A COMPARISON OF ACHIEVEMENT OF STUDENTS RECEIVING INDIVIDUALLY PACED INSTRUCTION WITH ACHIEVEMENT OF STUDENTS RECEIVING TRADITIONAL INSTRUCTION IN SEVENTH GRADE BEGINNING TYPEWRITING

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CHAPTER I

INTRODUCTION

The purpose of this chapter is to (1) discuss the nature of the problem, (2) summarize the related research and literature, and (3) state the null hypotheses.

The Problem

Statement of the Problem

The problem was to compare the achievement of seventh grade students taught by traditional teaching techniques and materials with students taught by individually paced instructional techniques and materials in a beginning typewriting class. The levels of achievement measured were techniques, straight-copy speed, and straight-copy errors. Further tests determined if there was a relationship between the instructional method and reading level, mental ability, or sex.

Need for the Study

In recent years, there has been an increased awareness in the need for individualized instruction in most learning situations. An average typewriting class will probably have gifted, average, and slow learners all attempting to gain as much skill as possible in the same amount of class time each day. It would seem important, therefore, to be able to

provide a method of instruction that would allow each individual learner to proceed at his own rate of speed toward some achievable goal.

Swanson (1969) said that provision must be made for each student to learn as an individual. He also stated that ways for evaluating appropriate individualized instruction must be included in the planning of today's business education programs if they are to be properly evaluated.

Oliverio (1968) predicted that instruction in the typewriting laboratory will be individualized with students working at their own pace and testing themselves. She believes the teacher will provide tutorial services to students and will be as equally concerned with the student who needs help as with the student who is encountering success but has the potential for higher development.

It was the contention of Lloyd (1968) that typewriting instruction will be individualized with students progressing on their own through a course of programmed instructions. He also believes that typewriting will everywhere be started in the fifth and sixth grades, expanded in the eighth grade, vocationalized in senior high school, and professionalized in post-secondary schools.

Russon and Wanous (1973) believe that personal-use typewriting should be offered in the junior high schools because it will be useful to the child from that point on. They indicated that typewriting can be taught at any level provided the materials are simple and the equipment is properly adjusted.

Considering the increasing concern for the individualization of instruction in typewriting and the indication that typewriting instruction should be taught at an early age, it would seem important to

determine experimentally how well young students can achieve in individually paced typewriting instruction.

Limitations

The sample for this study was drawn from a population consisting of all seventh grade students enrolled in the Stillwater Middle School in Stillwater, Oklahoma, during the fall semester of 1974. Therefore, the results of this study should not be generalized beyond seventh grade students in Stillwater, Oklahoma, or perhaps those communities with students who have similar characteristics.

The following limitations were also noted:

(1) Because students were transported from the middle school to Oklahoma State University, the instructional class period was only 30 minutes each day.

(2) Achievement was measured after only one semester of instruction.

(3) No attempt was made to assess the influence of student interest and motivation.

(4) Although an attempt was made to have each group meet at approximately the same "time of day," it was not possible for both groups to meet at exactly the same time. The control group met from 2:00 to 2:30 p.m. and the experimental group met from 2:45 to 3:15 p.m. daily.

Definition of Terms

Achievement in Beginning Typewriting. The six-week technique evaluation score, fourteen-week technique evaluation score, straight-copy speed, and straight-copy errors are used to measure achievement in typewriting.

Control Group. This is the group of students which received the traditional teaching method.

Experimental Group. This is the group of students which received the individually paced instructional method.

High Mental Ability. Those students with a Deviation Intelligence Quotient (DIQ) of greater than 100 on the Otis-Lennon Mental Ability Test were classified as having High Mental Ability.

High Reading Ability. The reading scores for the students in this group were at the seventh grade level or above on the Nelson Reading Test.

Individually Paced Instructional Techniques. Under this method each student proceeds at his own rate. In this study he follows the guide sheet supplied by the teacher, proceeds through the activities in the textbook, and carefully reads the instructions and notes in the textbook. The teacher moves from desk to desk helping students on an individual basis when they ask for assistance. All practice is done under teacher supervision but without group instruction.

Low Mental Ability. Those students with a Deviation Intelligence Quotient (DIQ) of 100 or lower on the Otis-Lennon Mental Ability Test were classified as having Low Mental Ability.

Low Reading Ability. Those students with reading scores below the seventh grade level on the Nelson Reading Test were classified as having Low Reading Ability.

Straight-Copy Errors. The error score is obtained by counting the typographical mistakes made during the three-minute timed writing that measures the achievement on straight-copy speed. This procedure for measuring accuracy is commonly accepted in beginning typewriting courses.

Straight-Copy Speed. The typing of new material from typed copy is commonly accepted by business educators to measure level of achievement in typewriting speed. The copy is considered easy material with a

syllable intensity (SI) of 1.3, average word length (AWL) of 5.2, and a 90 percent high frequency word (HFW) level. Three minutes will be the duration of the timing.

Techniques. This term refers to the body position and muscular movement that is involved in typewriting skill. For the purposes of this study, position at the machine, quiet keyboard control, and eyes on copy will be of primary concern.

Traditional Teaching Techniques. This teaching emphasis refers to the method commonly accepted by teachers of beginning typewriting. This method may include teacher demonstration, teacher-directed activities, teacher supervision and guidance, and class interaction during brief periods of discussion or question-answer sessions. The learning activities are group-paced.

Review of the Literature

This section will summarize the research studies and related literature in the following three areas: (1) Junior High Typewriting, (2) The Junior High or Middle School Age Student, and (3) Individualized Beginning Typewriting Instruction.

Junior High Typewriting

When the purpose for developing typewriting skills was mainly vocational, it was logical for the course to be offered close to graduation from high school. Now, however, there is a need to develop typewriting skills earlier because of its recognized value as a communication tool. The studies and literature in this section reveal the capabilities of young students to perform in typewriting.

Rowe (1963) said there is evidence that junior high school students can acquire a skill in typewriting that is comparable to that of senior high school students if it is offered under the same conditions. Rowe (1963, p. 10) defined "the same conditions" as being "a trained typewriting teacher with a positive attitude toward junior high school typewriting, the same amount of time, and the same type of equipment."

A review of the literature by Lloyd (1968), and Russon and Wanous (1973) indicated that studies done by Tootles, Rowe, Erickson and Clow, Wood and Freeman, and others found that touch typewriting was successfully taught to elementary children. An increase in learning in language arts skills was also found by these researchers.

