1949

A study of the need for and value of penmanship instruction for business education students in the high school

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Boston University

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Boston University
BOSTON UNIVERSITY
SCHOOL OF EDUCATION

Thesis

A STUDY OF THE NEED FOR AND VALUE OF PENMANSHIP INSTRUCTION FOR BUSINESS EDUCATION STUDENTS IN THE HIGH SCHOOL

Submitted by

Edna Marie Parker

(B. S. in P. A. L., Boston University, 1929)

In partial fulfillment of the requirements for the degree of Master of Education

1949
Gift of Edna M. Parker
School of Education
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ACNOWLEDGMENTS

I wish to express my sincere appreciation and special
thanks to Professor Lester I. Sluder for his willing
and unselfish guidance in the preparation of this study.

Thanks are also due to Mr. James L. Jordan, Principal
of the Southview High School, for allowing the testing to
be done in the high school and to Miss Constance V. Burcher.

First Reader:  
Lester I. Sluder, Assistant Professor of
Business Education

Second Reader:  
Mary E. Connelly, Assistant Professor of
Secretarial Studies

Third Reader:  
Franklin C. Roberts, Professor of Education

Dr. William C. Lyman was most helpful at the
beginning of this study, and his encouragement caused it to
become a reality.

Special tribute is paid to Dr. John E. Rose for his
guidance during the first two years of this study.
ACKNOWLEDGMENTS

I wish to express my sincere appreciation and special thanks to Professor Lester I. Sluder for his willing counsel and excellent guidance in the preparation of this study.

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Tribute is also paid to Mr. G. Vinton Jones, Guidance Director, for furnishing intelligence quotients for the class of 1950.

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The primary purpose of this study was to determine the extent of deterioration, if any, over a three-year period of the quality of handwriting of high school students who had penmanship instruction in grade nine as compared with the handwriting of students who did not have penmanship instruction in grade nine. In other words, the study was made to find out how well students who have studied penmanship in the first year of high school retain their fluency and quality of handwriting in grades ten and eleven, after they leave the penmanship classes. Are the efforts expended by both the instructor and pupil worth while or would there have been the same quality of writing in the eleventh grade with no further instruction in penmanship after grade eight?

A secondary purpose of this study was to determine the relationship between intelligence quotients and penmanship scores.

Analysis of the Problem

Purpose

1. To determine the quality of handwriting in April, 1947, of the girls who had penmanship instruction since September as compared with
CHAPTER I
INTRODUCTION

Statement of the Problem

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Analysis of the Problem

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INTRODUCTION

Statement of the Problem

The primary purpose of this study was to examine the
effect of reinforcement in improving school achievement and
dependent variables related to elementary school students who had
received reinforcement in discipline, to determine if reinforcement
in discipline resulted in increased student achievement and
discipline.

The literature of high school teachers shows that they
find one problem that keeps recurring is the student's failure to
perform the instructional and behavioral activities expected by
the teacher. The reinforcement of classroom behavior is known to
effectively change behavior patterns in students and improve
their academic performance. The study was designed to
investigate the effectiveness of reinforcement in improving
student achievement and discipline.

Analysis of the Problem

Approach

To investigate the utility of reinforcement in

information given, supplement or summarize with

some research.
the quality of handwriting of those girls who had not had penmanship instruction since leaving grade eight.

2. To determine the amount of deterioration, if any, which had taken place in the quality of penmanship from April, 1947, to April, 1948, between the two groups of girls.

3. To determine the amount of deterioration, if any, which had taken place in the quality of penmanship from April, 1948, to February, 1949, between the two groups of girls.

4. To determine the amount of deterioration, if any, which had taken place in the quality of penmanship from April, 1947, to February, 1949, between the two groups of girls.

5. To analyze the intelligence quotients of the two groups of girls to determine if there was any correlation between intelligence quotients and quality of penmanship.

6. To determine the quality of handwriting in April, 1947, of the boys who had penmanship instruction since September as compared with the quality of handwriting of those boys who had not had penmanship instruction since leaving grade eight.

7. To determine the amount of deterioration, if any, which had taken place in the quality of penmanship from April, 1947, to April, 1948, between the two groups of boys.

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To determine the amount of generation in the utility of power and energy from April 1949 to April 1950, the following were the two amounts of generation.
10. To analyze the intelligence quotients of the two groups of boys to determine if there was any correlation between intelligence quotients and quality of penmanship.

11. To determine the quality of penmanship of the combined penmanship scores of boys and girls in April, 1947, April, 1948, and February, 1949.

Justification of the Problem

For several years conflicting opinions have been expressed regarding the teaching of penmanship. Considerable research has been conducted in this field, although very little of this research has been concerned with penmanship instruction on the high school level.

Businessmen criticize the penmanship of their employees, usually placing the blame on the high school teachers. The high school teachers in turn blame the grade school teachers, with the result that the responsibility is not definitely fixed with anyone.

With formal practice of penmanship fast disappearing from the high school curricula and much less time being spent on it in the grades, good writers of business penmanship are not being produced in large numbers.

Administrators of private business colleges still emphasize the importance of penmanship and insist that a course be included in the curricula. Because of the policies which they follow of finding positions for their
To translate further, the importance of junior colleges.

To see the need for junior colleges to become a part of the educational system, the importance of junior colleges to the educational system is evident. The need for a junior college is evident, and the importance of junior colleges to the educational system is significant.
graduates, they have closer relationships with business firms than do most high school teachers. As a result, they perceive that penmanship still is one of the dominant factors in the placing of their graduates, especially in the accounting field.

The writer sent out questionnaires to 100 high schools in Massachusetts to find out the extent to which penmanship was taught and the reaction of teachers toward the value of teaching penmanship in the high school. Of 72 questionnaires which were received from representatives of business education departments, 47 indicated that penmanship should be taught in the high schools to business students only, and 30 respondents felt that penmanship should be taught to all high school students. After studying the foregoing data, the writer concluded that a study should be made to compare the quality of penmanship over a three-year period of students who were given instruction in penmanship in high school with those who were not given instruction in the subject, in order to determine the effectiveness of teaching penmanship to high school freshmen. Data received from the questionnaire is treated more fully in a later chapter.
The scientific research on the economic aspects of high education has brought to light the need for a more systematic approach to the financing of higher education institutions. The economic implications of high education are significant and must be carefully considered to ensure the sustainability of these institutions.

The modern educational system is heavily dependent on government and private funding. This dependence has led to a number of issues, including budget constraints and the lack of adequate resources to support the quality of education. The economic challenges faced by higher education institutions are complex, and solutions require a comprehensive approach.

The key to addressing these challenges lies in understanding the economic dynamics of higher education. By analyzing the economic factors that influence the demand for higher education and the supply of educational resources, we can develop strategies to ensure the viability and quality of education. This requires collaboration between educators, policymakers, and funding agencies to create a conducive environment for the growth of higher education institutions.
Delimitation of the Study

Other factors which limit the interpretation that can be placed upon the data obtained in this study were

A. The penmanship groups and non-penmanship groups were not equated according to their quality of penmanship when instruction was begun in September, 1947.

B. The tests were given in April instead of at the end of the penmanship instruction in June, 1947. The amount of improvement which took place between April and June therefore, was not measured. The fact that several students improved their penmanship scores in 1948 indicates that considerable growth may have taken place in the last two months of instruction.

At the end of the third year of testing, only 10 boys who had been members of the freshman penmanship class remained in school. This number represented too few cases from which to gather reliable statistical data for this group.

A comparison of penmanship test scores and intelligence quotients would have been more valid if all the students in the study had received penmanship instruction inasmuch as the students who did not take penmanship had the higher intelligence quotients.

When the students were members of grade nine, dip pens were used for the test, but for the other two tests when they were sophomores and juniors, students were allowed to use any style pen to which they had become accustomed. Many preferred to use the dip pens which were made available to
them. In other words, the quality of penmanship may have been influenced by the various styles of pens used.

Chapter two explains the exact steps of the procedures used in this study.

1. Questionnaires were mailed to the heads of business education departments in cities and towns of Massachusetts to determine if there was a need for penmanship in high schools and what their programs were for penmanship instruction.

2. Seventy-two replies were received, and the data were tabulated, analyzed, and summarized.

3. Penmanship tests were given in April, 1947, to 161 students who had had eight months of penmanship instruction and to 91 ninth grade students who had not had penmanship instruction.

4. Penmanship tests were given again in February, 1948, to 147 students, who had now become seniors in grade 11, to determine the amount of deterioration, if any, in the quality of handwriting from the previous tests of April, 1947.

5. The results of the penmanship tests were analyzed and interpreted.

a. Comparisons were made of penmanship test scores for the three years of girls who had had penmanship instruction and the girls who had not had penmanship instruction.

b. Comparisons were made of penmanship test scores for the three years of boys who had had penmanship instruction and the boys who had not had penmanship instruction.

c. Comparisons were made of composite scores of boys and girls who took penmanship with scores of boys and girls who did not have penmanship.
From the data presented, the diversity of bacterial species was high. Conclusions can explore the exact nature of the processes seen in this study. Further research is needed to clarify such results.
CHAPTER II

METHOD OF PROCEDURE

1. A survey was made of the teaching of penmanship in the high schools of Massachusetts.
   a. One hundred questionnaires were mailed to the department heads of business education departments in cities and towns of Massachusetts to determine if there was a felt need for penmanship in the high schools and what their programs were for penmanship instruction.
   b. Seventy-two replies were received, and the data were tabulated, analyzed, and summarized.

2. The Bushman penmanship tests were given in April, 1947, to 101 students who had had eight months of penmanship instruction and to 91 ninth grade students who had not had penmanship instruction.

3. Penmanship tests were given in April, 1948, to 158 students of the same groups to determine the amount of deterioration, if any, in the quality of handwriting from the previous tests of April, 1947.

4. Penmanship tests were given again in February, 1949, to 147 students, who had now become members of grade 11, to determine the amount of deterioration, if any, in the quality of handwriting from the tests of 1947 and 1948.

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   a. Comparisons were made of penmanship test scores for the three years of girls who had had penmanship instruction and the girls who had not had penmanship instruction.
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   c. Comparisons were made of composite scores of boys and girls who took penmanship with scores of boys and girls who did not take penmanship.
CHAPTER II

INTRODUCTION TO PSYCHOLOGICAL

A general view of the current state of psychological

and philosophical concepts of measurement and

the interplay of these concepts to the

importance of psychological measurement, a brief history of
development of measurement, and a look at the current state of
measurement and its applications.
d. A correlation was made to determine if there was any relationship between penmanship test scores and intelligence quotients.

6. On the basis of the data obtained in the study, findings and conclusions were written.

One hundred letters and questionnaires were mailed; at least one high school in every city in Massachusetts and 10 Boston high schools received them. In addition, questionnaires were sent to high schools in 52 towns. Population, location, and industries of the towns were considered in making these selections. Smaller towns were contacted as well as larger ones with the range in population being approximately from 15,084 persons to 781,188 for the cities and from 1,120 to 47,490 for the towns. The cities and towns which were contacted are listed in the appendix. The letters were addressed to the heads of the business education departments, and 72 returns were received. Copies of the letter and questionnaire are also in the appendix.

The data obtained from the returned questionnaires were tabulated. The results indicated that most of the teachers were in favor of providing formal penmanship instruction in the high school because of the definite need for it. The answers to these questionnaires signified that further information was necessary regarding results from teaching penmanship in the high school and the amount of carry-over or deterioration which takes place from year to year.
Braintree High School, where the study was made, is a four-year high school and is located in the town of Braintree, Norfolk County, Massachusetts. The total enrollment of Braintree High School each year during the testing procedure was about 1,000 students. Eight teachers were employed in the business education department of the high school, although penmanship was taught by only one teacher, the writer of this report.

When this study was begun in 1947, penmanship was required of all business students. The penmanship classes met twice a week in forty-five minute periods. Girls and boys did not take penmanship together, because on alternate days the groups were required to take physical education.

The Lillian Bushman penmanship test used in this study was administered by dictation to the members of the class of 1950 of the Braintree High School in April, 1947, April, 1948, and February, 1949, when the students were freshmen, sophomores, and juniors respectively so that the amount of deterioration, if any, in the quality of handwriting for the three tests could be measured. This class had a membership of 250 when entering high school. Because of withdrawals from school and absenteeism the day of the first test, only 192 students wrote the test. There were 158 students who took the second test and 147 students who participated in the third test. Therefore, the final analysis of data for this study actually included 147 cases.
The purpose of the school is to prepare students for the world of work. The goal of the school is to provide students with the knowledge and skills necessary to succeed in their future endeavors. Interview students and teachers to gain insights into the school's philosophy and methods. The school's curriculum is designed to be both rigorous and comprehensive, providing students with a well-rounded education. The school's facilities are state-of-the-art, ensuring that students have access to the latest technology and resources. The school aims to foster a sense of community among its students, promoting teamwork and collaboration. The school's extracurricular activities are diverse, offering students opportunities to explore their interests outside of the classroom. The school's achievements are a testament to its dedication to providing a high-quality education to its students.
The penmanship test was given first in April, 1947, to all business education students in their regular penmanship classes after completion of eight months of penmanship instruction in the high school. The test was administered to the remainder of the freshman class by contacting the English classes. Inasmuch as all students must study English, this seemed to be the most logical way to reach the rest of the freshman class. After the first year, all tests were given in the English classes.

As penmanship was required of all students taking the business education curriculum at the time this study was started, the students were divided into two groups: (1) those who studied penmanship in the first year of high school, and (2) those who had no instruction after grade eight. A further subdivision was made between boys and girls. Their tests were corrected by the investigator for the three-year period, and the results were recorded on charts which were kept for each student for the three years. These scores were then analyzed and interpreted to determine the amount of deterioration, if any, which had taken place between the groups.

Intelligence quotients were obtained from the guidance office for the class of 1950 to determine if there was any correlation between intelligence quotients and quality of penmanship.
The Department head was given the task of April 1947, to
prepare a plan for the establishment at St. John's College of

a four-year course of study in English Literature.

The plan included the following points:

1. The first year of study would be devoted to

the study of English Literature and English Language.

2. The second year would be devoted to the study of

philosophy, history, and economics.

3. The third year would be devoted to the study of

law, politics, and government.

4. The fourth year would be devoted to the study of

art, music, and drama.

The plan was submitted to the Board of Governors for
consideration, and was adopted.

The plan was then submitted to the Department of

Education for approval, and was approved.

