PERSISTENCY OF TECHNICAL
ERRORS IN WRITTEN COMPOSITION.

by

Wallace Bruce Armstrong

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Approved by:

Instructor in Charge

Raymond B. Shwartz
Head or Chairman of Department

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CHAPTER I

It takes but a glance at educational books and periodicals to discover that there is and has been for some time a general dissatisfaction among all educators and teachers of English, especially, with reference to the teaching of English. English courses, both in literature and composition, have been criticised and condemned repeatedly.

"Students entering high school do not have thorough training in grammar and composition," writes one critic; while another says that college freshmen write compositions worthy of high school freshmen.

¹
J. W. Searson, professor of English at the University of Nebraska and well-known writer in this field, quotes John B. Wisely of Terra Haute, Indiana, thus:

"I think we need a fixing of responsibility especially with regard to the mechanics of English. I am extremely weary of correcting crude errors in English in the work of my freshmen students, mistakes in the spelling of common words, punctuation, sentence structure, etc. I don't see why these things cannot be taught in the grades

1. J. W. Searson, "Determining a Language Reform," Eng. Jr. Feb., 1924.

and in the high school, and I should like to see individual teachers held responsible for a part of this elementary but fundamental work."

Such criticisms are carried even farther than these, for the very training that students, expecting to teach English, receive in the various universities is attacked many times.

The result of these typical criticisms has been a great number of experiments in the teaching of English.

The National Council of Teachers of English has made investigations to determine what special features should be heavily stressed in a "nation-wide co-operation program to improve the teaching of English and to give language its true place in the process of individual and social betterment." Among the skills listed as essential are: ability to spell correctly; ability to write good business letters, forms, briefs, and reports; and ability to present facts clearly. These are three skills in which the mechanics of English are essential. Among the most urgent needs, to improve the teaching of English, are: definite standards of English work for each grade, or year; fixed requirements for teachers in each grade of work; a nation-wide survey of the teaching of language and literature; and

1. J. W. Searson, "Determining a Language Reform," Eng. Jr. Feb., 1924.

emphasis of mechanics to attain skill in the use of English as a tool. The mechanics of English seem indirectly or directly related to these needs.

Such articles as "A Statistical Study of Usage and of Children's Errors in Capitalization", "A Laboratory Experiment in English Composition", "Selling English Literature to Non-Literary Students", "A Statistical Study of Current Usage in Punctuation", and such new books as Tanner's "Composition and Rhetoric" and Hitchcock's "Junior English Book" are illustrative of research and writings which have been made in the effort to improve conditions in the teaching of English.

Throughout these writings indirectly or directly is stressed the necessity of teaching, in the grades, and of following up, in the high school, skill in the mechanics of English. A reasonable knowledge and practice of correct capitalization, spelling, punctuation, grammar, and sentence structure is essential for effective work in organization, content, and general excellence of written composition.

These facts suggest a study in the relative persistency of errors in English composition. The purpose of the study is to furnish a basis for direction of effort by

1. by S. L. Pressey in the English Journal, Dec., 1924.
2. by Elmer C. Stauffer in the English Journal, Jan., 1925.
3. by John J. Parry in the English Journal, Jan., 1924.
4. by Helen Ruhlen and S. L. Pressey in the English Journal, May, 1924.

both teachers and pupils.

A few of the articles mentioned above are indirectly related to this study as they, also, suggest changes to be made in the teaching of composition. Experiments that bear directly on this problem are few in number.

In 1917, Roy I. Johnson made a study, the primary purpose of which was to discover "The Persistency of Error¹ in English Composition." It was carried out in Kansas City, Missouri. A series of three fifteen-minute written exercises was given to a group of high school freshmen from four schools and to the college freshmen of the Junior College. 132 complete sets of exercises were collected from the high school students; while 66 were collected from the college. A "Category of Errors", including only technical ones, was compiled and the errors found in these papers were distributed into 14 divisions. Numerous computations and correlations led to the conclusion that the condition then was one that indicated a general need of increased emphasis upon the mechanics of English Composition. By discovering the ranks, in persistency, of the major classes of error, Johnson suggested a scientific basis for the direction of effort.

R. L. Lyman, of the University of Chicago, in 1918 made a study involving data from four high schools. He used

1. "Persistency of Error in English Composition", R. I. Johnson, School Review 25:555-80, Oct. '17.

a method similar to Johnson's, with the exception that he employed a five-minute preparation before writing, used only narrative exercises, and distributed the errors according to Johnson's category with the purpose of answering the following questions:

1. What relation exists between fluency of expression and mechanical accuracy?
2. What relation exists between fluency and general excellence apart from mechanics?
3. What relation exists between mechanical accuracy and general excellence?

Following the distribution of errors, computation of ratio of errors per pupil and per words, of ranks of errors according to frequency, and of ratio of errors in long and short themes, led to the conclusion that there is a positive correlation between fluency and accuracy, as those pupils who write fluently are freest from mechanical errors.

As a basis of "general excellence" the papers were rated according to the "Harvard-Newton Scale for Narratives", a classification based on a list of qualifications of a good narrative, and showing ranks of A, 100-93; B, 92-83; C, 82-76; D, 75-66; and E. Various comparisons were made. For one of these, a table was arranged to show division of themes

1. "Fluency, Accuracy, and General Excellence in English Composition", R. L. Lyman, School Review 26: 85-100, Feb., '18

according to length (the ranks being 0 to 50, 51 to 100, 101 to 150, etc. number of words) in the general excellence scale of A, B, C, D, and E. Another table was prepared to spot and give the number of errors in each of these ranks of general excellence.

The conclusions set forth are that general excellence seems to be attained by most fluent writers and that this general excellence is accompanied by a reasonable command of the mechanics of writing.

The work of these two experimenters may be summarized thus:

1. The purpose of Johnson's experiment was to suggest a scientific direction of effort in the elimination of mechanical errors; that of Lyman was to carry the procedure a step farther by considering the relation between general excellence, fluency, and the command of mechanics.

2. Johnson's experiment involved the use of innumerable mathematical ratios, mean deviation, correlation and rational analysis; while Lyman's study included mathematical ratios, many comparisons, and rational analysis.

3. The results of Johnson's experiment indicate an urgent need of drill in the mechanics of writing; Lyman's conclusions indicate that the less fluent writers need the most drill in mechanics. In other words, Johnson's experiment points to the technical errors to be emphasized in drill of mechanics while Lyman's study shows the type of student whose drill in mechanics should be increased. However, Lyman,

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himself, favors an effort to create conditions that produce "effective expression as such, apart from mechanical accuracy", for he believes that "accuracy is a matter of care, rather than knowledge or habit".

As will be indicated in the next chapter, the present includes factors somewhat related to each of these experiments.

CHAPTER II

SPECIFIC THESIS PROBLEM

The problem of this study is the relative frequency and persistency of technical errors in written composition of freshmen and juniors of a typical high school.

It is related to Johnson's study in as much as it includes the following questions:

1. What are the most persistent errors of the freshman classes? of the junior classes?

2. What is the order of their persistence?

It is indirectly related to Lyman's study as it attempts to show a comparison of errors made by excellent, average, and below average students.

Other points under consideration are to determine a direction of effort in elimination of mechanical or technical errors in the particular field in which the data for this study has been collected. These include:

3. How do totals in errors of each set of exercises of the juniors compare with those of the freshmen?

4. How do the errors vary during the term in the freshmen classes? in the junior classes?

5. Are there any specific types of errors peculiar to excellent, average, and below average students?

6. What order of drill may be suggested as a remedy for freshmen? for juniors? What special direction of effort in groups within the classes?

METHOD OF SECURING DATA

The data were secured by means of a survey in Northeast Junior and Senior High Schools in Kansas City, Missouri.

Five narrative exercises were written by nine freshman classes of the Junior High and seven junior classes of the Senior High. The freshmen class is the second and last year of the Junior High; the junior, the second year of the three years (sophomore, junior, and senior) of the Senior High. These narratives were written during the first, sixth, eleventh, sixteenth, and twentieth weeks of the fall term of 1924, devoted, especially, to composition. These exercises were done with five minutes for preliminary thought (an advantageous plan, suggested by Lyman) and fifteen minutes for writing. The following subjects were used in the order named: (1) "Missing the Train", (2) "An Exciting Hour", (3) "Starting the Car", (4) "A Day in the Country", and (5) "A Narrow Escape".

The exercises were given in the following classes:

1. Three classes of "A" freshmen, including an average of 84.4 individuals per narrative topic.
2. Three classes of "B" freshmen, including an average of 82 individuals per narrative topic.

1. "A", "B", and "C" groups are the names which designate the excellent, average, and below average groups into which the English students of the high school in which the data for this study was collected are arranged. The classification is based on teachers' judgements of students' ability, past grades in English, and the results of a Terman group test.

3. Three classes of "C" freshmen, including an average of 55.2 individuals per narrative topic.

4. Two classes of "A" juniors, including an average of 51.8 individuals per narrative topic. (Only two classes were used as there were only two "A" classes in the entire school.)

5. Three classes of "B" juniors, including an average of 73.6 individuals per narrative topic.

6. Two classes of "C" (the only two in the school) juniors, including an average of 56.4 individuals per narrative.

The classes used were taken at random, with the exception of the junior "A" and "C", of which there were only two each.

Thus, in the freshman class a total average of 221.6 cases was used and in the junior classes a total average of 181.8 cases was used for each theme. These made a grand total average of 403.4 different writers, each contributing five themes. The total number of themes actually considered in this study is 2017, which, it was thought, would be enough to picture typical conditions and tendencies.

TABLE I

TABLE SHOWING CASES USED

Narrative Topics	: A	: B	: C	: A	: B	: C	: Total:
1. Missing the Train	: 55:	: 77:	: 65:	: 92:	: 87:	: 57:	: 431:
2. An Exciting Hour	: 52:	: 79:	: 58:	: 90:	: 82:	: 59:	: 420:
3. Starting the Car	: 54:	: 70:	: 55:	: 80:	: 82:	: 57:	: 398:
4. A Day in the Country	: 47:	: 72:	: 52:	: 80:	: 81:	: 53:	: 385:
5. A Narrow Escape	: 51:	: 70:	: 54:	: 80:	: 78:	: 50:	: 383:
Totals	: 259:	: 368:	: 282:	: 422:	: 410:	: 276:	: 2017: of themes
Average	: 51.8:	: 73.6:	: 56.4:	: 84.4:	: 82:	: 55.2:	: 402.4: of average of themes per topic

TABLE II

CATEGORY OF ERRORS

1

Johnson's Category of Errors, which was used as a basis of classification of errors in this study, contains 14 major types of errors. Each of these is sub-divided into more specific types. Each is numbered and many are illustrated. For the sake of a detailed study the sub-divisions, rather than the major divisions, were employed. Thus there are, in this study, 47 kinds of errors.

I. Mistakes in the case of pronouns.

1. Subject or object of verb in wrong case. "She saw my brother and I".
2. Predicate noun in wrong case. "I do not know whom he is".
3. Object of preposition in wrong case. "They called to my friend and I".
4. Use of objective for possessive with gerund. "It was all the result of that cat crossing my path".

II. Other misuses of pronouns.

5. Disagreement of pronoun and antecedent. "A person can find what they look for".
6. "You" used indefinitely. "When you start to high school you feel important".
7. Miscellaneous misuses of pronouns. "A lady which etc."

III. Mistakes in the use of verbs.

1. "Persistency of Error in English Composition", R. I. Johnson, School Review 25:555-80, Oct. '17.

8. Disagreement of subject and predicate. "On the bank was some waterlilies".
9. Change of past tense in main clause.
10. Wrong past tense or past participle. "We had drank".
11. Wrong verb used. "I will lay down".
12. Mistakes in mood. "He acted as though he was the king's son".

IV. Mistakes in the use of adjectives and adverbs.

13. Use of adjective for adverb. "He spoke respectful".
14. Use of "most" for "almost". "I go most every time".
15. "Only" misplaced in the sentence. "I only had one lesson to study".
16. Use of double negative. "There wasn't hardly room for me".
17. Miscellaneous misuses of adjective and adverb. "It was a very healthy food".

V. Mistakes in the use of prepositions and conjunctions.

18. Use of wrong or superfluous preposition. "He got off of the car".
19. Use of wrong conjunction. "The reason was because" etc.
20. Misuse of "like". "It looks like he wasn't coming".

VI. Ungrammatical sentence structure.

21. Incomplete sentence.
22. Failure to make new sentence for new thought.
23. Miscellaneous mistakes in sentence structure.

VII. Failure to express clear meaning.

24. Ambiguity due to indefinite pronominal reference. "He had to eat olives with the Smith girls although he didn't like them".
25. Awkward or complicated phrasing.

26. Other cases of ambiguity. "Her mother cooked a dozen eggs and twice as much bacon".

VIII. Mistakes in punctuation.

27. No period.
28. Members of series not separated.
29. Independent clauses of compound sentence not separated.
30. No punctuation after introductory expression.
"Well__how are you?"
31. Name of city and state not separated. "Kansas City__Missouri".
32. Miscellaneous punctuation.

IX. Mistakes in use of apostrophe.

33. Failure to distinguish between "it's" (it is) and possessive "its". "The bird will not do it's best singing if its a cloudy day."
34. Wrong form of possessive nouns. "There was a sale of ladie's dresses".
35. "O'clock" written without apostrophe.
36. Miscellaneous misuses of apostrophe. "I dont know".

X. Mistakes in capitalization.

37. Failure to use capital.
38. Improper use of capital.

XI. Careless omission or repetition.

39. Omission of word or phrase.
40. Omission of letter or syllable.
41. Repetition of syllables, words, or phrases.

XII. Mistakes in spelling.

42. Compound words incorrectly written.
43. Misspelling of "to", "too", "two".
44. Misspelling of "their", "there".

- 45. Other misspelled words.
- XIII. 46. Misuse of quotation marks.
- XIV. 47. Miscellaneous errors. (This includes any technical error not listed above).

SUMMARY

In summarizing this chapter the following facts present themselves:

1. The purpose of this thesis is to furnish a basis for direction of effort in the elimination of technical errors.

2. Data were collected from 1108 freshman and 909 junior themes, furnished by 238 different freshmen and 197 different juniors.

3. Johnson's "Category of Errors" was used for classification of errors.

4. Tables I to VIII present the data which are the basis for this study.

CHAPTER III

PRESENTATION AND INTERPRETATION OF DATA

As stated in the preceding chapter, the distribution of data with reference to the various types of errors in the three groups of the two classes of students, freshmen and juniors, is to be found in Tables III to VIII. These tables present the following items:

1. The CLASS and SECTION within the class.

The classification into sections, is based on a Terman group-score, a teacher-judgment score, and the previous record in English. "A" is the highest group; "B", the medium; and "C", the lowest.

2. The SET, (a "set" being the themes of a class on a single subject) which indicates the time at which the errors were made. Set 1 was written at the beginning of the term, set 2 five weeks later, etc.
3. The ERROR NUMBERS which correspond to the numbers of Johnson's list as given in Table II. These numbers are explained in that table.
4. The NUMBER OF TIMES each kind of error was made in each set.

5. The TOTAL NUMBER of times each error was made in the five sets of each group, that is, in the five narratives of the "A's", for instance.
6. The TOTAL NUMBER of times each error was made in the five sets of the three groups, that is, in the five narratives of "A's", "B's", and "C's".
7. The TOTAL OF ALL THE ERRORS made in each set, that is, the number of errors made by the "A's", for instance in one set of narratives.
8. The TOTAL OF ALL THE ERRORS in the five sets for each of the three groups.
9. The TOTAL OF ALL THE ERRORS in the five sets for all freshmen.

Error	Sets:					Total
	1	2	3	4	5	
1	0	3	0	1	1	5
2	0	0	0	0	0	0
3	0	2	0	1	0	3
4	0	0	0	0	0	0
5	8	1	2	5	3	19
6	2	4	4	10	0	20
7	1	5	1	0	1	8
8	0	1	3	5	5	14
9	12	5	3	19	15	54
10	14	3	4	7	7	35
11	3	3	8	4	6	24
12	1	1	1	0	0	3
13	3	4	7	15	0	29
14	0	0	1	0	0	1
15	2	2	1	0	1	6
16	0	1	1	0	0	2
17	3	5	3	3	9	23
18	12	9	9	16	1	47
19	1	0	1	1	0	3
20	1	1	1	1	1	5
21	25	11	8	6	6	56
22	48	19	44	27	15	153
23	1	20	4	12	11	48
24	1	9	3	2	3	18
25	9	0	8	5	0	22
26	12	14	8	12	9	55
27	4	2	5	4	4	19
28	4	1	0	3	1	9
29	10	5	1	2	0	18
30	11	3	10	3	3	30
31	2	3	11	4	4	24
32	11	11	56	41	6	125
33	0	0	0	1	0	1
34	2	0	0	0	0	2
35	0	3	0	8	5	16
36	7	9	14	23	6	59
37	20	12	17	9	8	66
38	32	15	8	10	9	73
39	27	23	27	16	23	116
40	2	0	18	4	6	30
41	4	3	3	7	7	24
42	2	0	3	5	0	10
43	3	2	6	4	3	18
44	1	2	1	5	0	9
45	45	39	76	55	50	265
46	11	11	24	10	8	64
47	22	10	23	6	5	66
Totals	379	277	428	372	241	1697

TABLE III

DISTRIBUTION OF
ERRORS OF "A"
FRESHMEN

This table shows the number of times each error was made by freshman "A" classes in sets 1, 2, 3, 4, 5, a "set" being the themes of the "A" classes on a single subject. Each error type is designated by a number which is explained in Table II on page 14.

Average number of errors per set = 339.4

Net Improvement or decrease of errors between sets 1 and 5 = 138 .

Table III reveals, among others, the following facts about "A" freshmen:

- I. Set 3 contains the greatest number of mistakes with a total of 428. Sets 1 and 4 are next with totals of 379 and 372, respectively. Set 2 contains the next to the lowest with 277 errors, while set 5 has the lowest total with 241 mistakes.
- II. The average number of errors per set is 339.4, which is less than that of the other two freshman groups, as may be seen on pages and . This is simply in keeping with the usual comparative work of "A" classes.
- III. Set 1 has next to the highest total. The errors which contribute, especially, to this are:
 1. Failure to make new sentence for new thought (22).
 2. Misspelling (45).
 3. Improper use of capital (38)
 4. Omission of word or phrase (39)
 5. Incomplete sentence (21)
 6. Miscellaneous errors (47)
 7. Failure to use capital (37)
 8. Wrong past tense or past participle (10)
 9. Mistakes in mood (12)

10. Use of wrong or superfluous conjunction (18).
11. Change of past tense in main clause (9).
12. Other cases of ambiguity (26).
13. No punctuation after introductory clause (30).
14. Miscellaneous punctuation (32)
15. Misuse of quotations marks (46)

These fall into the general types of:

1. Punctuation
2. Misspelling
3. Sentence structure
4. Capitalization
5. Parts of speech

IV. Set 2 contains 102 errors less than set 1. The errors which showed most improvement are:

1. Change of past tense in main clause (9)
2. Wrong past tense or past participle (10)
3. Use of wrong or superfluous conjunction (18)
4. Incomplete sentence (21)
5. Failure to make new sentence for new thought (22)
6. Independent clause of compound sentence not separated (29)
7. No punctuation after introductory expression (30)

8. Failure to use capital (37).
9. Improper use of capital (38).
10. Omission of word or phrase (39).
11. Misspelling (45)
12. Miscellaneous errors (47).
13. Disagreement of subject and predicate (5)

On the other hand, increases were made, especially, by the following errors:

1. Subject or object of verb in wrong case (1)
2. Object of preposition in wrong case (3)
3. Miscellaneous misuses of pronouns (7)
4. Miscellaneous misuses of adjective and adverb (17)
5. Miscellaneous mistakes in sentence structure (23)
6. Ambiguity due to indefinite pronominal reference (24)

V. Set 3 has the highest total of any of the five sets of "A" freshmen. This high total is due, chiefly, to:

1. Misspelling (45)
2. Miscellaneous punctuation (32)
3. Failure to make new sentence for new thought (24)
4. Omission of word or phrase (39)
5. Misuse of quotation marks (46)

6. Miscellaneous errors (47)

7. Omission of letter or syllable (40)

Even this set, however, shows improvement in some of the errors.

VI. Set 4 shows improvement in comparison with set 3, and set 5, in turn, shows a decrease in comparison with set 4. It is interesting to note that the improvement between sets 4 and 5 is almost identical with that between sets 1 and 5. The errors in set 5 which show an improvement in comparison with both sets 1 and 4 are:

1. Disagreement of pronoun and antecedent (5)
2. "You" used indefinitely (16)
3. Use of adjective for adverb (13)
4. Use of wrong or superfluous conjunction (18)
5. Failure to make new sentence for new thought (22)
6. Other cases of ambiguity (26)
7. Members of series not separated (28)
8. Miscellaneous punctuation (32)
9. Miscellaneous misuses of apostrophe (36)
10. Failure to use capital (37)
11. Improper use of capital (38)
12. Omission of word or phrase (39)
13. Misuse of quotation marks (46)
14. Miscellaneous errors (47)

These group themselves into the following main types:

1. Misspelling
2. Omissions
3. Sentence structure errors
4. Punctuation
5. Capitalization

VI. The net improvement or decrease of error between sets 1 and 5 is 138, which is practically twice the amount of improvement made in "B" and "C" groups, as indicated on pages and

VII. Various factors enter into the increases and decreases of the totals of these sets of narrative themes. Set 3 may have been affected by the mid-term examinations but this is not likely as set 5 is not apparently influenced by the Christmas holidays or the final examination. On the other hand, if set 5 had been written under perfectly normal conditions, the total might have been less. The matter of spelling is very complex. This is discussed more fully on page and following. Omissions are due probably to excitement or stress while the errors in sentence structure, punctuation, and capitalization may be due to carelessness, fatigue, underlearning due to insufficient drill or individual peculiarities on the part of a few students in the group.

VIII. The total of all the errors made by "A" freshmen is 1997. This is the lowest number of totals made by any of the freshman groups, as seen by a comparison with Tables IV and V on pages and . Of these 1697 errors

15% were misspelling (45)

12% were errors in structure (21, 22, 23)

8% were omissions (39, 40)

8% were errors in capitalization (37, 38)

7% were errors in miscellaneous punctuation (32)

Thus 50% of the total errors of the "A" freshmen are in these 5 general types or 9 specific types of errors; while the other 50% are scattered among 36 errors as 3 do not occur in any set.