An experiment in teaching typewriting to fifth and sixth grade students was conducted by Ellenbogen in 1968. After a year of basic skill development, he found that these students did not demonstrate a lack of coordination or a short attention span as had been expected. Ellenbogen stated (1968, p. 13) "results were excellent when the students were taught with a highly structured lesson plan; otherwise results were scattered."

Forte (1950) stated that not many schools offer typing in the seventh grade but suggested that it would not be impractical to do so in view of the successful experiments carried on with elementary school pupils. He believes there is no better time to begin typewriting than at the junior high school age when the students are full of enthusiasm, can fit the course into their program, and will start to make practical use of the skill immediately.

It was reported by Donin (1975) that almost every middle school in New York City has at least one typewriting room. He suggested that few

children will leave the middle schools without at least some exposure to formal typing instruction. Donin said the course is oriented toward personal-use typewriting; but many students learn the skill well enough to apply it to vocational uses.

Kingsley (1957) contended that usefulness not ease or rapidity of learning is the standard for determining level of instruction. He said the earlier a skill can be acquired, the greater an asset it becomes.

Junior high school students have a facility for manipulating the various parts of the typewriter, which makes them eager to learn contended Krevolin (1965).

Rahe (1953) stated that most seventh and eighth grade students have sufficiently matured physically, emotionally, and mentally to study typewriting successfully. He also believes that by taking the subject as early as possible students will have many opportunities to use their typewriting skills and knowledges profitably in andout of school.

A review of the literature by Hayden (1951) indicated that any typewriting that is taught previous to high school should have a personal-use emphasis. Hayden said the view is also generally supported that one semester is an adequate amount of time for developing a basic manipulative skill that could be applied for personal use. Hayden further stated that 71 percent of a selected group of leaders in business education agreed with this view. According to Maze (1971), however, junior high typewriting should have the same emphasis as the high school beginning typewriting class. He believes there should be no major difference in the instructional methods or materials or in the outcomes between junior high typewriting and any other level. He further stated that the purpose for any beginning typewriting class

should be the development of a basic manipulative competence at the typewriter.

Research studies have also been done to see if a relationship between straight-copy typing and mental ability exists. In a study by Erickson and Clow (1959) a relationship was found between IQ and typing scores of elementary school pupils as measured by straight-copy rates. The upper one-third of the experimental group typed an average of 26 words per minute on a three-minute straight copy timed writing, while the lower one-third typed an average of 19 words per minute. Foss (1963) also found a direct relationship between typing achievement and intelligence. However, West (1969, p. 522) stated "...intelligence as measured in standardized intelligence tests has nearly no relationship to ordinary copying skill." Therefore, it appears that no conclusion can be reached concerning the relationship between IQ and typewriting achievement.

From this selected review of the literature on junior high typewriting, it would seem there is a need to learn typewriting skills at this age level. It would also appear that young children have the capability to develop the skill.

The Junior High or Middle School Age Student

Sixth, seventh, or eighth grade children mature, both emotionally and physically, at different rates. The review of the literature in this section clearly indicates a need for a close look at the middle school age child, his needs, and his capabilities.

Crompton (1969) said the middle school student has a rapidly changing and growing body that is sometimes difficult for him to manage.

He is sometimes restless and sometimes listless. Each child in this growth period is more different from his peers than at any other stage in his development. Tobin (1973) agreed with Crompton's analysis and said that students of middle school age exhibit generally rapid, though irregular, physical development with resultant differences among peers due to uneven growth and development. Crompton concluded that at no other time of development are youngsters so different from one another as they are during these middle school years. He believes these differences should be reflected in a school program that is designed specifically for this age group.

Dupuis and Johnson (1973, p. 45) believe that young people within this age group have not been adequately served by the traditional organization of the junior high school; therefore, the middle school movement was begun. They said:

> It is natural that the middle school has come to be a laboratory for innovations designed to individualize learning. The middle school is essentially an institution which has been restructured to facilitate the distinctive learning patterns and needs found among pre-adolescents.

Due to the high degree of differences existing between students in any one grade level in a middle school, it was Alexander's (1969) contention that the learning skills should be continued on a very individualized basis of instruction in the middle school. Tobin (1973), however, said that middle school children prefer interaction with peers during learning activities. He also indicated that this age group of students tend to be curious and inquisitive and prefer active over passive learning activities. He believes, too, that middle school youngsters need to experience success frequently and that they desire attention and recognition for personal efforts and achievements.

Coxe (1954) suggested several distinct characteristics regarding this early adolescent period that would seem to be relevant when considering the need for individualized instruction for this age student. They are:

1. The beginning of puberty for nearly all students
2. Rapid changes in rate of physical growth
3. Uneven development in most students
4. Increased individual differences
5. A struggle for independence
6. Changes in concept of social role
7. Emotional stress
8. A wider range of interests and broader outlook.

The suggestion was made by Peak (1967) that it should be recognized that junior high school students are somewhat unrealistic and unpredictable and that many learning difficulties encountered in the typewriting classroom do not lend themselves to group solutions. They should be handled on an individualized basis. Peak (1967, p. 23) said:

> The extent to which the typewriting teacher becomes aware of the special traits and characteristics of students of this age level will do much to influence the quality of program found in a given school.

Because of the many differences among the children at the middle school level, it would seem important to provide alternative learning activities in order to achieve course objectives. Therefore, individualized instruction is an option that should be considered.

Individualized Beginning Typewriting Instruction

The individualization of instruction in beginning typewriting as practiced today is a relatively new method of instruction. Therefore, informal projects as well as formal studies related to individualized typewriting instruction are presented and discussed in this section.

In some instructional areas said West (1969), fully individualizing a subject might be a formidable task. He believes individualization of typewriting, however, can be much more readily accomplished.

> Although comparatively rapid keyboard coverage seems desirable, we still want to take a little more time with slow learners than with average students and more time with them than with a bright class (West, 1969, pp. 196-197).

Lambrecht and Gardiner (1971) suggested that one of the most important factors to be considered when determining the success of an individualized beginning typewriting program is the importance of the teacher. They believe there must be careful supervision of the work done by each student to be certain there are no misunderstandings in the principles presented. In this particular program, individualism of instruction was not begun until after the keyboard had been learned and techniques developed. After the first seven weeks of school, the experimental group began their individualized programs.

Consideration should be given, too, for achieving one goal before attempting the next one. Grubbs (1972) stated that individualized typewriting instruction must be divided into many small parcels or units of instruction. He said, too, that performance goals must be clearly stated and that the system must provide for remedial and alternate training material for those students who do not accomplish

the goals. He also believes that no student should be permitted to move to the next unit until he has achieved the typing goals of the previous one.