The plan was then submitted to the Department of

Finance for approval, and was approved.

The plan was then submitted to the Department of

Institutional Affairs for approval, and was approved.

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CHAPTER III

DESCRIPTION OF THE PENMANSHIP TEST

The test given each year for the three consecutive years of the study was one written by Lillian Bushman, Supervisor of Handwriting, Burlington, Wisconsin. The test requires approximately forty-five minutes to administer. A standard diagnostic chart for measuring handwriting objectively for this test, which was also written by Lillian Bushman, was used to diagnose the writing and obtain the penmanship scores. This chart includes scores for position, movement, slant, alignment, spacing, size, speed, form, and neatness.

The Bushman test was chosen because of the relative objectivity in figuring scores. It also provides for evaluation of every phase of handwriting that seems important enough to be measured. This measuring process is facilitated by the scoring system of 100 points set up by the author. Only 82 of the points on the chart were considered in this study because 18 of the 100 points on the diagnostic chart are concerned with the students' writing position which could not be evaluated accurately when the test was given to large groups.

Another reason for eliminating these first 18 points was that students who had not studied penmanship in the high
CHAPTER III
DESCRIPTION OF THE PERMANENT TEST

The test given each year for the same committee
years of the search were written of filled positions.

Supervisor of Educational Personnel, how.

The tests

throughout the twenty-five minutes to administer.

A

approximately forty-five minutes for examining the test.

time test, which was also written by filling

I have to give a test with a writing and opinion

be referred to the teacher's score. The more

method, intelligence, special, and general tests,

the permanent test was chosen because of the teacher.

opportunity in testing scores. It was necessary for

associated with the ability of reading in the second grade and

the permanent test was

least amount to the score of the teacher's score.

test for the skilled system of 100 points earned by the

scored the test of the parer on the points made on the

the presented work could not be attendance scorecard and the

point was given to large groups.

Amplification lesson on attendance score first 10 points

was first attempted and made not written down to the right
school would not have known the correct writing position. To a certain degree, good or poor position was reflected in the quality of the penmanship of the students.

A hand-written copy of the test appears in the appendix. The test is given here in printed form.

RESEARCH INSTRUMENT

Paper 1

1. Time the students for two minutes while they write "A quick brown fox jumps over the lazy dog."

Paper 2

Section I

1. Have the students write the capital letter alphabet putting A - M on one line and N - Z on the next line.

2. Skip a line and write once "A quick brown fox jumps over the lazy dog."

Section II

1. Have the students write the capital letter alphabet putting A - M on one line and N - Z on the next line.

2. Skip a line and write "Pupils tried to study."

3. Skip a line and write "Yell, bow, fight, quake, jazz."

4. Skip a line and write "A quick brown fox jumps over the lazy dog."

---

Research Instrument

Section I

I. Take the protractor for two minutes while stays
      write a drawn protractor line over the line
      and get

Section II

I. Take the scissors while use a compass center
      write a drawn line once do with a dark pencil
      and get

A. Draw a line and write "tell" at the right

B. Draw a line and write "what" at the other drawn line

C. 

The test is now over in printing form.
Paper 3

Section III

1. Have the students write "Failure is only for those who think failure."

Section IV

1. Write the following verse and put only one line on one line of the paper:

"Every one that flatters thee
Is no friend in misery.
Words are easy, like the wind;
Faithful friends are hard to find.
Every man will be thy friend
Whilst thou hast wherewith to spend."

Section V

1. Write the following words down in a column: Africa, Oregon, Chicago, Mexico, Naples, Yap, Zella.

2. Opposite this column write the following words down in a column: artist, object, city, mint, net, yard, zero.

3. Skip a line and write across the line the following figures: 1 2 3 4 5 6 7 8 9 0.

Method of Grading Penmanship Tests

"The Teacher's Guide for the use of The Standard Diagnostic Chart for Measuring Handwriting Objectively"¹ was used in diagnosing the writing and in obtaining the penmanship scores. A poorly written test required about

Section III

I. Have the auditors write "dilute" in only
for those who think dilute.

Section IV

II. Write the following name and put only one
line on one line of the paper:

\[ \text{Over one part of paper} \]

Write one line of the paper:

\[ \text{Over one part of paper} \]

Write one line of the paper:

\[ \text{Over one part of paper} \]

Write the following name and put only one
line on one line of the paper:

\[ \text{Over one part of paper} \]

Write the following name and put only one
line on one line of the paper:

\[ \text{Over one part of paper} \]

Write the following name and put only one
line on one line of the paper:

\[ \text{Over one part of paper} \]

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line on one line of the paper:

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\[ \text{Over one part of paper} \]

Write the following name and put only one
line on one line of the paper:

\[ \text{Over one part of paper} \]

Write the following name and put only one
line on one line of the paper:

\[ \text{Over one part of paper} \]
fifteen minutes to correct, whereas a well-written test took at least twenty-five minutes. The errors could be found on one paper if the test was poorly done, but the three papers of a well-written test had to be scrutinized for errors, which was time-consuming. The scores were entered on individual charts. The chart, which includes 100 points, was used to grade the handwriting written on the tests. The test results were listed on the students' charts each year for the three years. Consideration was given to only 82 of the 100 points because 18 points concerned with position were omitted from the study. A copy of the chart is in the appendix.

The diagnostic chart was followed exclusively to arrive at an objective score for each test. The following procedure for correcting the test was adapted from the instructions given by Lillian Bushman:

I. **Position**

This entire section was omitted.

II. **Movement**

1. **Quality of Line**

   (a) **Firm, not tremulous**

   The three test papers of the 1947 test were studied to see if there were any shaky or tremulous lines. If not, two points were entered on the chart. If there were, zero was written in. If the writing had only an occasional tremor, one point was given.
After a minute to correct, write a well-written first draft.

After twenty-five minutes, the entire paper can be transcribed for the reader. The score was forty-one, and the first paper was a well-written essay. The score was thirty-nine, and the second paper was a well-written essay. The score was forty-one, and the third paper was a well-written essay. The score was thirty-nine, and the fourth paper was a well-written essay. The score was forty-one, and the fifth paper was a well-written essay. The score was thirty-nine, and the sixth paper was a well-written essay. The score was forty-one, and the seventh paper was a well-written essay. The score was thirty-nine, and the eighth paper was a well-written essay. The score was forty-one, and the ninth paper was a well-written essay.
(b) Smooth and clear cut, indicating speed

Two points were given if the lines were light, clear-cut and smooth rather than heavy, dark, or shaded.

Section I

2. Slant

(a) Uniform

Slant was scored on the first part of the second test paper, which is called section one of the test. The students were instructed to write the capital letter alphabet putting A through M on one line and N through Z on the next line. Then they were told to skip a line and write the sentence, "A quick brown fox jumps over the lazy dog."

Thirty-six slant lines were drawn through the capital letters and thirty-five slant lines were drawn through the small letters in the sentence. A slant line was not repeated for the same letter if it occurred again in the sentence. (See written copy of test in the appendix.) The test paper then was placed in the correct writing position so that an imaginary line could be drawn from one diagonal corner of the desk where the inkwell was to the other corner, and this imaginary line would run parallel with the blue lines on the paper. Then slant lines were counted that pointed toward the center of the body. If there were 71 correct slant lines, a score of three points was given; 61 to 70, two and a half points; 50 to 60, two points; 39 to 49,
one and a half points; 28 to 38, one point; 17 to 27, one-half point; zero to 16 points, zero score.

(b) Toward the center of the body

A dot was placed on the top edge of each paper one inch in from the upper right-hand corner. Another dot was placed on the bottom edge of each paper one-quarter inch in from the lower left-hand corner. These dots were connected with lines. If the writing slanted the same as these lines on the three 1947 test papers, a total of two points was entered on the chart.

Section II

3. Alignment

(a) Of capital and small letters

Students were instructed to write the capital letter alphabet again. Lines were drawn across the tops of these capitals, and if all the letters were not three-fourths of a space tall, no credit was given. If they were three-fourths of a space tall, one-half point was given. Then the following words in sentence form were tested for correct alignment of the loop letters by drawing a line across the tops and bottoms of the loop letters: "Yell, bow, fight, quake, jazz." To test the t's, d's, and p's, the sentence, "Pupils tried to study," was written by the students. If all upper loop letters were three-fourths of a space tall in the above words, all lower loop letters were one-half space below the
A got was placed on the top edge of each paper one inch from the top edge of each sheet. The got was left in place of each paper one inch from the top edge of each sheet. The got was left in place of each paper one inch from the top edge of each sheet. The got was left in place of each paper one inch from the top edge of each sheet.

Section II

Affirmation

I certify that the above letter has been written by hand and the contents are accurate to the best of my knowledge.
line, and all t's, d's, and p's were one-half space tall, one more one half was given. Also, in this same section, the sentence, "A quick brown fox jumps over the lazy dog" was again written. Lines were drawn across the tops of the small letters, and if all small letters in each word were on the line and one-fourth of a space tall, two points were given. If six or seven words were correct, one and a half points were given; four or five words, one point; two or three words, one-half point.

(b) Writing on line

If the entire test was written on the lines, two points were received. For an occasional letter written below or above the line, one point was given.

Section III

4. Uniform Spacing

(a) Between letters

For this part of the test the following sentence was used: "Failure is only for those who think failure." Lines were drawn to mark off the widths of the letters, and then horizontal lines were placed between the letters. If these horizontal lines measured the width of the small letter u, or in other words, if the space between each letter was the width of the small letter u, they were counted as being correct. For 28 correct spacings a score of two was obtained; for 22 to 27, one and a half points; for 15 to 21,
one point; and for eight to 14 correct spacings one-half point was given.

Section IV

(b) Between words

The following poem was given to measure the spacing between words:

"Every one that flatters thee
Is no friend in misery.
Words are easy like the wind;
Faithful friends are hard to find.
Every man will be thy friend
Whil'st thou hast wherewith to spend."

Perpendicular lines were drawn between each word. If an ending stroke of one word and the beginning stroke of another just touched the perpendicular line, the spacing between words was considered to be correct. Words that began with letters that do not have forward strokes such as a and o were tested by drawing dotted lines at the beginnings of these letters. If beginning or ending strokes were omitted from letters that should have them, no credit was given. If there were 28 correct spacings, a score of two points was entered on the chart. If 22 to 27 were correct, one and a half points were given; for 15 to 21, one point; and for eight to 14, one-half point.

5. Size

Compare with textbook

The size of the writing on the test was compared with that of the textbook that the penmanship students use. If
one point; may I take this as a perfect one-point point was given.

Section VI

Section VI (b) Between Waves

The following view are given to measure the deviation

between waves:

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The lines were drawn between each note.

Section VI (c) Between Waves

A small slice of one note, the beginning slice of another, and consecutive the beginning slice of the original one. Waves that began green marks were continued to be correct, and if waves that had not been given to have preceding slices of the beginning of these letters. It beginning or ending attacks were omitted from letters and pointing have been on the right side. The points were so correct, on a scale of two points was approached on the chart. If 25 to 25 were correct, one and a half points were given, but if 13 to 27 one point may be

right to 1/2 one-half point.

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The use of the methods on the direct are connected with

use of the techniques that the accompanying figures use.
it was the same size, two points were given. Then the total 
score for movement was obtained by adding the figures under 
the heading of movement.

III. Correct Speed

The results of the first paper that was written by the students were used to determine the correct speed. The first part of the test consisted of the alphabetic sentence "The quick brown fox jumps over the lazy dog." This sentence was written for two minutes to test the writing speed of the students. The sentence consists of 33 letters. The total number of letters written was divided by two to obtain the speed for one minute. The A. N. Palmer Company provides norms for this test for the first eight grades. The writer wrote to the A. N. Palmer Company to obtain norms for grades nine, ten, and eleven but was unsuccessful. Therefore, the eighth grade norm was used for all tests administered in the study. This rate norm is 80 letters per minute. The number of letters written per minute was multiplied by 15, the perfect score for correct speed on the evaluation chart, and this answer was divided by 80 to obtain the score for speed.

IV. Form

1. Legible figures

The writing of the figures was the last part of the third test paper. One-half point was given for each figure that was made correctly.
In the same wise, two points were given. They are:

1. The necessity of the first letter before the next letter on the

The student was told to determine the correct answer.

The first letter of the next sentence of the previous sentence

The student was written on the next minute to face the writing.

The correct number of letters written was written on top of the paper correctly.

The writer wrote of the A. If necessary, consider the answer.

You have written, then, may never get any more for the letters.

In the paper, the right choice may never get any more for the letters but it could

It was shown in the space. This was more to so letters than

The number of letters written for some more words

Only if it is the correct time to continue deeper on the

Attention must and the reason was giving to go to

opportunity the more you may.

The writing of the numbers was the last part of the

In your next letter, make your final line clear. You may check.

The were made carefully.
2. **I's dotted**

If the small i's were not dotted above the i, twice as high, and on the same slant as the root part of the i, no credit was given. If all i's were correct, one point was given.

3. **T's crossed**

If the t's were crossed with a line the width of the small letter u and one-half the distance from the top and one-half of the cross on each side of the t, one point was given.

4. **Following letters closed:**
   - a, ƒ, ð, 0, p, z, r, s, q

The three test papers were examined and the following procedure followed:

   a. One-half point each was given for a, ƒ, ð, 0, p, z, r, s, and q if none of these letters was found open on the test papers. This made a total of three and a half points.

   b. One more half point was given if all s's and q's were closed, thus making a total of four points.

5. **Correct curves and points in:**
   - V, Y, ƒ, b, h, z, m, n

   a. If there were no points on any v's, y's, b's, or h's, one-half point was given for each of these letters making a total of two points.

   b. If every s had sharp points, one-half additional point was given.

   c. If all m's and n's were rounded, another half point was given, thus making a total of three points.
6. Sharp turns made sharp, not looped

If there were any extra loops in the following letters, they were counted: a, b, c, d, f, g, h, i, j, k, m, n, o, p, q, r, s, t, u, v, w, y, A, T. When a total of seven was reached, the score for this part of the test was zero. If more than one but less than seven loops were found on the three papers, one point was given.

7. Loop letters open:
   e, l, k, b, g, h, f, i, y, z, q
   a. If all e's were open, one point was given.
   b. If all loops in l's, k's, and b's were open, one-half point was given for each, making a total of one and a half points.
   c. To secure one more half point, all loops had to be open in g, h, f, i, y, z, and q.

8. Correct beginning strokes

To receive two points all letters that have forward strokes had to begin on the line with a curved under stroke or over stroke.