Error	Sets:					Total
	1	2	3	4	5	
1	0	3	5	3	1	12
2	0	0	0	0	0	0
3	0	0	1	2	0	3
4	0	0	0	0	2	2
5	2	2	0	3	1	8
6	17	2	6	11	2	38
7	4	4	5	1	3	17
8	10	15	12	2	5	44
9	3	3	7	13	4	30
10	13	15	12	13	13	66
11	3	2	4	3	21	33
12	0	0	1	0	1	2
13	3	10	7	9	20	49
14	0	0	0	0	1	1
15	1	2	2	1	2	8
16	2	1	0	0	1	4
17	2	2	4	6	4	18
18	20	17	14	15	6	72
19	0	2	0	0	2	4
20	0	0	1	0	1	2
21	26	18	10	4	6	64
22	61	26	25	2	46	160
23	15	13	12	13	3	56
24	10	13	9	2	0	34
25	1	0	1	0	10	12
26	11	12	17	9	0	49
27	10	4	2	1	1	18
28	0	0	4	3	0	7
29	4	1	0	0	1	6
30	1	3	5	1	1	11
31	8	4	8	7	2	29
32	13	15	27	13	12	80
33	0	0	0	0	0	0
34	1	0	0	0	0	1
35	2	6	1	4	0	13
36	5	14	7	14	5	45
37	11	15	17	11	11	65
38	29	7	4	14	2	56
39	27	16	32	13	21	109
40	0	0	0	0	13	13
41	1	1	2	3	3	10
42	0	0	1	0	5	6
43	2	3	3	2	4	14
44	2	7	3	0	2	14
45	70	83	86	68	99	406
46	19	9	9	3	11	51
47	12	17	18	15	5	67
Totals	421	367	384	284	253	1809

TABLE IV

DISTRIBUTION OF
ERRORS OF "B"
FRESHMEN

This table shows the number of times each error was made by freshman "B" classes in sets 1, 2, 3, 4, and 5, a "set" being the themes of the "B" classes on a single subject. Each error type is designated by a number which is explained in Table II on page 14.

Average number of errors per set = 361.8

Net improvement or decrease of errors between sets 1 and 5 = 68.

The distribution of errors of "B" freshmen in Table IV shows, among other things, the following facts:

- I. Set 1 has the greatest number of errors of any of the five sets. Set 3 ranks next; while set 2 ranks third in totals. Set 4 has the lowest total and set 5 is next to set 4. The papers at the time of mid-term and final examinations show the possible effect of mind-set and nervousness.
- II. The average number of errors per set is 361.8 errors. In the freshman class, "the expected" occurs in the average number of errors per set, as the "C" average is greater than the "B" and the "B" greater than the "A". (See Tables III and V, pages 21 and 35.)
- III. The errors which contribute, especially, to the totals of set 1 are:
 1. Misspelling (45)
 2. Failure to make new sentence for new thought (22)
 3. Improper use of capital (38)
 4. Omission of word or phrase (39)
 5. Incomplete sentence (21)
 6. Use of wrong or superfluous conjunction (12)
 7. Misuse of quotation marks (46)

8. "You" used indefinitely (6)
9. Miscellaneous mistakes in sentence structure (23)

These fall into the general types of:

1. Misspelling
2. Omissions
3. Errors in sentence structure
4. Errors in punctuation
5. Errors in capitalization
6. Misuse of parts of speech

IV. Set 2 shows improvement, as compared with set 1.

This decrease took place, especially in the following:

1. "You" used indefinitely (6)
2. Use of wrong or superfluous conjunction (18)
3. Incomplete sentence (21)
4. Failure to make new sentence for new thought (22)
5. No period (27)
6. Independent clause of compound sentence not separated (29)
7. Name of city and state not separated (31)
8. Improper use of capital (38)
9. Omission of word or phrase (39)

10. Misuse of quotation marks (46)

Increases, however, occurred in misspelling (45) especially, and in several others, also; including miscellaneous punctuation (32).

V. Set 3 shows an increase over set 2. These errors contributed to the increase:

1. Miscellaneous punctuation (32)
2. Omission of word or phrase (39)
3. Other cases of ambiguity (26)
4. Name of city and state not separated (31)

Moreover, the following remain practically the same:

1. Miscellaneous misuses of pronouns (7)
2. Disagreement of subject and predicate (8)
3. Wrong past tense or past participle (10)
4. Wrong verb used (11)
5. Use of wrong or superfluous preposition (18)
6. Failure to make new sentence for new thought (22)
7. Miscellaneous mistakes in sentence structure (23)
8. Ambiguity due to indefinite pronominal reference (24)
9. Failure to use capital (37)
10. Repetition of syllables, words, or phrases (41)

11. Misspelling of "to", "too", "two"
12. Misuse of notation marks.
13. Miscellaneous errors

Evidently the emphasis of weeks 10-15 of the "A" freshman classes did not concern the elimination of errors.

VI. Set 4 does show a decrease, an improvement of 100 over the total of set 3. This takes place, especially, in:

1. Misspelling (45)
2. Miscellaneous punctuation (32)
3. Failure to make new sentence for new thought (22)
4. Incomplete sentence (21)

Perhaps, the emphasis of this five weeks was upon elimination of errors in punctuation and sentence structure. The matter of misspelling may be explained by the subject, as the topic of set 3, "Starting the Car", generally caused the greatest number of errors.

VII Set 5, as in the case of "A" and "C" juniors, (indicated in Tables VI and VIII, pages 44 and 56.) shows an increase in set 5. The enlargement of this set is accounted for by the increases in the following:

1. Misspelling (45)

2. Failure to make new sentence for new thought (22)
3. Omission of word or phrase (39)
4. Awkward or complicated phrasing (25)
5. Omission of letter or syllable (40)
6. Misuse of quotation marks (46)

Seemingly, the drill in sentence structure during the preceding five weeks was not sufficient to be effective after five weeks of emphasis upon another type of work. Perhaps, however, this increased total is due to the end of the term situation, including the holidays and final examinations as disturbances.

VIII. The net improvement or decrease of errors between sets 1 and 5 is 68, 2 less than that for the "C" freshmen (see Table V, page 35) and about half of that made by "A" freshmen.

IX. The grand total of all errors made by "B" freshmen is 1809. This is 112 errors greater than the grand total in the "A" section, but 168 less than that of "C" freshmen. Of these 1809 errors,

- 22% were misspelling (45)
- 15% were errors in sentence structure (21, 22, 23)

6% were omissions (39, 40)

4% were errors in miscellaneous punctuation (52)

3% were the use of wrong or superfluous preposition (18)

2% were miscellaneous errors (47)

It is evident that the percentages of errors of this section tend to scatter over a comparatively larger number of types of errors than is true in the case of "A" freshmen and the three junior sections. (See Tables III, VI, VII and VIII).

TABLE V

DISTRIBUTION OF
ERRORS OF "C"
FRESHMEN

This table shows the number of times each error was made by freshman "C" classes in sets 1, 2, 3, 4, and 5, a "set" being the themes of "C" classes on a single subject. The name of each error type is designated by a number which is explained in Table II on page 14.

Average number of errors per set of "C" freshmen = 395.4

Net improvement or decrease of errors between sets 1 and 5 = 70

Average number of errors per set for class as a whole = 1096.6

Error	Sets:					Total	Grand Total
	1	2	3	4	5		
1	1	3	0	4	1	9	26
2	0	0	0	1	0	1	1
3	0	0	1	0	0	1	7
4	0	0	0	0	1	1	3
5	1	7	0	4	1	13	40
6	0	1	4	4	0	9	67
7	2	9	5	1	0	17	42
8	6	8	7	8	8	37	95
9	12	11	21	9	10	63	147
10	10	11	12	8	13	54	155
11	3	5	22	4	9	43	100
12	0	0	4	0	0	4	9
13	6	6	8	10	0	30	108
14	0	0	0	0	0	0	2
15	2	0	2	1	0	5	19
16	0	1	2	1	0	4	10
17	3	3	4	6	19	35	76
18	13	6	15	12	3	49	168
19	0	2	4	2	0	8	15
20	1	0	0	1	0	2	9
21	15	26	10	7	18	76	196
22	24	26	55	73	30	208	521
23	10	16	16	8	10	60	164
24	7	2	4	2	1	16	68
25	0	0	7	3	0	10	44
26	4	8	0	7	5	24	128
27	5	6	9	4	1	25	62
28	1	1	1	9	1	13	29
29	3	2	7	4	0	16	40
30	6	3	7	3	2	21	62
31	4	5	2	5	1	17	70
32	5	8	34	16	7	70	275
33	0	0	0	1	0	1	2
34	0	0	0	0	0	0	3
35	7	6	0	0	2	15	44
36	14	6	5	16	6	47	151
37	15	16	24	15	15	85	216
38	43	20	34	15	7	119	248
39	18	15	35	14	3	85	310
40	0	0	17	10	4	31	74
41	3	5	2	7	5	22	56
42	0	0	1	0	0	1	17
43	7	2	13	5	5	32	64
44	10	4	7	3	4	28	51
45	62	72	127	83	70	414	1085
46	15	15	9	9	4	52	167
47	11	12	45	23	13	104	237
Totals	349	349	582	418	279	1977	5483

Table V shows the following facts which pertain to "C" freshmen:

- I. The highest total of errors for a set of themes occurs in set 3. The next highest is set 4. Strange to say, sets 1 and 2 have the identical total of 349, which ranks after set 4. Set 5 has the lowest totals for any of the five sets.
- II. The average number of errors per set for "C" freshmen is 395.4, which is the highest average of any of the groups considered in this study. Such a condition is to be expected, however.
- III The total of set 1 ranks third. The chief contributors to this total are:
 1. Misspelling (45)
 2. Improper use of capital (38)
 3. Failure to make new sentence for new thought (22)
 4. Misuse of quotation marks (46)
 5. Incomplete sentence (21)
 6. Failure to use capital.
- IV. Set 2 has the same total as does set 1. Moreover, the contributing errors are practically the same. However, the error, the improper use of capital, (38) tends to decrease while incomplete sentence (21), tends to increase.

V. Set 3 attains the greatest total of any set of any group. The increase is made by the following, especially:

1. Misspelling (45)
2. Failure to make new sentence for new thought (22)
3. Omission of word or phrase (39)
4. Improper use of capital (38)
5. Miscellaneous punctuation (32)
6. Miscellaneous errors (45)

Other errors, also, contribute to the general increase, although in lesser degrees.

VI. Set 4 again indicates the tenacity in difficulty of error 22, failure to make new sentence for new thought, for in this set this error reaches its greatest height. Misspelling alone, ranks higher.

VII. In spite of the high total of set 3, the "C" group shows a gratifying condition at the end of a term's drill in composition, namely, a marked improvement. The sum total of all errors shows this. The reduction in misspelling (45) in sentence structure errors (21, 22, 23) ---- in short, all the errors show the improvement process that took place. This decrease of

errors is not as great between sets 1 and 5 as it is between sets 1 and 3.

VIII. The net improvement or decrease of errors between sets 1 and 5 is 70. This is 2 greater than the improvement of "B" freshmen.

IX. The total number of errors for the entire set is 1977. Of this total of errors,

20% were misspelling (45)

17% were errors in sentence structure

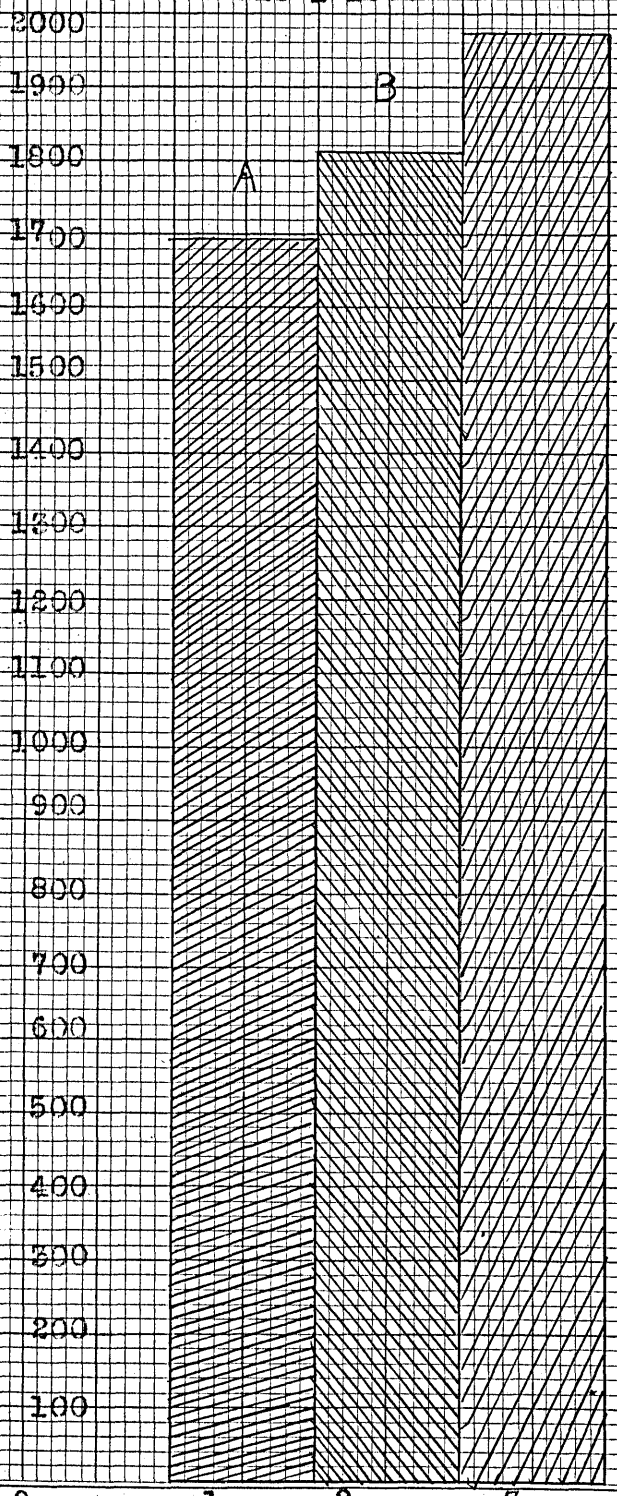
(21, 22 and 23)

The remaining 63% of errors are scattered over a wide range of kinds of errors.

GRAPH 1
TOTAL ERRORS OF FRESHMAN GROUPS

x A's totals = 1697
B's totals = 1809
C's totals = 1977

These totals are taken from Tables III, IV, and V. They show the differences among the "A", "B", and "C" group.

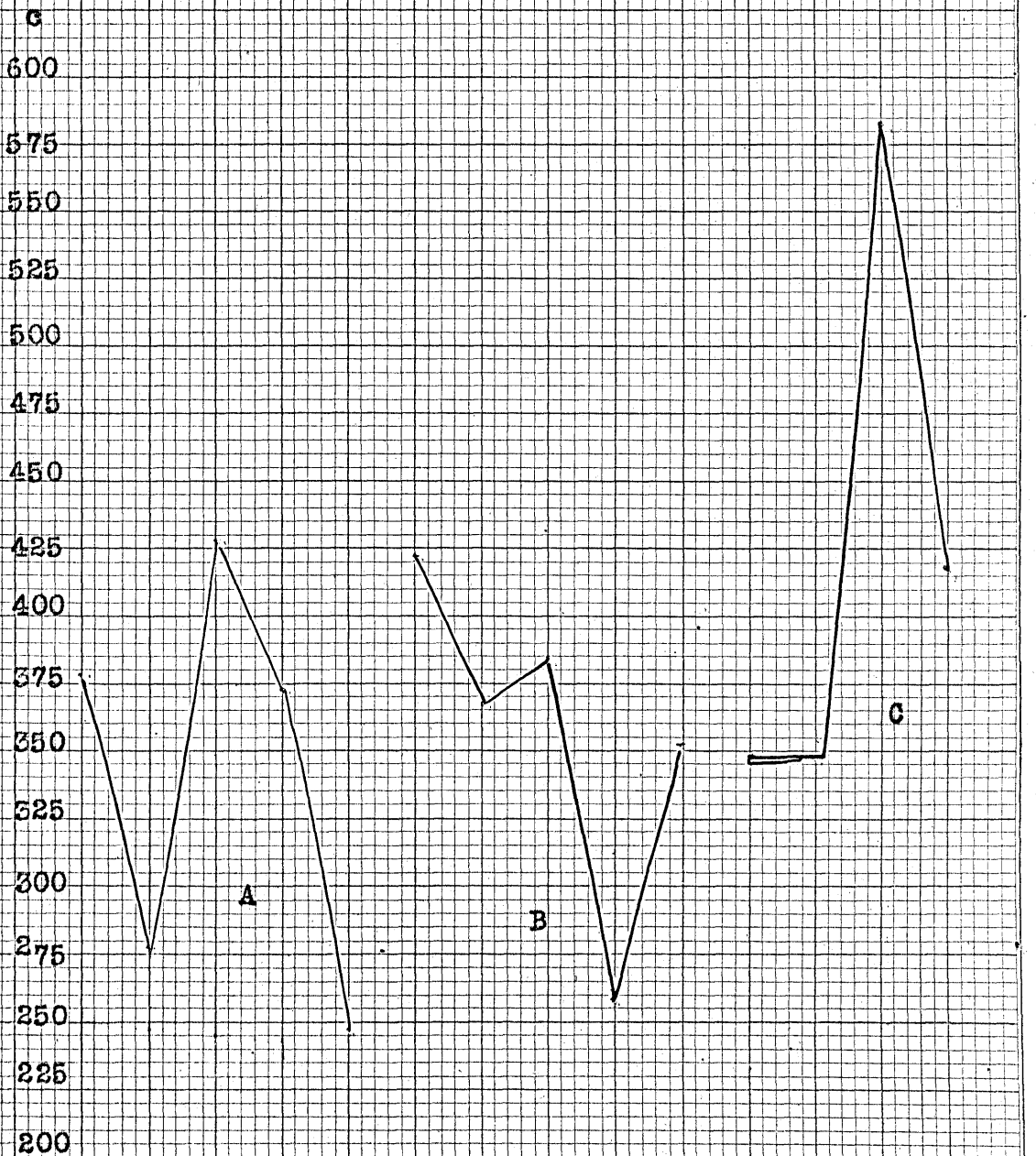


0-17
0-X = number of errors on 100-scale.
SCIENCE, "C" groups (of all sets)

GRAPH 2
TOTAL ERRORS OF EACH SET FOR "A"
"B" AND "C" GROUPS

Sets	1	2	3	4	5
A	379	277	428	373	241
B	421	367	384	284	353
C	349	349	582	418	279

These totals are taken from Tables III, IV, V. They show the variations of "A", "B" and "C" groups in the five sets of themes.



SUMMARY OF DATA SHOWN IN
TABLES III, IV, AND V.

- I. Each section shows a general improvement between sets 1 and 5. For the "A" group this is 138; for the "B", 68; and for the "C", 70. The decrease, however, is not gradual in any of the three. The "A" group has its peaks in sets 1, 3, and 4; the "B" group, in sets 1 and 3; the "C" group, in sets 3 and 4.
- II. The average number of errors per set varies with the section, as follows: "A", 339.4; "B", 361.8; "C", 395.4. Thus the number increases from "A" through "B" to "C".
- III. The outstanding errors and their percentages in the five sets for each section are:
- A. For the "A" group:
1. Misspelling (45) 15%
 2. Errors in sentence structure (21,22,23)
12%
 3. Omissions (39,40) 8%
 4. Errors in capitalization (37,38) 8%
 5. Errors in miscellaneous punctuation
(32) 7%
- B. For the "B" group:
1. Misspelling (45) 22%

2. Errors in sentence structure (21, 22
23) 15%

None of the other errors are "outstanding"; the percentages are very scattered over various types.

C. For the "C" group:

1. Misspelling (45) 20%
2. Errors in sentence structure (21, 22, 23)
17%

The remaining 63% are scattered over a wide range of kinds of errors.

IV. The outstanding errors and their percentages in the five sets for the class, as a whole, are:

1. Misspelling (45) 19%
2. Errors in sentence structure (21, 22, 23)
16%

Thus 34% of the errors of the freshman class fall into two general or four specific types of errors; while the remaining 66% are scattered over the other 43 kinds of errors, as there is none that fails to occur.

V. The total errors of the freshman class are 5483. The sections shared this in the following manner:

1. The "A" with a total of 1697 made 30.95% of the errors.
2. The "B" with a total of 1809 made 32.992% of the errors, an increase

of about 2% over "A".

3. The "C" with a total of 1977 made 36.058% of the errors, an increase of about 3% over "B".

Thus there is no sharp distinction between the average number of errors for the "A", "B", and "C" groups.

VI. The average number of errors per set for the class, as a whole, is 1096.6

VII. As to the factors which affect the fluctuation of errors or the rate of improvement of errors in the various sections, it is difficult to say exactly which affected the results or at what time any particular one was in effect.

1

Improvement, according to Thorndike, "is the addition or subtraction of bonds or the addition or subtraction of satisfyingness and annoyingness".

The conditions which effect improvement groups under the classification of external, physiological, psychological, and educational. By external conditions is meant such influences as length of practice period, and the intervals between, time of day, etc. By physiological is

1. Thorndike, E. L., "Educational Psychology - Briefer Course ", p. 202.

meant conditions such as that produced by having certain diseases. Psychological conditions include the following aids to improvement:¹

"interest in the work, interest in the improvement, significance, problem-attitude and attentiveness, absence of irrelevant emotional excitement, and the absence of worry". Educational conditions include very important factors such as organization of the practice drills and the method of work taught to the learner".

As already stated, it is extremely difficult to judge, even if a rather minute account of each individual's exterior school life were kept, which factor or factors effected the elimination or lack of elimination of errors in any of these sections. Sickness, truancy, the weather, holidays, examinations, certain extra-curricular activities, and many other specific things and events interrupted the continuity of the regular school work. Moreover, this occurred in varying degrees with different individuals.

1. Thorndike, E. L., "Educational Psychology - Briefer Course", p. 214.

Turning now to the junior classes similar facts will be considered. These tables include items pertaining to:

1. The number of times each kind of error was made in each set.
2. The number of times each kind of error was made in five sets.
3. The total number of errors made in each set.
4. The total number of times each kind of error was made in the five sets of the three groups.
5. The total of all errors in the five sets for each of the three groups.
6. The total of all the errors in the five sets for all juniors.