Evaluation and feedback are also important factors affecting the improvement of typewriting skill. Wagoner (1973) stated that regularity of evaluation as the student progresses through his individual lessons is important and that each student should learn at his own best rate. He said that if a good student is held back from progressing, he will be disinterested or a discipline case. Additionally, Wagoner believes that the slow student who is forced to go beyond his ability will be a problem too. On page 27 Wagoner said, "When a wide range of abilities or interests is present in a class, individualization is desirable."

An informal project reported by Fedel in 1965 stated that students in a small high school using individualized beginning typewriting instruction excelled in achievement over students using the traditional method.

An experimental study was done by Thoreson (1971) to compare the performance of individualized large-group multimedia instruction with traditional instruction in first-year typewriting at the tenth grade level. Thoreson found that the students taught in experimental large-group individualized multimedia classes typed significantly faster on straight-copy timings; however, the students taught by traditional methods made significantly fewer errors on straight-copy timings than students in the experimental group. It was also reported that there was a direct relationship between ability level and speed on straight-copy and that female students typed significantly faster than males on straight-copy.

Dupras (1973) reported the findings of an experiment that compared the straight-copy typewriting speed and accuracy achievement of 132 high school sophomores after 15 weeks of instruction by two different methods. The control group was taught by the traditional, teacher-directed method and the experimental group was taught by the Automated Instruction Touch-Typing System, a multimedia, individualized program. It was found that for all testing periods except the first, the experimental group scored higher than the control group in typewriting speed. No significant differences in errors per minute were found in the first three testing periods. However, for the final testing period, the control group typed with significantly fewer errors. Dupras also concluded that, for this experiment, girls typed significantly faster than boys but there was no significant difference in the typewriting accuracy between the boys and girls.

Sorenson (1973) reported the findings of a study where beginning typewriting was taught to 52 sixth grade students by elementary teachers who could type. These teachers served as monitors during the instruction and practice periods. Phase I of the study consisted of 30 fifteen-minute lessons written and recorded for student use in learning the alphabetic and basic punctuation keyboard. Phase II was unassigned practice from an elementary typewriting text during 50 fifteen-minute periods. Most students learned to type by touch said Sorenson, and bad habits were not extensive. She also stated that discipline was no problem and the enthusiasm was great. On one-minute timed writings, students averaged 12.3 GWAM with 2.6 errors at the end of Phase I; and, at the end of Phase II, students typed 15 GWAM with 2.3 errors.

A study was done by Clerkin (1974) to compare and evaluate beginning

typewriting classes taught under the Automated Instruction Touch Typing System and the traditional method. Four sections composed of 114 students were taught by the traditional method; and, four sections composed of 113 students were taught using the Automated Instruction Touch Typing System. Clerkin found that the Automated Instruction Touch Typing System was superior to the traditional method in securing higher speeds, but the traditional method secured higher accuracy scores. It was also found that the third quarter was the period in which the greatest speed gains were made by the students in both groups.

Another study measured the difference in student achievement in typewriting speed and accuracy in a beginning typewriting class containing disadvantaged students taught using a traditional teaching method and the Automated Instruction method for teaching typewriting in a conventional classroom and a beginning typewriting class containing disadvantaged students using a traditional teaching method and the Automated Instruction method for teaching typewriting in a mobile unit (Curlott, 1974). Twenty students received their instruction in the conventional classroom and 20 students received their instruction in the mobile unit. In both cases, 10 of the students were taught typewriting by the traditional method and 10 were instructed by the Automated Instruction method. Curlott found no significant difference in typewriting speed or accuracy by beginning disadvantaged typewriting students regardless of whether they were taught by the Automated Instruction or traditional method of instruction within either the mobile unit or the conventional classroom.

In a study which compared the achievement of middle school students in self-paced and teacher directed learning situations, Kline (1971)

found no significant difference in speed or error control attainments. In summarizing her research Kline (1971, p. 125) stated, "The independent study approach is a viable, instructional procedure through which to attain speed and error control goals in typewriting in the middle school." The study did find that students in the teacher-directed situation did significantly better in technique achievement.

Kline's study was conducted at an innovative campus school the first semester and at a more traditional school the following semester. The first semester the 48 participants were randomly divided into the self-paced group or teacher-directed group. The students in the teacher-directed group met for 43 thirty-minute class periods on manual typewriters. The self-paced students used manual typewriters in study carrels and were urged to spend about 30 minutes each day developing their skill. The teacher did not serve as a resource person for the self-directed students on a regular basis. The following semester, the procedure was replicated at the traditional school with 49 students as the sample.

This study by Kline was the only one found which dealt with a comparison of self-paced instruction and teacher-directed instruction in a beginning typewriting class at the middle school level.

Individualized instruction has been used at various levels and in various ways in beginning typewriting. However, most of the studies differ in the approach to individualization. Furthermore, the results of the studies differ so that conclusions cannot be made concerning the best use of individualized instruction at this time.

After reviewing the literature related to junior high school typewriting, the middle school age child, and individualized instruction in

typewriting, hypotheses for this study were formulated as stated in the next section of this chapter.

Hypotheses

1. There will be no difference in achievement (techniques, straight-copy speed, and straight-copy errors) between students taught by traditional teaching techniques and materials and students taught by individually paced instructional techniques and materials.

2. There will be no difference in achievement between students with high reading ability taught by the traditional teaching techniques and materials and students with high reading ability taught by the individually paced instructional techniques and materials.

3. There will be no difference in achievement between students with low reading ability taught by the traditional teaching techniques and materials and students with low reading ability taught by the individually paced instructional techniques and materials.

4. There will be no difference in achievement between students with high mental ability taught by the traditional teaching techniques and materials and students with high mental ability taught by the individually paced instructional techniques and materials.

5. There will be no difference in achievement between students with low mental ability taught by the traditional teaching techniques and materials and students with low mental ability taught by the individually paced instructional techniques and materials.

6. There will be no difference in achievement between male students taught by the traditional teaching techniques and materials and male students taught by the individually paced instructional techniques and materials.

7. There will be no difference in achievement between female students taught by the traditional teaching techniques and materials and female students taught by the individually paced instructional techniques and materials.

CHAPTER II

DESIGN AND PROCEDURES

The design and procedures chapter is organized into three major divisions: (1) design, (2) procedures, and (3) data treatment. The first section discusses the experimental design that was used in this study. The procedures section includes the following: data gathering, sample, facilities and equipment, and materials and classroom procedures. The third section is a discussion of the data treatment.