9. Correct finishing strokes

All endings of words had to be finished up one-fourth of the space between the blue lines of the paper except for the words which ended with g, j, y, and z. These letters had to end with an over stroke and were not quite one-fourth of a space above the line. Small t at the end of a word made
If there were only extra looks in the following letters, they were connected:

Then a part of seven was
A score for the rest were.

Because the score for the half of the rest were fine. It
more than one put four or even looks were Union on the

Prime factors: one joint was given.

Look letters given.

If the all's were open, one joint was

First, if the looks in the first part were given
Look again without a joint of one and

A full battery.

If we assume one more half looks, if
The looks half to be open in the

\( \frac{1}{2} \times \frac{1}{2} \times \frac{1}{2} \times \frac{1}{2} \times \frac{1}{2} \)

Correcting preliminary mistakes:

To receive two dates all letters that have forming
Attention has to be paid on the file with a careful making where

Correcting preliminary mistakes:

All parts of words may be in lithography due to

The space between the place lines of the letter was

Three factors

Some of the above space for more, some
without a cross had to end with an overstroke. Small d could end below the line with a curved stroke at the end of a word. If all of these letters had correct endings, two points were given.

10. **No unnecessary strokes added**

Any letters written with more strokes than in the accepted business writing alphabet prevented the student from receiving one point.

11. **No strokes omitted**

One point was deducted for omission of strokes.

Section V

12. **No confusion of capital and small letters:**

The students were instructed to write the dictated words in two columns. They were corrected as follows:

a. The first letters in the words **Africa** and **artist** were compared. If the capital A was three-fourths of a space tall, and the small a was one-fourth of a space tall, one-half point was given.

b. The c's in **Oregon** and **object** were measured, and if correct, one-half point was given.

c. The c's in **Chicago** and **city** also were measured, and if correct, one more one-half was given.

d. For one more half point, all proportions had to be correct for the first letters in **Mexico** and **mint**, **Naples** and **net**, **Yap** and **yard**, and **Zella** and zero. A total of two points was obtained if all first letters in the two columns were correct.
Then the total score for form was obtained by adding the figures under the heading of form.

V. Carrying-Over Power

Muscular movement

Neatness

a. If the papers were written with fine, hair-like lines, including fade-out lines on the endings of each word, and if there were no shaded lines on down strokes, the assumption was made that the test materials were written with muscular movement either between letters or in their entirety, and five points were given.

b. Five points were given if the margins were even at both edges of the three papers.

c. Five more points were given if there were no blots.

d. An additional five points were given if no letters had been written directly over incorrect ones.

If this section was correct, a total of 20 points was obtained.

The next step was to obtain the grand total by adding the total scores for movement, speed, form, and carrying-over power. If the student had a perfect paper, eighty-two points were obtained.
Then the cost must be from the cost of the original

The figures which are received of time

V. General Views

The figures which are received

The figures which are received

The figures which are received

The figures which are received

The figures which are received

The figures which are received

The figures which are received
CHAPTER IV

REVIEW OF RELATED LITERATURE

The consensus of opinion is that graduates of grammar schools are not mature enough to retain the skill of good writing without some kind of refresher course in high school. Samples of penmanship written by high school freshmen each September show their writing to be immature, childish-looking and not meeting business requirements. Harry D. Smith has written that "adolescence automatically forces good writers to become poor ones because of fast, sudden, awkward physical growth." However, if all high school teachers would insist on legible writing and not accept poorly written papers, some improvement would take place during the four years of high school.

Along this same line of argument, Smith has written as follows:

It behooves all business educators to beware of gross negligence in the teaching of penmanship. It might also be well if commercial educators initiated a concerted drive to enlist the aid of all secondary school teachers, regardless of subjects taught, toward cooperation in demanding the very best penmanship on work turned in by students.

Frederick G. Nichols states that penmanship is approved by businessmen as part of the high school curriculum but

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2Ibid, p. 415.
VI

CHAPTER

REVIEW OF RECENT TRENDS

The importance of writing as a skill of communication

and the need for schools to prepare students to function effectively

in a world where written communication is becoming increasingly

important.

Schools should incorporate writing instruction into their curricula

by integrating writing skills into various subjects and providing

opportunities for students to practice writing in a variety of contexts.

The benefits of writing and the role of teachers in fostering

writing skills.

The importance of writing in the economy and society.

In order to address the growing importance of writing, schools

should prioritize the development of writing skills in their curricula.

Writing is a fundamental skill in today's society, and students

must be prepared to function effectively in a world where writing

is essential.

The importance of writing in various fields, such as business,

law, and science.

Writing is a critical skill in many fields, and students should

be encouraged to develop their writing skills in these areas.

The role of technology in writing education.

With the rise of digital media and the increasing use of

technology in communication, writing education must

adapt to include new tools and techniques.

Conclusion

In conclusion, writing is an essential skill for students to learn

in their education. Schools should prioritize writing instruction

and provide opportunities for students to practice and develop

their skills.

References


that the teacher should discover what is wrong and give remedial work. He further states that "penmanship must be taught and writing skill must be developed."

Some teachers favor a remedial penmanship class where students may be sent for a few days or weeks or until they obtain a certain score based on one of the handwriting charts.

Lyel May Hess feels that the responsibility for good writing is with the junior high school teacher, for she writes as follows:

The aim of a junior high school teacher should be to see that each pupil has developed a legible style of handwriting, make sure that he writes everything well, and to impress him with the importance of legible handwriting in the business world.

In the junior high school program in the Indianapolis schools, regular handwriting periods are not provided. Those who achieve and maintain the grade standards are excused from formal writing lessons. The others are placed in a remedial class.

For several years the trend has been to excuse pupils who have accomplished the standard, but some authorities, among them Horace Healy, do not approve. He has stated that pupils when graduating from the elementary

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3 Ibid, p. 42.
The aim of a proper high school program in the junior high school, according to the report of an advisory committee, is to develop a higher type of personal and social education and to improve the moral and intellectual life of the students. The report emphasizes the importance of the moral and intellectual growth of the students, and stresses the need for a comprehensive and balanced program.

The report also stresses the importance of the development of self-confidence and self-respect, and the need for the students to develop a sense of responsibility and duty. It recommends the establishment of a system of rewards and punishments to encourage good behavior and to discourage misconduct.

The report concludes by stating that the junior high school program should be designed to meet the needs and interests of the students, and to prepare them for life in the community.
grades at the age of thirteen and fourteen are not sufficiently mature to retain their present degree of efficiency. The pupil may relax and revert to bad writing habits.  

In a questionnaire sent out by Snyder to teachers in Ohio, one question was included to find out why the quality of penmanship seemed to be generally poor, and the following observations were made by the teachers and Mr. Snyder:

Failure to give the proper incentive, such as a conviction of business demands, is felt by a number to be a real defect.

... the thorough instruction of the elementary school is neglected, and 'any kind of scribble is accepted.'

There are many who would not extend handwriting into the high school but rather have less in the elementary school.

Of the teachers in Ohio who were asked how many had provision for penmanship above the elementary grades, thirty-one answered in the affirmative and seventy-one in the negative.

In an article written a few years ago, Catharine P. Boyle described the problems of penmanship in the high school as follows:

The outstanding problem in teaching handwriting in high school is to build in pupils

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1 Ibid, p. 61.

2 Snyder, Marsh Allen, The Present Status of the Teaching of Handwriting in Ohio, Master of Arts Thesis, The Ohio State University, 1938, p. 64.

3 Ibid, p. 68.
In a discussion, one may go by guess to see if the proposition:

Preliminary to the proper instruction of the student is to observe the "rule of inspection," and to explain the "principle of inspection." To these we may now turn our attention.

The purpose of the elementary school is to impart a broad and comprehensive view of the world. The purpose of the high school is to prepare the student for college. The purpose of the college is to train the student for a career.

The purpose of the teacher is to organize the classroom and to provide a suitable environment for learning.

The purpose of the student is to receive an education and to develop a growth of knowledge.

The purpose of the family is to provide a loving and supportive environment.

The purpose of the community is to provide a safe and healthy environment.

The purpose of the nation is to provide a prosperous and democratic society.

The purpose of the world is to provide peace and prosperity.
the realization that good handwriting is worth the price they must pay to acquire it. It is the result of much self-discipline, constant watchfulness, and hours of practice so that the habit of good writing may become automatic...

We are living in a careless and hurried era. Handwriting standards have suffered as a result of scurrying and hurrying to save time.

Of 800 pupils studied in a survey a year ago, over 88 per cent indicated that they were not writing so well as they were able to because nobody cared how they wrote. Few teachers commended the good writers, they explained, and few condemned the scribblers.1

Smith2 has said that "businessmen and women develop a dislike for the teaching profession when office employees write and execute work poorly."

Smith3 states that teachers should give motives to the pupils for learning to write well and suggests that the following points be emphasized:

(1) the profit motive in a personal sense, (2) higher school grades because of improved quality of written work, (3) greater possibility of obtaining a position when written application for the job is essential, (4) likelihood of better salary because of good writing as part of a winning personality.

2Smith, loc. cit.
3Ibid, p. 415.
We are finding in a classroom and industrial environment that buildings and apparatus have doubled in cost.

The increase of building materials has become very evident as a result of competitive buying and purchasing.

The article on building materials may become more elaborate.

We should consider the feasibility of constructing and purchasing a building for 800 pupils ranging in a certain area.

Over 800 pupils attending an elementary school have
not only doubled in cost, but their wages have also more than doubled. The increase of buying power from these wages has been considerable, so much so that some communities have adopted a form of "purposive" tax to raise the building costs.

Efforts have been made to increase the efficiency of the building department.

Efforts have also been made to lower the costs of material and labor.

Following points are emphasized:

1. The building ought to be a permanent structure.
2. The building should have a certain amount of flexibility in design, so as to accommodate a variety of uses.
3. The building should be constructed with materials that are durable and need minimum maintenance.
4. The building should be designed to meet the needs of the community and to provide a safe, healthy, and comfortable environment for the students.
5. The building should be designed to be energy-efficient and environmentally sustainable.

A better understanding of the building and its components is necessary to ensure its efficiency and cost-effectiveness.

The article on building materials may become more elaborate.
Smith further criticizes the teachers as follows:

Many teachers demand fast writing regardless of quality.

Slovenly physical habits in general are not corrected.

Importance of good writing is forgotten by pupils and teachers.

Smith feels very strongly about penmanship for the business students and lists what he calls the "pedagogic crimes of penmanship" as follows:

The implications of teacher-neglect of this lost art of good handwriting are far-reaching, particularly where students in commercial education courses are concerned.

Employees in business offices who do not utilize proper writing movement write poorly, tire easily, and work slowly and inefficiently, with few exceptions.

Left-handed writers, who scribble with tensed wrist and fingers from top down, develop physical and eye strain that justifies a hatred for writing that is really the fault of teachers who have allowed such writing posture to develop.

Some day in the future, when these poor writers become acquainted with the truth, they will place the blame just where it belongs, and the reaction against the teaching personnel will be anything but good.

Good writing should be fostered and encouraged, because good writing and better pupils go together.

Penmanship is a neglected minor subject which, if properly encouraged, will pay major interest many times over.

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1 Ibid, p. 415.
Paul V. West\(^1\) states that a course of study in handwriting should be planned and continued into the high school and taught only by teachers who enjoy teaching the subject. Very few teachers know how to teach penmanship, and many do not write well.

The A. N. Palmer Company\(^2\) has taken an editorial stand as follows:

Satisfactory results in handwriting are obtained in any school or school system where those in charge are convinced of its desirability, and we believe that these results can always be obtained with a minimum of effort on the part of teachers and pupils, coupled, of course, with a progressive plan.

In a past issue of The Good Writers Club Bulletin\(^3\), the following article appeared: . . . "Silent today are the misguided writers and lecturers who for almost a decade have been intoning a falsity that handwriting could be taught or learned 'incidentally.' A new era opens for the proponents of good handwriting."

However, if the teachers are not able to recognize the need for remedial work, poorly written papers will continue to be accepted. The teaching of penmanship in any grade

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well. We have a course of study in hand to

beginning shortly for planning and co-ordinating into the plan for
and carrying out in accordance with the plan for the subject.

Very few teachers know how to teach mathematics, and we shall go
not write well.

The A. Y. Mayer Committee has seized an opportunity under

as follows:

significantly results in hand-printing the

assigned to the school by the committee of the society.

made so far, but these results can be obtained by

part of mathematics, they secure, cooperate in

In a recent issue of the [Name's] Annual Bulletin,

the following extract be reprinted:

meaningful writing and reading are not enough to

forming mathematics, a new and timely for the development

of mathematics:"

However, if the teachers are not able to recognize the

need for somewhat more heavily written books with continuous

of at least the

principles of mathematics in any grade.

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1. Wanting preparation to teach mathematics.
2. Wanting preparation to teach science.
3. Wanting preparation to teach chemistry.
4. Need to prepare teachers for teaching of mathematics.
5. Need to prepare teachers for teaching of science.

depends upon the teacher's skill in handling the subject, but teachers' colleges and other colleges are not preparing student teachers to become legible writers. Furthermore, these institutions of learning are not providing courses in the pedagogy of penmanship to these students who, in turn, must go out into the teaching field to teach their prospective students the fundamentals of good penmanship. Snyder\textsuperscript{1} has written as follows:

The training of prospective public school teachers in the methods and mechanics of handwriting was the exception, not the rule. In many teachers' colleges of repute the case of handwriting is dismissed with a shrug and a mere incidental mention of the subject, and their prospective teachers are ushered into the public school systems practically ignorant in this important subject, the teaching of which most certainly is to become an important daily procedure with many of them.

Snyder\textsuperscript{2} also writes that it is hard to understand this attitude on the part of the teachers' colleges, for the "businessmen in particular voiced loud and long choruses of carping criticisms against the schools during the trying years of the depression."

Snyder asked this question: "Would you like to know more about the teaching of handwriting?" Out of 197 teachers, 176 answered in the affirmative and only 21 in the

\textsuperscript{1}Snyder, \textit{op. cit.}, p. 21.

\textsuperscript{2}Ibid, p. 21.
The problem of the teaching of the subject

The problem of teaching is one of the most important problems in education. The effectiveness of teaching depends on two main factors: the teacher's qualifications and the students' readiness to learn. Teachers must be well-prepared and motivated to teach effectively. Students, on the other hand, need to be motivated to learn and to have a genuine interest in the subject. If these conditions are not met, the teaching-learning process may not be successful.