Error	Sets:					Total
	1	2	3	4	5	
1	1	1	0	5	2	9
2	0	0	0	0	0	0
3	1	0	0	0	0	1
4	1	0	0	0	0	1
5	0	2	1	0	1	4
6	53	0	3	0	1	57
7	1	3	1	2	0	7
8	0	1	2	0	2	5
9	0	5	5	4	1	15
10	2	2	3	2	2	11
11	0	5	5	1	6	17
12	1	2	1	2	1	7
13	3	0	1	2	0	6
14	0	0	0	0	0	0
15	0	1	0	2	0	3
16	0	0	0	1	0	1
17	4	1	6	8	7	26
18	1	2	8	10	3	24
19	0	0	0	0	0	0
20	0	0	0	1	1	2
21	6	3	1	3	4	17
22	7	7	4	1	3	22
23	2	3	5	2	1	13
24	0	4	4	1	0	9
25	1	7	7	0	1	16
26	0	7	8	4	4	23
27	3	1	2	1	1	8
28	3	1	1	2	1	8
29	12	2	4	1	0	19
30	14	1	7	1	6	29
31	0	2	0	2	2	6
32	34	26	21	11	12	104
33	0	0	0	0	0	0
34	0	3	0	0	0	3
35	1	2	0	4	0	7
36	10	5	8	12	3	38
37	8	6	2	2	3	21
38	12	2	3	3	5	25
39	7	8	20	9	9	53
40	1	10	12	1	7	31
41	1	3	1	2	2	9
42	9	2	4	0	0	15
43	3	3	0	3	0	9
44	1	1	0	1	0	3
45	19	21	43	20	49	152
46	5	3	3	5	2	18
47	47	16	11	4	6	84
Totals	274	174	207	135	148	938

TABLE VI

DISTRIBUTION OF

ERRORS OF "A"

JUNIORS

This table shows the

number of times each

error was made by

junior "A" classes

in sets 1, 2, 3, 4,

and 5, a "set" being

the themes of "A"

classes on a single

subject. Each error

type is designated

by a number which is

explained in Table II

on page 14.

Average number of

errors per set = 187.6

Net improvement or

decrease in the num-

ber of errors between

sets 1 and 5 = 126.

Table VI reveals a number of interesting facts about "A" juniors. These include:

I. Set 1 contains the greatest number of mistakes with a total of 274. Set 3 ranks second with 207 errors. Set 5 shows a slight increase over set 4 which has the lowest total of the five. Thus the papers written at the time of mid-year and final exams show the possible effect of mind-set and nervousness.

II. The average number of errors per set is 187.6, which is by far the lowest average of any of the six sections of students included in his study. This is true in spite of the fact that the themes of this group are longer, in general, than those of other sections. Such a condition is the result of: (1) the sophomore training in composition with the emphasis on sentence structure, (2) the enriched program that these students had in the "A" sophomore class, (3) more practice in theme writing, (4) increased maturity, (5) more social contacts, and (6) more reading. These influences increase the fluency of the junior students, which, in turn according to Lyman's conclusions, would react upon the general ex-

collence of the themes and their freeness from mechanical errors:

III. The errors which contribute, especially, to the totals of set 1 are:

1. Indefinite use of "You" (6)
2. Incomplete sentence (21)
3. Failure to make new sentence for new thought (22)
4. Independent clause of compound sentence not separated (29)
5. No punctuation after introductory expression (30)
6. Miscellaneous misuses of apostrophe (36)
7. Failure to use capital (37)
8. Improper use of capital (38)
9. Misspelling (45)
10. Miscellaneous errors (47)

These fall into the general types of:

1. Punctuation
2. Capitalization
3. Misspelling
4. Sentence structure
5. Indefinite use of "you"

Possibly these five types of errors are due to carelessness. This explanation would be plausible if these errors drop out in the other four sets.

In the case of the indefinite use of "you", this is true; in fact, 50 of these 68 uses of "you" were made by one writer. Punctuation and capitalization tend rapidly to decrease.

IV. Set 2 contains 100 errors less than set 1. The errors which aid in this improvement are:

1. Indefinite use of "you" (6)
2. Use of adjective for adverb (15)
3. Miscellaneous misuses of adjective and adverb (17)
4. Incomplete sentence (21)
5. Independent clauses of compound sentence not separated (29)
6. Miscellaneous punctuation (52)
7. Miscellaneous misuses of apostrophe (36)
8. Failure to use capital (37)
9. Compound words incorrectly written (42)
10. Miscellaneous errors (47)

These point out that the emphasis in correction of errors of the first five weeks was possibly placed on:

1. The use of adjectives and adverbs
2. Punctuation
3. Capitalization

On the other hand, increases were made, especially by the following errors:

1. Change of past tense in main clause (9)
2. Wrong verb used (11)
3. Ambiguity due to indefinite pronominal reference (24)
4. Awkward or complicated phrasing (25)
5. Other cases of ambiguity (26)
6. Omission of letter or syllable (40)

These show a need of emphasis in the use of verbs and in sentence structure.

V. Set 3 shows a total increase over set 2. Errors 39 and 45, especially, add to this. These are omission of word or phrase and misspelling. The former may be due to carelessness, fatigue, or nervousness; while the latter is likely to be due to the subject; "Starting the Car", which has already been discussed on page 32. Decreases are to be seen in:

1. Failure to make new sentence for new thought (22)
2. Miscellaneous punctuation (32)
3. Failure to use capital (37)

VI. Set 4 has the lowest total of the five sets. The contributors to such a condition show that instruction in correction of errors reduced, in general,

punctuation, capitalization and sentence structure errors.

VII. The enlargement of errors in set 5 is accounted for particularly by:

1. Wrong verb used (11)
2. No punctuation after introductory expression (30)
3. Omission of letter or syllable (40)
4. Misspelling (45)

Again carelessness, fatigue and mind-set may account for this. It is true, also, that the subject effected the misspelling, as automobile experiences were the most popular topics for "A Narrow Escape".

VIII. The net improvement or decrease in errors between sets 1 and 5 for "A" juniors is 126. This is not quite as great as that of the "A" freshmen, but greater than the improvement of all other groups.

IX. The total of all errors made by "A" juniors is 938. This is the lowest number of errors made by any group. Of these 938 errors,

- 16% were misspelling (45)
- 11% were miscellaneous punctuation (32)
- 8% were omissions (39, 40)
- 8% were miscellaneous errors (47)
- 5% were errors in sentence structure

These were the chief mistakes; while the other 52% are scattered among 22 of the remaining 39.

Error	Sets:					Total
	1	2	3	4	5	
1	0	1	0	3	1	5
2	0	1	0	0	0	1
3	2	0	1	0	0	3
4	1	2	1	0	0	4
5	0	2	1	2	3	8
6	11	12	7	4	1	35
7	1	0	1	7	0	9
8	0	6	5	4	6	21
9	10	23	8	9	10	60
10	2	1	4	6	6	19
11	15	15	7	5	4	46
12	0	0	2	1	0	3
13	6	11	5	0	0	22
14	0	0	0	0	0	0
15	0	1	0	0	0	1
16	0	0	0	3	1	4
17	1	1	4	9	8	23
18	2	15	17	12	6	52
19	0	1	1	0	0	2
20	3	1	1	3	4	12
21	10	5	3	3	6	27
22	19	28	24	1	10	92
23	0	6	1	7	12	26
24	1	1	0	5	5	12
25	10	28	28	3	0	69
26	3	9	3	7	13	35
27	9	8	0	0	12	29
28	0	11	2	2	1	18
29	2	29	6	0	0	35
30	3	0	3	1	3	10
31	3	2	2	4	1	12
32	16	23	26	7	6	88
33	0	0	1	0	0	1
34	0	1	0	0	0	1
35	3	0	0	1	1	5
36	7	9	6	16	5	43
37	2	5	4	6	10	27
38	20	4	6	8	5	43
39	19	28	20	20	16	103
40	7	46	42	0	2	97
41	1	5	1	2	1	10
42	20	19	9	1	0	49
43	3	5	4	1	3	16
44	0	2	0	4	1	7
45	24	62	57	40	41	224
46	4	9	11	2	2	28
47	37	22	26	10	6	101
Totals	277	480	350	219	212	1538

TABLE VII

DISTRIBUTION OF
ERRORS OF "B"
JUNIORS

This table shows the number of times each error was made by junior "B" classes in sets 1, 2, 3, 4, and 5, a "set" being the themes of "B" classes on a single subject. Each error type is designated by a number which is explained in Table II on page 14. Average number of errors per set = 307.6. Net decrease of the number of errors between sets 1 and 5 = 65.

Table VII displays the following conditions among

"B" juniors:

- I. Set 2 has by far the highest total of all sets, as its total is 480. Set 3 reduces this to 350; set 4, to 219; and set 5, to 212. The exceedingly high total of set 2 can not be explained satisfactorily, although a number of factors (such as the chief interest of the classes at that time, sickness, etc.) might operate.
- II. The average number of errors per set is 307.6. This is not as small an average as that of "C" juniors (see page). Two elements tend to produce these circumstances; namely, the emphasis of the course content is upon narration, description, exposition, and argument, as such, rather than upon correction or elimination of mechanical errors; moreover, "B" juniors average longer themes than do the "C" juniors.
- III. The chief contributors to the total of set 1 are:
 1. Miscellaneous errors (47)
 2. Misspelling (46)
 3. Improper use of capital (38)
 4. Compound words incorrectly written (42)
 5. Failure to make new sentence for new thought (22)
 6. Omission of word or phrase (39)

These are errors that may be due to carelessness.

IV. The extremely high total of set a can not be satisfactorily accounted for. The contributing errors are:

1. Use of wrong or superfluous preposition (18)
2. Failure to make new sentence for new thought (22)
3. Awkward or complicated phrasing (25)
4. Members of series not separated (28)
5. Independent clause of compound sentence not separated (29)
6. Miscellaneous punctuation (32)
7. Omission of word or phrase (39)
8. Omission of letter or syllable (40)
9. Misspelling (45)

These errors pertain, in general, to:

1. Sentence structure
2. Punctuation
3. Misspelling
4. Omissions

V. The total of set 3 is less than that of set 2 but it is higher than any of the other three sets. It is interesting to notice that the contributing errors are identical. For the most part, with those of set 1, with the addition of error 40, omission of letter or syllable

VI. Sets 4 and 5 show a decided improvement over the

preceding sets of themes. This decrease of errors took place, especially in the following errors:

1. Use of wrong or superfluous preposition (18)
2. Failure to make new sentence for new thought(22)
3. Awkward or complicated phrasing (25)
4. Independent clause of compound sentence not separated (29)
5. Miscellaneous punctuation (32)
6. Omission of letter or syllable (40)
7. Misspelling (45)

Thus the chief errors of sets 1, 2, and 3 have been checked or eliminated. Moreover, errors in sentence structure tend to increase. At any rate, the more elementary mistakes have been lessened.

VII The net increase of the number of errors between set 1 and 5 is 65. This is not as great as the improvement for "C" juniors as may be seen by referring to Table VIII, page . This, as well as the average number of errors per set is influenced by the scattering of interest and effort, in the "B" classes, over types of discourse, especially, with elimination of errors as a secondary interest.

VIII. The total number of errors made by "B" juniors is 1538. This is the highest total for any junior section. Of these 1538 errors,

14% were misspelling (45)

19% were omissions (39, 40)

8% were in sentence structure (21, 22, 23)

5% were in miscellaneous punctuation (32)

Error	Sets:					Total	Grand Total
	1	2	3	4	5		
1	0	0	2	1	4	7	21
2	0	0	0	0	0	0	1
3	0	0	0	0	0	0	4
4	0	1	0	0	0	1	6
5	3	4	0	1	1	9	21
6	4	1	5	3	2	15	107
7	1	7	6	2	0	16	32
8	4	8	4	3	13	32	58
9	7	4	10	6	17	44	119
10	5	14	10	4	7	40	70
11	6	3	9	5	11	34	97
12	1	0	0	0	0	1	11
13	5	6	5	3	0	19	47
14	0	0	0	0	0	0	0
15	6	1	1	1	0	9	13
16	0	0	0	0	0	0	5
17	4	5	4	10	17	40	89
18	10	12	3	6	6	37	113
19	0	0	0	1	0	1	3
20	0	1	0	1	0	2	16
21	19	15	6	3	22	65	109
22	26	17	11	8	20	82	196
23	35	21	14	10	16	96	135
24	6	6	4	5	12	53	54
25	0	0	0	1	0	1	86
26	10	3	12	8	5	38	96
27	7	4	0	0	2	13	50
28	1	3	4	5	1	14	40
29	6	3	0	1	0	10	64
30	8	2	9	3	1	23	62
31	11	3	2	3	2	21	39
32	8	14	12	0	6	40	232
33	0	0	0	0	0	0	1
34	0	0	0	7	0	7	11
35	5	4	0	19	5	33	45
36	7	3	6	9	7	32	113
37	5	5	12	5	13	40	88
38	25	14	5	10	3	57	125
39	27	15	22	0	16	80	236
40	0	0	0	3	2	5	133
41	4	3	2	0	7	16	35
42	0	0	0	2	0	2	66
43	6	5	6	2	2	21	46
44	3	6	1	3	1	14	24
45	49	40	38	43	42	212	588
46	13	2	6	1	2	24	70
47	18	17	17	9	7	68	253
Totals	355	272	248	207	272	1354	3830

TABLE VIII
DISTRIBUTION OF
ERRORS OF "C"
JUNIORS

This table shows the number of times each error was made by junior "C" classes in sets 1, 2, 3, 4, and 5, a "set" being the themes of "C" classes of a single subject. Each error type is designated by a number which is explained in Table II on page 14.

Average number of errors per set = 270.8

Net decrease of number of errors between sets 1 and 5 = 83. Average number of errors per set for classes as a whole = 766

Table VIII presents to the errors of "C" juniors. It shows:

I. Set 1 has the highest total. Each succeeding set shows a gradual decrease until set 5 which shows a decided increase over set 4. The occurrence of the increase in set 5 may be as stated above, coincident with the distractions of the holidays and the final examination. Since the conditions under which set 5 was written were not normal, its results are not discouraging and the consistent improvement in the four sets is encouraging.

II. The average number of errors per set is 270.8. This is 37 less than the total of the "B" juniors which, in turn, is 183 more than the total of the "A" group. This sum is less than that for the "B" juniors partly because of the fact that the procedure in the "C" classes places the emphasis upon correction and elimination of errors, largely through the stressing of special exercises pertaining to the various kinds of errors. Thus, the concentration on this type of study proved effective.

III. The total of set 1 was made, chiefly, by the following errors:

1. Misspelling (45)
2. Miscellaneous errors in sentence

structure (23)

3. Omission of word or phrase (39)
4. Failure to make new sentence for new thought (22)
5. Improper use of capital (38)
6. Incomplete sentence (21)

IV. Set 2 shows a decrease of 83 errors, as compared with set 1. This improvement is made in the following errors:

1. Indefinite use of "you" (6)
2. Change of past tense in main clause (9)
3. Incomplete sentence (21)
4. Failure to make new sentence for new thought (22)
5. Miscellaneous errors in sentence structure (23)
6. Other cases of ambiguity (26)
7. No period (27)
8. Name of city and state not separated (31)
9. Miscellaneous misuses of apostrophe (36)
10. Improper use of capital (38)
11. Omission of word or phrase (39)
12. Misspelling (45)
13. Misuse of quotation marks (46)

These errors, in general, are those which pertain to:

1. Sentence structure
2. Punctuation
3. Misspelling

On the other hand, increases are made in the following:

1. Disagreement of pronoun and antecedent (5)
2. Miscellaneous misuses of pronouns (7)
3. Disagreement of subject and predicate (8)
4. Wrong past tense or past participle (10)
5. Mistakes in mood (12)
6. Members of series not separated (28)
7. Miscellaneous punctuation (32)

Thus, while there was an improvement in some types of punctuation, set 2 does not show a general or complete understanding of the punctuation found in the simple narratives written by these "C" juniors

V. Set 3, also, shows a decrease as compared with the preceding set, although not as great a one between sets 1 and 2. This improvement was made in:

1. Disagreement of pronoun and antecedent
2. Wrong past tense or past participle (10)
3. Disagreement of subject and predicate (8)
4. Use of wrong or superfluous conjunction (18)
5. Incomplete sentence (21)
6. Failure to make new sentence for new thought (22)
7. Miscellaneous mistakes in sentence structure (23)
8. Improper use of capital (38)
9. Misspelling of "their", "there" (44)

Thus, the "C" group improved in 9 errors which were rather prominent in sets 1 and 2. Increases, however, were made in the following errors:

1. Subject or object of verb in wrong case (1)
2. "You" used indefinitely (6)
3. Change of past tense in main clause (9)
4. Wrong verb used (11)
5. Other cases of ambiguity (26)
6. No punctuation after introductory expression (30)
7. Miscellaneous misuses of apostrophe (36)
8. Failure to use capital (37)
9. Omission of word or phrase (39)
10. Misuse of quotation marks (46)

VI. Set 4 has a decrease in the total number of errors as compared with the number of set 3.

The decrease is made in the following errors:

1. "You" used indefinitely (6)
2. Disagreement of subject and predicate (8)
3. Change of past tense in main clause (9)
4. Wrong past tense or past participle (10)
5. Wrong verb used (11)
6. Use of adjective for adverb (13)
7. Incomplete sentence (21)

8. Failure to make new sentence for new thought (22)
9. Miscellaneous mistakes in sentence structure (23)
10. Other cases of ambiguity (26)
11. No punctuation after introductory expression (30)
12. Miscellaneous punctuation (22)
13. Failure to use capital (37)
14. Omission of word or phrase (39)
15. Misspelling of "To", "too", "two".
16. Misuse of quotation marks

In general the above list includes these types:

1. Verbs
2. Sentence structure
3. Punctuation
4. Misspelling
5. Omission

In spite of the improvement made in the errors listed there were 7 errors in which prominent increases occurred:

1. Miscellaneous misuses of adjectives and adverb (17)
2. Use of wrong or superfluous conjunction (18)
3. Wrong form of possessive nouns (34)
4. "O'clock" written without apostrophe (35)
5. Miscellaneous misuses of apostrophe (36)
6. Improper use of capital (38)
7. Omission of letter or syllable (40)

In several errors, slight increases were made. A consideration of the figures in the errors of the themes up to this point suggests:

1. In the case of 17, 18, 35, 36, and 38 the learning process must have been incomplete (see page for a more complete discussion of this). A knowledge of this material functioned in in set 5 but in set 4, after the study of another type of error was stressed the student tended to make the old error while correcting others.

VII. Set 5 indicates an improvement over set 1; in fact, the net decrease is 83. However, this set shows an increase in total over set 4. The errors which cause the increase of set 5 over set 4 are, especially:

1. Disagreement of subject and predicate (8)
2. Change of past tense in main clause (9)
3. Wrong past tense or past participle (10)
4. Wrong verb used (11)
5. Incomplete sentence (21)
6. Omission of word or phrase (39)

Each of these errors shows considerable fluctuation between sets 1 to 5 with noticeable lack of improvement in set 5 as compared with the preceding set, although it (set 4) shows an improvement as compared with set 3. Perhaps, these factors

are causal:

1. As stated above set 5 was not written under normal conditions, due to the recent Christmas holidays and the approaching examinations. These produced two conditions which Thorndike¹ lists as being unfavorable for improvement: other interests (than this subject or school, in general) and worry.

2. Apparently in these classes in which the emphasis was drill work, the drill was based upon the noticeable errors as they appeared. For set 4 these were many in number but pertained, especially, to errors 17, 18, 34, 35, 36, 38; and there was improvement in all of these in set 5, with the exception of 17 and 18. Error 17, miscellaneous misuses of adjective and adverb increased; while error 18, use of wrong or superfluous conjunction remained stationery. Moreover, the outstanding increase in set 5 was made in errors which were low in set 4. Evidently between set 3 and set 4 the strengthening of the bonds, and their satisfyingness, for these errors was insufficient, for,

1. Thorndike, E. L., "Educational Psychology - Briefer Course" p. 205

as soon as the emphasis of the drill work shifted to other errors, the original ones tend to reappear. Perhaps, not only is the element of satisfyingness lacking for these individuals when they do not make these errors but also is the element of annoyingness lacking when they do make the errors.

In reference to decreases of errors, it is interesting to note that, in general, the decreases are lower than the increases in set 5.

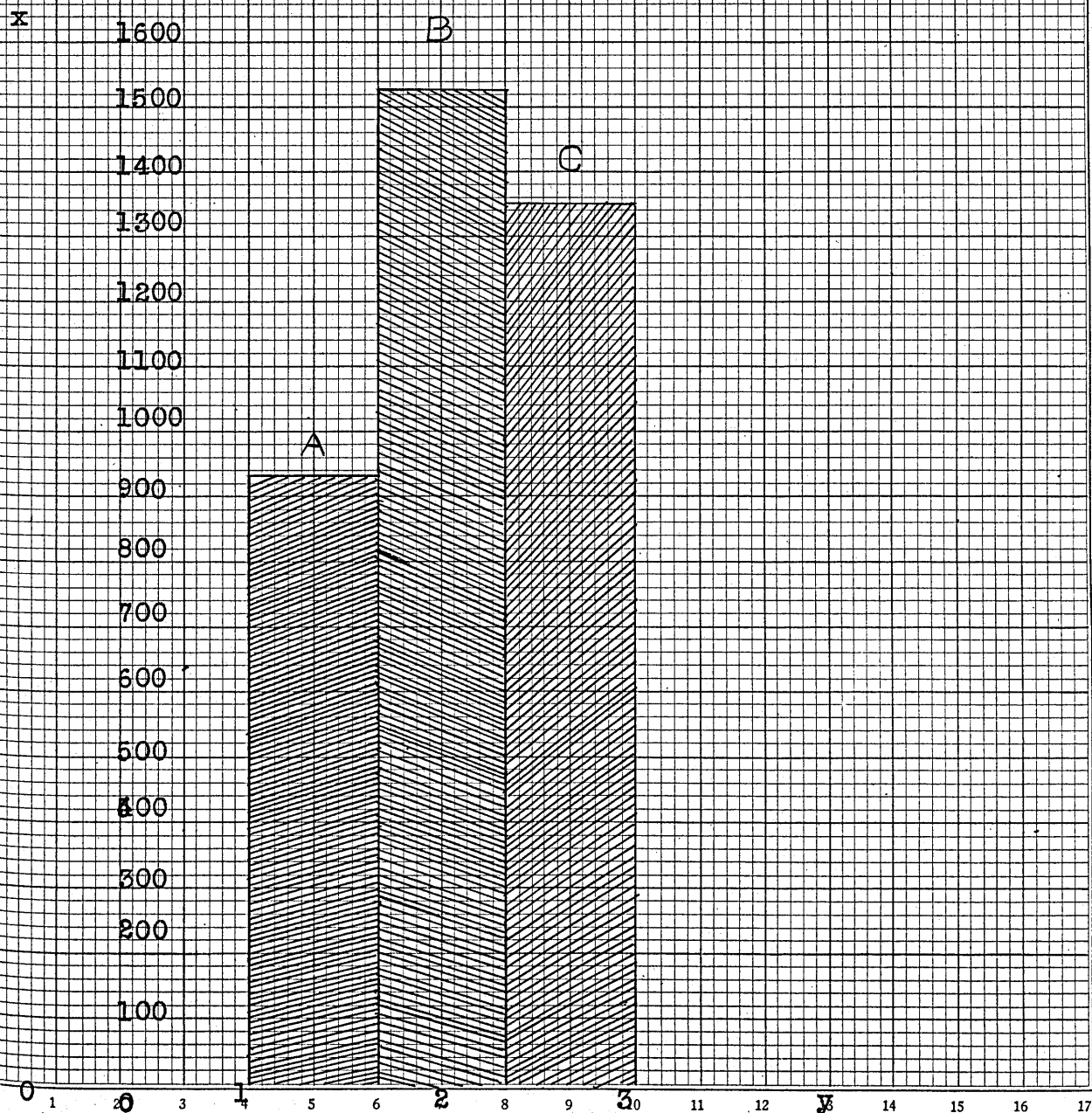
- VIII. In spite of the increase of errors in set 5 over set 4, there is a net improvement in the "C" group of 83, which is greater than that of the "B" juniors. This shows the general effectiveness of drill in the "C" classes.
- IX. The total number of errors for the five sets of themes is 1254, which is an average of less than that of the "B" group. This total, also, is indicative of the effectiveness of drill in the "C" classes. The chief contributors to this total are:
1. Misspelling (45)
 2. Errors in sentence structure (21, 22, 23)
 3. Omissions (29)
 4. Miscellaneous errors (47)
- X. The average number of errors per set for the class as a whole is 766 as contrasted with 1096.6 aver-

age number of errors per set for the freshman class as a whole.