Design

In this study an experimental design was used to compare the achievement of students in a traditionally taught class with the achievement of students in an individually paced class in seventh grade beginning typewriting. The control group in this study was taught by the traditional method, and the experimental group was taught by an individually paced method. The two teaching techniques, reading ability, mental ability, and sex are the independent variables in the study while the six-week technique evaluation, fourteen-week technique evaluation, straight-copy speed, and straight-copy errors are the dependent variables. Authorities agree that achievement in a beginning typewriting class should be measured by periodic technique evaluations and by timed writings on straight-copy to measure speed and errors (Russon and Wanous, 1973).

Procedures

Data Gathering

Data were collected concerning each student's reading ability, mental ability, typewriting techniques, straight-copy typewriting speed, and straight-copy typewriting errors. A description concerning the procedure for collecting these data follows.

Prior to beginning the treatment, subjects were given the Nelson Reading Test and the Otis-Lennon Mental Ability Test. These standardized tests were used to measure reading ability and mental ability respectively.

The Nelson Reading Test generates data by using the grade equivalent of a raw score to indicate a pupil's standing in terms of grade level. Grade equivalents have the advantage of simplicity and direct meaning. For this study, students who were reading at the seventh grade level or above were considered to be in the high reading ability group, while students who were reading below the seventh grade level were considered to be in the low reading ability group.

The Otis-Lennon Mental Ability Test provides an assessment of general mental ability or scholastic aptitude. It measures the pupil's facility in reasoning and a broad range of cognitive abilities. The Otis-Lennon Deviation Intelligence Quotient (DIQ) is an index of the pupil's relative brightness when he is compared with pupils of a similar chronological age, regardless of grade placement. The DIQ is a normalized standard score with a mean of 100. Therefore, in analyzing the data for this study, subjects with a DIQ of greater than 100 were considered to be in the high mental ability group, while subjects with a

DIQ of 100 or lower were considered to be in the low mental ability group.

Technique evaluations were conducted at the end of six weeks of instruction and at the end of fourteen weeks of instruction. A panel of three judges who are experienced typewriting teachers used the observation method and a technique evaluation form, a copy of which is included in Appendix A, to rate the following techniques of each student in the two groups: position at the machine, quiet keyboard control, and eyes on the copy. Each judge rated each student using a scale of 1 to 5 with 5 being the highest rating.

To obtain a performance score on straight-copy speed and straight-copy errors, a series of ten standard, easy, three-minute timed writings were administered during the fourteenth and fifteenth weeks of instruction. Five of the ten measurements were randomly selected to be scored for this study. If a student was absent on a day one of the five selected measurements was given, one of his other scores was randomly selected and substituted. Copies of each of the five timed writings are included in Appendix B.

Sample

Data were collected from an available population consisting of seventh grade students enrolled in the Middle School in Stillwater, Oklahoma, during fall semester 1974. The Stillwater Middle School is the only educational facility, either public or private, that seventh grade students in Stillwater may attend. A table of random numbers was used to select a sample of 45 students for each group. Then, a coin was tossed to determine which group would the the experimental

section using the individually paced materials and which group would be the control group receiving traditional instruction. Because permission of the parents was required by the Stillwater Public School System for a student to participate in the study, letters and permission slips were sent to the parents of the 90 students drawn for the sample. Copies of both the letter and the permission slip are shown in Appendix C. Thirty-three permission slips were returned for one group and thirty-two permission slips were returned for the second group. Table I further describes the two groups in terms of the number of boys and girls in each group, the number of students having high and low reading ability in each group, and the number of students having high and low mental ability in each group.

TABLE I

NUMBERS OF STUDENTS IN EACH OF THE INDEPENDENT VARIABLE GROUPS

Groups	Boys	Girls	High Reading Ability	Low Reading Ability	High Mental Ability	Low Mental Ability
Experimental	19	13	21	11	18	14
Control	18	15	17	16	19	14

The control group met from 2:00 to 2:30 p.m. each day, and the experimental group met from 2:45 to 3:15 each day. Each class met for one 30-minute session five days a week for sixteen weeks during the 1974 fall term. Both groups were taught by the researcher and in the same environment.

Facilities and Equipment

The students who participated in the study were transported by school bus from the Stillwater Middle School to Oklahoma State University, a distance of one mile. A typewriting classroom in the College of Business Administration at Oklahoma State University, Stillwater, Oklahoma, was used to conduct this study. Both the experimental and control groups met in the same room, which was equipped with electric typewriters, adjustable desks, adjustable chairs, and copyholders. In addition, the room contains a sound system, a demonstration typewriter and stand, a bulletin board, and a chalk board.

Materials and Classroom Procedures

Both the control group and the experimental group used the Typing 300 text published by Gregg, a division of the McGraw-Hill Publishing Company. This book was designed to be used in high schools, and each lesson or "AIM" contains material for a twenty-minute module.

The activities of the two groups were identical during the first six days of the semester. On the first day, the researcher met with the students, took roll, and discussed the busing schedule that would be used throughout the semester. On the second and third days, the Otis-Lennon Mental Ability Test and Nelson Reading Test were administered.

The first trip to the University was made on the fourth day, and students learned where to get on and off the bus and the location of the typing room in the College of Business Administration building. In addition, each student was assigned a specific desk. On the fifth day, both groups were shown how to use the various manipulative parts of the typewriter and how to insert paper into the machine. Because the students had a three-day weekend, on the sixth day both groups reviewed parts of the typewriter; they also learned how to set margins.

Beginning with the seventh day, and throughout the remainder of the semester, the experimental group received individualized instruction by means of "contracts" (see Appendix D) which correlate with the Typing 300 text while the control group continued to receive traditional typewriting instruction. In the experimental group, one-half of a class period was spent in explaining the procedure to follow in using the "contracts," but no further group instruction was given during the remainder of the semester.

In using the "contracts," each student was expected to read the directions and proceed through a sequence of activities at his own pace. Students were to demonstrate to the instructor that they had accomplished all of the behavioral objectives for an AIM before continuing with the next one. A student who had difficulty in achieving the objectives after completing the outlined activities for a specified AIM was directed through another set of activities to assist him in achieving the goals.

The role of the teacher in the experimental group was to answer individual questions when asked and to approve the completion of AIMs when the students demonstrated that they had achieved the objectives.