An effective teaching methodology is essential for effective learning. The teacher must use a variety of teaching methods to cater to the diverse needs of the students. This includes lectures, discussions, group activities, and individual assignments.

In conclusion, the teaching of a subject is a complex process that requires a combination of strong teaching skills and student motivation. The teacher plays a crucial role in this process, and their effectiveness is crucial for the success of the teaching-learning process.
negative. In addition, 159 out of 176 felt that penmanship and methods courses should be offered by the teachers' colleges although 17 answered in the negative.¹

Some educators blame the stock market crash of 1929 and the ensuing depression for the deplorable penmanship of those students who have graduated from our nation's schools in the past decade. During the depression years special teachers and supervisors, especially penmanship supervisors, were told that their services were no longer needed. When prosperity returned, schools continued as they had been forced to do in the early thirties, and the supervisors of penmanship remained out of the school systems.

Snyder² has stated that according to Joseph Taylor, in a study made in 1926 of 35 city school systems, 86 per cent had supervision of handwriting, but in 1937 only 54 per cent of them had supervisors of handwriting.

In many places penmanship is being combined with some other subject, and Snyder writes as follows:

The effect of the impact of the new educational theories was also reflected in the courses of study now being used in the cities which replied to the circular. Only nineteen of the forty-four cities reporting were using the older courses of study. An examination of these newer courses of study showed that handwriting is rapidly losing its identity as a separate subject and is being combined with

In addition, the work of the faculty in the field of aeronautical
and mechanical engineering is a primary reason for the success of
the institution. In many cases the faculties of these subjects are
more interested in the theoretical aspects of the problems than in
practical application. During the depression years, especially in
some of the smaller institutions, the faculties of these subjects
were forced to look for additional means to support the department.

During these years, some schools of technology were forced to
increase their tuition fees, and the economies of

Some schools of technology are forced to increase their tuition fees, and the economies of

In the best cases, during the depression years, especially in
some of the smaller institutions, the faculties of these subjects
were forced to look for additional means to support the department.

In recent years, the economic situation of many of these schools has
improved, and the faculties of these subjects have been able to
increase their salaries.

In many cases, the faculties of these subjects have been able to
increase their salaries.
English, spelling, arithmetic, history, and other school subjects. It is coming to be classified as one of the language arts. It is quite evident that the supervisors who are still carrying on are striving to cope with the new education and at the same time keep the old standard of legibility.\(^1\)

Most teachers of the foregoing subjects are not interested in the subject of penmanship. They may recognize legible writing and stress neatness, but few will take the time or be able to find the time to give remedial instruction in penmanship. Penmanship becomes a very minor one when taught in combination with another subject.

A. Lucilla McCalmont\(^2\) in a talk given at the Department of Handwriting, New Jersey State Teachers Association, which met at Atlantic City, New Jersey, from November 7th to the 9th, 1947, asked the following questions:

Can our modern youth read, write and figure any better than his father because he has been subjected to varied and numerous courses in our current curricula? Are we devoting too much time to the luxuries of education and spending too little time on the necessities? Are the Language Arts--reading, spelling, English, handwriting--upon which all education is based being neglected because of the enlarged curricula?

Recently, a group of irate parents at Bethesda, Maryland, decided to do something about progressive educa-

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\(^1\)Ibid, p. 12.

tion and held a meeting which was reported by Arthur Edson\(^1\) in *The Boston Post* as follows:

Newfangled educational methods may be okay for a guinea pig. But a group of parents here insist that if children are involved, you still can't beat readin', writin', and 'rithmetic.

About forty of them from several schools in this county have got together to list twenty-six reasons why they think modern schooling misses the educational boat.

Their resolution says: 'We believe that our public schools should exist for the primary purpose of training our children in the essentials of knowledge, namely reading, writing (not printing or script.)' . . .

In spite of the foregoing resolution and the condemnation by these parents of manuscript writing, the New York Board of Education, a little more than a year later, has gone "all out" for manuscript writing. Philip S. Pepe reports as follows:

After decades of teaching children to use the . . . forearm muscle in their penmanship drills, New York's Board of Education says there will be no more ovals, loops, and push-pull drills in its school system. This startling move came after a survey made by the Board's Division of Curriculum Research, which found that current methods of instruction are both monotonous and pointless. Instead, as a result of a recommendation by the Board of Superintendents, school children, beginning with those entering this fall, will be allowed to use the 'manuscript' or block system of writing, which seems to be the natural way for children to write.

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Although usually children abandon this style around the third grade in favor of connected writing, they won't be forced into the transition. In fact, it will be all right with the New York Board of Education if they want to continue the manuscript style right up into high school.¹

Many educators feel that too much time has been spent in the past in the practice of push-pull and oval drills. More concentration in actual writing would have been better. Herbert A. Tonne² has made the following suggestions for the training of students for clerical jobs:

Clerical workers must still fill in a great many forms by hand. Often the forms are too small to be filled in on the typewriter. . . . In modern business the need is not so much for a formalized, flowing handwriting as the ability to make notations neatly and legibly rather than artistically. The development of this skill does not involve the setting up of formalized penmanship drills, but a specific study of the weaknesses of the student's handwriting. There must then be a constant insistence in maintaining an adequate standard of legibility.

Similar views have been expressed by others in educational magazines. The necessity for good penmanship to satisfy the demands of business has been stressed, but penmanship continues to be the neglected subject. Smith wrote as follows:

Professor Frederick G. Nichols, of the Graduate School of Education, Harvard University,


That some students feel that too much time has been spent
in the past to the preparation of buy-back may otherworse.
more concentration in solving writing which may have been better.

Part A. "Take" the following suggestions for the

Estate of attorneys for clerks: Jose.

Designate workmen into skilled likely to be
skilled to be lifted in the same.
In modern business, the reason is not to keep too much, but what happens in the

Health and hygiene rather than in the

These are some remarks on the statements

The necessary for good

Certify the reasons of continuance and been necessary, but be-

Somebody continued to be the negligence support. There were more

as follow:

Professor Ichabod's "Mopser", The
Director School of Experiment, Harvard University.

1. Please fill in "Torrance for October", vol. 6, October, 1949. p. 32.
3. Please fill in "Torrance for October", vol. 6, October, 1949. p. 34.
has strongly emphasized the importance of good writing for all pupils destined for business occupations. He emphasized the fact that, regardless of the number of machines utilized by business organizations, a tremendous quantity of handwriting is still being done and that there is, consequently, still a pressing and urgent need for good penmanship by commercial students.\(^1\)

The A. N. Palmer Company, long an advocate of muscular-movement writing, has the following editorial in one of the issues of its monthly publication:

We quote now from the December, 1947, issue of Woman's Day. . . . In this issue there is an article entitled 'Our Handwriting,' by Paul Standard. The following is quoted from Mr. Standard's article:

'Handwriting is today a topic of bitter controversy. There seems only one point of agreement: it (handwriting) is growing steadily worse. Although it is Everyman's craft, its teaching in our schools lags far behind most other subjects.' Mr. Standard also accepts a common error in the belief that the typewriter and bookkeeping machine and other modern methods of duplication have decreased the need for handwriting in business offices and social life. . . .

We present this reference to Mr. Standard's article . . . as a point of discussion for penmanship teachers and supervisors. Is it true that the general public is completely unaware of the efforts being made for better results in handwriting in a large number of schools and school systems, not only in the United States, but in all parts of the world? Is it true, as claimed by some, that principals and superintendents as a general rule are indifferent to the value of good handwriting?\(^2\)

\(^1\) Smith, op. cit., p. 415.

The A. F. Palmer Company, Inc., on account of mar eece-

Our customer's article, the following order to one of the

Fees of the company, for

1. Pay of defaulter, on account of defaulter.

2. Pay of defaulter, on account of defaulter.

3. Pay of defaulter, on account of defaulter.

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17. Pay of defaulter, on account of defaulter.

18. Pay of defaulter, on account of defaulter.

19. Pay of defaulter, on account of defaulter.

20. Pay of defaulter, on account of defaulter.
McCalmont\(^1\) also comments on the wide use of business machines today and their effect on handwriting:

The modern business world in competition with the legible output of the Addressograph, Mimeograph, Multigraph, Calculator, Typewriter, and Listing Machines demands more than ever, easily read, easily written handwriting. Businessmen have no patience with illegible scrawl. Monetary loss in business often results because of poor handwriting. . . .

Business schools flourish, alongside public high schools, where students pay for courses in handwriting. Make a visit to almost any bank or office and you will find vast quantities of handwriting required. Careless writing is no more to be excused than slovenly grammar or incorrect pronunciation. Poor grammar and poor handwriting are unbecoming and unbusinesslike.

Further comments about the importance of penmanship in the office in relation to business machines are given by Hess\(^2\) as follows:

Writing is important to the adult in social and in business life. . . .

The importance of writing in the business world has been decreasing with the advent of machines—machines which keep records of sales, machines which do the bookkeeping, and typewriters which are used for correspondence and to make records for the files. But even in business the typewriter cannot wholly replace handwriting. . . . The Commercial Schools of today think handwriting is of sufficient importance to include it in their curriculum.

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\(^1\) McCalmont, \textit{op. cit.}, p. 4.

\(^2\) Hess, \textit{op. cit.}, p. 4.
Particular command specific importance of disciplined in

The office in relation to business mechanics the given by

Writings important to the world in social

... and in business life.

The importance of writing in the business

To write and read correspondence with the same

manner and feeling of importance as that of

writing and reading of the telephone and cable.

The importance of the telephone, cable, and

wireless. The necessity for care in correspondence and

telephone, and the need for correspondence and

wireless. The commercial schools of

business, the training of the business men,

and the importance of the correspondence.

Care to learn how to write accurately.

I
The Paper Stationery and Tablet Manufacturers recently made an important survey on penmanship, and the findings were reported in The Boston Post as follows:

Penmen Needed in Offices--Good Writing Still in Demand for Many Jobs--

Good handwriting continues to be a requirement in a wide range of jobs in the modern business world despite the widespread use of various types of office machinery, a study sponsored by The Paper Stationery and Tablet Manufacturers Association recently revealed.

The survey conducted through the cooperation of personnel directors of 100 leading corporations which employ a total of more than 2,000,000 workers showed that many personnel directors consider good handwriting a vital factor in appraising a job applicant.

Most personnel directors would like to see more and better handwriting in public schools, as handwriting is considered an essential of good business. Widespread use of business machines has not eliminated the necessity for good handwriting, the personnel directors agreed.

Handwriting can and often does indicate co-ordination, the educational level, neatness, accuracy and other personal qualities of men and women. These requirements are still very essential in the modern business world, it was pointed out.

Although no directors are known to utilize actual handwriting analysis, personnel officers say that certain traits appear obvious to them in handwriting, and that handwriting often helps in forming judgments of applicants for positions.1

1 The Boston Post, November 25, 1948, p. 62.
The paper collection and other materials recently
were reported in the \textit{Boston Post} as follows:

\begin{quote}
Remain present at all times—good writing.
\end{quote}

Good handwriting continues to be a rarity—
and in many cases of good handwriting, the handwriting is
more than equal to the main argument. The reader of office manuscripts
is struck by the sloppiness and inattention
projects of office manuscripts.

\begin{quote}
Association recently presented.
\end{quote}

The union's committee announced the following:

\begin{quote}
Most personnel are willing like to see
more and better handwriting in printed materials.
To be handpainted is considered an essential.
Handwriting is much better than typing materials.
Handwritten notes are more legible than typeset materials.
\end{quote}

Almonds on the excursion the name of
missionary society and foreign territories
actions thus far have generated interest.

\begin{quote}
\textit{The Boston Post}, November 30, 1948, p. 52.
\end{quote}
From the bookkeeper's point of view, Enterline has commented on the subject of penmanship and its importance as a cooperative means of getting the office details accomplished. He writes:

The experienced as well as the inexperienced office worker invariably encounters difficulty in deciphering their interpretations, business data, and information which has been poorly written or arranged. . . .

In spite of typewriters and other mechanical writing devices, there is a need for well-written and well-arranged data.

Causes of errors: illegibility—poorly executed letters, numerals, characters—poor spacing—splitting figures, figures in the cent column extended into the dollar column—poor arrangement—omissions— incomplete information.

From business magazines, theses, and books written by educators, the writer passes to an article which appeared in one of the nation's most popular weekly publications, Time magazine, entitled "Nation of Scrawlers" and which reiterates many of the foregoing remarks.

There was no getting around it: in the United States handwriting was becoming a lost art.

It was a day of typewriters, shorthand, telephones, and Dictaphones; 'Don't Write—Telegraph' was a well-worked slogan, and un-decipherable signatures passed for 'character' in great & small.

Last week, an association of stationery manufacturers, with a selfish interest in

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1Enterline, Clarence G., "Keeping that Figure," Balance Sheet, September, 1945, p. 16.
writing, made public a poll of 600 teachers across the U. S. It was no surprise to them when 70% of the replies agreed that either the nation's penmanship was getting no better, or it was getting worse. In many schools, classes in penmanship had been abolished; in others, kids are now taught to print, but not to write.

In Chicago public schools, where the low quality of handwriting is a much debated subject, manuscript writing (printing) is taught only through the second grade. After that, cursive writing . . . is pretty much left to the discretion of teachers. A student in suburban Winnetka who had been taught to letter but not to write, tried to open a bank account, was turned down by the bank, which ruled that block lettering was too imitable a signature.

Seattle has not even bothered to appoint a new penmanship supervisor since the last one died two years ago.

In Los Angeles, teachers are no longer required to pass a penmanship test before getting a job. Complained a supervisor: 'It's not unusual to see a teacher drilling her class in writing and a few minutes later doing blackboard work in an unreadable scrawl that is entirely her own.'

In a recent study made by Earley as to preferences of subjects of fifth grade children, the conclusion could be made that penmanship is not a popular subject among the younger children. Out of 189 boys, not one chose penmanship, and only seven girls out of 163 expressed a liking for penmanship.


In a study made by Fiske\(^1\), sixth-grade writing rated superior to twelfth-grade writing. There were 21 good writers in grade six and three good writers in grade twelve, which appears to be a "degeneration" of 86 per cent. The students enrolled in the business course of the high school as compared with students in other courses had the greatest number of good writers when they were in the sixth grade, but the students taking the college course had the greatest number of good writers when they were in the twelfth grade. Also, students in the college course showed the least amount of "degeneration." This could indicate that these students had higher intelligence quotients, although Fiske wrote that intelligence quotients did not seem to affect the quality of handwriting. She went on to say that girls rated superior to boys, and there was very little difference in the amount of "degeneration" in the left- and right-handed writers.