GRAPH 3
Total Errors of Junior Groups

A's total	938
B's "	1538
C's "	1354

These totals are taken from Tables VI, VII and VIII. They show the difference among the "A", "B", and "C" groups.



HP No. 9108 SCIENCE

o - y = "A", "B", "C" groups (of all sets)
 o - x = number of errors on a 100 - scale.

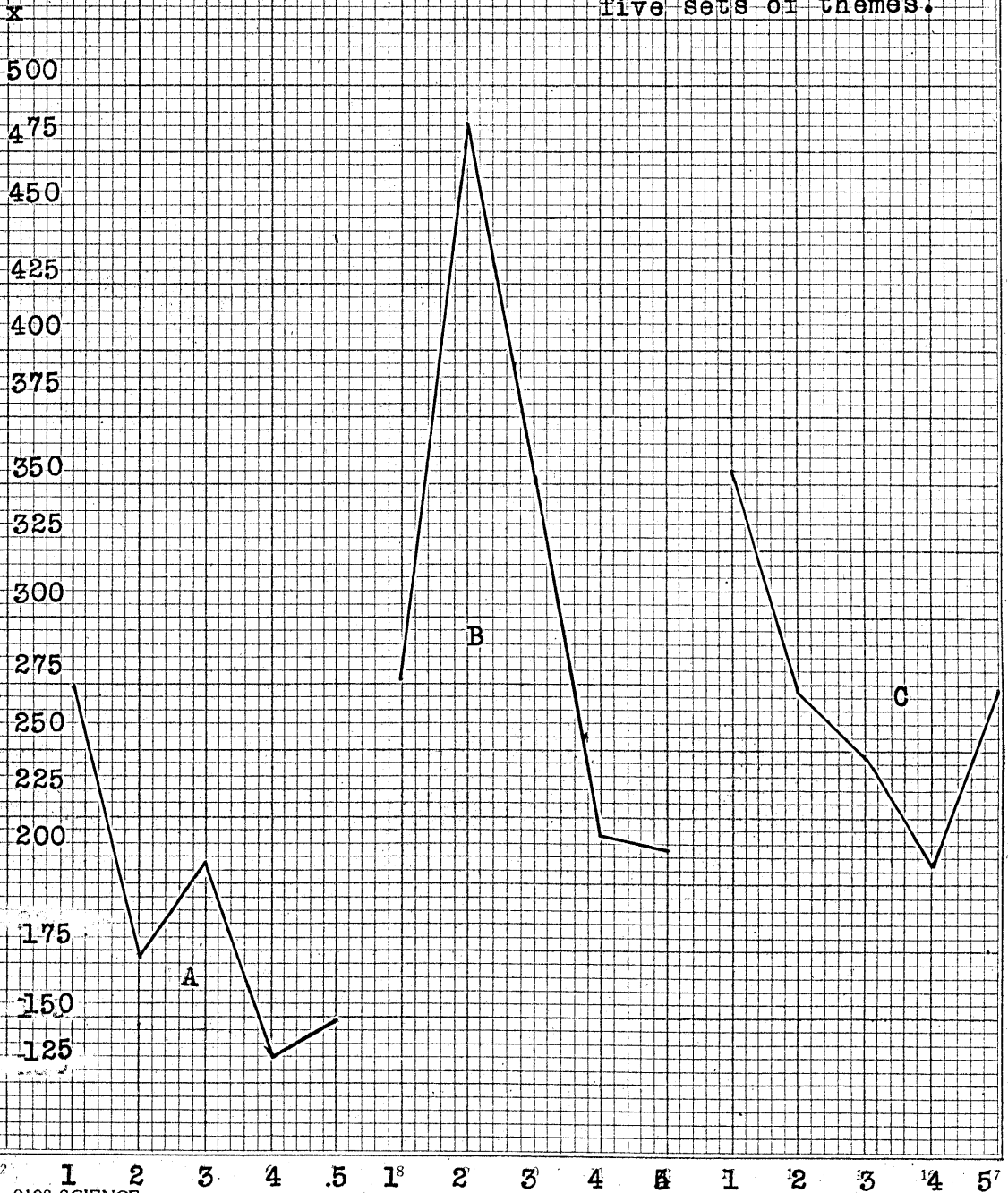
GRAPH 4

Total errors of Each Set for "A", "B", "C"

JUNIORS

Sets:	1	2	3	4	5
A	274	174	207	135	148
B	277	480	350	219	212
C	355	272	248	207	272

These totals are taken from Tables VI, VII, and VIII. They show the variation of errors in the "A", "B", and "C" groups for the five sets of themes.



1
 0 N - 9108-SCIENCE
 y - sets 1 - 5 for "A", "B", and "C" groups
 x - number of errors on a 25 - scale

SUMMARY OF DATA SHOWN IN

TABLES VI, VII, VIII

- I Each section shows a general improvement between sets 1 and 5. For the "A" group this is 126; for the "B", 65; and for the "C", 83. The decrease however gradual is not in any of the three. The "A" group has its peaks in sets 1, 3, and 5; the "B" in set 2 -- such a tremendous increase that it is extremely difficult to account for; the "C", in set 5. It is interesting to note that, aside from the increase in set 5, the most gradual and next to the highest decrease takes place in the classes in which there was a systematic drill in grammar, punctuation, and sentence structure, in spite of the fact that these were the classes of the least ability.
- II. The average number of errors per set varies with the section, although "the expected" does not occur in the junior classes, as the "B" average exceeds the "C" average. The average of errors per set is as follows: "A", 187.6; "B", 307.6; and "C", 270.8.
- III The outstanding errors and their percentages for each section in the five sets are:
- A. For the "A" group:
1. Misspelling (45) 16%

2. Errors in miscellaneous punctuation (32)
11%
3. Omissions (39,40) 8%
4. Miscellaneous errors (47) 8%
5. Errors in sentence structure (21, 22, 23)
5%

B. For the "B" group:

1. Omissions (39, 40) 19%
2. Misspelling (45) 14%
3. Errors in sentence structure (21,22,23) 8%
4. Miscellaneous errors (47) 6%
5. Errors in miscellaneous punctuation (47) 5%

C. For the "C" group:

1. Misspelling (45) 15%
2. Errors in sentence structure (21,22,23) 15%
3. Omissions (39,40) 6%
4. Miscellaneous errors (47) 5%
5. Errors in miscellaneous punctuation (32) 2%

IV. The outstanding errors and their percentages in the five sets for the class, as a whole, are:

1. Misspelling (45) 15%
2. Errors in sentence structure (21,22,23) 14%
3. Omissions (39,40) 9%
4. Errors in miscellaneous punctuation (32) 6%
5. Miscellaneous errors (47) 6%

Thus 50% of the errors of the junior class fall into these five general types:

V. The total errors of the junior class are 3830.

The groups shared this in the following manner:

1. The "A" with a total of 938 made 24.49% of the errors.
2. The "B" with a total of 1538 made 40.16 % of the total errors.
3. The "C" with a total of 1354 made 35.35% of the total errors.

VI. The average number of errors per set for the class as a whole, is 766.

VII. The factors that affect the rate of improvement in the junior classes are practically the same as those considered in reference to the freshman class. However, there are a few different factors. These include:

1. In the "A" and "B" groups, the emphasis is upon narration, description, exposition, and argument; while elimination of errors is a secondary interest.
2. Extra-curricular activities and their diverting interests are greater for juniors than for freshmen. As to whether this is to the advantage of the freshmen or the juniors is unknown.

A COMPARISON OF DATA SHOWN IN TABLES III, IV, V
WITH THOSE TABLES VI, VII, AND VIII

- I. Each section of both classes shows a net improvement between sets 1 and 5.
- II. In the freshman class the average number of errors per set for a section shows an increase from "A" through "B" to "C". In the junior class, however, this is not true, as the "C" average number of errors per set is less than the "B" --- the effect of change of course content, in the "C" section, from the usual junior work to drill in composition.
- III In the freshman class, the outstanding errors and their percentages in the five sets for the class, as a whole, are:
1. Misspelling (45) 19%
 2. Errors in sentence structure (21,22,23) 16%,
with the remaining 66% scattered somewhat evenly over the 43 kinds of errors.
- In the junior class, however, 50% of the errors fall into comparatively high percentages. These are:
1. Misspelling (45) 15%
 2. Errors in sentence structure (21,22,23) 14%
 3. Omissions (39) 9%
 4. Error in miscellaneous punctuation (32) 6%
 5. Miscellaneous errors (47) 6%
- IV. Thus in both classes the most common error is

Misspelling, with errors in sentence structure ranking second. The totals for misspelling are as follows:

Sets:

Freshman "A"	1	2	3	4	5	Totals	Rank
Freshman "A"	45	39	76	55	50	265	4
Freshman "B"	70	83	86	68	99	406	5
Freshman "C"	62	72	127	83	70	414	6
Junior "A"	19	21	43	20	49	152	1
Junior "B"	24	62	57	40	41	224	3
Junior "C"	49	40	38	43	42	212	2

From these totals it would seem that the "A" juniors are the best spellers; the "C" juniors are the next best; while the "B" juniors rank next. The "A" freshmen have a few more than the "C" juniors; but between the "A" and "B" freshmen there is a decided increase; and the "C" freshman rank last, with a slightly higher total than that of the "B" section.

In the 909 themes written by freshmen, 1080 words were misspelled; in the 1108 themes written by juniors 588 words were misspelled. This means that each freshman averaged 1.19 misspelled words in five themes and that each junior averaged .53 words in five themes.

These misspelled words have been compiled in two groups ---- (1) those misspelled more than twice and (2) those misspelled twice or less.

Words misspelled more than twice

(The numbers following the words

show how often each word was misspelled)

across 3	gone 3	Saturday 3
all right 11	grabbed 5	slipped 3
almost 5		some 3
already 4	happened 4	stepped 3
an 11	horses 7	stopped 40
apartment 4		separate 3
around 12	imagine 11	separated 5
aroused 12	immediately 11	shopping 3
	impossible 11	steer 3
bicycle 6	inconvenient 3	steering 3
brakes 6	investigate 11	skidded 3
		sleigh 4
carbtorator 5	know 6	squirrels 3
carelessness 12		surprise 6
chores 12	magneto 11	sweater 3
climbed 12	mechanic 3	swimming 6
closely 12	message 3	
coming 4	minute 4	telephone 3
crossed 12	month 3	then 8
		there 7
decided 5	necessary 11	though 4
disappeared 12	night 8	thought 6
discovered 4		through 10
dropped 4	of 3	tired 3
down 5	off 9	together 3
	on 3	two 3
engine 10	overalls 5	
	ordinarily 3	uncle 3
finally 19		until 35
for 4	planned 25	
four 6	puncture 3	wait 5
frantically 3		waited 3
frightened 4	quite 3	waiting 3
		water 3
gas 3	radiator 4	whether 4
gasoline 5	rabbit 6	whistle 4
getting 3	restaurant 4	with 3
going 3	running 35	

Words misspelled once or twice

about	before	coaxed	dramatic
abroad	began	Colorado	dreaded
accelerator	being	combatants	driven
accidentally	beginning	commissary	drowsy
acquainted	behooves	completely	ducky
acquired	below	complexion	during
admitted	bend	confusion	duties
aerial	beneath	consented	
aeroplane	better	conscience	easier
after	between	consist	easily
afterwards	bit	continuous	effect
again	blackberry	conveyance	eighteenth
ago	both	country	eighth
all	breath	couple	either
allowed	branches	course	elated
along	bumpy	cousin	electrician
although	buried	crank	employees
always	business	cranked	emergency
amateur	but	crept	endeavoring
ambitious	button	crime	enough
ambulance	buggy	croquet	enthusiasm
amusement	bulletin	crowd	entered
and	burned	curb	especially
anemic		curbing	estimation
angrily	cabbages	curly	evening
announced	cabinet	curtains	evenly
another	came	curving	ever
anxious	captured	custom	evidently
anything	car	cylinder	exactly
any	carbon		examined
anyway	careful	damage	exasperating
apparatus	caring	dared	excitedly
apparel	carrying	days	exciting
apologized	cashier	declared	excitement
apology	caught	deapartment	exhausted
arose	chagrin	depot	expedition
arrived	charm	destination	experience
assumed	championship	detour	
arguing	chance	digging	failure
ate	chasing	dilapidated	fainting
attention	chasm	difficulty	fairly
avoid	chauffer	directions	families
away	choker	disappearing	fashioned
	chin	disappointment	father
baggage	chum	discomfiture	fault
banana	choking	direction	feel
barely	clamored	dirty	feeling
barrell	clapping	disgusted	felt
both	clerk	doesn't	fence
battery	cloder	dollars	fifteen
battle	clothes	downstairs	filling
bawling	clover	dragging	
before	clutch		
began			

financial	hills	jerked	mine
finest	hind	jammed	Minnesota
five	hire	kept	minnows
fix	hiring	Kansas City	minutes
football	hitting	kind	mishap
forgot	hobble	knew	miss
fortunately	hold	knob	missed
forty	holding	know	Missouri
found	holiday	knickers	molasses
fourteen	home	laid	month
fracture	homeward	lantern	morning
freeze	honked	laps	more
friends	honking	laugh	motor
full	hoped	laughed	motored
fullness	horrid	Lawrence	motorman
furrow	house	learned	mountainous
garage	how	leading	moving
gather	however	leaped	mowed
gear	humored	least	mysterious
girls	humming	Leavenworth	natural
goodby	hungry	leaves	near
goodly	hurried	left	neat
gorilla	hydrant	letting	necessitated
gravel	icy	lengthwise	need
great	if	lighted	needed
greatly	image	liked	negroes
grip	imitation	limbs	neighborhood
ground	immensely	little	news stand
group	impatient	long	next
growling	important	loss	no
grudgingly	incident	loud	not
guess	inconvenienced	luck	notice
guide	industrious	luckily	nuisance
guns	independence	lunch	number
had	information	lying	occasion
hadn't	injure	machine	occasionally
hailed	inning	made	obstinate
half	intelligently	manage	often
half-way	interfered	marshmallows	old
hand-car	invariably	masquerade	older
Hallowe'en	inter-city	maybe	once
happening	inventor	meadow	one
harnessed	intermediate	meant	one's
having	interurban	mechanism	only
hayloft	it	meet	opening
headed	interior	messenger	operator
hearing	instead	met	operation
heavy	is	mid	opponents
hideously	jumped	milk	opportunity
hiding	jerks		

opposite	pressure	scheduled	station
organized	presumably	scratched	stayed
Orpheum	previously	screwing	steadily
our	price	searched	steep
outside	privilege	seemed	steeped
over	process	sense	stirrup
palace	profession	senses	stomach
pallor	prominent	separator	stooped
parading	pronounced	several	stop
parcels	proof	seventies	stopping
participate	propeller	severely	storage
particular	puddle	shabby	straight
partner	pullman	shade	straightened
party	pulmotor	shed	strapped
passenger	purpose	shield	street
past	putting	shining	struggled
patiently	ran	should	stubborn
peace	raining	shows	stumbled
peculiar	rather	showed	straddled
pedal	ray	shown	substantial
pedals	ready	sign	succeeded
peel	realistic	similar	successful
peeling	recently	singleness	succession
penalty	receiving	sitting	suction
perhaps	remember	skating	suddenly
performed	remembered	skeleton	suits
perplexed	repeated	skidded	summer
persuade	respiration	sleds	sunburnt
petrified	results	slipped	sunny
picnic	rheumatism	sloped	sunshiny
pile	ridden	slowly	supper
place	ridge	Smithville	sure
planning	riding	smooth	surely
platinum	right	snappy	surprised
platform	riot	snowy	surveyed
played	road	soaking	surrounded
playing	rolled	solid	surrounding
pleasant	romantic	something	sweat
plenty	ropes	soon	sweet
quickly	rooms	sophomore	switch
pole	rough	sound	syrup
pony	roughest	speech	tantalize
porch	rubbish	spend	tapping
poultry	run	spun	tardy
practicing	salve	spied	taxi
precious	sandwiches	spilled	teacher
predicament	saying	spinned	tearing
prepared	scattered	sprained	technique
	schedule	squeeze	telegraph
		staid	telegraphed
		stared	
		staring	

telegram	usually
ten	
terrible	valuable
terribly	vane
terrified	various
than	very
the	viaduct
their	visit
they	
thinking	wagon
thing	was
those	watered
thrashed	watch
three	watching
threw	weather
thoroughly	wearisome
thundering	Wednesday
tickets	weeks
tied	we'll
time	went
tire	were
too	weren't
topsyturvy	what
tourists	when
toward	where
town	which
traffic	while
transferred	whipped
treacherous	whistling
tressel	whose
trouble	wind
trunk	wiring
travel	witnessing
traveled	would
traveling	wound
trifle	wraps
trimmed	wrapped
trying	wreck
turmoil	wreckage
turn	wrecking
twelfth	wrong
uneasiness	you're
unbuttoning	
unfamiliar	zoology
unfortunate	
unusually	
up	
us	
using	

The factors which affect the matter of spelling are numerous. Hollingworth¹ lists twelve possible factors, including:

1. Sensory defects, either the eye or the ear.
2. General intelligence.
3. Faulty pronunciation.
4. False auditory perception.
5. False visual perception.
6. Failure to remember; failure to retain
7. Motor awkwardness and inco-Ordination.
8. Lapses.
9. Transfer of habits previously acquired.
10. Idiosyncracies.
11. Temperamental traits.
12. Heredity.

Thus in order to account for the words included in the spelling list above a minute and intricate study of each word and each individual misspelling the word would need to be made. Such a study would require, according to Hollingworth¹ and to common sense:

1. A direct examination of the individual.
2. A family history.
3. A development history.
4. A school history.

1. Hollingworth, S. L., "Special Talents and Defects"

1

Gates states that (1) the most common cause of misspelling is inadequacy of acquaintance with the visual form of the word, (2) inability to make an analytical attack upon unfamiliar words is typical of a poor speller, and (3) spelling of words must be acquired by specific practice.

The latter is very significant and is stated repeatedly by various authors in their discussion of the psychology of spelling. Clearly stated, each word in the language is a new problem and must be learned as a separate act and is in no wise directly dependent on the learning of other words.

This statement is illustrated by the fact that the narrative topics, "Starting the Car" and "A Narrow Escape" (when this occurred in an automobile accident or near-accident) caused the greatest number of misspelled words. This was true in four of the six sections. Such words as "accelerator", "battery", "bumpy", "car", "carboh", "chauffeur", "choker", "choking", "clutch", "conveyance", "crank", "cranked", "curb", "curbing", "cylinder", "machine", "mechanism" "motor", etc. show the effect of a partly learned vocabulary required in this specific subject. These are words which probably are more peculiar to the speaking than the writing vocabulary of high school

1. Gates, A. I., "The Psychology of Reading and Spelling".

students. Moreover, many of the students probably have inaccurate or incorrect auditory and visual conceptions of these words.

As to what to do in order to improve the spelling conditions in this or any situation, experiments of Gates,¹ Hollingworth,² Witty³ and others have lead to the general conclusion that any child of average intelligence and normal sensory capacity can learn to spell, if sufficient drill can be undergone. Thus, carrying this idea further, the conditions shown in the three sections of the two classes used of this study could be improved by means of specific and well-outlined drill.

⁴Witty in his "tentative conclusions", as a result of an experiment with 23 cases of so-called spelling disability states: "The Law of Exercise, without due attention to the Laws of Readiness and of Effect, may be insufficient. Spelling ability consists in the formation of hierarchies of organized bonds. More attention must be given to the readiness of the child to form specific bonds and to the best time for establishing certain new or difficult ones. There undoubtedly may be an efficient techni-

1. Gates, A. I., "Psychology of Reading and Spelling"
2. Hollingworth, L. S., "Special Talents and Defects"
3. Witty, Paul A., "Diagnosis and Remedial Treatment of Poor Spellers" to appear in Journal of Ed. Research in fall of 1925
4. Witty, Paul A., "Diagnosis and Remedial Treatment of Poor Spellers"

que in developing the spelling function."

I

Gates outlines a detailed procedure for the teacher and for the student to follow in order to improve spelling. In an experiment, the various classes using the suggested method made more than twice the improvement made in similar classes in the average school. This method "comprises direct practice in pronunciation and visual study by syllables or more inclusive units, with a device for checking accuracy by 'visualization' and by writing. It purposes to secure (1) appropriate habits of visual perception of words, (2) correct pronunciation, (3) ability for independent analytical attack, and (4) final mastery through writing. Spelling rules, word groupings, diacritical marks, etc., are used very sparingly."

2

"Learning is connecting; and teaching is the arrangement of situations which will lead to desirable bonds and make them satisfying" is the keynote of the spelling problem.

V. The percentages of the total errors of the two classes distributed sections of the two classes occur in the following order:

Freshman "A"	30.95%
" " "B"	32.992%
" " "C"	36.058%

1. Gates, A. I., "Psychology of Reading and Spelling, pages 78-87
2. Thorndike, E. L., "Educational Psychology - Brief-er Course", p. 174.

Junior "A"	24.49%
" "B"	40.16%
" "C"	35.35%

TABLES III TO VIII.