Data Treatment

Since the data collected in this study were multiple measures of both independent and dependent variables and called for calculations to be performed simultaneously, it was necessary to apply a statistical technique that was capable of performing these functions. Therefore, analysis of variance was selected as the statistical procedure to be used for this experiment. Cattell (1966, p. 245) says "analysis of variance has always been a multivariate method, since several 'effects' can be examined with respect to significant relation to one dependent variable." Cattell (1966, p. 245) states further:

> In analysis of variance, the matter at issue is that of systematic differences in performance between groups of subjects, with groups defined by the levels of classification of one or more independent variables.

It is also the contention of Cattell that multivariate analysis of variance is like the more familiar univariate analysis of variance because it focuses upon differences between groups or between experimental conditions.

In this study, each stated hypothesis was statistically tested. The difference between the control and experimental groups was adjusted for all of the other independent variables by fitting a multiple regression model and performing analyses of variance, both multivariate and univariate. This test is equivalent to an analysis of covariance with several covariables. Where there was significance in the multivariate analysis of variance, univariate analysis of variance was performed on the criterion variables. The .05 level of significance was used in all statistical analyses.

Summary

Seventh grade students were randomly selected from the Stillwater Middle School to participate in an experimental study to determine if there was a difference in beginning typewriting performance between students receiving an individually paced method of instruction and students receiving traditional instruction.

Each of the classes met for thirty minutes, five days a week for sixteen weeks, and both groups used the same text. The same instructor taught both groups in the same environment. However, in the individually paced group, the instructor gave no group instructions after the sixth day of class, and the students used "contracts" which correlated with their text.

Both groups of students were evaluated on techniques after six and fourteen weeks of instruction by three experienced typewriting teachers. Students in both groups were also given a series of three-minute timed writings to measure achievement in straight-copy speed and straight-copy errors. Reading ability and mental ability were measured using the Nelson Reading Test and the Otis-Lennon Mental Ability Test.

Analysis of variance was the statistical technique used to test the hypotheses. Chapter III reports the findings of these analyses.

CHAPTER III

RESULTS

The purpose of this study was to compare the achievement of students in a traditionally taught class with the achievement of students in an individually paced class in seventh grade beginning typewriting. Comparisons were also made between treatment groups of students with high and low reading ability and students with high and low mental ability. Further comparisons were made of male students in each treatment group and female students in each treatment group.

Achievement in typewriting was measured with the following criterion variables: six-week technique evaluation, fourteen-week technique evaluation, straight-copy speed, and straight-copy errors. Reading ability was measured by scores on the Nelson Reading Test with students who read at the seventh grade level or above being grouped as having high reading ability and students who read below the seventh grade level being grouped as having low reading ability. Mental ability was measured by scores on the Otis-Lennon Mental Ability Test with students scoring 101 or above being grouped as having high mental ability and students scoring 100 or below being grouped as having low mental ability. The typewriting achievement of male students in each treatment group was compared, and the typewriting achievement of female students in each treatment group was compared.

This chapter reports the findings of the study by (1) presenting

the sample assumption of homogeneity, (2) presenting statistical evidence and relating these data to the hypotheses, and (3) reporting additional analyses pertinent to the experiment.

Analysis of Data

Sample Assumption

Although the students in the control and experimental groups were selected at random, it was thought desirable to look at the possible differences between the groups on the independent variables of age, sex, reading ability, and mental ability to determine the homogeneity of the groups. Table II shows the tests indicated there was no significant difference between the groups with respect to the variables measured.

TABLE II

MANOVA SIGNIFICANCE TESTS:
HOMOGENEITY OF THE GROUPS

Test	df	F
Hotelling-Lawley's Trace	4,60	1.57902
Pillai's Trace	4,60	1,57902

Hypothesis Testing

Hypothesis 1: There will be no difference in achievement (techniques, straight-copy speed, and straight-copy errors) between students taught by traditional teaching techniques and materials and students taught by individually paced instructional techniques and materials.

To test this hypothesis, a multivariate analysis of variance was performed to compare the two groups on the following variables simultaneously: six-week technique evaluation, fourteen-week technique evaluation, straight-copy speed, and straight-copy errors. Two tests were applied, as shown on Table III, to judge the significance of the multivariate analysis of variance. Both tests indicated a significant difference between the two groups at the .05 level of significance; therefore, this null hypothesis was rejected.

TABLE III

MANOVA SIGNIFICANCE TESTS: OVERALL ACHIEVEMENT BETWEEN TRADITIONAL AND INDIVIDUALLY PACED GROUPS

Test	df	F
Hotelling-Lawley's Trace	4,51	6.48226*
Pillai's Trace	4,51	6.48226*

*Significant at the .05 level of confidence

Since there was a significant difference in achievement between the treatment groups, four additional tests were performed to determine where the difference(s) occurred. Univariate analyses of variance tests were performed on the following achievement criterion variables: six-week technique evaluations, fourteen-week technique evaluations, straight-copy speed scores, and straight-copy error scores.

As shown in Table IV, the mean scores of the traditionally taught group were significantly higher than those of the individually paced group at the .05 level of significance on six-week technique evaluations and fourteen-week evaluations. The mean scores of the traditionally taught group were also higher than the individually paced group on straight-copy speed, but this difference did not reach significance. However, the mean scores of the two groups indicated that the individually paced group made significantly fewer errors than the traditionally taught group at the .05 level of significance.

TABLE IV

MEAN SCORES AND UNIVARIATE ANALYSIS OF VARIANCE FOR TYPEWRITING ACHIEVEMENT

Variable	Traditionally Taught Group	Individually Paced Group	df	F
Six-week Technique Scores	30.4545	25.9896	1,64	19.7708*
Fourteen-week Technique Scores	32.1616	28.9896	1,64	6.9045*
Speed Scores	19.5636	17.3000	1,64	2.4484
Errors	12.3333	6.8500	1,64	5.6134*

*Significant at the .05 level of confidence

The results of this experiment indicated that students in a traditionally taught class achieved higher technique skills than did students in an individually paced class. Concerning straight-copy skills, the treatment had no effect on typewriting speed; however, the individually paced class achieved a higher degree of typewriting control, that is, they typed with fewer errors.

Hypothesis 2: There will be no difference in achievement between students with high reading ability taught by the traditional teaching techniques and materials and students with high reading ability taught by the individually paced instructional techniques and materials.

A multivariate analysis of variance was performed to compare the two groups of students on the four criterion variables simultaneously. As indicated in Table V, no significant difference was found between the two groups of high reading ability students; therefore, the second null hypothesis was accepted.