The best phases of handwriting were line quality and slant. The poorest phases were size and form. Daily writing samples were the poorest specimens submitted.

Chapter five analyzes and interprets the results of the testing program which the writer used in this study.

\(^1\)Fiske, Marjorie Gertrude, Degeneration in Handwriting, Master's Thesis, Boston University School of Education, 1945, pp. 40, 42.
In the absence of detailed information, it appears that the text is discussing the relationship between different types of reading materials and their impact on learning. The text mentions the importance of reading materials and the role they play in shaping reading habits. It also suggests that the choice of reading materials can influence the way in which information is processed and retained. The text concludes with a general statement about the impact of reading materials on learning and development.
CHAPTER V
ANALYSIS AND INTERPRETATION OF THE DATA

The Questionnaire

One hundred copies of the questionnaire were mailed and 72 replies were received, a 72 per cent return. Twenty-eight teachers did not reply. The writer offered to mail the results of this questionnaire to anyone who requested them; 30 teachers showed interest in the results of the investigation in that they expressed a desire to have the statistics mailed to them.

Penmanship is taught as a separate subject in 11 of the schools which were contacted and not taught or not taught separately in 61 of them. In six schools penmanship is a required subject for all high school students. Penmanship is required for students who take the business course in 17 of the schools and in three more "if needed," leaving a total of 52 schools that do not require penmanship for students enrolled in the business education curriculum.

Eleven of the schools teach penmanship in the bookkeeping classes. Twenty-seven others teach it in conjunction with other classes as follows: six in clerical practice, four in English, 12 in junior business training, one with typewriting and spelling, one in a pre-shorthand course, one with rapid calculation, and two with subjects not named.
Most of the foregoing combination plans, if one is to judge from the replies, are only haphazard ones. Those who have these plans were also asked to give the amount of time spent on the subject of penmanship, and these answers which are given below indicate the lack of planning in their programs for penmanship. To the question of how many hours a week are spent in the study of penmanship, the replies were as follows:

- fifteen minutes
- indefinite
- one hour to two hours
- incidental
- forty minutes
- based on individual needs
- ninety minutes
- occasionally
- one week (out of entire year)
- checked four or five times a year
- a part of every commercial subject
- very little
- twenty to thirty per cent of time
- ten minutes
- varies

The above answers were given both by small and large schools alike, some of which have outstanding reputations for progressiveness and high standards.

Penmanship is offered for more than one year in six high schools. In two schools students may leave the penmanship classes upon satisfactory completion of work projects. In another high school, students may leave after fulfilling certain requirements using the Ayres Scale as the standard. If the business students receive less than 90 per cent on
Week of the Long Range Planning Program. If one is to
make from the utterer, are only preparing once. There is no
What I have been trying to give the reader of these
words or at any point of permanent, and these samples which
are the first few pages sufficient the text of planning in print
of permanent. To give the impression of how much more
a week are devoted to the study of permanent, and together
were as outlined:

1. Foreign initiative
2. Defense initiatives
3. The first few pages
4. The second few pages
5. The third few pages
6. The fourth few pages

The above samples were given only for the purpose of
making some of which were encounterable requirements.

For projections and plan modifications.

Permanent is offered for more than one year in six
years sequence. In a two sequence sequence we leave the
people ship sequence. As a matter of fact, you have seen the
termination of our high school, and I have seen many
contrary terminations with the above people as the standard.
If the permanent sequence becomes true from 90 to 20 years of
the Ayres Scale when tested, they must take penmanship. However, when the quality of their writing has reached 90 per cent, they may discontinue the subject, or if they are seniors, they are allowed to have a study period when a mark of 70 per cent has been obtained on the Ayres Scale.

There is only one school that has a full-time penmanship teacher, but two respondents stated that they have "half-time" teachers of penmanship. One report stated there was a teacher available and competent to teach the subject, but if penmanship classes were introduced, another business teacher would be needed in the department. This would entail additional expense, and so "to their sorrow," the school officials economize instead.

Muscular movement is still the most practised style of writing with 23 schools replying that their students use it. Seven stated a combination method was used, although there must be more because of the number that are using the Rinehart folder, as stated in the following paragraph, and teaching the Rinehart System of Handwriting, which is a combination method. However, several of these teachers stated that his system was being used in the grades, and possibly some high school teachers are not too familiar with his methods. One stated definitely that finger movement is used. The others did not reply to this question.

In regard to the use of a book, 11 replied that they use Palmer's; one, Faretra's; seven, the Zaner-Bloser book;
one, Donner's method; 14, Rinehart's Folder; one, Leslie's; one, Houston's; one, no book. The others did not reply to this question.

The folder by Rinehart, who advocates a combination of arm and finger movement, had a greater number of users than Palmer's muscular movement writing book. This is an interesting observation because, for years, Palmer has outdistanced the field. Hildreth\(^1\) wrote that there is conclusive evidence that arm movement writing is more tireless, but she also stated that one cannot write without using the fingers. Of those who answered the questions, excluding those schools using the Rinehart system, no one stated that any new theories were being tried in spite of the growing tendencies as stated by Hildreth\(^2\) as long ago as 1936 to "let the child write as he wishes to ... artificially, externally imposed adult standards are steadily losing ground." Paul V. West\(^3\) has stated that experiments favor writing with good coordination and strong emphasis on muscular movement but with a relaxed hand and fingers which are used to help control the forming of the letters.


\(^2\)Ibid, p. 223.

\(^3\)West, *op. cit.*, p. 33.
The lesson on integration was introduced on a more formal note. The topics were covered in detail, and the students were given practice problems to solve. The teacher emphasized the importance of understanding the concepts thoroughly. The lesson concluded with a review of the key points and a discussion of common mistakes to avoid.

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[Page footer with references and notes]
Supervisors of penmanship contact 17 schools. However, of these 17 schools, five replies were from Boston high schools with the one supervisor. Cities and towns which formerly had penmanship supervisors in the primary and grammar schools no longer have them. There are nine school systems that have penmanship supervisors for the grades and 12 towns and cities, in addition to the Boston schools, that have them for the entire system. Ten questionnaires were mailed to the Boston schools for comparison purposes, for in no other city or town of Massachusetts are there so many schools under one superintendent and school board. Although only six of the 10 questionnaires were returned, the replies were varied. Three of the schools have penmanship. One school requires the practice of penmanship one hour a week but in conjunction with clerical practice; the second school, from 20 to 30 per cent of the time; and the third, various times. Two schools use Palmer muscular movement, and all but one respondent stated there was a supervisor for the entire system. Two teachers that are in schools where penmanship is not offered felt that it should be included in the curriculum and that all high school students should take it. Two more teachers stated that business students should have penmanship, and a third one wanted such a course but had no time left in the program of studies for it. One teacher stated that penmanship should not be taught in the
Supervision of Prenuqipal Schools

However, of course, in some cases, these reports may turn out to be made by the one superintendent. Others may come only to the primary and secondary schools, and so on.

Therefore, we would suggest that the system of school supervision in the city of Boston be continued on a systematic basis. The information here gathered on the basis of the several schools that are visited by the superintendent may serve as a basis for the latter, and in turn, serve as a basis for the Board of Education.

In this way, we believe that the Board of Education will be able to make a more rational evaluation of the educational work of the schools and to have the information that is needed for the future development of the educational system.

Furthermore, the Board of Education may be of assistance in the supervision of the schools, and may be helpful in the development of the educational system.
high school and one did not answer the question. Three stated that the students were not legible writers from grade school training, one said that they should be, and another felt that some were legible writers. Thus in the six schools, even though there is a supervisor, there were decided differences of opinion and procedure.

Many people feel that penmanship has a very definite place in the high school curriculum. Forty-seven affirmed that penmanship should be taught to all business students and 30 of the 47 would have all pupils in high schools enrolled in such a course. Ten would give penmanship instruction to business students if the writing was sub-standard, and two, who have no penmanship course of any kind, would like to have penmanship, but not as a separate subject. On the other hand, 10 very definitely answered that penmanship should not be in a high school curriculum; however, seven of these 10 stated that their students do not become legible writers from their grade school training. Therefore, in these schools, unless the grade schools can do more effective teaching, the students never will write legibly, and the business students never will qualify as business writers. Altogether there were 53 who stated that their students had not become legible writers from their grade school training, but 46 of these teachers felt that the high school should do something about illegible writers.
Some people feel that seniorship has a very positive place in the high school curriculum. They believe that being a senior is a milestone in such a career. The money the seniorship award might mean to the student is significant, and it can have an emotional impact on the student's view of life. Some seniors have not only to have their achievements, but they also need a sense of purpose. On the other hand, if seniors are definitely supervised in a high school curriculum, many will see it as a loss of freedom. However, seniors have classes of their own, which can use special techniques and materials that are not used in the regular schools. This can help to develop the students' logical thinking and problem-solving skills. In these schools, many of the teachers have special training in logical reasoning, and the students are encouraged to think critically. Therefore, in these schools, there is more emphasis on developing intellectual abilities.
Teachers from 16 schools stated that the students do become legible writers from their grade school training, and three did not reply. Possibly these three felt that a negative answer would reflect on the grade school teachers or supervisors. Had they answered in the negative, there would have been a total of 56 cities and towns out of 72 where grade school instruction in penmanship is not satisfactory, and yet, for the most part, nothing is done about this deficiency.

One respondent added that only parochial grammar school graduates were legible writers. Another felt that only business students should have penmanship but also added that no high school students were able to write. One Boston teacher stated that only business college students learned to write. They were spending their own money, which made the difference.

Included in the questions was the enrollment of each business department. Sixty-seven gave the registrations of their departments with a total of 30,608 students taking the business course or an average of 425.11 pupils per school. These figures also represent the number of legible writers there could be if penmanship were stressed among the business students. If this number had adequate training, as most teachers seem to feel they should, the businessmen and department store employers would have a more adequate representation of satisfactory penmen from year to year.
Reactions from teachers often are imaginative, productive, and sometimes overbearing. Passive-aggressive responses from staff may shape student behavior and affect the teacher's ability to manage the classroom. How teachers respond in such situations can be critical.

One method involves creating a climate where teachers are encouraged to express their thoughts and concerns. This can lead to a more collaborative environment where ideas are shared and actions are taken to improve the classroom experience.

Incorporating feedback from students can also enhance the educational process. Teachers can use this information to adjust their teaching methods and provide a more engaging learning environment. This not only benefits the students but also the teachers themselves.

In summary, it is important for teachers to remain open to feedback and to foster a culture of continuous improvement. By doing so, they can create a more supportive and effective learning environment.
The Tests

Several of the girls who took penmanship secured more points in the second test, when they were not studying penmanship. This may have been attributed to the work that was carried on in the penmanship classes after the first penmanship test was given in April, 1947. The students were required to submit a budget consisting of 35 or 40 pages during the months of May and June. These papers were corrected and the students' errors were diagnosed. Remedial instruction was given, and the students wrote the exercises which were not acceptable. Occasionally a paper was written several times before it was satisfactory. A tremendous amount of improvement was shown during the last two months of the school year. Failure to complete the budget would have resulted in a failing grade in penmanship the last term.

Data are summarized in the appendix for all the cases, but explanatory remarks for a few individual ones follow:

Case 28:

The penmanship test score of this student in April, 1947, was 48. In May and June of 1947 she completed her budget of work and received a penmanship term grade of 95 per cent. The following April she again took the test and received a score of 69, and in February, 1949, when she took the final test, her score was 68, or only one point less than her score of 1948. In other words, she raised her score
The Teacher

Several of the girls who took the semester's science more
police in the second part, and then went on personal
manually. Then they have gone according to the work and
was satisfied in the examination classes after the first
semester. They were taken in at the beginning of April, 1939. The
students were
reading to prepare a budget containing at 30 to 40 pages
among the accounts of May and June. These pages were
containing many the students' answers, which are more
interesting and the students' own investigations, which are not
containing a paper was written
which was not responisible a Connecticut.
A Connecticut
several times because of was satisfaction.
A Connecticut
amount of improvement was shown among the first few months
of the school year. The intention to complete the budget was
have resulted in a writing change in Bennett's the last term.
also the improvement in the approach for the last term.

part experience to receive for a few individual cases reported.

score 88.
The Bennett's last score of June especially in April,
1939, was 88. In May and June of 1939 the same
20 subjects of work and reviewing the Bennett's report grade at 92
was completed. The following April the same took the test and
became a score of 86, and in May, 1939, even the same
the last term, per score was 86, or only one point less than
the last score of 1938. In April, May, and June, the score
was score of 1938.
about 20 points after intensive diagnostic and remedial work in penmanship.

**Case 19:**
The lowest score by a girl who had studied penmanship was 29. This result was obtained in 1947 before she had studied penmanship. She did not enroll in the penmanship course until the following September when she was a sophomore. However, in the April, 1948, test her score increased to 45, and in the February, 1949, test she obtained 47, or an increase of 18 points after she received penmanship instruction.

**Case 25:**
The lowest score obtained in 1948 by a girl who had studied penmanship was 34. Her penmanship grade for the last term of the previous year was 73 per cent, a fact which indicated that the budget work which she completed was not very satisfactory. She has an intelligence quotient of 97, but her scholastic average in her other school work from September, 1947, through December, 1948, is only 69.91. The passing grade in the Braintree High School is 68. Her marks, in general, showed that she was a poor student.

**Case 82:**
The highest score made by a boy who took penmanship was 55 in April, 1947. He has an intelligence quotient of only 77, but his scholastic record for the three-year test-
case 18

The lowest score on a test was obtained in 1964 when the test was not a part of the requirements. The student received a mark of 65. However, to the April, 1965, test, the student obtained a mark of 75 and in the December, 1965, test, the student obtained a mark of 80.

The following table shows the student's scores on the various tests:

<table>
<thead>
<tr>
<th>Test</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>April, 1964</td>
<td>65</td>
</tr>
<tr>
<td>December, 1964</td>
<td>75</td>
</tr>
<tr>
<td>April, 1965</td>
<td>78</td>
</tr>
<tr>
<td>December, 1965</td>
<td>80</td>
</tr>
</tbody>
</table>

The student's scores on the tests indicate a steady improvement in his performance.
ing period averages 74.16. By 1949 his penmanship score had dropped to 43, or a decrease of 12 points. His intelligence quotient was the lowest of the group of boys who took penmanship, and he also showed the greatest decrease in scores from 1947 to 1949.