Tables III to VIII show the distribution of errors in the 47 categories and the five sets for classes of "A", "B", and "C" grouping. However, in the final analysis the individual rather than the class is the important consideration. For this reason Tables IX to XIV have been made by dividing the figures of Tables III to VIII by the number of individuals in each group, as indicated in Table I. Thus Tables IX to XIV show the average distribution of errors per individual in each of the freshman and junior groups, "A", "B", and "C". The figures indicate the same types of totals as those of Tables III to VIII do, but in terms of the individual.

Error	Sets:					Totals	TABLE IX
	1	2	3	4	5		
1	0	.033	0	.0125	.012	.0575	
2	0	0	0	0	0	0	THE AVERAGE
3	0	.022	0	.0125	0	.0345	DISTRIBUTION OF
4	0	0	0	0	0	0	ERRORS PER
5	.0877	.011	.025	.0625	.037	.2225	INDIVIDUAL IN
6	.0217	.044	.05	.125	0	.240	THE FRESHMAN "A"
7	.01088	.055	.0125	0	.012	.0903	GROUPS
8	0	.011	.0375	.0625	.062	.1730	
9	.13	.055	.0375	.228	.187	.6375	
10	.15	.033	.05	.0875	.087	.4075	This table shows
11	.032	.033	.1	.05	.075	.290	
12	.0108	.011	.0125	0	0	.0343	the errors per
13	.032	.044	.085	.187	0	.348	
14	0	0	.0125	0	0	.0125	individual (that
15	.021	.022	.0125	0	.012	.0875	
16	0	.011	.0125	0	0	.0235	is, the class
17	.032	.055	.0375	.0375	.112	.2690	
18	.13	.10	.112	.2	.012	.554	errors divided
19	.0108	0	.0125	.0125	.0	.0358	
20	.0108	.011	.0125	.0125	.012	.0588	by the number of
21	.27	.123	.1	.075	.075	.643	
22	.52	.221	.55	.337	.187	1.815	students) in
23	.0108	.22	.05	.15	.137	.5678	
24	.0108	.10	.0375	.025	.037	.2103	f reshman "A"
25	.098	0	.1	.0625	0	.2605	
26	.13	.155	.1	.15	.112	.647	classes in sets
27	.043	.022	.0625	.05	.05	.2275	
28	.043	.011	0	.0375	.012	.1035	1, 2, 3, 4, and 5.
29	.108	.055	.0125	.025	0	.2005	
30	.119	.033	.125	.0375	.037	.3515	
31	.021	.033	.0137	.05	.005	.1677	Average number of
32	.119	.122	.7	.5	.075	.516	
33	0	0	0	.0125	0	.0125	errors per set =
34	.021	0	0	0	0	.021	
35	0	0	0	.1	.062	.162	3.82
36	.076	.10	.0175	.287	.075	.5555	
37	.21	.133	.1212	.112	.099	.6759	
38	.347	.166	.1	.125	.099	.837	Net improvement
39	.297	.255	.337	.2	.288	.377	
40	.021	0	.225	.05	.075	.371	or decrease of
41	.043	.033	.0375	.0875	.087	.2880	
42	.021	0	.0375	.0625	0	.1210	errors between
43	.035	.022	.075	.05	.037	.217	
44	.0108	.022	.0125	.0625	0	.1078	sets 1 and 5
45	.489	.433	.95	.687	.062	2.621	
46	.119	.122	.3	.125	.099	.765	= 1.6
47	.231	.111	.287	.02	.062	.711	

Totals

4.6586

3.043

4.9724

4.5755

2.4580

19.1085

Table IX shows the following facts which pertain to the average individual in the freshman "A" group:

- I. The average number of errors per set for each individual is 3.82 with a total of 19.1085 errors and a fluctuation in the totals per set from 4.05 to 3.04 to 4.97 to 4.57 to 3.45.
- II. The errors which cause the totals and the variations of totals shift in general, although misspelling (45) is the outstanding error of sets 1 to 4 with omissions of word or phrase as great as in set 5. For instance, the second highest error of each set is as follows:

1. Set 1 $\frac{1}{2}$ - improper use of capital (38)
2. Set 2 -- Omission of word or phrase (39)
3. Set 3 -- miscellaneous punctuation (32)
4. Set 4 -- Miscellaneous punctuation (32)
5. Set 5 -- change of past tense in main clause (9) and failure to make sentence for new thought (22)

Of the five types of errors in this list, that of set 5 is the least elementary; or, in other words the less elementary errors were reduced or eliminated more easily.

- III. The net improvement or decrease of errors between sets 1 and 5 is 1.6 or 4.6% of the average number of errors per set.

This improvement is made, chiefly, by the decrease between sets 1 and 5 in the following:

1. Misspelling (45). The decrease in this error is quite great, as it is from .48 words in set 1, .43 words in set 2, .95 words in set 3, and .68 words in set 4 to .06 words in set 5. The spelling problem in terms of the average distribution of errors per individuals in the freshman "A" group, does not seem to be for this group as difficult a task as earlier discussions of spelling in this study would indicate.

2. Improper use of capital (38). The improvement of this error is more gradual and consistent than that of misspelling, as the decrease is from .347 to .16 errors in set 3 and .09 errors in set 5, following a gradual reduction in sets 2, and 4.

3. Miscellaneous punctuation (32). The decrease of this follows a decided increase in set 3.

4. Failure to make new sentence for new thought (22). The decrease of this error follows noticeable fluctuations, as the following figures indicate: set 1, .52; set 2, .22; set 3, .55; set 4, .33; and set 5, .18.

Such varying occurrences in errors, as in these suggests this question: would this be the case if there had been both class and individual instruction?

Error	Sets:					Totals	TABLE X
	1	2	3	4	5		
1	0	.036	.060	.037	.012	.145	THE AVERAGE
2	0	0	0	0	0	0	
3	0	0	.012	.024	0	.056	OF ERRORS
4	0	0	0	0	.025	.025	
5	.023	.024	0	.037	.012	.096	PER INDIV-
6	.195	.024	.073	.125	.025	.452	
7	.045	.048	.060	.012	.038	.203	IDUAL IN THE
8	.114	.182	.146	.024	.064	.530	
9	.034	.036	.085	.160	.051	.336	FRESHMAN "B"
10	.146	.182	.146	.160	.17	.804	
11	.034	.024	.048	.037	.27	.413	GROUPS
12	0	0	.012	0	.012	.024	
13	.034	.121	.085	.111	.255	.606	This table shows
14	0	0	0	0	.012	.012	
15	.011	.024	.024	.012	.025	.096	the errors per
16	.023	.012	0	0	.012	.047	
17	.023	.024	.048	.073	.051	.219	individual (that
18	.229	.195	.170	.183	.078	.855	
19	0	.024	0	0	.025	.049	is, the class
20	0	0	.012	0	.012	.024	
21	.298	.219	.121	.049	.078	.765	errors divided
22	.701	.317	.304	.024	.589	1.935	
23	.172	.158	.146	.160	.038	.674	by the number
24	.114	.158	.109	.024	0	.405	
25	.011	0	.012	0	.128	.157	of students)
26	.126	.146	.207	.111	0	.590	
27	.114	.048	.024	.012	.012	.210	in freshman
28	0	0	.048	.037	0	.085	
29	.045	.012	0	0	.012	.069	"B" classes in
30	.011	.036	.060	.012	.012	.131	
31	.091	.048	.097	.086	.025	.347	sets 1, 2, 3, 4,
32	.146	.182	.329	.160	.152	.969	
33	0	0	0	0	0	0	and 5.
34	.011	0	0	0	0	.011	
35	.023	.073	.012	.049	0	.157	Average num-
36	.057	.170	.085	.172	.064	.548	
37	.126	.182	.207	.135	.140	.790	ber of errors
38	.333	.085	.048	.172	.025	.663	
39	.310	.195	.390	.160	.258	1.323	per set = 4.38.
40	0	0	0	0	.166	.166	
41	.011	.012	.024	.037	.038	.122	Net improve-
42	0	0	.012	0	.064	.076	
43	.023	.036	.036	.024	.051	.170	ment or decrease
44	.023	.085	.036	0	.025	.169	
45	.804	1.01	.953	.8391	.27	4.876	of errors be-
46	.218	.109	.109	.037	.140	.613	
47	.137	.207	.219	.183	.064	.910	tween sets 1
48							
4							and 5 = .412
Totals	4.922	4.444	4.569	3.488	4.510	21.933	

Table X shows the following facts which pertain to the average individual in the freshman "B" group:

- I. The average number of errors per set for each individual is 4.38 with a total of 21.933 errors in the five sets and a fluctuation in the totals in the following manner: set 1, 4.9; set 2, 4.4; set 3, 4.5; set 4, 3.4; and set 5, 4.5.
- II. The errors which cause the totals and the variations of totals in the five sets shift somewhat. However, misspelling (45) is still the predominating error in each set. The second highest error is the same in sets 1, 2, and 5, this being error 22, failure to make new sentence for new thought; but is error 39, omission of word or phrase in set 3 and errors 47 and 18, miscellaneous errors and incomplete sentence, in set 5. The third highest does vary in every set, as follows:
 1. Set 1 --- Improper use of capital (38)
 2. Set 2 --- Miscellaneous errors (47)
 3. Set 3 --- Miscellaneous punctuation (320)
 4. Set 4 --- Miscellaneous misuses of apostrophe (36)
 5. Set 5 --- Wrong verb used (11)

This is true generally, in reference to many of the other errors.
- III. The net improvement or decrease of errors

between sets 1 and 5 is 412 which is somewhat modest as compared with that of the freshman "A" group. The lowest total is that of set 4. If the total of set 5 had not actually and considerably increased, the net improvement would have been better. 21 errors contributed to this improvement.

Error Sets:

TABLE XI

	1	2	3	4	5	Totals	
1	.617	.050	0	.075	.02	.162	<p>THE AVERAGE DISTRIBUTION OF ERRORS PER INDIVIDUAL IN THE FRESHMAN "C" GROUPS</p> <p>This table shows the errors per individual (that is, the class error divided by the number of students) in freshman "C" classes in sets 1, 2, 3, 4, and 5.</p> <p>Average number of errors per set = 7.344</p> <p>Net improvement or decrease of errors = .528</p>
2	0	0	0	.018	0	.018	
3	0	0	.017	0	0	.017	
4	.00	0	0	0	.02	.020	
5	.017	.118	0	.075	.02	.230	
6	0	.016	.070	.075	0	.161	
7	.034	.152	.087	.018	0	.291	
8	.105	.135	.122	.150	.16	.672	
9	.210	.186	.368	.169	.20	1.133	
10	.175	.186	.210	.150	.26	.981	
11	.052	.084	.385	.075	.18	.776	
12	0	0	.070	0	0	.070	
13	.105	.101	.140	.188	0	.534	
14	0	0	0	0	0	0	
15	.034	0	.035	.018	0	.087	
16	0	.016	.035	.018	0	.069	
17	.052	.050	.070	.113	.38	.665	
18	.228	.101	.263	.226	.08	.878	
19	0	.033	.070	.037	0	.140	
20	.017	0	0	.018	0	.035	
21	.263	.440	.175	.131	.36	1.369	
22	.431	.440	.964	1.38	.60	5.815	
23	.175	.271	.280	.150	.20	1.076	
24	.122	.033	.070	.037	.02	.282	
25	0	0	.122	.056	0	.178	
26	.070	.135	0	.131	.10	.436	
27	.087	.101	.157	.075	.02	.440	
28	.017	.016	.017	.169	.02	.239	
29	.052	.033	.122	.075	0	.282	
30	.105	.050	.122	.056	.04	.373	
31	.070	.084	.035	.094	.02	.303	
32	.087	.135	.596	.301	.14	1.259	
33	0	0	0	.018	0	.018	
34	0	0	0	0	0	0	
35	.122	.101	0	0	.04	.263	
36	.245	.101	.087	.301	.12	.854	
37	.263	.271	.421	.283	.30	1.538	
38	.745	.338	.596	.283	.14	2.111	
39	.315	.254	.614	.264	.06	1.507	
40	0	0	.298	.188	.08	.566	
41	.052	.084	.035	.131	.10	.402	
42	0	0	.017	0	0	.017	
43	.122	.033	.228	.094	.10	.577	
44	.175	.067	1.22	.056	.08	1.598	
45	1.08	1.22	2.22	1.56	1.40	7.480	
46	.263	.254	.157	.169	.08	.932	
47	.192	.203	.789	.434	.26	1.878	
Totals	6.108	5.892	11.284	7.859	5.580	36.723	

Table X shows the following facts which pertain to the average individual in the freshman "C" group:

- I. The average number of errors per set for each individual is 7.344 with a total of 36.723 errors in the five sets and a variation in the totals in the following manner: set 1, 6.10; set 2, 5.89; set 3, 11.28; set 4, 7.85; and set 5, 5.58.
- II. The errors which cause the "C" individual the most difficulty, on account of their tenacity are:
 1. Misspelling (45), which shows a net increase of .32 words.
 2. Wrong past tense or past participle (10)
 3. Wrong verb used (11)
 4. Miscellaneous misuses of adjective for adverb (17)
 5. Incomplete sentence (21)
 6. Failure to make new sentence for new thought (22)
 7. Miscellaneous mistakes in sentence structure (23)
 8. Failure to use capital (37)
- III The net improvement or decrease of errors between sets 1 and 5 is .528 as compared with an improvement of 1.6 in the "A" group and .412 in the "B" group. The errors in which improvement took place are listed as follows (with a star before those with the most conspicuous decrease):
 1. "You" used indefinitely (6)
 2. Miscellaneous misuses of pronouns (7)

3. Change of past tense in main clause (9)
4. Use of adjective for adverb (13)
5. "Only" misplaced in sentence (15)
6. Use of double negative
- *7. Use of wrong or superfluous conjunction (18)
8. Use of wrong conjunction (19)
9. Misuse of like (20)
10. Ambiguity due to indefinite pronominal reference (24)
11. No period (27)
12. Independent clauses of compound sentence not separated (29)
13. No punctuation after introductory expression (30)
14. Name of city and state not separated (31)
- *15. "O'clock" written without an apostrophe (35)
- *16. Miscellaneous misuses of apostrophe (36)
17. Failure to use capital (37)
- *18. Improper use of capital (38)
- *19. Omission of word or phrase (39)
- *20. Misspelling of "their", "there".(44)
- *21. Misuse of quotation marks (46)

III. The theme of set 5 written by the typical "C" freshman contained 11,284 errors, twice the number of errors in the theme of set 5. The errors which contain the highest totals (and

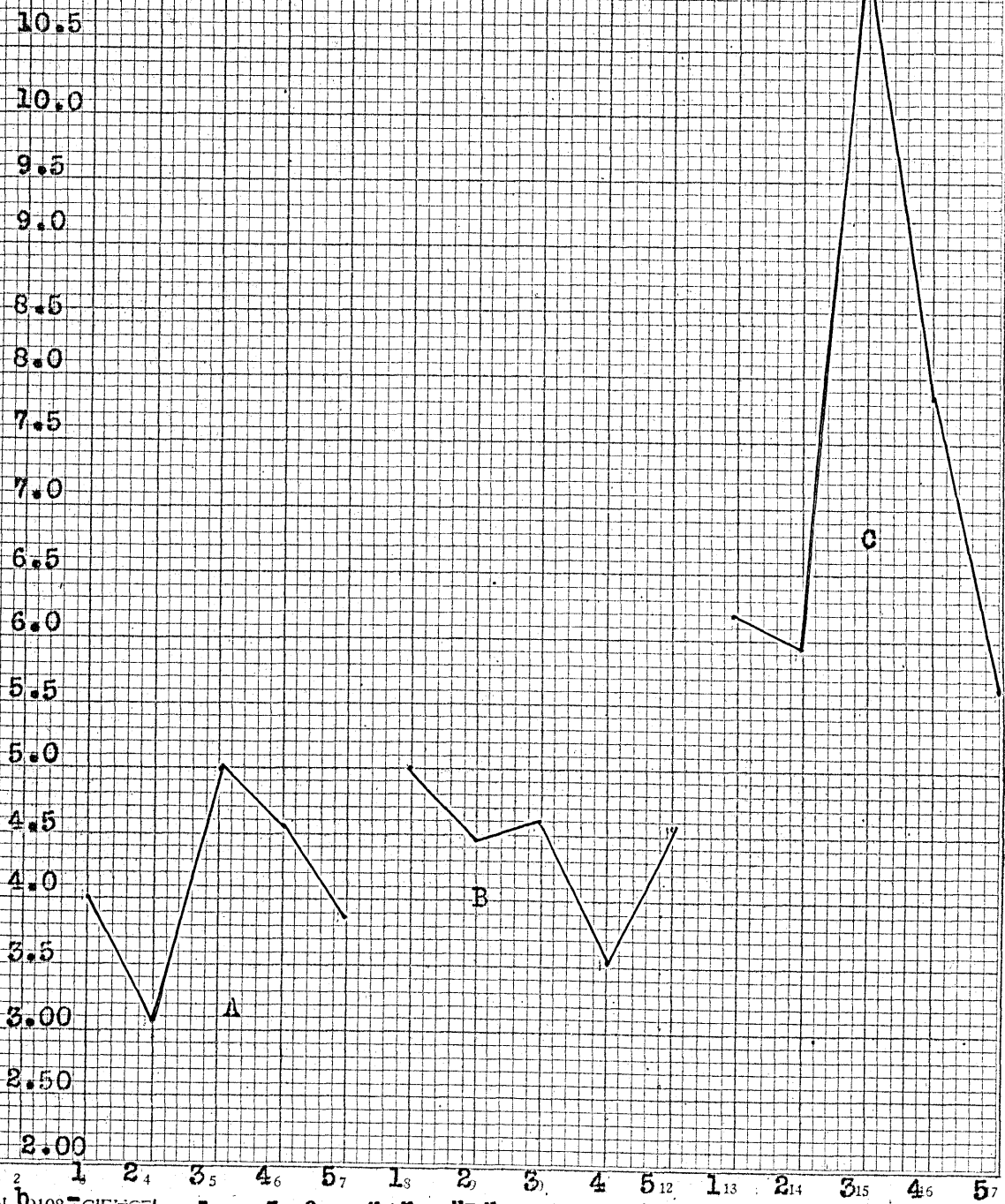
also, an increase over set 2) in the theme of set 3 deal, especially, with:

1. Misspelling
2. Omissions
3. Capitalization
4. Punctuation
5. Sentence structure

In fact, the results of this narrative are somewhat discouraging for "C" freshmen as they indicate very necessary drill in so many types of errors. The elimination of errors which follows in sets 4 and 5 is encouraging. The total of almost twelve errors per theme (and a short theme, too as the freshman themes are generally shorter than those of the juniors) suggests that a very systematic intensive drill is essential for these students.

GRAPH 5
Errors per Individuals in Sets 1-5 of "A"
"B" and "C" Freshmen.

12.0 The scores of this graph are taken from
 11.5 Tables IX, X, XI. They show the variations
 of the mean of errors (average individual
 11.0 errors) in the five sets of themes of "A",
 "B" and "C" groups.

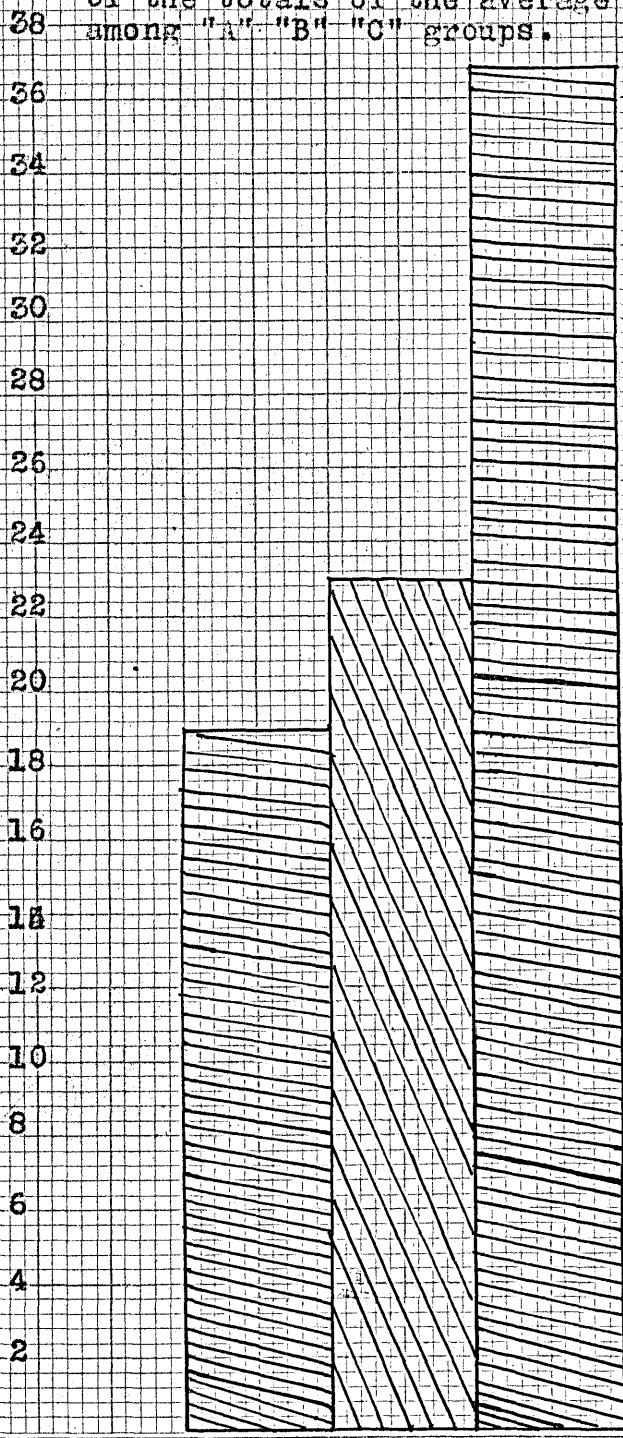


1 2 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5
 a - b - c sets 1 - 5 for "A", "B", and "C"
 a - c - number of errors

GRAPH 6

Total Errors Per "A" "B" "C" Freshman Individual.

The scores of this graph are taken from Tables IX, X, XI. They show the variation of the totals of the average individual among "A" "B" "C" groups.



1 2 3 A 4 5 6 B 7 8 9 C 10 11 12 13 Y 14 15 16 Y 17

0 - x = number of errors on a 2 - scale

A COMPARISON OF THE TYPICAL "A" "B" AND "C"
STUDENT

I. The average number of errors per individual shows a decided increase from the "A" through the "B" to the "C" as follows: "A", 5.82; "B", 4.38; and "C", 7.344.