TABLE V

MANOVA SIGNIFICANCE TESTS: OVERALL ACHIEVEMENT FOR HIGH READING ABILITY BETWEEN TRADITIONAL AND INDIVIDUALLY PACED GROUPS

Test	df	F
Hotelling-Lawley's Trace	4,24	2.07952
Pillai's Trace	4,24	2.07952

The mean scores on the four criterion variables which are presented in Table VI indicate that the individually paced group typed with fewer errors than the traditionally taught group; however, the traditionally taught group had higher scores on both of the technique evaluations and typed faster than the individually paced group. Even though there were differences between the groups, none of the differences reached the .05 level of significance. In this study, students with high reading ability achieved equally well in the individually paced group and the traditional group.

TABLE VI

MEAN SCORES FOR OVERALL ACHIEVEMENT OF HIGH READING ABILITY STUDENTS

Variable	Traditionally Taught Group	Individually Paced Group
Six-week Technique Scores	30.1373	26.9683
Fourteen-week Technique Scores	32.2745	29.8095
Speed Scores	21.1294	19.5238
Errors	11.2353	7.1810

Hypothesis 3: There will be no difference in achievement between students with low reading ability taught by the traditional teaching techniques and materials and students with low reading ability taught by the individually paced instructional techniques and materials.

Low reading ability students in both groups were compared using a multivariate analysis of variance on the four criterion variables simultaneously. The tests and their levels of significance are

presented in Table VII and show there was a significant difference in achievement between the groups. Because a significant difference was found between the two groups of low reading ability students, the third null hypothesis was rejected.

To determine where the difference(s) between groups occurred, univariate analysis of variance tests were performed on the four criterion variables. The mean scores of the criterion variables, as well as F values of the univariate analyses, are presented in Table VIII.

TABLE VII

MANOVA SIGNIFICANCE TESTS: OVERALL ACHIEVEMENT FOR LOW READING ABILITY BETWEEN TRADITIONALLY TAUGHT AND INDIVIDUALLY PACED GROUPS

Test	df	F
Hotelling-Lawley's Trace	4,13	10.77561*
Pillai's Trace	4,13	10.77561*

*Significant at the .05 level of confidence

TABLE VIII

MEAN SCORES AND UNIVARIATE ANALYSIS OF VARIANCE FOR OVERALL ACHIEVEMENT OF LOW READING ABILITY STUDENTS

Variable	Traditionally Taught Group	Individually Paced Group	df	F
Six-week Technique Scores	30.7917	24.1212	1,26	18.75056*
Fourteen-week Technique Scores	32.0417	27.4242	1,26	14.60017*
Speed Scores	17.9000	13.0545	1,26	16.87427*
Errors	13.5000	6.2182	1,26	2.65718*

*Significant at the .05 level of confidence

The students with low reading ability in the traditionally taught class achieved better techniques as evidenced by the six-week evaluation and the fourteen-week evaluation than the low reading ability students in the individually paced group. The mean scores in Table VIII indicate also that the traditionally taught class was typing significantly faster than the individually paced group; however, the individually paced group typed with significantly fewer errors than the traditionally taught group.

The results of this study indicated that students with a low reading ability learned better typewriting techniques and gained higher typewriting speeds in a traditionally taught class rather than an individually paced class. Students with a low reading ability seemed to gain greater typewriting control in the individually paced class; however,

one should note that this group typed at a slower rate thus typing fewer words.

Hypothesis 4: There will be no difference in achievement between students with high mental ability taught by the traditional teaching techniques and materials and students with high mental ability taught by the individually paced instructional techniques and materials.

A multivariate analysis of variance was performed (Table IX) to compare high mental ability students in the two groups on the four criterion variables simultaneously. Even though no significant difference was found between the groups, Table X shows that the traditionally taught group had better typewriting techniques, and the individually paced group typed with fewer errors. It is also interesting to note that the speed mean score indicates that both groups typed about the same number of words per minute on the three minute timed writings. Since no significant difference was found between the groups, the fourth null hypothesis was accepted.

TABLE IX

MANOVA SIGNIFICANCE TESTS: OVERALL ACHIEVEMENT FOR HIGH MENTAL ABILITY BETWEEN TRADITIONALLY TAUGHT AND INDIVIDUALLY PACED GROUPS

Test	df	F
Hotelling-Lawley's Trace	4,23	1.81110
Pillai's Trace	4,23	1.81110

TABLE X

MEAN SCORES FOR OVERALL ACHIEVEMENT OF HIGH MENTAL ABILITY STUDENTS

Variable	Traditionally Taught Group	Individually Paced Group
Six-week Technique Scores	29.4035	26.7407
Fourteen-week Technique Scores	32.5263	30.5000
Speed Scores	20.8421	20.1556
Errors	12.1263	7.5778

Hypothesis 5: There will be no difference in achievement between students with low mental ability taught by the traditional teaching techniques and materials and students with low mental ability taught by the individually paced instructional techniques and materials.

To test this hypothesis, the two groups were compared using a multivariate analysis of variance on the four criterion variables simultaneously. As Table XI indicates, there was a significant difference in achievement between the two groups; therefore, the fifth null hypothesis was rejected. Because a significant difference was found between the control and experimental groups, four univariate analyses of variance were calculated on the criterion variables. Table XII reports that the mean scores of the control group were higher than the mean scores of the experimental group on the six-week technique evaluation, the fourteen-week technique evaluation, and speed. However, no significant difference was found between the groups on the variable errors.

TABLE XI

MANOVA SIGNIFICANCE TESTS: OVERALL ACHIEVEMENT FOR LOW MENTAL ABILITY BETWEEN TRADITIONALLY TAUGHT AND INDIVIDUALLY PACED GROUPS

Test	df	F
Hotelling-Lawley's Trace	4,14	13.7643*
Pillai's Trace	4,14	13.7643*

*Significant at the .05 level of confidence

TABLE XII

MEAN SCORES AND UNIVARIATE ANALYSIS OF VARIANCE FOR OVERALL ACHIEVEMENT OF LOW MENTAL ABILITY STUDENTS

Variable	Traditionally Taught Group	Individually Paced Group	df	F
Six-week Technique Scores	31.8810	25.0238	1,27	61.59878*
Fourteen-week Technique Scores	31.6667	27.0476	1,27	9.63123*
Speed Scores	17.8286	13.6286	1,27	10.63857*
Errors	12.6143	5.9143	1,27	2.31985

*Significant at the .05 level of confidence

Since there was a significant difference on three of the four criterion variables, it would seem that students whose mental ability is below average perform better in a class situation which is traditionally taught.

Hypothesis 6: There will be no difference in achievement between male students taught by the traditional teaching techniques and materials and male students taught by the individually paced instructional techniques and materials.