Case 86:
The low score for boys who took penmanship was 24 in 1947 by a student who received a zero grade in penmanship the last term, indicating that he did not do the penmanship budget. In spite of this, his score the next year in the test increased to 37 and only dropped four points in the 1949 test. His intelligence quotient is 91, but his scholastic average was only 68.09.

Case 18:
A penmanship grade of 95 per cent was obtained the last term in 1947, which meant that an excellent budget was submitted. However, by the following year, this student's score decreased 15 points and remained the same the following year.

Case 78:
A test score of 48 was made by a non-penmanship girl in 1947 but by 1949 her score had decreased 14 points. She has an intelligence quotient of 96, and her scholastic average was 78.59.
The test scores for 1,419 boys and 1,479 girls were compared to the national norms. The Intelligence Quotient (IQ) was calculated to determine the relative intellectual ability of each student. The results showed a significant difference between the genders, with boys generally scoring higher than girls. This was particularly evident in the higher frequency of scores falling above the national average. The data suggest that further research is needed to understand the factors contributing to these differences. The implications for educational practices and policies are discussed, emphasizing the importance of gender-sensitive approaches to education.
Case 60:

A test score of 29 was made by a non-penmanship girl in 1947, but in the 1949 test her score was 44 or an increase of 15 points. She has an intelligence quotient of 132, but her scholastic average was only 76.77.

A study of the foregoing unrelated cases shows that no one pattern causes improvement or deterioration in penmanship.

The following tables give further analysis and interpretation of the test data.
TABLE I
1947 PENMANSHIP TEST SCORES

<table>
<thead>
<tr>
<th></th>
<th>No.</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Penmanship Girls</td>
<td>46</td>
<td>51.20</td>
<td>9.18</td>
</tr>
<tr>
<td>Non-Penmanship Girls</td>
<td>33</td>
<td>39.45</td>
<td>6.45</td>
</tr>
<tr>
<td>Penmanship Boys</td>
<td>10</td>
<td>38.80</td>
<td>8.81</td>
</tr>
<tr>
<td>Non-Penmanship Boys</td>
<td>58</td>
<td>32.74</td>
<td>7.02</td>
</tr>
</tbody>
</table>

1. Table I shows the comparison of penmanship test scores of 1947 between the girls who received penmanship instruction in the ninth grade and the girls who did not receive it. This table also shows a comparison of the penmanship test scores for the boys who had penmanship and the boys who did not have it.

2. The mean score for the penmanship girls was 51.20 as compared with 39.45 for the non-penmanship girls or a difference of 11.75 points in favor of the group that had penmanship instruction. Although the difference in penmanship scores appears substantial, the statistical significance of the difference was not shown because the two groups were not matched in the beginning of the study.

3. The mean score for the penmanship boys was 38.80 as compared with 32.74 for the non-penmanship boys, a difference of 6.06 points in favor of the boys who had penmanship instruction.
### TABLE I

<table>
<thead>
<tr>
<th>Senior</th>
<th>Non-Senior</th>
<th>Test Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.0</td>
<td>3.0</td>
<td>50</td>
</tr>
<tr>
<td>2.5</td>
<td>3.5</td>
<td>30</td>
</tr>
<tr>
<td>3.0</td>
<td>4.0</td>
<td>10</td>
</tr>
<tr>
<td>3.5</td>
<td>4.5</td>
<td>20</td>
</tr>
</tbody>
</table>

The mean scores for the senior and non-senior groups were 2.50 and 3.50, respectively. The mean scores for the non-senior group were significantly higher than those for the senior group, indicating a higher level of achievement in the non-senior group.

The correlation between senior status and test scores was positive, with a correlation coefficient of 0.65, indicating a strong relationship between senior status and test scores.
TABLE II
1948 PENMANSHIP TEST SCORES

<table>
<thead>
<tr>
<th></th>
<th>No.</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Penmanship Girls</td>
<td>46</td>
<td>51.93</td>
<td>7.31</td>
</tr>
<tr>
<td>Non-Penmanship Girls</td>
<td>33</td>
<td>40.27</td>
<td>4.68</td>
</tr>
<tr>
<td>Penmanship Boys</td>
<td>10</td>
<td>40.40</td>
<td>6.53</td>
</tr>
<tr>
<td>Non-Penmanship Boys</td>
<td>58</td>
<td>33.69</td>
<td>5.37</td>
</tr>
</tbody>
</table>

1. Table II shows the comparison of penmanship test scores of 1948 between the girls who received penmanship instruction in the ninth grade and the girls who did not receive it. This table also shows a comparison of the penmanship test scores for the boys who had penmanship and the boys who did not have it.

2. The mean score for the penmanship girls was 51.93 as compared with 40.27 for the non-penmanship girls or a difference of 11.66 points in favor of the girls who had penmanship instruction.

3. The mean score for the penmanship boys was 40.40 as compared with 33.69 for the non-penmanship boys, a difference of 6.71 points in favor of the boys who had penmanship instruction.

4. Comparison of the data in Table I and Table II indicates that very little change was shown in the quality of penmanship between 1947 and 1948. The greatest change was shown in the scores of the penmanship boys who increased from 38.80 to 40.40, a gain of only 1.60 points.
<table>
<thead>
<tr>
<th>Peers</th>
<th>Percentile</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.00</td>
<td>0</td>
<td>50</td>
</tr>
<tr>
<td>0.05</td>
<td>10</td>
<td>50</td>
</tr>
<tr>
<td>0.10</td>
<td>20</td>
<td>60</td>
</tr>
<tr>
<td>0.15</td>
<td>30</td>
<td>60</td>
</tr>
<tr>
<td>0.20</td>
<td>40</td>
<td>60</td>
</tr>
<tr>
<td>0.25</td>
<td>50</td>
<td>60</td>
</tr>
<tr>
<td>0.30</td>
<td>60</td>
<td>60</td>
</tr>
<tr>
<td>0.35</td>
<td>70</td>
<td>60</td>
</tr>
</tbody>
</table>

Table II shows the correlation of Peers with Percentile. Scores of Peers between the fifth and the tenth percentiles receive a Peers score of 0, while Peers scores of the remaining percentiles are determined by the number of Peers who had the percentiles and the Peers method.

The mean score for the Peers was 0.00. The highest Peers scores were 0.00. The mean score for the non-Peers was 0.00. The highest Peers scores were 0.00. These scores were determined by the number of Peers who had the Peers and the Peers method.

Comparison of the Peers in Table I and Table II indicates that very little change was shown in the Peers of Peers between 1961 and 1960. The Peers scores in the Peers of Peers from 0.00 to 0.00 are 0.00.
TABLE III

1949 PENMANSHIP TEST SCORES

<table>
<thead>
<tr>
<th></th>
<th>No.</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Penmanship Girls</td>
<td>46</td>
<td>51.09</td>
<td>8.02</td>
</tr>
<tr>
<td>Non-Penmanship Girls</td>
<td>33</td>
<td>43.06</td>
<td>6.31</td>
</tr>
<tr>
<td>Penmanship Boys</td>
<td>10</td>
<td>39.00</td>
<td>6.54</td>
</tr>
<tr>
<td>Non-Penmanship Boys</td>
<td>58</td>
<td>34.62</td>
<td>5.73</td>
</tr>
</tbody>
</table>

1. Table III shows the comparison of penmanship test scores of 1949 between the girls who received penmanship instruction in the ninth grade and the girls who did not receive it. This table also shows a comparison of the penmanship test scores for the boys who had penmanship and the boys who did not have it.

2. The mean score for the penmanship girls was 51.09 as compared with 43.06 for the non-penmanship girls or a difference of 8.03 points in favor of the girls who had penmanship instruction.

3. The mean score for the penmanship boys was 39.00 as compared with 34.62 for the non-penmanship boys, a difference of 4.38 points in favor of the boys who had penmanship instruction.

4. Comparison of the data in Table III with the data in Table I and Table II shows that very little change occurred in the quality of penmanship of any of the groups between 1947 and 1949. The quality of penmanship of the boys and girls who had had penmanship instruction remained about the same for the two-year period, while the non-penmanship boys and girls made mean gains of 1.88 and 3.61, respectively.
### Table III

**10-30 Permanent and Non-Permanent Test Scores**

<table>
<thead>
<tr>
<th>Test</th>
<th>Permanent Group</th>
<th>Non-Permanent Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>25</td>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td>20.5</td>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td>15.5</td>
<td>20</td>
<td>15</td>
</tr>
<tr>
<td>11</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>8</td>
<td>8</td>
<td>8</td>
</tr>
</tbody>
</table>

If Table III shows the combination of the permanent and non-permanent groups, the maximum information in the initial group was also found. If Table I also shows a significant combination of the permanent and non-permanent groups, the rate of the population who had permanent and non-permanent groups is shown.

0.66 The mean score for the permanent group was 66.

0.60 The mean score for the non-permanent group was 60.

A difference of 6 points in favor of the permanent group was found.

### Table III with the Face

In Table I, any Table II shows the first effect of the maximum information in the initial group. In the Table I, any Table II shows the first effect of the maximum information in the initial group. The permanent and non-permanent groups were given different test scores. The permanent group scored higher than the non-permanent group in the permanent test. The permanent group also scored higher than the non-permanent group in the non-permanent test. The permanent group scored higher than the non-permanent group in the permanent test.
TABLE IV

COMPARISON OF 1947 AND 1949 TEST SCORES OF PENMANSHIP GIRLS AND NON-PENMANSHIP GIRLS

<table>
<thead>
<tr>
<th></th>
<th>Year</th>
<th>No.</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Penmanship Girls</td>
<td>1947</td>
<td>46</td>
<td>51.20</td>
<td>9.18</td>
</tr>
<tr>
<td>Penmanship Girls</td>
<td>1949</td>
<td>46</td>
<td>51.09</td>
<td>8.02</td>
</tr>
<tr>
<td>Non-Penmanship Girls</td>
<td>1947</td>
<td>33</td>
<td>39.45</td>
<td>2.30</td>
</tr>
<tr>
<td>Non-Penmanship Girls</td>
<td>1949</td>
<td>33</td>
<td>43.06</td>
<td>6.31</td>
</tr>
</tbody>
</table>

1. Table IV shows the improvement or deterioration from April, 1947, to April, 1949, of the quality of penmanship of the girls who received penmanship instruction and the girls who did not receive instruction in the ninth grade.

2. The mean score for the 1947 tests of the penmanship girls was 51.20 as compared with 51.09 for the 1949 tests, or a decrease of .11 points which is a negligible decrease.

3. The mean score for the 1947 tests of the non-penmanship girls was 39.45 as compared with 43.06 for the 1949 penmanship tests, an increase of 3.61 points.
### Table VI

Comparison of 1954 and 1949 Tenant Occupancy

<table>
<thead>
<tr>
<th></th>
<th>1949</th>
<th>1954</th>
<th>Percent Change</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Farm Tenants</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Non-Farm Tenants</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Table VI shows the improvement in tenant occupancy from 1949 to 1954. The data are compiled from various sources and reflect the changes in occupancy rates. The comparison indicates a significant increase in tenant occupancy during this period.
### TABLE V

**COMPARISON OF 1947 AND 1949 TEST SCORES OF PENMANSHIP BOYS AND NON-PENMANSHIP BOYS**

<table>
<thead>
<tr>
<th></th>
<th>Year</th>
<th>No.</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Penmanship Boys</td>
<td>1947</td>
<td>10</td>
<td>38.80</td>
<td>8.81</td>
</tr>
<tr>
<td>Penmanship Boys</td>
<td>1949</td>
<td>10</td>
<td>39.00</td>
<td>6.54</td>
</tr>
<tr>
<td>Non-Penmanship Boys</td>
<td>1947</td>
<td>58</td>
<td>32.74</td>
<td>7.02</td>
</tr>
<tr>
<td>Non-Penmanship Boys</td>
<td>1949</td>
<td>58</td>
<td>34.62</td>
<td>5.73</td>
</tr>
</tbody>
</table>

1. Table V shows the improvement or deterioration from April, 1947, to April, 1949, of the quality of penmanship of the boys who received penmanship instruction and the boys who did not receive instruction in the ninth grade.

2. The mean score for the 1947 tests of the penmanship boys was 38.80 as compared with 39.00 or an increase of .20, which is insignificant.

3. The mean score for the 1947 tests of the non-penmanship boys was 32.74 as compared with 34.62 for the 1949 tests, an increase in quality of 1.88 points.

4. The mean score of the 1948 tests was 39.68 for the boys and girls who had penmanship instruction, and the mean was 38.38 for the boys and girls who did not have penmanship, a difference of 1.30 points in favor of the penmanship students.

5. The mean score of the 1949 tests was 39.68 for the boys and girls who had penmanship instruction and was 37.68 for the boys and girls who did not have penmanship or a difference of 1.36 points in favor of the penmanship students.
TABLE VI

TEST SCORES OF ALL PENMANSHIP STUDENTS
AND ALL NON-PENMANSHIP STUDENTS

<table>
<thead>
<tr>
<th></th>
<th>Year</th>
<th>No.</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Penmanship</td>
<td>1947</td>
<td>56</td>
<td>48.98</td>
<td>9.97</td>
</tr>
<tr>
<td>Boys and Girls</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-Penmanship</td>
<td>1947</td>
<td>91</td>
<td>35.18</td>
<td>7.55</td>
</tr>
<tr>
<td>Boys and Girls</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Penmanship</td>
<td>1948</td>
<td>56</td>
<td>49.88</td>
<td>8.45</td>
</tr>
<tr>
<td>Boys and Girls</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-Penmanship</td>
<td>1948</td>
<td>91</td>
<td>36.08</td>
<td>6.20</td>
</tr>
<tr>
<td>Boys and Girls</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Penmanship</td>
<td>1949</td>
<td>56</td>
<td>48.93</td>
<td>9.07</td>
</tr>
<tr>
<td>Boys and Girls</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-Penmanship</td>
<td>1949</td>
<td>91</td>
<td>37.68</td>
<td>7.38</td>
</tr>
</tbody>
</table>

1. Table VI shows that the mean score of the 1947 tests was 48.98 for all boys and girls who had penmanship instruction, and the mean was 35.18 for the boys and girls who did not have penmanship instruction, a difference of 13.80 points in favor of the penmanship students.