II. Together one "A", one "B" and one "C" student made 77.75 errors in the five themes. These percentages show their shares in this total:

- | | |
|--------------------------|-------|
| 1. "A" with 19.10 errors | 24.5% |
| 2. "B" with 21.93 errors | 28.3% |
| 3. "C" with 36.72 errors | 47.2% |

III The net improvement for the three types of students is as follows:

- | | |
|--------|------|
| 1. "A" | 1.6 |
| 2. "B" | .412 |
| 3. "C" | .528 |

Thus the "A" student made more than 3 times the improvement of the "C" student and practically 4 times that of the "B" student. The emphasis of subject-matter for these three types of individuals is very similar with an enrichment of content for the "A" student. The fact that the "B" student seemingly did worse than the "C" may be due to this: the "B" group generally contains

students of more varying abilities and is therefore, a more difficult group in which to find out individual differences, while the "C" groups are although of lesser ability, more homogeneous.

IV. The five most troublesome errors for each type of individual are as follows:

"A" student---

1. Misspelling (45)
2. Failure to make new sentence for new thought (22)
3. Miscellaneous punctuation (32)
4. Improper use of capital (38)
5. Misuse of quotation marks (46)

"B" student---

1. Misspelling (45)
2. Failure to make new sentence for new thought (22)
3. Omission of word or phrase (39)
4. Miscellaneous errors (47)

"c" student---

1. Misspelling (45)
2. Improper use of capital (38)
3. Failure to make new sentence for new thought (22)
4. Miscellaneous errors (42)
5. Misspelling of "their", "there" (44)

- V. It is significant that, although the "C" individual has a higher net improvement than the "B", the "B" student has a total of more than one or more for the five themes in only 3 errors. However, the "C" student makes a total of one or more in 11 errors.
- VI. These differences between the "A", "B", and "C" individual are important. They indicate the need of a teaching procedure specifically adjusted to the problems of each group.

TABLES XII, XIII and XIV.

Tables XII, XIII and XIV show the average distribution of errors per individual in each of the junior groups, "A", "B", and "C". The figures give the following information:

1. The error number.
2. The number of times each error occurred in each set.
3. The total errors in each set.
4. The number of times each error was made in the five sets.
5. The total number of errors made by the typical "A", "B", and "C" student.

Error	Sets					Totals
	1	2	3	4	5	
1	.018	.019	0	.106	.039	.182
2	0	0	0	0	0	0
3	.018	0	0	0	0	.018
4	.018	0	0	0	0	.018
5	0	.038	.018	0	.020	.076
6	.94	0	.055	0	.020	1.015
7	.018	.057	.018	.042	0	.135
8	0	.019	.037	0	.039	.095
9	0	.096	.092	.085	.020	.293
10	.036	.038	.055	.042	.039	.210
11	0	.096	.092	.021	.117	.326
12	.018	.038	.018	.042	.020	.136
13	.054	0	.018	.042	0	.112
14	0	0	0	0	0	0
15	0	.019	0	.042	0	.061
16	0	0	0	.021	0	.021
17	.074	.019	.111	.170	.137	.511
18	.018	.038	.147	.212	.059	.474
19	0	0	0	0	0	0
20	0	0	0	.021	.020	.041
21	.109	.057	.018	.042	.079	.305
22	.127	.134	.074	.021	.059	.415
23	.036	.057	.092	.042	.020	.247
24	0	.076	.074	.021	0	.171
25	.018	.134	.129	0	.020	.301
26	0	.134	.147	.085	.079	.445
27	.054	.019	.037	.021	.020	.151
28	.054	.019	.018	.042	.020	.153
29	.218	.038	.074	.021	0	.351
30	.354	.019	.129	.021	.117	.540
31	0	.038	0	.042	.039	.119
32	.618	.50	.388	.234	.235	1.975
33	0	0	0	0	0	0
34	0	.057	0	0	0	.057
35	.018	.038	0	.085	0	.141
36	.181	.096	.147	.255	.059	.738
37	.145	.115	.027	.042	.059	.398
38	.218	.038	.055	.063	.098	.472
39	.127	.153	.370	.190	.176	1.016
40	.018	.193	.222	.021	.137	.591
41	.018	.057	.018	.042	.039	.174
42	.163	.038	.074	0	0	.275
43	.054	.057	0	.063	0	.174
44	.018	.019	0	.021	0	.058
45	.345	.403	.796	.425	.96	2.029
46	.09	.057	.053	.106	.039	.345
47	.85	.307	.203	.084	.117	1.561

TABLE XII

THE AVERAGE
DISTRIBUTION
OF ERRORS
PER INDIVIDUAL
IN THE JUNIOR
"A" GROUPS

This table
shows the
errors per
individual
(that is, the
the class
divided by
the number
of students)
in junior "A"
classes in
sets 1, 2, 3, 4,
and 5.
The average
number of
errors per
set = 3.565.

The net improve-
ment between
sets 1 and 5
is 2.043

Totals

4.945

3.330

3.816

2.833

2.902

17.826

Table XII shows the following facts which pertain to the average individual in the junior "A" group:

- I. The average number of errors per set is 3.565 with a total for the five themes of 17,826. The totals of errors for each theme are as follows: set 1, 4.9; set 2, 3.3; set 3, 3.8; set 4, 2.8; and set 5, 2.9. Thus for the "A" junior the first theme had the greatest number of errors.
- II. The net improvement between sets 1 and 5 is 2.043. The errors which tend, especially to decrease by set 5 are:
 1. Indefinite use of "you" (6).
 2. Independent clauses of compound sentence not separated (29).
 3. No punctuation after introductory expression (30).
 4. Miscellaneous punctuation (32).
 5. Improper use of capital (38).
 6. Compound words incorrectly written (42).
- III. On the other hand, some of the errors tend to increase. These are, especially:
 1. Misspelling (45).

2. Omissions (39, 40).
3. Wrong verb used (11).
4. Miscellaneous misuses of adjective and adverb (17).

IV. Many of the errors show considerable variation through the various themes. For instance, error 39, omission of word or phrase fluctuates in the following manner: set 1, .127; set 2, .153; set 3, .37; set 4, .19; and set 5, .176. This is illustrative of the type of error whose decrease is not consistent.

Error	Sets					Totals
	1	2	3	4	5	
1	0	.012	0	.042	.014	.068
2	0	.012	0	0	0	.012
3	.026	0	.014	0	0	.040
4	.013	.025	.014	0	0	.052
5	0	.025	.014	.027	.043	.109
6	.143	.150	.098	.054	.014	.459
7	.013	0	.014	.097	0	.124
8	0	.076	.070	.054	.086	.286
9	.130	.291	.112	.125	.142	.800
10	.026	.012	.056	.084	.086	.264
11	.195	.189	.098	.069	.058	.609
12	0	0	.028	.014	0	.042
13	.078	.139	.070	0	0	.287
14	0	0	0	0	0	0
15	0	.012	0	0	0	.012
16	0	0	0	.042	.014	.056
17	.013	.012	.056	.125	.118	.324
18	.026	.189	.238	.167	.086	.706
19	0	.012	.014	0	0	.026
20	.039	.012	.014	.042	.059	.166
21	.130	.061	.042	.042	.086	.361
22	.247	.481	.336	.014	.142	1.220
23	0	.073	.014	.097	.172	.356
24	.013	.012	0	.069	.070	.164
25	.130	.353	.392	.042	0	.917
26	.039	.114	.042	.097	.186	.478
27	.117	.102	0	0	.172	.391
28	.026	.139	.028	.027	.014	.234
29	0	.365	.084	0	0	.449
30	.039	0	.042	.014	.043	.138
31	.039	.024	.028	.054	.014	.159
32	.207	.413	.371	.097	.086	1.174
33	0	0	.014	0	0	.014
34	0	.012	0	0	0	.012
35	.039	0	0	.014	.014	.067
36	.090	.114	.084	.222	.070	.580
37	.026	.061	.056	.084	.142	.369
38	.260	.049	.084	.112	.070	.575
39	.247	.354	.285	.290	.228	1.394
40	.090	.583	.60	0	.028	1.301
41	.013	.061	.014	.027	.014	.129
42	.260	.241	.127	.014	0	.642
43	.039	.061	.056	.014	.043	.213
44	0	.024	0	.056	.014	.094
45	.312	.784	.81	.556	.585	3.047
46	.052	.114	.157	.027	.028	.378
47	.480	.278	.371	.139	.086	1.354

TABLE XIII

THE AVERAGE
DISTRIBUTION OF
ERRORS PER
INDIVIDUAL IN
THE JUNIOR "B"
GROUP

This table shows
the errors per
individual (that
is, the class
divided by the
number of stu-
dents) in
junior "B" classes
in sets 1, 2, 3,
4, and 5.

Average number
of errors per
set is 4.3.
Net improvement
or decrease of

errors between
sets 1 and 5 is

.57

Totals

3.597

6.041

4.947

3.040

3.027

20.652

Table XIII shows the following facts which pertain to the typical "B" junior:

- I. The average number of errors per set is 4.13, as compared to the average of 3.5 errors per set made by the "A" junior.
- II. The total number of errors made in the five sets is 20.652, 2.826 more errors than made by the average "A" junior.
- III The net improvement is .57 errors, about one-fourth of that made by the "A" junior. This improvement occurs, especially in the following:
 1. Sentence structure (21,22)
 2. Use of verb (11)
 3. Omissions (39,40)
 4. Punctuation (32)
- IV. Judging by the error totals for the five sets the following are difficult for the "B" junior:
 1. Misspelling (45)
 2. Omissions (39,40)
 3. Miscellaneous errors (47)
 4. Failure to make new sentence for new thought (22)
 5. Miscellaneous punctuation (32)
- V. Judging by the total of set 5 in comparison with that of set 1, the following are troublesome for the "B" junior:
 1. Wrong past tense or past participle (10)

2. Miscellaneous misuses of adjective and adverb (17)
3. Miscellaneous mistakes in sentence structure (23)
4. Other cases of ambiguity (26)
5. No period (27)
6. Failure to use capital (37)
7. Misspelling (45)

Error	Sets:					Totals	
	1	2	3	4	5		
1	0	0	.036	.019	.074	.129	TABLE XIV
2	0	0	0	0	0	0	
3	0	0	0	0	0	0	THE AVERAGE DIS ²
4	0	.017	0	0	0	.017	
5	.047	.068	0	.019	.018	.152	TRIBUTION OF
6	.064	.017	.090	.057	.037	.265	
7	.016	.120	.109	.038	0	.283	ERRORS PER IND-
8	.054	.137	.072	.057	.240	.570	
9	.112	.068	.181	.115	.314	.790	INDIVIDUAL IN
10	.080	.241	.181	.076	.129	.707	
11	.096	.051	.163	.096	.203	.609	THE JUNIOR "C"
12	.016	0	0	0	0	.016	
13	.080	.120	.090	.057	0	.329	GROUPS
14	0	0	0	0	0	0	
15	.096	.017	.018	.019	0	.150	This table shows
16	0	0	0	0	0	0	
17	.064	.085	.072	.192	.314	.727	the errors per
18	.158	.206	.054	.115	.111	.644	
19	0	0	0	.019	0	.019	individual (that
20	0	.017	0	.019	0	.036	
21	.301	.258	.109	.057	.407	1.132	is, the class
22	.413	.292	.199	.153	.307	1.427	
23	.555	.361	.254	.192	.296	1.658	errors divided
24	.096	.102	.072	.096	.222	.588	
25	0	0	0	.019	0	.019	by the number of
26	.158	.051	.281	.153	.091	.671	
27	.112	.068	0	0	.037	.217	students) in
28	.016	.051	.072	.096	.018	.253	
29	.096	.051	0	.019	0	.166	junior "C" class-
30	.128	.034	.163	.057	.018	.400	
31	.175	.051	.036	.057	.037	.356	es in sets 1,2,
32	.128	.241	.281	0	.111	.698	
33	0	0	0	0	0	0	3,4, and 5.
34	0	0	0	.134	0	.134	
35	.080	.068	0	.365	.091	.604	Average number
36	.112	.051	.109	.173	.129	.574	
37	.080	.086	.218	.096	.240	.720	of errors per
38	.397	.241	.090	.192	.055	.975	
39	.423	.258	.398	0	.296	1.380	set = 4.749. Net
40	0	0	0	.057	.037	.094	
41	.064	.051	.036	0	.129	.280	improvement or
42	0	0	0	0	0	0	
43	.096	.086	.109	.038	.037	.366	decrease of err-
44	.047	.102	.018	.057	.018	.242	
45	.777	.689	.690	.826	.777	3.759	ors between sets
46	.206	.034	.109	.019	.037	.405	
47	.285	.292	.309	.173	.129	1.188	1 and 5 = .621

Totals

5.643

4.664

4.493

5.927

5.022

23.749

Table XIV shows the following facts pertaining to the typical "C" junior:

- I. The average number of errors per set is 4.74, which is slightly greater than that of the "B" group.
- II. The total number of errors per student for the five themes is 23.749, as compared with 17.82 for the "A" junior and 20.652 for the "B".
- III The set totals show the following variation: set 1, 5.643; set 2, 4.664; set 3, 4.493; set 4, 3.927; and set 5, 5.022. If the errors of set 5 had not increased the net improvement would have been much greater.
- IV. The net improvement is .621 as contrasted with 2.043 made by the "A" junior and .57 made by the "B". The following errors, especially, contribute to this improvement:
 1. Miscellaneous mistakes in sentence structure (23)
 2. Other cases of ambiguity (26)
 3. No period (27)
 4. Name of city and state not separated (31)
 5. Improper use of capital (58)
 6. Omission of word or phrase (39)
- V. The occurrences of the errors are very fluctuating. For instance, error 21, incomplete sentence, occurs

in the following manner: set 1, .30; set 2, .25; set 3, .10; set 4, .05; set 5, .40. Seemingly, this and other errors were not sufficiently learned or sufficiently drilled upon to function effectively in set 5.

A CONTRAST OF THE AVERAGE "A", "B", AND "C"

JUNIOR

A contrasting consideration of Tables XII, XIII, and XIV brings out these facts:

- I. The average number of errors per set of the average "A" junior is 3.565; of the "B" junior, 4.13; and of the average "C" junior, 4.749.
- II. The total number of errors made in the five sets are as follows: "A", 17.826; "B", 20.652; and "C", 23.749.
- III The predomination error of the three sections is misspelling. The average "A" student misspelled 2.929 words in the five sets; the "B", 3.047 words in the five sets; the "C", 3.759 words in the five sets.
- IV. The next highest error varies with each group. For the "A" it is miscellaneous punctuation; for the "B" omission of word or phrase; for the "C", miscellaneous errors in sentence structure.
- V. The third highest error varies. For the "A" and "B" individual, it is miscellaneous errors; for the "C" individual, it is failure to make new sentence for new thought.

These comparisons show two facts: (1) there is a usual increase of errors from "A" through "B" to "C"; (2) that the problem of each individual tends to be peculiar to each individual. However, the difference between the average "A" and "B" individual is greater than between

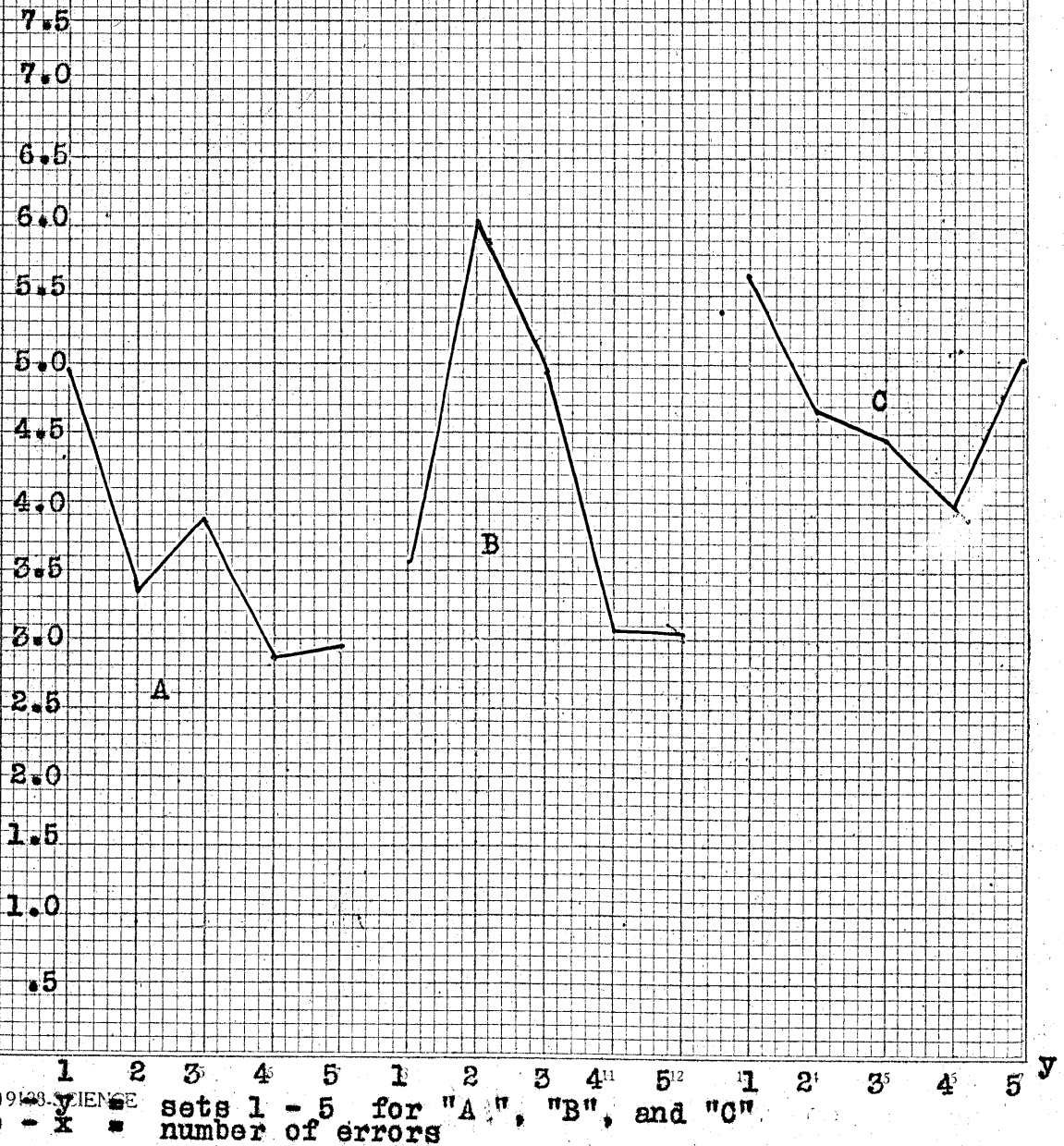
the average "B" and "C" individual.

GRAPH 7

Totals Errors for "A" "B" and "C"

x Junior Individual

The scores of this graph are taken from the Tables XII, XIII, XIV. They show the variations of the mean of errors (average individual errors) in the five sets of themes of "A", "B" and "C" groups.



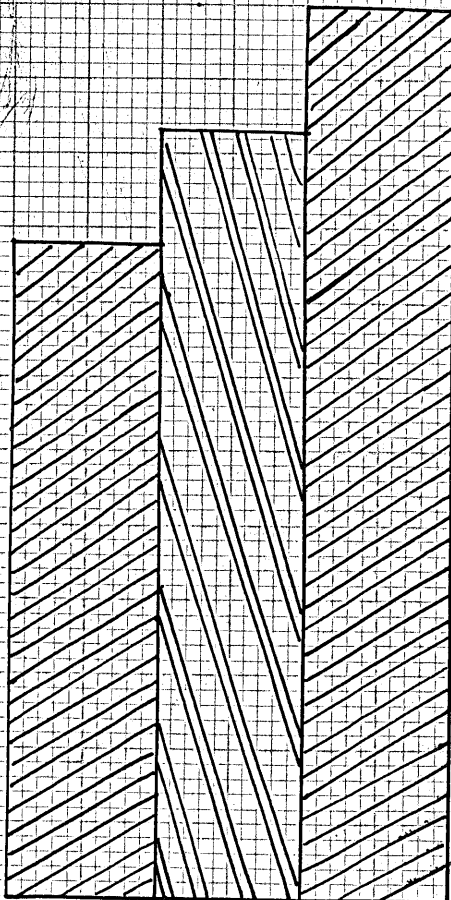
GRAPH 8

Total Errors Per "A", "B" and "C"

Junior Individual

The scores of this graph are taken from Tables XII, XIII, and XIV. They show the variation, of the totals of the average individuals, among "A", "B" and "C" groups.

x
40
38
36
34
32
30
28
26
24
22
20
18
16
14
12
10
8
6
4
2



1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17
 No. 9109 SCIENCE "A", "B", and "C" Groups (of all sets)⁴
 0 - x = number of errors on a 2 - scale

A CONTRAST OF FRESHMAN AND JUNIOR INDIVIDUALS

A contrast of the facts enumerated on pages 111 and 112 suggests the following:

I. The average number of errors per individual per set may be summarized in this way:

Freshman "A" 3.82

Junior "A" 3.56 with the difference or improvement on the part of the average "A" student between his freshman and junior year of 2.25 errors.

Freshman "B" 4.38

Junior "B" 4.13 showing an improvement of .25 errors between the freshman and junior years in the same section.

Freshman "C" 5.344

Junior "C" 4.749 with the improvement of 8.595 errors.

II. The totals of average errors per individual made in the five sets may be summarized in this way:

Freshman "A" 19.1085

Junior "A" 17.826 with the difference or improvement on the part of the average "A" student of 1.28 errors.

Freshman "B" 21.933

Junior "B" 20.652 with the improvement of 1.281 errors.

Freshman "C" 36.723

Junior "C" 25.749 with the improvement of
12.974 errors.

The striking improvement made by the "C" individual seems indicative of what can be accomplished when the emphasis is placed on the elimination of errors.

III. The predominating error for each of the six types of individuals is misspelling. The following figures sum up this matter:

Number of words misspelled:

Freshman "A" 2.621

Junior "A" 2.929 (here there is an increase
which may be due to the differences in
vocabulary)

Freshman "B" 4.876

Junior "B" 3.047

Freshman "C" 7.48

Junior "C" 3.759

In this instance, also, the "C" individual made the greatest improvement.

IV. The next highest error is the same among the freshman individuals. This is error 22, failure to make new sentence for new thought. In the juniors there seems to be ^{no} a typical error although there is one peculiar to each section. For the "A" this is miscellaneous punctuation; for the "B", omission of word or phrase;

on the "C", miscellaneous errors in sentence structure. Perhaps, there is an error peculiar to each of the junior individuals because the sections are more distinctly segregated by the third year of classification.

- V. The third highest error varies somewhat among both the freshman and junior students. For the "A" freshman this is miscellaneous punctuation while for the "B" freshman it is omission of word or phrase. In the junior group for "A" and "B" individuals, this is miscellaneous errors while for the "C" it is failure to make new sentence for new thought.