This hypothesis was tested by using a multivariate analysis of variance (Table XIII) to compare the two groups of male students on the criterion variables simultaneously. A significant difference was found between the groups; therefore, four univariate analyses of variance were performed on the criterion variables and are presented in Table XIV.

TABLE XIII

MANOVA SIGNIFICANCE TESTS: OVERALL ACHIEVEMENT FOR MALE STUDENTS BETWEEN TRADITIONALLY TAUGHT AND INDIVIDUALLY PACED GROUPS

Test	df	F
Hotelling-Lawley's Trace	4,25	3.51327*
Pillai's Trace	4,25	3.51327*

*Significant at the .05 level of confidence

TABLE XIV

MEAN SCORES AND UNIVARIATE ANALYSIS OF VARIANCE FOR OVERALL ACHIEVEMENT OF MALE STUDENTS

Variable	Traditionally Taught Group	Individually Paced Group	df	F
Six-week Technique Scores	29.8704	26.2807	1,36	9.22304*
Fourteen-week Technique Scores	32.8519	28.6140	1,36	9.12376*
Speed Scores	19.4000	18.0421	1,36	.016538
Errors	12.1667	6.5474	1,36	1.07884

*Significant at the .05 level of confidence

The sixth null hypothesis was rejected because a significant difference was found between groups. The males in the traditionally taught group achieved significantly higher scores on both the six-week technique evaluation and the fourteen-week technique evaluation than the male students in the individually paced group. However, no significant difference was found between the groups on the variables of speed or errors.

In this study, the male students achieved higher technique skills when given traditional instruction rather than individually paced instruction. However, speed and accuracy skill were developed equally well in either treatment.

Hypothesis 7: There will be no difference in achievement between female students taught by the traditional teaching techniques and materials and female students taught by the individually paced instructional techniques and materials.

Female students in both groups were compared using a multivariate analysis of variance on the four criterion variables simultaneously. The tests and their levels of significance are presented in Table XV and show there was a significant difference in achievement between the groups. Because there was a significant difference in achievement between the female students in the control group and the female students in the experimental group, the seventh null hypothesis was rejected. The mean scores of the criterion variables, as well as F values of the univariate analyses are presented in Table XVI.

TABLE XV

MANOVA SIGNIFICANCE TESTS: OVERALL ACHIEVEMENT FOR FEMALE STUDENTS BETWEEN TRADITIONALLY TAUGHT AND INDIVIDUALLY PACED GROUPS

Test	df	F
Hotelling-Lawley's Trace	4,16	7.72714*
Pillai's Trace	4,16	7.72714*

*Significant at the .05 level of confidence

TABLE XVI

MEAN SCORES AND UNIVARIATE ANALYSIS OF VARIANCE FOR OVERALL ACHIEVEMENT OF FEMALE STUDENTS

Variable	Traditionally Taught Group	Individually Paced Group	df	F
Six-week Technique Scores	31.1556	25.5641	1,27	23.99421*
Fourteen-week Technique Scores	31.3333	29.5385	1,27	2.86640
Speed Scores	19.7600	16.2154	1,27	4.11838*
Errors	12.5333	7.2923	1,27	1.01272

*Significant at the .05 level of confidence

The female students in the traditionally taught class were using significantly better techniques at the six-week evaluation than the female students in the individually paced class. At the fourteen-week technique evaluation, the mean score was still higher for the control group than for the experimental group although the difference did not reach significance. The mean scores in Table XVI indicate also that the traditionally taught female students were typing at a significantly faster rate of speed than the individually paced female students. Further inspection of the mean scores shows that the control group had more errors than the experimental group, but not significantly more.

It appeared that in the early learning stage, female students acquired greater technique skills in a traditional class rather than an individually paced class; however, by the end of the first semester, the treatment seemed to make no difference in technique skills. This

study also indicated that female students gained greater typewriting speed in the traditional class than in the individually paced class, whereas they achieved equal typewriting control in either class.

Additional Findings

In addition to the analyses made to test the stated hypotheses, a few others were made as a matter of interest; namely, to test for differences between males and females and to test for differences among the judges who did the technique evaluations.

In order to test the hypotheses dealing with differences between groups of male students and female students, data were collected on male and female students in both the experimental and control groups. The stated hypotheses tested for differences between the same sex in different groups; however, there was not a hypothesis concerning a comparison of the achievement of the males with the females within each group. Therefore, a multivariate analysis of variance was performed to test for differences between male and female students in each of the groups. As indicated in Table XVII, there were no differences in achievement between the male and female students in either of the groups. The mean scores on the four criterion variables for each of the groups are presented in Table XVIII.

Additionally, an analysis of variance was performed to determine differences in technique evaluation among the panel of judges and between the control and experimental groups on both the six-week technique evaluations and the fourteen-week technique evaluations. This analysis provides a measure of reliability on the panel of judges.

TABLE XVII

MANOVA SIGNIFICANCE TESTS: OVERALL DIFFERENCE BETWEEN MALE AND FEMALE STUDENTS

Test	df	F
Hotelling-Lawley's Trace	4,51	.26645
Pillai's Trace	4,51	.26645

TABLE XVIII

MEAN SCORES FOR OVERALL ACHIEVEMENT OF MALE AND FEMALE STUDENTS

Variable	Male Students	Female Students
Traditionally Taught		
Six-week Technique Scores	29.8704	31.1556
Fourteen-week Technique Scores	32.8519	31.3333
Speed Scores	19.4000	19.7600
Errors	12.1667	12.5333
Individually Paced		
Six-week Technique Scores	26.2807	25.5641
Fourteen-week Technique Scores	28.6140	29.5385
Speed Scores	18.0421	16.2154
Errors	6.5474	7.2923

As indicated in Table XIX, there was a significant difference between the six-week technique scores in the traditionally taught group and the individually paced group. This difference was in favor of the

traditionally taught class as shown in Table XX.

TABLE XIX

ANOVA TABLE: SIX-WEEK TECHNIQUE SCORES FOR BOTH INSTRUCTIONAL METHODS AS PERCEIVED BY THE THREE JUDGES

Variable	df	F
Instructional Method	1,194	29.38118*
Judges	2,194	45.89120*
Method by Judge	2,194	1.20919

*Significant at the .05 level of confidence

TABLE XX

MEAN SCORES FOR SIX-WEEK TECHNIQUE SCORES FOR INSTRUCTIONAL METHOD BY JUDGES

Method	Judge 1	Judge 2	Judge 3
Traditionally Taught	34.15	32.79	24.42
Individually Paced	27.87	29.22	20.88

As further indicated in Table XIX, there was also a significant difference among the panel of judges in the way they evaluated the groups. Even though all three judges rated the control group significantly higher than the experimental group, it appeared that the judges

did not interpret the evaluation scale on the technique check sheet in the same manner. Table XIX shows that Judge 3 evaluated more critically than Judges 1 and 2.