2. The mean score of the 1948 tests was 49.88 for the boys and girls who had penmanship instruction, and the mean was 36.08 for the boys and girls who did not have penmanship, a difference of 13.80 points in favor of the penmanship students.

3. The mean score of the 1949 tests was 48.93 for the boys and girls who had penmanship instruction and was 37.68 for the boys and girls who did not have penmanship or a difference of 11.25 points in favor of the penmanship students.
<table>
<thead>
<tr>
<th></th>
<th>III</th>
<th>IV</th>
<th>V</th>
<th>VI</th>
<th>VII</th>
</tr>
</thead>
<tbody>
<tr>
<td>80,9</td>
<td>32,33</td>
<td>30</td>
<td>66</td>
<td>1950</td>
<td>Permanent and Other Expenditures</td>
</tr>
<tr>
<td>60,3</td>
<td>20,35</td>
<td>20</td>
<td>46</td>
<td>1940</td>
<td>Permanent and Other Expenditures</td>
</tr>
<tr>
<td>119,9</td>
<td>63,94</td>
<td>66</td>
<td>36</td>
<td>1930</td>
<td>Permanent and Other Expenditures</td>
</tr>
<tr>
<td>60,6</td>
<td>33,35</td>
<td>36</td>
<td>66</td>
<td>1920</td>
<td>Permanent and Other Expenditures</td>
</tr>
<tr>
<td>27,7</td>
<td>88,16</td>
<td>27</td>
<td>36</td>
<td>1910</td>
<td>Permanent and Other Expenditures</td>
</tr>
</tbody>
</table>

Table IV shows the mean score of the 1949 cases was 86.97 for the Permanent and Other Expenditures, and the mean score of the 1939 cases was 80.66 for the Permanent and Other Expenditures. The mean score of the 1929 cases was 60.66 for the Permanent and Other Expenditures. The mean score of the 1919 cases was 27.77 for the Permanent and Other Expenditures.
TABLE VII
INTELLIGENCE QUOTIENTS OF PENMANSHIP AND NON-PENMANSHIP STUDENTS

<table>
<thead>
<tr>
<th></th>
<th>No.</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Penmanship Girls</td>
<td>46</td>
<td>98.67</td>
<td>9.72</td>
</tr>
<tr>
<td>Non-Penmanship Girls</td>
<td>33</td>
<td>109.91</td>
<td>11.68</td>
</tr>
<tr>
<td>Penmanship Boys</td>
<td>10</td>
<td>98.70</td>
<td>11.65</td>
</tr>
<tr>
<td>Non-Penmanship Boys</td>
<td>58</td>
<td>105.35</td>
<td>12.15</td>
</tr>
</tbody>
</table>

1. Table VII shows the comparison of intelligence quotients between the girls who received penmanship instruction and the girls who did not receive instruction and also between the penmanship boys and the non-penmanship boys.

2. The mean score for the penmanship girls was 98.67 as compared with 109.91 for the non-penmanship girls or a difference of 11.24 points in favor of the girls who did not receive penmanship instruction.

3. The mean score for the penmanship boys was 98.70 as compared with 105.35 for the non-penmanship boys, a difference of 6.65 points in favor of the boys who did not receive penmanship instruction.
<table>
<thead>
<tr>
<th>Group</th>
<th>Mean</th>
<th>n</th>
<th>Penneant Group</th>
<th>Mean</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>8.75</td>
<td>68.4</td>
<td>45</td>
<td>Non-Penneant Group</td>
<td>68</td>
<td>25</td>
</tr>
<tr>
<td>11.68</td>
<td>108.8</td>
<td>10</td>
<td>Penneant Group</td>
<td>92</td>
<td>25</td>
</tr>
<tr>
<td>11.66</td>
<td>66.0</td>
<td>20</td>
<td>Non-Penneant Group</td>
<td>56</td>
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<tr>
<td>11.68</td>
<td>106.2</td>
<td>25</td>
<td>Penneant Group</td>
<td>88</td>
<td>25</td>
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</tbody>
</table>

Table IV shows the comparison of intelligence quotient means between the groups who did not receive information with those who received the penneant group and those who did not receive the penneant group.

The mean score for the penneant group was 68.4.

The mean score for the non-penneant group was 66.0.

The mean score for the penneant group was 106.2.

The mean score for the non-penneant group was 56.0.
TABLE VIII

COEFFICIENT OF CORRELATION
BETWEEN PENMANSHIP SCORES
AND INTELLIGENCE QUOTIENTS

<table>
<thead>
<tr>
<th></th>
<th>Correlation Between Pen. Scores &amp; I. Q.'s</th>
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<tr>
<td>Penmanship Girls</td>
<td>46</td>
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<tr>
<td></td>
<td>.36</td>
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<tr>
<td>Non-Penmanship Girls</td>
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<tr>
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<td>.28</td>
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<td>Penmanship Boys</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>.29</td>
</tr>
<tr>
<td>Non-Penmanship Boys</td>
<td>58</td>
</tr>
<tr>
<td></td>
<td>.20</td>
</tr>
</tbody>
</table>

1. Table VIII shows the correlation between the penmanship test scores of 1949 with the intelligence quotients of the students.

2. The penmanship test scores of the girls who had penmanship instruction showed the highest correlation of the four groups with intelligence quotients, although .36 is a very low correlation. The penmanship test scores of the boys who had penmanship instruction showed a slightly higher correlation with intelligence quotients than did the scores of the boys who did not take penmanship.

3. The low correlations between the penmanship scores and intelligence quotients indicate that the intelligence of the student has very little effect upon the quality of handwriting which he writes.

Young\(^1\) states as follows: A coefficient of .70 to 1.00 (plus or minus) signifies that there is a high degree of association between the series; if the coefficient is greater than .40 but less than .70, there is a substantial relationship; if the coefficient is greater than .20 but less than .40 there is a low correlation, and if the coefficient is less than .20 there is a negligible relationship.

### Table III

**Correlation of Emotional Source and Intellectual Abilities**

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<th>Intellectual</th>
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</table>

Note: Table III shows the correlation between the emotion and intellectual abilities. The table indicates that there is no significant correlation observed between the two variables. However, further research is needed to fully understand the relationship between emotional tendencies and intellectual abilities.
CHAPTER VI
SUMMARY OF FINDINGS

The highest penmanship test scores were obtained by the girls who had penmanship instruction. The means were 51.20, 51.93, and 51.09 for the three tests.

The lowest penmanship test scores were obtained by the boys who did not have penmanship instruction. The means for their three tests were 32.74, 33.69, and 34.62.

Test scores of the girls who did not have penmanship instruction and the boys who did have instruction were very similar. The means for the three tests for the non-penmanship girls were 39.45, 40.27, and 43.06 and for the penmanship boys the means for the three tests were 38.80, 40.40, and 39.00.

Comparison of the test scores of the combined groups of boys and girls who had penmanship instruction and the boys and girls who did not have penmanship instruction showed that the penmanship students had the higher scores. There was a slight decrease in the 1949 test scores of the penmanship students and a slight increase in the non-penmanship students' test scores.

The foregoing graph illustrates the means, ranges, and standard deviations of the combined test scores of boys and girls for each test given in 1947, 1948, and 1949.
CHAPTER IV

SUMMARY OF FINDINGS

The importance of governmental data sources were apparent in
the analysis of government information. The largest number of
data sources were classified as governmental. The percentage
does not exclude any data that may have been included.

The government data sources were not always accurate in
their reporting. The accuracy varied greatly depending on the
data source. Some sources were accurate, while others were
not. The accuracy of the data sources was also dependent on
the time period.

The data sources could be divided into three categories:

1. Data sources that were accurate and reliable.
2. Data sources that were inaccurate but still useful.
3. Data sources that were both inaccurate and unreliable.

The data sources were further classified as follows:

1. Data sources that were classified as governmental.
2. Data sources that were classified as non-governmental.

The data sources were also classified by their source:

1. Data sources that were classified as primary sources.
2. Data sources that were classified as secondary sources.
3. Data sources that were classified as tertiary sources.

The data sources were further classified by their accuracy:

1. Data sources that were classified as accurate.
2. Data sources that were classified as inaccurate.

The data sources were also classified by their time period:

1. Data sources that were classified as recent.
2. Data sources that were classified as historical.

The data sources were further classified by their reliability:

1. Data sources that were classified as reliable.
2. Data sources that were classified as unreliable.

The data sources were also classified by their usefulness:

1. Data sources that were classified as useful.
2. Data sources that were classified as useless.

The data sources were further classified by their relevance:

1. Data sources that were classified as relevant.
2. Data sources that were classified as irrelevant.

The data sources were also classified by their importance:

1. Data sources that were classified as important.
2. Data sources that were classified as unimportant.

The data sources were further classified by their impact:

1. Data sources that were classified as impactful.
2. Data sources that were classified as non-impactful.

The data sources were also classified by their novelty:

1. Data sources that were classified as novel.
2. Data sources that were classified as non-novel.

The data sources were further classified by their novelty:

1. Data sources that were classified as groundbreaking.
2. Data sources that were classified as non-groundbreaking.

The data sources were also classified by their novelty:

1. Data sources that were classified as innovative.
2. Data sources that were classified as non-innovative.

The data sources were further classified by their novelty:

1. Data sources that were classified as cutting-edge.
2. Data sources that were classified as non-cutting-edge.

The data sources were also classified by their novelty:

1. Data sources that were classified as breakthrough.
2. Data sources that were classified as non-breakthrough.

The data sources were further classified by their novelty:

1. Data sources that were classified as revolutionary.
2. Data sources that were classified as non-revolutionary.

The data sources were also classified by their novelty:

1. Data sources that were classified as paradigmatic.
2. Data sources that were classified as non-paradigmatic.

The data sources were further classified by their novelty:

1. Data sources that were classified as groundbreaking.
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2. Data sources that were classified as non-cutting-edge.
Penmanship Deterioration

There was no deterioration in penmanship of the non-penmanship boys, non-penmanship girls, or penmanship boys from 1947 to 1949. The non-penmanship girls increased their averages by 3.61 points in the third test, and the other two groups had very slight increases. The scores of the penmanship girls were less than one point lower in 1949 than in 1947, which is a negligible decrease.

Intelligence Quotients

The girls who had penmanship instruction had the lowest intelligence quotients with a mean of 98.67, and the mean for the non-penmanship girls was 109.91, which was the highest of the four groups. The boys who were in the penmanship classes had an average intelligence quotient of 98.70, and the non-penmanship boys' group had a mean of 105.35.

The mean scores for the penmanship and non-penmanship girls showed a difference of 11.24 points in favor of the non-penmanship girls. The mean scores for the penmanship and non-penmanship boys showed a difference of 6.65 points in favor of the non-penmanship boys.

Penmanship Scores and Intelligence Quotients

Comparisons were made between the 1949 penmanship test scores and intelligence quotients for the four groups, namely, the penmanship girls, the non-penmanship girls, the penmanship boys, and the non-penmanship boys.
A correlation of 0.36 was obtained between the intelligence quotients and the penmanship scores of the girls who took penmanship.

A correlation of 0.28 was obtained between the intelligence quotients and the penmanship scores of the girls who did not take penmanship.

A correlation of 0.29 was obtained between the intelligence quotients and the penmanship scores of the boys who took penmanship.

A correlation of 0.20 was obtained between the intelligence quotients and the penmanship scores of the boys who did not take penmanship.

The foregoing results show that there is a low correlation between the penmanship test scores and intelligence quotients. The penmanship groups had higher correlations than the non-penmanship groups, but they were too low to be of value.
A correlation of 0.98 was obtained between the presence of the gene
and cancer occurrence and the percentage scores of the hair and
skin, but not face percentage.

A correlation of 0.98 was obtained between the presence of the gene
and cancer occurrence and the percentage scores of the hair, skin,
and face percentage.

The following results show that there is a low
correlation between the percentage face scores and hair.

Gene occurrence. The percentage scores and hair correlate.

The cancerous facial and non-cancerous facial are not clear for you.

To be of value,
CHAPTER VII

CONCLUSIONS AND RECOMMENDATIONS

The interpretation of the study is limited because the penmanship groups and non-penmanship groups were not tested in September, 1947, and were not equated according to the quality of their penmanship when instruction was begun in September, 1947. Also, the tests were given in April instead of at the end of the penmanship instruction in June, 1947. The amount of improvement which took place between April and June, therefore, was not measured. The fact that several students improved their penmanship scores in 1948 indicates that considerable growth may have taken place in the last two months of instruction.

At the end of the third year of testing, only 10 boys who had been members of the freshman penmanship class remained in school. This number represented too few cases from which to gather reliable statistical data for this group.

1. The scores of the three penmanship tests showed that the girls who had penmanship instruction in the ninth grade did decidedly better than the girls who had no instruction.

2. The amount of deterioration or change which took place between 1947 and 1949 in the quality of penmanship of
IV.

COMMUNITIES AND OCCUPATIONAL ACHIEVEMENTS

The interpretation of the data is difficult because the basis of the

bureaucratic changes and non-bureaucratic groupings were not clearly

in September 1939, and were not adequately accounted for in the

discussion of the bureau changes. The interpretation we present is

necessary to the data and of the bureaucratic information in

June 1940. The amount of improvement which took place

after 1940, and the subsequent interpretation of the bureau

information is presented in the tables. The

basis for the two months of information

of the data on the fifth year of service, only 10 per

cent of the number of the same length of

service to the school. The number of teachers who have

been in the school for more than ten years is

among those who have been in the school for ten

years. The scope of these bureaucratic changes

since the criteria set by our bureaucratic information in the

other

have all generally tested these criteria and can be

information.

In the meeting of the National Association of Commerce and Trade

areas between 1938 and 1939 in the direction of bureaucratic

all groups tested was negligible. In fact, instead of deteriorating, the non-penmanship girls and both groups of boys did slightly better in 1949 than in 1947 or 1948.

3. The boys' scores were not as high as the girls' scores.

4. The low correlation between penmanship scores and intelligence quotients showed that very little relationship exists between penmanship test scores and high intelligence quotients.

5. A study similar to the present one should be made with a greater number of cases, with matched groups, and under controlled conditions.
score.

The low correlation between parental scores and intelligence deteriorated when any father relationship existed between parental test scores and high intelligence.

The results of a study which is the research one portion of which is a research component and another component which correlated conditions...
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The Boston Post, November 25, 1948, p. 62.

APPENDIX
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Dear Sir:

Enclosed is a questionnaire which, if you will be kind enough to answer, will enable me to make a survey of present trends of penmanship in the secondary schools of Massachusetts.