These data suggest:

1. There is an improvement or decrease of errors between the freshman and junior work. This may be due to (1) difference in theme length; (2) difference in emphasis of subject matter; (3) difference in interest and attitude of students in reference to composition errors; (4) difference in amount of time spent on elimination of errors; (5) insufficient drill in freshman and sophomore classes.
2. The "C" junior makes the most decided improvement, in spite of the fact that this is the lowest group which is illustrative of the effectiveness of drill.

3. There is a consistent difference between the "A" and "B" totals and a greater and equally consistent difference between "B" and "C".

THE RANK FREQUENCY OF ERRORS

At this time a summary of the findings as to the frequency of errors will be made by expressing the relative ranks of the frequency with which each of the 47 errors included in Johnson's "Category of Errors" occurred in the two classes studied.

Table XV indicates the facts pertaining to rank for frequency by showing/each of the freshman groups:

1. The error number.
2. The error name.
3. The rank or order of frequency; the highest total was ranked 1.
4. The ranks of frequency of errors for each group, "A", "B" and "C".
5. The average of these ranks.
6. The ranks of frequency of errors for the class, as a whole.

Thus these data are a means of comparison of errors within each group ("A", "B", or "C") and between the three groups.

FREQUENCY RANKS OF ERRORS OF THE FRESHMAN CLASS

Errors:

No.		"A" Group	"B" Group	"C" Group	Class Aver.	Class Rank
1	Subject or object of verb in wrong case	37.50	29.50	34.50	33.83	34
2	Predicate noun in wrong case	46.50	46.50	43	45.33	46
3	Object of preposition in wrong case	40	40	43	41	42
4	Use of objective for possessive with gerund	46.50	42	43	43.83	43
5	Disagreement of pronoun and antecedent	25.50	34.50	31.50	30.5	32
6	"You" used indefinitely	24	17	34.50	25.16	25
7	Miscellaneous misuses of pronouns	35	24	26.50	28.50	
8	Disagreement of subject and predicate	31	16	16.50	21.16	18
9	Change of past tense in main clause	12	20	9	13.6	14
10	Wrong past tense or past participle	15	7	11	11	11
11	Wrong verb used	20	19	15	18	17
12	Mistakes in mood	40	42	38.50	40.16	12
13	Use of adjective for adverb	18	13.5	20	17.6	16
14	Use of "most" for "almost"	44.50	44.50	46.50	45.16	45
15	"Only" misplaced in the sentence	36	34.50	37	35.83	36
16	Use of double negative	42.50	38.50	38.50	39.83	39.5

17	Miscellaneous misuses of Adj. and Adv.	22	22.50	16.50	30.33	31
18	Use of wrong or superfluous preposition	14	5	13	10.66	9.5
19	Use of wrong conjunction	40	38.50	36	38.16	38
20	Misuse of "like"	37.50	42	40	39.83	39.5
21	Incomplete sentence	10	9	7	8.66	8
22	Fail. to make new sent. for new thot	2	2	2	2.00	2
23	Miscellaneous misuses of sentence struc.	13	10.5	10	11.16	12
24	Ambiguity due to indef. pronominal ref.	28	18	28.50	24.83	24
25	Awkward or complicated phrasing	23	29.50	34	28.83	29
26	Other cases of ambiguity	11	13.5	23	15.83	15
27	No period	25.50	22.50	22	23.33	21
28	Members of series not separated	33.50	35	31.50	33.33	33
29	No punctuation after intro. express.	16.5	31	25	24.16	23
30	Indep. clauses of comp. sent. not sep.	28	36.50	28.50	34.30	35
31	Name of city and state not separated	20	21	26.50	22.50	20
32	Miscellaneous punctuation	3	4	3	5	4
33	Failure to dist. between it's and its	44.50	46.50	43	48	47
34	Wrong form of possessive noun	42.50	44.50	46.50	44.50	46
35	"O'clock" written without apostrophe	30	28.50	30	29.50	30
36	Miscellaneous misuses of "	9	15	14	12.66	13
37	Failure to use capital	6.5	8	5.50	6.66	7
38	Improper use of capital	5	10.5	3	6.16	6
39	Omission of word and phrase	4	3	5.50	4.16	3
40	Omission of letter or syllable	16.5	28.50	19	21.33	19
41	Repetition of syll., words or phrases	20	32	24	25.33	26
42	Compound words incorrectly written	32	36.50	43	37.16	37
43	Misspelling of "to" "too" "two"	28	25.50	18	23.83	22
44	Misspelling of "their" "there"	33.50	25.50	18	28.66	27
45	Other misspelled words	1	1	1	1	1
46	Misuse of quotation marks	8	12	12	10.66	9.5
47	Miscellaneous errors	5.5	6	4	5.5	5

Table XV indicates the following facts:

I. The outstanding error of "A" freshmen is misspelling.

II. The next most significant errors and of similar totals are:

1. Failure to make new sentence for new thought.
2. Miscellaneous punctuation.
3. Omission of word or phrase.

III. The following errors were made on an average of one-half to one time by each student in the five sets:

1. Improper use of capital.
2. Miscellaneous errors (that is, those not accounted for in any other place in the category.)
3. Failure to use capital.
4. Misuse of quotation marks.
5. Miscellaneous misuses of apostrophe.
6. Incomplete sentence.
7. Other cases of failure to express clear meaning.

(These estimates are made by the use of figures in Table I, also)

IV. The outstanding error of "B" freshmen is misspelling. The total of errors shows that, on an average, every theme, with the exception of four, written by this group, contains one misspelled word.

V. On an average, one-fourth of the 410 themes, written in the five sets, contained these errors:

1. Failure to make new sentence for new thought.
2. Omission of word or phrase

VI. The outstanding error of "C" freshmen is misspelling. On an average, each theme written by this group contains 1.5 misspelled words. In other words, the average "C" freshman misspelled 7.5 words in five themes.

VII. The next error of importance is failure to make new sentence for new thought. This error is one-half as frequent as misspelling.

VIII. The ten most frequent errors for the freshman class are:

1. Misspelling (45).
2. Failure to make new sentence for new thought (22).

3. Omission of word or phrase. (39).
4. Miscellaneous punctuation (32).
5. Miscellaneous errors (47).
6. Improper use of capital (38).
7. Failure to use capital (37).
8. Incomplete sentence (21).
9. Use of wrong or superfluous preposition (21).
10. Misuse of quotation marks (46).

THE RANK OF THE ERRORS OF THE JUNIORS

Table XVI presents the facts pertaining to the ranks of the errors made by juniors by showing:

1. The rank or order of frequency; the highest total was ranked 1.
2. The ranks of frequency of errors for each group, "A", "B" and "C".
3. The average of these ranks.
4. The ranks of the frequency of errors for the class as a whole.

TABLE XVI

Frequency Ranks of Errors of the Junior Class.

Errors:						
No.	Name	"A" Group	"B" Group	"C" Group	Class Aver.	Cl. Rank
1	Subject or object of verb in wrong case	27	36.50	34.50	32.66	33
2	Predicate noun in wrong case	45.50	44.50	45	44.66	45
3	Object of preposition in wrong case	42	40.50	45	42.46	43
4	Use of objective for poss. with gerund	42	38.50	40.50	40.33	41
5	Disagreement of pronoun and antecedent	35	35	32.50	34.16	35
6	"You" used indefinitely	4	14	27	15	14
7	Miscellaneous misuses of pronouns	30	33.50	25.50	29.66	32
8	Disagreement of subject and predicate	34.50	23	18.50	24.66	24
9	Change of past tense in main clause	20.50	7	8	11.83	7
10	Wrong past tense or past participle	23	24	10.50	19.16	17
11	Wrong verb used	17.50	10	15	17.50	15
12	Mistakes in mood	30	40.50	40.50	37	38
13	Use of adjective for adverb	32.50	22	24	26.16	27
14	Use of "most" for "almost"	45.50	47	45	45.83	47
15	"Only" misplaced in sentence	38	44.50	32.50	38.33	39
16	Use of double negative	42	38.50	45	41.83	42
17	Miscellaneous misuse of adjective	9	21	10.50	13.50	9
18	Use of wrong or superfluous conjunction	11	8	4	14.33	11.5
19	Use of wrong conjunction	45.50	42	40.50	42.66	44
20	Misuse of "like"	40	29	37.50	35.50	36
21	Incomplete sentence	17.50	18.50	6	14	10
22	Failure to make new sent. for new thought	13	4	3	6.66	5
23	Miscellaneous misuses in sentence struct.	22	20	2	14.66	13
24	Ambiguity due to indef. pro. reference	34.50	29	16.50	26.66	28
25	Awkward or complicated phrasing	19	6	40.50	21.83	21
26	Other cases of ambiguity	12	14	13	13	8
27	No period	24.50	25	28.50	26	26
28	Members of series not separated	24.50	25	28.50	20.16	19.5
29	Ind. clause of comp. sentence not sep.	15	14	31	20	18

30	No punctuation after Intro. express.	8	31.50	21	20.16	19.50
31	Name of city and state not separated	32.50	29	22.50	28	50.50
32	Miscellaneous punctuation	2	5	10.50	5.83	4
33	Failure between its and it's	45.50	44.50	45	45	46
34	Wrong form of possessive nouns	38	44.50	34.50	39	40
35	"O'clock" written without apostro.	30	36.50	16.50	27.66	29
36	Miscellaneous misuses of "	6	11.50	18.50	36	37
37	Failure to use capital	14	18.50	10.50	14.33	11.50
38	Improper use of capital	10	11.50	7	9.50	6
39	Omission of word or phrase	5	2	4	3.66	2.5
40	Omission of letter or syllable	7	26	36	23	23
41	Repetition of syll. words or phrase	27	31.50	25.50	28	30.50
42	Compound words incorrectly written	20.50	9	37.50	22.33	22
43	Misspelling of "to", "too", "two"	27	27	22.50	25.50	25
44	Misspelling of "their", "there"	38	33.50	28.50	33.33	34
45	Other misspelled words	1	1	1	1	1
46	Misuse of quotation marks	16	17	20	17.66	16
47	Miscellaneous errors	3	3	5	3.66	2.5

Table XVI indicates the following facts:

I. The errors of most frequency among "A" juniors are:

1. Misspelling
2. Miscellaneous punctuation
3. Miscellaneous errors
4. "You" used indefinitely
5. Omission of word or phrase

II. Thirty-four of the forty-seven errors listed were comparatively low in frequency. The totals of these range from 38 to 1 for the five sets of themes which include 259 themes.

III. Among "B" juniors, the outstanding error is misspelling with a total of 224 occurrences of the error. This is 3.04 words per individual in the five themes.

IV. The errors next in frequency are (1) Omission of word or phrase and (2) miscellaneous errors. The totals for these are 103 and 101, respectively. This means 1.39 and 1.37 errors per individual in the five themes.

V. Again the outstanding error of "C" juniors is misspelling with a total of 212 which is 3.75 words misspelled by each individual

in the five sets or .75 words per theme.

VI. Six errors were made on an average, between 1 and 2 times by each individual in the five sets:

1. Miscellaneous mistakes in sentence structure.
2. Failure to make new thought for new sentence.
3. Omission of word or phrase.
4. Miscellaneous errors.
5. Incomplete sentence
6. Improper use of capital

These average 1.7, 1.45, 1.41, 1.2, 1.15, 1.01 errors, respectively, per individual in the five sets of themes.

VII The ten most frequent errors for juniors as a whole, on the order of their frequency are:

1. Misspelling
- 2.5 Omission of word or phrase and miscellaneous errors.
4. Miscellaneous punctuation.
5. Failure to make new sentence for new thought.
6. Improper use of capital
7. Change of past tense in main clause.
8. Other cases of ambiguity.
9. Miscellaneous misuses of adjective and adverb.
- 10 Incomplete sentence.

INTRODUCTION TO PERSISTENCY

When this study began, the matter of persistency was the only consideration. It became evident, however, that there are two important aspects of a study of errors. One is that of totals or FREQUENCY of errors. The other is that of the continuance or the PERSISTENCY of errors.

Frequent errors seem to be group errors. They are easy to discern because the class, as a whole, makes them. They are comparatively easy to check because they are emphasized, illustrated, discussed, and corrected by the entire group when the themes containing these errors are returned.

Persistent errors, on the other hand, seem to be individual errors. They are easy enough to discern but in a room having class work entirely, they are not likely to be discussed to as great an extent as the group errors. Their very incidence suggests individual rather than group teaching.

From one view-point, the former is the more serious, for it makes extremely high totals for a given set of themes. From another view-point, however, the latter is the more important for it is tenacious. Thus it becomes necessary to have

a correcting system that serves two purposes--- that of reducing or eliminating the Individual errors or the group errors. How to evolve this system is another and a difficult question. Perhaps this system of personal interviews is the solution for the elimination of persistent errors; while class treatment is satisfactory for the frequent.

By persistency of errors then is meant the tendency of errors to persist throughout the term in spite of instruction. There are three types of persistent errors. One type decreases consistently or strikingly during the term; the second type remains stationary; while the third type tends to increase toward the end of the term. This quality is shown by means of a so-called index of persistency. This index of persistency is determined by dividing the number of errors occurred in set 5 by the number of times it occurred in set one. For instance, error 45 (misspelling) is found in set 1 of "A" freshmen, 45 times; in set 2, 39 times; in set 3, 76 times; in set 4, 55 times; in set 5, 50 times. 50 divided by 45 equals 1.11. Thus the index of persistency shows that this error actually increased during the five sets of themes.

1. Table III on page 21.

The decrease in errors during the term is indicated by an index below 1. The lack of change in the persistency of an error during the five sets is shown by an index of one. The increase in the occurrence of an error between sets 1 to 5 is indicated by an index above one. In the case of there being 0 for set 1, set 2 was used.

PERSISTENT ERRORS OF THE FRESHMEN

Table XVII shows:

1. Error number.
2. Name of error.
3. Index of persistency of each error in each group.
4. Class average of the indices of persistency.
5. Ranks of persistency in each group.
6. Ranks of persistency for the class, as a whole.

TABLE XVII

INDEX AND RANKS OF PERSISTENCY OF ERRORS OF THE FRESHMAN CLASS

E

No.	Name	Ranks of Persistency by Indices				
		"A" Group	"B" Group	"C" Group	Class Aver.	Class Rank
1	Subject or object of verb in wrong case	39	40	16.50	31	36
2	Predicate noun in wrong case	39	40	39	39.33	43.50
3	Object of preposition in wrong case	39	40	39	39.33	43.50
4	Use of objective for poss. of gerund	39	40	39	39.33	43.50
5	Disagreement of pronoun and antecedent	22	22	16.50	28.50	33
6	"You" use indefinitely	39	30	16.50	20.16	16
7	Miscellaneous misuses of pronouns	612.50	18.50	39	23.33	22
8	Disagreement of subject and predicate	2	22	7	10.33	4.5
9	Change of past tense in main clause	10	10	20	13.33	7
10	Wrong past tense or past participle	19.50	13	8	13.50	10
11	Wrong verb used	6.50	2	2	3.5	1
12	Mistakes in mood	39	40	39	39.33	43.50
13	Use of adjective for adverb	39	3	39	27	26
14	Use of "most" for "almost"	39	40	39	39.33	43.50
15	"Only" misplaced in the sentence	19.50	6.5	39	21.66	20
16	Use of double negative	39	22	39	33.33	37
17	Miscellaneous misuses of Adj. and adv.	4	6.5	1	3.83	2
18	Use of wrong or superfluous preposition	30	25	27	27.33	29.50
19	Use of wrong conjunction	39	6.5	39	28.16	32
20	Misuse of "like"	12.5	40	39	27.16	28
21	Incomplete sentence	27	28	11	22	21
22	Failure to make new sent. for new thot	23	18.5	9.5	17	14
23	Miscellaneous misuses in sent. struct.	1	29	16.5	15.5	11

24	Ambiguity due to indef. Pronom. Ref.	4	40	5	16.33	12
25	Awkward or complicated phraseing	39	1	39	26.33	25
26	Other cases of ambiguity	29	40	9.5	26.13	24
27	No period	12.5	31	28	27.13	27
28	Members of series not separated	25.5	40	16.5	27.33	29.50
29	Independent clauses not separated	39	26.5	39	24.83	23
30	No punctuation after into. exress.	24	13	24	20.33	17
31	Name of city and state not separated	6.5	26.5	26	19.66	15
32	Miscellaneous punctuation	18	16	6	13.33	7
33	Failure to distinguish between it's and it's	39	40	39	39.33	43.50
34	Wrong form of possessive noun	39	40	39	39.33	43.50
35	"O'clock" written without apostrophe	39	40	25	38	43.50
36	Miscellaneous misuse of apostrophe	15.5	13	22	16.5	38
37	Failure to use capital	21	13	16.5	16.5	13
38	Improper use of capital	25.5	32	29.5	29	34
39	Omission of word or phrase	15.5	17	29.5	20.66	18
40	Omission of letter or syllable	4	40	39	27.66	31
41	Repetition of syll., words etc.	8	4	4	5.33	3
42	Compound words incorrectly used	39	40	39	39.33	39
43	Misspelling of "to" "too" "two"	12.5	6.5	21	13.33	7
44	Misspelling of "their" "there"	39	13	43	31.66	35
45	Other misspelling	9	9	13	10.33	4.5
46	Misuse of quotation marks	17	20	3	13.33	9
47	Miscellaneous errors	28	24	12	21.33	19

Table XVII indicates:

- I. Among "A" freshmen the error of outstanding persistence is miscellaneous mistakes in sentence structure.
- II The other errors that increase or remain the same in the five sets are:

Rank

2. Disagreement of subject and predicate.
4. Miscellaneous misuses of adjective for adverb.
Indefinite pronominal reference.
Omission of letter or syllable.
- 6.5 Wrong verb used.
Name of city and state without punctuation.
8. Repetition of syllables, words, or phrases.
9. Change of past tense in main clause.
10. Misspelling.
- 12.5 Miscellaneous misuses of pronouns.
Misuse of "like".
No period.
Misspelling of "to", "too", "two".

- III The errors which tend to decrease (this decrease ranges from .85 to .08 index of persistency) during the five sets are:

- 15.5 (Miscellaneous misuse of apostrophe
(Omission of word or phrase.
- 17. Misuse of quotation marks.
- 18. Miscellaneous punctuation.
- 19.5 (Wrong past tense or past participle.
("Only" misplaced in the sentence.
- 21. Failure to use capital.
- 22. Disagreement of pronoun and antecedent.
- 23. Mistakes in the case of pronouns.
- 24. Failure to make new sentence for new thought.
- 25. No punctuation after introductory expression.
- 26.5 (Member of series not separated.
(Improper use of capital.
- 28. Incomplete sentence.
- 29. Miscellaneous errors.
- 30. Other cases of ambiguity.
- 31. Use of wrong or superfluous preposition.

IV. Among "B" freshmen the error of outstanding persistence is awkward or complicated phrasing.

V. The other errors that increase or remain the same in the five sets are:

Rank

- 2. Wrong verb used
- 3. Use of adjective for adverb
- 4. Repetition of syllables, words, or phrases.
- 6.5 ("Only" misplaced in sentence
(Miscellaneous misuses of adjective and
adverb
(Use of wrong conjunction
(Misspelling of "to", "too", "two".

9. Misspelling

10. Change of past tense in main clause.

- (Wrong past tense or past participle
- (Miscellaneous misuses of apostrophe
- (No punctuation after introductory clause.
- (Failure to use capital
- (Misspelling of "their", "there"

VI. The errors that tend to decrease (this decrease ranges from .92 to .06 index of persistency) during the five sets are:

- 16. Miscellaneous punctuation
- 17. Omission of word or phrase
- 18.5 (Miscellaneous misuses of pronouns
(Failure to make new sentence for new thought
- 20. Misuses of quotation marks
- 22. (Disagreement of pronoun and antecedent
(Disagreement of subject and predicate
(Use of double negative
- 24. Miscellaneous errors
- 25. Use of wrong or superfluous conjunction
- 26.50 (Independent clause of compound sentence not separated
(Name of city and state not separated
- 28. Incomplete sentence
- 29. Miscellaneous mistakes in sentence structure
- 30. "You" used indefinitely.
- 31. No period
- 32. Improper use of capital

VII. The error of outstanding persistence among "0" freshman is miscellaneous misuses of

adjective and adverb.