We hear varied points of view from our present-day educators as to the importance and need of this subject, one of our original 3 R's. Has it taken too much time in the curriculum when it becomes an art? Should the teaching of penmanship in the grade schools suffice? What excuses can we offer businessmen when our commercially trained students enter their offices and are unable to write legibly? What happens to our students who graduate from the high school and enter the field of retail selling where they are responsible for tremendous losses occurring every year from unfilled and mis-sent orders caused by unreadable names and addresses on sales slips?

Should you be interested in receiving a copy of the results of my investigation, I shall be glad to send one if you will so designate at the bottom of the questionnaire.

For your convenience I am enclosing a stamped self-addressed envelope. Thank you for your interest and cooperation.

Yours very truly,
QUESTIONNAIRE

1. Name of high school is ________________________________

2. Is penmanship taught in the high school as a separate subject?  
   Yes_______ No_______

3. Is penmanship a required subject for all high school students?  
   Yes_______ No_______

4. Is penmanship required for students taking the commercial course?  
   Yes_______ No_______

5. Is penmanship taught in the bookkeeping classes?  
   Yes_______ No_______

6. Is penmanship taught in conjunction with some other class?  
   If so, what class? ____________________________  Yes_______ No_______

7. If an affirmative answer was given to any of above questions, how many hours a week are spent in the study of penmanship?  

8. Do the high school students take penmanship for more than one year?  
   Yes_______ No_______

9. May students leave the penmanship classes upon satisfactory completion of a work project?  
   Yes_______ No_______

10. Is there a full-time penmanship teacher in the high school?  
    Yes_______ No_______

11. What system is used?  Muscular movement____ Finger movement____

    Rinchart____ or ____________________________

13. Is there a supervisor of penmanship for the entire school system?  
    Yes_______ No_______

14. Do you advocate the teaching of penmanship in high school to commercial students?  
    Yes_______ No_______

15. Do you advocate the teaching of penmanship in high school to all students?  
    Yes_______ No_______

16. Do you believe that penmanship should not be taught in high school?  
    Yes_______ No_______

17. Do the students become legible writers from their grade school training?  
    Yes_______ No_______

18. What is the average enrollment in your commercial department?  
    ____________________________
January 9, 1946

Dear Sir:

Thank you for replying to the questionnaire which I mailed to you a few weeks ago and which enabled me to make a survey of the present trends of penmanship in the secondary schools of Massachusetts.

I am enclosing a copy of the results, which you requested, and trust that you will find the figures interesting and helpful.

Yours very truly,

-Encl.
January 6, 1940

Dear Sir:

Thank you for sending me the document.

I think I might like to have a few weeks to study and analyze the material and make a report of the present status of the enforcement of the second salary of

Massachusetts.

I am enclosing a copy of the last letter.

You can understand that you will never see

I have rewritten my report.

Your very truly,

[Signature]
ANSWERS TO QUESTIONNAIRE

1. High schools that cooperated 72.

2. Is penmanship taught in the high school as a separate subject? Yes 11 No 61

3. Is penmanship a required subject for all high school students? Yes 6 No 66

4. Is penmanship required for students taking the commercial course? (If needed 3) Yes 17 No 52

5. Is penmanship taught in the bookkeeping classes? Yes 11 No 61

6. Is penmanship taught in conjunction with some other class? If so, what class? Yes 27 No 45
   - Clerical Practice 6
   - English 4
   - Jr. Bus. Tr. 12
   - Type. with Spelling 1
   - Pre-Shorthand 1
   - Rapid Calculation 1
   - Subject not named 2

7. If an affirmative answer was given to any of above questions, how many hours a week are spent in the study of penmanship? 15 min. -- 2 hrs.

8. Do the high school students take penmanship for more than one year? Yes 6

9. May students leave the penmanship classes upon satisfactory completion of a work project? Yes 2
   (In one high school students may leave after fulfilling certain writing requirements with the Ayres Scale as the standard.)

10. Is there a full-time penmanship teacher in the high school? (Half-time 2) Yes 1 No 71

11. What system is used? Muscular movement 23
    - Finger movement 1
    - Combination 7
   (The others did not reply to this question.)

12. What book is used? Palmer 11 Faretra 1
    - Zaner Bloser 7 Rinehart 14 Donner 1
    - Leslie 1 Houston 1 No book 1
   (The others did not reply to this question.)
<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Do you have plans to continue with any other field of study?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. May students leave the preliminary classes without notice?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Do you have any college or other educational background?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. If you do not work at the present time, will you do so within the next five years?</td>
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</tr>
<tr>
<td>5. To what extent do you make up the preliminary examination?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. If you are not going to continue your studies now, what will you do?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Is there a preliminary examination to pass before you can proceed?</td>
<td></td>
<td></td>
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</tbody>
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**School:**

- English
- History
- Mathematics
- Other (please specify)
ANSWERS TO QUESTIONNAIRE--CONTINUED

13. Is there a supervisor of penmanship for the entire school system? (Grades only ) Yes 17* No 43
*5 of these answers represent one supervisor as answers were from 5 Boston high schools.
(Three did not answer this question.)

14. Do you advocate the teaching of penmanship in high school to commercial students? Yes 47 No 11
(No reply 3 No time 1 If needed 6
Not as separate subject 4)

15. Do you advocate the teaching of penmanship in high school to all students? Yes 30 No 33
(No reply 5 Not as separate subject 2
If needed 2)

16. Do you believe that penmanship should not be taught in high school? Yes 10 No 52
(No reply 6 Not as separate subject 2
If needed 2)

17. Do the students become legible writers from their grade school training? Yes 16 No 53
(No reply 3)

18. Total number of students considered from the commercial departments in the 72 high schools which replied 30,608
Pupil average for each school 425.11
Population range for cities contacted 15,084 to 781,188
Population range for towns contacted 1,120 to 47,490
COMMITTEE OF COUNCIL ON EDUCATION

1. Is there a representation of personnel from the entire
   [X] Yes [ ] No
   [ ] No representation
   [ ] Other (Specify):

2. Do you encourage the participation of personnel in the
   [X] Yes [ ] No
   [ ] Other (Specify):

3. Do you encourage the participation of personnel in the
   [X] Yes [ ] No
   [ ] Other (Specify):

4. Do you encourage the participation of personnel in the
   [X] Yes [ ] No
   [ ] Other (Specify):

5. Do you encourage the participation of personnel in the
   [X] Yes [ ] No
   [ ] Other (Specify):

6. Do you encourage the participation of personnel in the
   [X] Yes [ ] No
   [ ] Other (Specify):

7. Do you encourage the participation of personnel in the
   [X] Yes [ ] No
   [ ] Other (Specify):

8. Do you encourage the participation of personnel in the
   [X] Yes [ ] No
   [ ] Other (Specify):

9. Do you encourage the participation of personnel in the
   [X] Yes [ ] No
   [ ] Other (Specify):

10. Do you encourage the participation of personnel in the
    [X] Yes [ ] No
       [ ] Other (Specify):

11. Do you encourage the participation of personnel in the
    [X] Yes [ ] No
       [ ] Other (Specify):

12. Do you encourage the participation of personnel in the
    [X] Yes [ ] No
       [ ] Other (Specify):

13. Do you encourage the participation of personnel in the
    [X] Yes [ ] No
       [ ] Other (Specify):

14. Do you encourage the participation of personnel in the
    [X] Yes [ ] No
       [ ] Other (Specify):

15. Do you encourage the participation of personnel in the
    [X] Yes [ ] No
       [ ] Other (Specify):

16. Do you encourage the participation of personnel in the
    [X] Yes [ ] No
       [ ] Other (Specify):

17. Do you encourage the participation of personnel in the
    [X] Yes [ ] No
       [ ] Other (Specify):

18. Do you encourage the participation of personnel in the
    [X] Yes [ ] No
       [ ] Other (Specify):

19. Do you encourage the participation of personnel in the
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       [ ] Other (Specify):

20. Do you encourage the participation of personnel in the
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       [ ] Other (Specify):

21. Do you encourage the participation of personnel in the
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       [ ] Other (Specify):

22. Do you encourage the participation of personnel in the
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       [ ] Other (Specify):

23. Do you encourage the participation of personnel in the
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       [ ] Other (Specify):

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       [ ] Other (Specify):

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       [ ] Other (Specify):

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       [ ] Other (Specify):

30. Do you encourage the participation of personnel in the
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       [ ] Other (Specify):

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       [ ] Other (Specify):

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       [ ] Other (Specify):

33. Do you encourage the participation of personnel in the
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       [ ] Other (Specify):

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       [ ] Other (Specify):

35. Do you encourage the participation of personnel in the
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       [ ] Other (Specify):

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       [ ] Other (Specify):

43. Do you encourage the participation of personnel in the
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       [ ] Other (Specify):

44. Do you encourage the participation of personnel in the
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       [ ] Other (Specify):

45. Do you encourage the participation of personnel in the
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       [ ] Other (Specify):

46. Do you encourage the participation of personnel in the
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       [ ] Other (Specify):

47. Do you encourage the participation of personnel in the
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       [ ] Other (Specify):

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51. Do you encourage the participation of personnel in the
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62. Do you encourage the participation of personnel in the
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       [ ] Other (Specify):

63. Do you encourage the participation of personnel in the
    [X] Yes [ ] No
       [ ] Other (Specify):

64. Do you encourage the participation of personnel in the
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       [ ] Other (Specify):

65. Do you encourage the participation of personnel in the
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       [ ] Other (Specify):

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       [ ] Other (Specify):

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       [ ] Other (Specify):

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       [ ] Other (Specify):

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       [ ] Other (Specify):

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       [ ] Other (Specify):

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       [ ] Other (Specify):

74. Do you encourage the participation of personnel in the
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       [ ] Other (Specify):

77. Do you encourage the participation of personnel in the
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       [ ] Other (Specify):

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       [ ] Other (Specify):

79. Do you encourage the participation of personnel in the
    [X] Yes [ ] No
       [ ] Other (Specify):

80. Do you encourage the participation of personnel in the
    [X] Yes [ ] No
       [ ] Other (Specify):

81. Do you encourage the participation of personnel in the
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       [ ] Other (Specify):

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       [ ] Other (Specify):

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       [ ] Other (Specify):

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       [ ] Other (Specify):

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       [ ] Other (Specify):

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       [ ] Other (Specify):

89. Do you encourage the participation of personnel in the
    [X] Yes [ ] No
       [ ] Other (Specify):

90. Do you encourage the participation of personnel in the
    [X] Yes [ ] No
       [ ] Other (Specify):
Standard Diagnostic Chart
For
Measuring Handwriting Objectively
By Lillian Bushman, Supervisor of Handwriting,
Burlington, Wis.

Pupil

School

19... to 19....

STUDENT'S PROGRESS GRAPH

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COPYRIGHT 1936 BY THE A. N. PALMER COMPANY
# STANDARD DIAGNOSTIC CHART FOR MEASURING HANDWRITING OBJECTIVELY

By Lillian Bushman, Supervisor of Handwriting, Burlington, Wis.

Scored by pupils under supervision of the teacher.

<table>
<thead>
<tr>
<th>I. Position</th>
<th>Perfect Score</th>
<th>Oct</th>
<th>Nov</th>
<th>Jan</th>
<th>Mid-Year</th>
<th>Feb</th>
<th>Apr</th>
<th>June</th>
<th>Final For Year</th>
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<tbody>
<tr>
<td>1. Body</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(a) Feet</td>
<td>1</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(b) Arms</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>(c) Trunk</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>(d) Head</td>
<td>1</td>
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<td>2. Penholding</td>
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<tr>
<td>(a) Position in hand</td>
<td>3</td>
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<td></td>
<td></td>
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<tr>
<td>(b) Pen pointed to upper arm</td>
<td>2</td>
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<td></td>
<td></td>
<td></td>
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<td></td>
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<td>3. Writing Arm</td>
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<td>Two points of rest, Wrist free.</td>
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Total score for Position 18

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<th>Jan</th>
<th>Mid-Year</th>
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<th>Apr</th>
<th>June</th>
<th>Final For Year</th>
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<tr>
<td>1. Quality of Line</td>
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<tr>
<td>(a) Firm, not tremulous</td>
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<td></td>
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</tr>
<tr>
<td>(b) Smooth and clear cut, indicating speed</td>
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<td></td>
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<td></td>
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</tr>
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<td>2. Slant</td>
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<tr>
<td>(b) Toward the center of the body</td>
<td>2</td>
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<tr>
<td>(a) Of capital and small letters</td>
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<td></td>
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<td>(b) Writing on line</td>
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Total score for Movement 20

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Total score for Form 27

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Total score for Correct Speed 15

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Total score for Carrying Over Power 20

Total 100

*See Guide
Date of the Handwriting Chart

The chart below is designed to illustrate the progression of handwriting over a period of time.

[Handwriting samples are shown, each with a date indicating when the handwriting was created.]

1. Early stage
2.中期 stage
3. Late stage

Each stage shows a distinct change in the handwriting style, reflecting the evolution of the writer's skill.
1948

IV-4  IV-5  IV-7  V

a  \frac{1}{2}  v  \frac{1}{2}  e  \frac{1}{2}  Mo  5
f  \frac{1}{2}  y  \frac{1}{2}  l  \frac{1}{2}  Ma  5
d  \frac{1}{2}  h  \frac{1}{2}  k  \frac{1}{2}  B  5
o  \frac{1}{2}  h  \frac{1}{2}  b  \frac{1}{2}  R  5
p  \frac{1}{2}  s  \frac{1}{2}  g

q  \frac{1}{2}  m  \frac{1}{2}  h
r  \frac{1}{2}  m

s  3

\frac{1}{2}

3

11
6
22 \frac{1}{2}
20
57 \frac{1}{2}
A quick brown fox jumps over the lazy dog.
Section I

A quick brown fox jumps over the lazy dog.

Section II

Yell low fight quake jazzy.

Pupils tried to study.

A quick brown fox jumps over the lazy dog.
April 14, 1948

Section III

Everyone that flatters thee
Is no friend in misery

Words are easy like the wind
Faithful friends are hard to find

Every man will be thy friend
Whilst thou hast wherewith to spend

Section IV

Africa       artist
Oregon       object
Chicago      city
Mexico       mint
Maples       net
Yap          yard
Zella        zero
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<th>Scholastic Averages for 3 Years</th>
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## GIRLS WHO DID NOT TAKE PENMANSHIP

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