VIII. The other errors that increase or remain the same are:

Rank

2. Wrong verbaused
3. Misuse of quotation marks
4. Repetition of syllables, words, or phrases
5. Ambiguity due to indefinite pronominal reference
6. Miscellaneous punctuation
7. Disagreement of subject and predicate
8. Wrong past tense or past participle
- 9.5 (Failure to make new sentence for new thought
(Other cases of ambiguity)
11. Incomplete sentence
12. Miscellaneous errors
13. Misspelling
- 16.5 (Subject or object of verb in wrong case
(Disagreement of pronoun and antecedent
("You" use indefinitely
(Miscellaneous mistakes in sentence structure

IX. The errors that tend to decrease (this decrease ranges from .16 to .83 index of persistency) are:

Rank

20. Change of past tense or past participle

21. Misspelling of "to", "too", "two"
22. Miscellaneous misuses of apostrophe
23. Misspelling of "their", "there".
24. No punctuation after introductory expression
25. "O'clock" written without apostrophe
26. Name of city and state not separated
27. Use of wrong or superfluous conjunction
28. No period
- 29.50 (Improper use of capital
(Omission of word or phrase

PERSISTENT ERRORS OF THE JUNIORS

Table XVIII shows:

1. Error number
2. Error name
3. Ranks of persistency according to indices in the "A", "B", and "C" groups
4. Ranks of persistency according to indices for the class as a whole

TABLE XVIII

INDEX AND RANKS OF PERSISTENCY OF ERRORS IN THE JUNIOR CLASS

No.	Names	Ranks of Persistency acc. to Indices				
		"A" Group	"B" GROUP	"C" Group	Class Aver.	Class Rank
1	Subject or object of verb in wrong case	6	15.5	5	8	5
2	Predicate noun in wrong case	38.5	41	40	39.83	42.5
3	Object of preposition in wrong case	38.5	41	40	39.83	42.5
4	Use of adj. for possessive with gerund	38.5	41	40	39.83	42.5
5	Disagreement of pronoun and antecedent	13	9	25	15.66	11
6	"You" used indefinitely	29	34	20.50	27.83	32
7	Miscellaneous misuses of pronouns	38.5	41	7	28.83	34
8	Disagreement of subject and predicate	6	15.5	2	7.83	2
9	Change of past tense in main clause	27	15.5	3	15.16	9
10	Wrong past tense or past participle	13	5.5	9	9.16	6
11	Wrong verb used	10	31	7	16	13
12	Mistakes in mood	13	41	40	31.33	35.5
13	Use of adjective for adverb	38.5	41	17.50	32.33	37
14	Use of "most" for "almost"	38.5	41	40	39.83	42.5
15	"Only" misplaced in sentence	38.5	41	40	39.83	42.5
16	Use of double negative	38.5	15.50	40	31.33	35.5
17	Miscellaneous misuses of adj. or adv	8	1	1	3.33	1
18	Use of wrong or superfluous preposition	18	3	5.5	17.50	3.5
19	Use of wrong conjunction	38.5	41	40	39.83	42.5
20	Misuse of "like"	13	10.5	40	21.16	21
21	Incomplete sentence	16	22	10	16	13

22	Failure to make new sent. for new thot	17.5	23	15	18.5	16
23	Miscellaneous misuses in sentence struc.	26	7	22	18	15
24	Ambiguity due to indef. pronom. reference	38.5	2.5	5	15.33	10
25	Awkward or complicated phrasing	13	29	40	27.33	31
26	Other cases of ambiguity	38.5	4	20.50	21	20
27	No period	23.5	20.5	22	20.33	19.5
28	Members of series not separated	23.5	24.5	12	20	19
29	Ind. clauses not separated	38.5	41	40	39.83	
30	No punctuation after into. clause	17.5	15.5	31.5	21.5	23
31	Name of city and state not separated	19	27.5	29	25.16	27
32	Miscellaneous punctuation	22	26	16	21.33	22
33	Fail. to distinguish its and it's	38.5	41	40	39.83	42.5
34	Wrong form of possessive noun	38.5	41	40	39.83	42.5
35	"O'clock" written without apostrophe	38.5	27.5	12	26	28
36	Miscellaneous misuses of "	25	21	12	19.33	17.5
37	Failure to use capital	21	2.5	28	13.83	8
38	Improper use of capital	2	32	31.5	21.83	24
39	Omission of word or phrase	9	20	19	16	13
40	Omission of letter or syllable	1	30	40	23.66	25
41	Repetition of syllable etc.	6	15.50	8	9.83	7
42	Compound words incorrectly written	38.50	41	40	39.83	42.5
43	Misspelling of "to" "too" "two"	38.5	15.5	25	26.33	29.5
44	Misspelling "their" "there"	38.5	15.5	25	26.33	29.5
45	Other misspelling	4	8	14	8.66	3.5
46	Misuse of quotation marks	20	24.5	30	24.83	26
47	Miscellaneous errors	28	33	23	28	33

Table XVIII indicates:

- I. Among "A" juniors the error of outstanding persistence is omission of letter or syllable.
- II. The other errors that increase or remain the same in the five sets are:

Rank

- 2 Improper use of capital
- 3 Use of wrong or superfluous preposition
- 4 Misspelling
- 6 (Subject or predicate disagreeing
(Subject or object of verb in wrong case
(Repetition of syllables, words or phrases
- 8 Miscellaneous misuses of adjective or adverb
- 9 Omission of word or phrase
- 10 Wrong verb used
- 13 (Disagreement of pronoun and antecedent
(Wrong past tense or past participle
(Mistakes in mood
(Misuse of "like"
(Awkward or complicated phrasing

- III. The errors which tend to decrease (this decrease ranges from .66 to .01 index of persistency) are:

- 16 Incomplete sentence
- 17.50 (Failure to make new sentence for new thought
(No punctuation after introductory phrase
- 19 Name of city and state not separated
- 20 Misuse of quotation marks

- 21 Failure to use capital
- 22 Miscellaneous punctuation
- 23.50 (No period
(Members of series not separated)
- 25 Miscellaneous misuses of apostrophe
- 26 Miscellaneous mistakes in sentence structure
- 27 Change of past tense in main clause
- 28 Miscellaneous errors
- 29 Indefinite use of "you"

IV. Among "B" juniors, the error of outstanding persistence is miscellaneous misuses of adjective and adverb.

V. The other errors that increase or remain the same in the five sets are:

Rank

- 2.5 (Ambiguity due to indefinite pronominal reference
(Failure to use capital)
- 4 Other cases of ambiguity
- 5.5 ((Wrong past tense or past participle
(Use of wrong or superfluous preposition)
- 7 Miscellaneous mistakes in sentence structure
- 8 Misspelling
- 9 Disagreement of pronoun and antecedent
- 10.5 (Misuse of "like"
(No period)
- 15.5 (Subject or object of verb in wrong case
(Disagreement of subject and predicate
(Change of past tense in main clause)

- 15.50 (Use of double negative
 (No punctuation after introductory expression
 (Repetition of syllables, words or phrases
 (Misspelling of "to" "too" two"
 (Misspelling of "their" "there"

VI. The errors which tend to decrease (this decrease ranges from .84 to .09 index of persistency) are:

- 20 Omission of word or phrase
 21 Miscellaneous misuses of apostrophe
 22 Incomplete sentence
 23 Failure to make new sentence for new thought
 24.50 (Member of series not separated
 (Misuse of quotation marks
 26 Miscellaneous punctuation
 27.50 (Name of city and state not separated
 (Miscellaneous misuses of apostrophe
 29 Awkward or complicated phrasing
 30 Omission of letter or word
 31 Wrong verb used
 32 Improper use of capital
 33 Miscellaneous errors
 34 Indefinite use of "you"

VII. Among "C" juniors, the error of outstanding persistence is miscellaneous misuses of adjective and adverb.

VIII The other errors that increase or tend to remain the same are:

- Rank
- 14 Misspelling
 - 15 Failure to make new sentence for new thought
 - 16 Miscellaneous punctuation
 - 17.50 (Use of adjective for adverb
(Use of wrong or superfluous preposition
 - 19 Omission of word or phrase
 - 20.50 (Indefinite use of "you"
(Other cases of ambiguity
 - 22 Miscellaneous mistakes in sentence structure
 - 23 Miscellaneous errors
 - 25 (Disagreement of pronoun and antecedent
(Misspelling of "to" "too" "two"
(Misspelling of "their" "there"
 - 27 No period
 - 28 Failure to use capital
 - 29 Name of city and state not separated
 - 30 Misuse of quotation marks
 - 31.5 (No punctuation after introductory expression
(Improper use of capital

TABLE XIX

A COMPARISON OF THE RANKS OF THE TEN MOST FREQUENT AND OF THE TEN MOST
PERSISTENT ERRORS MADE BY THE FRESHMAN CLASS

TEN MOST FREQUENT ERRORS			TEN MOST PERSISTENT ERRORS		
Ranks of Freq.	Ranks of Persist.	Name of Error	Ranks of Freq.	Ranks of Persist.	Name of Error
1	4.5	Misspelling (45)	1	17	Wrong verb used (11)
2	15	Fail. to make new sent. for new thought (22)	2	20	Mis. Misuses of Adj. & Adv (17)
3	6	Omission of word or phrase (39)	3	26	Repetition of syllables (41)
4	8.5	Mis. punctuation (32)	4.5	19	Disagree. of subj and pred.
5	19	Misc. Errors (47)	4.5	1	Misspelling (45)
6	34	Improper use of capitals (38)	6	3	Omission of word or phrase (39)
7	14	Fail. to use capital (37)	8.5	24	Misspell. "to" "Too" "two" (43)
8	8.5	Change of past tense in main clause (9)	8.5	4	Misc. Punct.(32)
9	21	Incomplete sentence (21)	8.5	10.50	Misuse of quotation marks (46)
10.5	29.5	Use of wrong or sup. Conjunction (18)	11	13	Wrong past tense or past part. (10)
10.5	8.5	Mis. of Quotation marks (46)			

Table XIX displays the following facts:

- I. The most frequent errors of the freshman class do not have a corresponding rank in persistency.
- II. The following errors more readily correspond in frequency and persistency:
 1. Change of past tense in main clause (9)
 2. Misuse of quotation marks (46)
 3. Omission of word or phrase (39)
 4. Miscellaneous punctuation (32)
 5. Failure to use capital (37)
 6. Wrong past tense or past participle (10)

This suggests that each of these errors might be thoroughly worked over in class to be followed by individual instruction.

- III The lack of similarity of the other errors suggests that they could and should be taken up as individual problems in order to save class time, thus improving and accelerating the work of each individual.

TABLE XX

A COMPARISON OF THE RANKS OF THE TEN MOST FREQUENT AND OF THE MOST PERSISTENT ERRORS MADE BY THE JUNIOR CLASS

Ten Most Frequent errors			Ten Most Persistent Errors		
Ranks	Ranks	Name of Error	Ranks	Ranks	Name of Error
Freq.	Persis.		Pers.	Freq.	
1	3.5	Misspelling (45)	1	9	Incomplete sent. (21)
2.5	13	Omission of word or phrase (39)	2	24	Disagree. of subject and predicate (8)
2.5	33	Miscellaneous errors (47)	3.5	11.5	Use of wrong or superfluous prep. (18)
4	22	Miscellaneous punct. (32)	3.5	1	Misspelling (45)
5	16	Fail. to make new sent. Fail. new thot (22)	5	33	Subject or obj. of verb- wrong case (1)
6	24	Improper use of capital (38)	6	17	Wrong past tense or past part. (10)
7	9	Change of past tense in main clause (9)	7	30.50	Repetition of syll. words etc (41)
8	20	Other cases of ambiguity (26)	8	11.50	Failure to use capital (37)
9	1	Misc. misuses of adj. and adv. (17)	9	7	Change of past tense in main clause (9)
10	13	Incomplete sentence (21)	10	28	Ambiguity due to indef. pronominal refer. (24)

Table XX displays the following facts:

I. The most frequent errors of the junior class do not have a corresponding rank in persistency.

II. The following errors more nearly correspond in frequency and persistency:

1. Change of past tense in main clause (9)
2. Incomplete sentence (21)

III It is interesting to note that only 2 errors in the junior correspond even slightly in ranks, as contrasted with the 6 in the freshman class. This leads to the question: Are junior errors more individual than the freshman errors, and, inversely, are freshman errors more similar throughout the class? Further experiment and study would be necessary to suggest the answer to this question.

TABLE XXI

THE RANKS OF THE TEN MOST FREQUENT AND THE TEN MOST PERSISTENT
FRESHMAN ERRORS IN THE JUNIOR YEAR

Ten Most Frequent Errors			Ten Most Persistent Errors		
Fresh. Jun.			Fresh. Jun.		
Ranks	Ranks	Name of Error	Ranks	Ranks	Name of Error
1	1	Misspelling (45)	1	13	Wrong verb used (11)
2	5	Failure to make new sentence for new thot (22)	2	1	Misc. misuses of adj and adverb (17)
3	2.5	Omiss. of word or phrase(39)	3	7	Repétition of syllables, etc. (41)
4	4	Miscell. punctuation (32)	4.5	2	Disagreement of subj. and pred. (8)
5	2.5	Miscell. errors (47)	4.5	3.5	Misspelling (45)
6	6	Improper use of capital(38)	6	13	Omission of word or phrase (39)
7	11.5	Failure to use capital (37)	8.5	29.5	Misspelling "to" "too" "two" (43)
8	7	Change of past tense in main clause(9)	8.5	22	Miscell. Punctuation (32)
9	10	Incomplete sentence (21)	8.5	26	Misuse of quotation marks (46)
10.5	11.5	Use of wrong or superfluous conjunction (18)	11	6	Wrong past tense or past participle (10)
10.5	16	Misuse of quotation marks(46)			

Table XXI shows the following facts:

- I. Misspelling is the most frequent error both in the freshman and junior classes.
- II. The following most frequent freshman errors correspond closely in junior frequency rank:
 1. Omission of word or phrase (39)
 2. Miscellaneous punctuation (32)
 3. Improper use of capital (33)
 4. Change of past tense in main clause (9)
 5. Incomplete sentence (21)
 6. Use of wrong or superfluous conjunction (18)

This comparison suggests that much more drill in these types of errors in the freshman and junior classes might have been quite effective.

III None of the most persistent freshman errors correspond in persistency in the junior year. Since this seems to be the case, perhaps, the frequency of the errors, discussed in II, in the junior themes was due largely to carelessness and mind-set. Evidently the above errors were comparatively easy to reduce in the junior year.

One problem arising from the consideration of persistency is the question of the relationship of intelligence and persistency of errors. To know why errors persist one must know the factors which produce them. Is it lack of intelligence? This

question may lead to an attempt to correlate I. Q. and index of persistency.

In the first trial only 15 individuals of each class were included. As this proved entirely unsatisfactory on account of the small number of cases, another correlation, using the 136 cases in the junior class for which there were sufficient data, was made.

The scattering of these cases is indicated in Table XXII. The correlation found was $r = .11$ plus minus .084. Thus the correlation is probably accidental and no conclusions may be drawn from it, save that persistency of error and intelligence are not significantly related.

This may be due to the fact that the Category of Errors used does not include errors that depend more on practice than on insight. It has been suggested that a class of errors might have been selected which would require average or more than average intelligence and thus correlate with I. Q. Such a procedure, however, is not in keeping with the purpose of this thesis. This study is concerned with mechanical errors which persist in compositions. If their persistency correlated with I. Q., there would sometimes be an excuse for their

continuance. The lack of correlation, however, places more and more responsibility on the teaching process such as the content, method of procedure, etc.

TABLE XXII

CORRELATION OF INTELLIGENCE QUOTIENT
AND INDEX OF PERSISTENCY

		Range of Intelligence Quotient									
		79	89	99	100-109	110-119	120-129	130-139	140-149		
		70	80	90	100	110	120	130	140		
		3	2	1		1	2	3	4		
Range of Index of Persistency	4.55	5.04			1					2	
	4.05	4.54								0	
	3.55	4.04			1		2			3	
	3.05	3.54				1				1	
	2.55	3.04		1						1	
	2.05	2.54								4	
	1.55	2.04	1	3	1		1	3		11	
	1.05	1.54	2	4	3		1		1	15	
	.55	1.04	7	7	8		7	4		39	
	.05	.54	4	4	11		10	13	1	1	56
	0	.05			1			1	1		4
			14	20	28	27	20	23	3	1	

$$r = .11 \quad - .084$$

SUMMARY OF DATA

- I. In reference to distribution of errors, freshmen and juniors made a net improvement between sets 1 and 5.
- II. In five groups out of six the results in average number of errors, totals of errors, percentage of errors, etc., are comparable to the group, showing an increase from "A", through "B" to "C". The group percentages of the total errors made in the junior class show this condition more distinctly than do the freshman group percentages.
- III The problem of the individual within a section tends to be peculiar to a typical individual.
- IV. The two most frequent errors for each class are:
- | | | |
|----------|---|-------------------------------------|
| | (| 1. Misspelling (45) |
| Freshman | (| 2. Failure to make new sentence for |
| | (| new thought (22) |
| | (| |
| Junior | (| Misspelling (45) |
| | (| Omission of word or phrase |
| | (| Miscellaneous errors |
- V. The two most persistent errors for each class are:
- | | | |
|----------|---|------------------------------------|
| | (| Wrong verb used |
| | (| Miscellaneous misuses of |
| Freshman | (| adjective and adverb |
| | (| |
| | (| Miscellaneous misuses of adjective |
| | (| and adverb |
| Junior | (| Disagreement of subject and |
| | (| predicate |

- VI. Frequent and persistent errors do not correspond closely in rank
- VII. Six frequent freshman errors correspond in rank with frequent junior errors; but persistent freshman errors do not correspond with persistent junior errors.

CHAPTER IV
CONCLUSIONS

ANSWERS TO THE SPECIFIC QUESTIONS OF
THIS STUDY.

A repetition of the questions listed in Chapter II and the answers to them is essential before stating the conclusions of this thesis. First, however, this fact is important: a distinction is made between "frequency" and "persistency", the former has to do with high totals, while the latter means the continued incidence of errors.

1. (Question) What are the most persistent errors of the freshman?

(Answer) Each group within the freshman class has its own particular worst or most persistent error. Any plan for correction of errors should fit the needs of the "A", "B", or "C" group. The five most persistent errors of the class, as a whole, are:

1. Wrong verb used. (11)
2. Miscellaneous misuses of adjectives and adverbs (17).
3. Repetition of syllables, words, or phrases (41).
4. Disagreement of subject and predicate (8).
5. Misspelling (45).

The five most frequent errors are:

1. Misspelling (45).
2. Failure to make new sentence for new thought (22).
3. Omission of word or phrase (39).
4. Miscellaneous punctuations (32).
5. Miscellaneous errors (47).

2. (Question) What is the order of their persistence?

(Answer) This is indicated above, the most persistent or most frequent being put first. Tables in the preceding chapter answer this in detail.

3. (Question) What are the most persistent errors of the juniors?

(Answer) Again each group within the class has its peculiar difficulties, but the five most persistent for the juniors, as a whole, are according to rank:

1. Miscellaneous misuses of adjective and adverb (17).
2. Disagreement of subject and predicate (8).
3. Subject or object of verb in wrong case (1).
(Use of wrong or superfluous preposition (18).
4. (Wrong past tense or past participle (10).
(Repetition of syllables, words or phrases (4).
(Misspelling (45).

5. Ambiguity due to indefinite pronominal reference (24).

The five most frequent errors are:

1. Misspelling (45).
2. (Omission of word or phrase (39).
(Miscellaneous errors (47)).
3. Miscellaneous punctuation (32).
4. Failure to make new sentence on new thought (22).
5. Improper use of capital (38).

(Question) What is the order of their persistence?

(Answer) This has been indicated above, as the errors are arranged in order of frequency and persistency, with the highest first.

4. (Question) How do the totals of errors of each set of the juniors compare with those of the freshmen?

(Answer) In general, the freshman totals are higher than the errors of the corresponding group of juniors. The one exception is caused by the "B" juniors in the second set. The following figures indicate this difference:

Freshman "A" - 1697 - total number of errors for sets 1 - 5
 Junior "A" - 938 - total number of errors for sets 1 - 5
 Difference 759 - decrease in errors between freshman
 and junior years.

Freshman "B" - 1809 - total number of errors for sets 1 - 5
 Junior "B" - 1538 - total number of errors for sets 1 - 5
 Difference 271 - decrease in errors between freshman
 and junior years.

Freshman "C" - 1977 - total number of errors in sets 1 - 5
 Junior "C" - 1354 - total number of errors in sets 1 - 5
 Difference 623 - decrease in errors between freshman
 and junior years.

Freshman Class - 5483 - total number of errors in sets 1 - 5
 Junior Class - 3830 - total number of errors in sets 1 - 5
 Difference 1653 - decrease in errors between freshman
 and junior years.

Thus 42+ % of the class improvement was made by the "A"
 group;

16+ % of the class improvement was made by the "B"
 group ;

and 37+ % of the class improvement was made by the "C"
 group.

In reference to specific sets the following figures show the difference:

	Sets:				
	1	2	3	4	5
Freshman "A"	379	277	428	372	241
Junior "A"	274	174	207	135	148
Difference	105	103	221	237	93
Freshman "B"	421	367	384	284	353
Junior "B"	277	480	350	219	212
Difference	144		34	65	141
Freshman "C"	349	349	582	418	279
Junior "C"	355	272	248	207	272
Difference	94	77	234	211	7

Thus in all but one set there is a decrease between freshman and junior work, although this improvement is slight in some sets. There are a number of factors which influence this condition, including difference in emphasis of subject-matter, mind-set, increased extra-curricular interests on part of juniors, remunerating jobs, indifference to elimination of mechanical errors, lack of understanding, underlearning, etc.

The difference between the performance of the junior and freshman classes, however, is really much larger than the figures given above would

indicate, since the length of the themes written by the juniors averaged at least one or one and one half times the length of the freshman themes. These longer themes of course offered more numerous opportunities to commit errors. In spite of this, however, the errors of the junior sections were uniformly smaller as above noted.

5. (Question) How do the errors vary during the term in the freshman classes and in the junior classes, respectively?

(Answer) Four of the six groups (all of the juniors) tend to increase in errors in the sets that were written about the time of the examinations. All show an improvement in the fourth set over the third.

6. (Question) Are there any specific types of errors peculiar to "A", "B", and "C" groups?

(Answer) This is a question that might be answered, "Yes and no." In general, the same errors are among the most persistent. However, these facts present themselves:

1. The freshman "A"s and "B"s" rank highest in errors of sentence structure, a condition that is explained by the fact

that "A" and "B" sentences tend to be more complex than "C's",

2. The two highest errors of the "C's" show errors in the use of parts of speech.

3. The most persistent error of the junior "B's" and "C's" shows the need of review in the correct uses of the parts of speech.

4. In all groups, the most frequent error is misspelling.

5. On the other hand, each group has detailed peculiarities that should be taken care of in the line-of-march for the elimination of errors.

7. (Question) What order of drill may be suggested as a remedy for freshmen and for juniors respectively? What special direction of effort in groups within the classes?

The following suggests the order of drill:

Freshman Class	:	Junior Class
1. Spelling	:	1. Spelling
2. Detailed practice	:	2. Exercises for review (such
in uses of parts of	:	as "Sharp's Exercise Book" ¹
speech, beginning with	:	for drill in making choices
adjective, adverb and	:	of adjective or adverb,
verb.	:	nominative or objective case,
3. Study of the sentence;	:	etc.)
grammatically considered.	:	3. Review of the sentence,
4. Detailed drill in	:	grammatically and rhetorically,
punctuation and capital-	:	making it as fresh as possible.
ization.	:	4. Review of punctuation
	:	and capitalization.

For both:

5. Repetition, at needed intervals, of drill by the use of fresh examples.
6. Emphasis of the necessity for each student to study his pitfalls; as much individual instruction as possible.

The special direction of effort within the groups should follow the ranks of frequency and persistency, as closely as it can logically be done.

1. Sharp, Russell A., "Sharp's Exercise Book."

Class work seems quite adequate for the treatment of frequency errors, while individual instruction would best meet the needs of the persistent errors. The subject-matter should be fitted to the needs and abilities of the particular group for which it is intended. In this study, the needs are indicated in the tables showing frequency and persistency ranks.

8. (Question) How do the results of this study compare with the results secured by Johnson in 1917?

(Answer) Johnson's suggested remedy places the emphasis upon capitalization and punctuation. These are important in suggested order of drill in this study, but not the most important. Although he includes spelling, he does not rank it as high as seems necessary now. A minute comparison cannot be made for he groups all high school students together.

9. (Question) What interesting by-product may be brought to light?

(Answer) The correlation of index of persistency, and intelligence quotient appears to approach zero. Students commit as many bright errors in English as dull ones.

CONCLUSIONS

These answers to the specific questions of this study may be summarized in the following conclusions:

- I. The history of errors from 2017 themes shows many and varied fluctuations due to three kinds of errors: (1) those due to lack of knowledge, (2) those which are the result of mind-set, and (3) possibly in few cases, those which are the result of mental defect.
- II. The most satisfactory improvement took place in the sections having the greatest amount of drill.
- III. Both class and individual drill are essential in improvement.

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