Table XIX also indicates that there was no significant difference in the evaluations of the judges concerning which group possessed greater technique skills. Each of the three judges agreed that the traditionally taught class had better techniques.

The same kind of analysis was performed on the fourteen-week technique evaluations and the results are reported in Tables XXI and XXII. As with the six-week technique evaluation, there was a significant difference in the technique skills of the two groups in favor of the traditional group. Likewise, Judge 3 evaluated more critically than Judges 1 and 2. However, in this case there was a significant difference in the judgment of the three evaluators as shown by "Method by Judge" in Table XXI. According to Judge 3, there was no significant difference between groups; whereas Judges 1 and 2 agreed that there was a significant difference between groups (Table XXII).

Even though one judge did not rate the traditional group significantly higher on the fourteen-week evaluation, the three judges were in general agreement when both technique evaluations are considered.

The number of students performing at the various levels of achievement for straight-copy speed and straight-copy errors is presented in Tables XXIII and XXIV. These frequency tables are presented for information purposes to show where students are grouped in both the traditionally taught class and the individually paced class.

TABLE XXI

ANOVA TABLE: FOURTEEN-WEEK TECHNIQUE SCORES FOR BOTH INSTRUCTIONAL METHODS AS PERCEIVED BY THE THREE JUDGES

Variable	df	F
Instructional Method	1,194	10.03618*
Judges	2,194	14.85130*
Method by Judge	2,194	4.07233*

*Significant at the .05 level of confidence

TABLE XXII

MEAN SCORES FOR FOURTEEN-WEEK TECHNIQUE SCORES FOR INSTRUCTIONAL METHOD BY JUDGES

Method	Judge 1	Judge 2	Judge 3
Traditionally Taught	33.18	35.42	27.87
Individually Paced	26.15	33.12	27.69

TABLE XXIII

FREQUENCY TABLE ON THE VARIABLE
STRAIGHT-COPY SPEED

GWAM	Traditionally Taught Group	Individually Paced Group	Total
6-11	2	4	6
12-17	7	15	22
18-23	22	9	31
24-29	1	2	3
30-35	0	1	1
36 and above	1	1	2
Totals	33	32	65

TABLE XXIV

FREQUENCY TABLE ON THE VARIABLE
STRAIGHT-COPY ERRORS

Errors	Traditionally Taught Group	Individually Paced Group	Total
0-2	3	6	9
3-5	4	11	15
6-8	7	7	14
9-11	4	4	8
12-14	1	1	2
15-17	6	2	8
18 and above	8	1	9
Totals	33	32	65

Summary

Data were anlayzed comparing the achievement of seventh-grade students in a traditional class with those in an individually paced class in beginning typewriting. The achievement criterion variables were: six-week technique evaluation, fourteen-week technique evaluation, straight-copy speed, and straight-copy errors. The results were:

(1) Students in the traditional class achieved better technique skills, whereas students in the individually paced class achieved greater typewriting control.

(2) High reading ability students learned equally well in either class.

(3) Low reading ability students in the traditionally taught class achieved better technique skills and higher typing speed, while the low reading ability students in the individually paced class typed with greater accuracy.

(4) High mental ability students learned equally well in either class.

(5) Low mental ability students in the traditionally taught class achieved better technique skills and higher typing speed than the low mental ability students in the individually paced class.

(6) Male students in the traditionally taught class achieved better technique skills than the male students in the individually paced class.

(7) Female students in the traditionally taught class used better techniques on the first evaluation than the female students in the individually paced class; they also achieved higher typing speed.

Other findings of the study indicate there was no significant difference in achievement between the males and females in either of the groups.

An analysis was also performed on the technique evaluation of the judges, and it appears that the judges are in general agreement.

The summary, conclusions and recommendations are presented in the following chapter.

CHAPTER IV

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

A summary of this experiment, conclusions drawn from the findings, and recommendations for future research are presented in this chapter.

Summary

The purpose of this experimental study was to compare the achievement of seventh grade students taught by traditional teaching techniques and materials with students taught by individually paced instructional techniques and materials in a beginning typewriting class. The level of achievement was determined by recording a six-week technique evaluation score, a fourteen-week technique evaluation score, a straight-copy speed score, and a straight-copy error score. The independent variables in the study were sex, reading ability, mental ability, and the instructional method.

The instructional method used for the control group was the traditional teaching approach. This method employed teaching techniques commonly practiced by teachers of beginning typewriting such as teacher demonstration, teacher-directed activities, teacher supervision and guidance, and class interaction. The learning activities were group-paced.

The instructional method used for the experimental group was an individually-paced approach. In this study, each student followed the

directions and instructions of his "contract" (see Appendix D and proceeded through the activities in the textbook at his own rate. All practice was done under teacher supervision, and the teacher helped students on an individual basis when they asked for assistance. In addition, the teacher approved the accomplishment of each objective before each individual proceeded with the next activities as instructed in the contracts.

To measure reading ability and mental ability, the standardized Nelson Reading Test and Otis-Lennon Mental Ability Test were used respectively.

Data were collected from a random sample of seventh grade students in Stillwater, Oklahoma, during fall semester 1974. There were 33 students in the control group and 32 students in the experimental group. Both of the groups met for 30 minutes, five days a week for sixteen weeks, and they both used the same textbook.

Analysis of variance was the statistical technique used to test the hypotheses; and .05 level of significance was used in all statistical analyses. The findings of this experimental study were:

(1) Technique scores for both the six-week technique evaluation and the fourteen-week technique evaluation were significantly greater in the traditionally taught group than in the individually paced group. There was no significant difference in achievement on the variable speed between the two groups; however, the individually paced group made significantly fewer errors than the traditionally taught group.

(2) There was no significant difference in achievement between the two groups of high reading ability students.

(3) The low reading ability students in the traditionally taught

group had significantly better techniques at the six-week technique evaluation and fourteen-week technique evaluation than the low reading ability students in the individually paced group. The traditionally taught low reading ability group also typed significantly faster than the individually paced group. However, the individually paced low reading ability group typed with significantly fewer errors than the traditionally taught group.

(4) No significant difference in achievement was found between the groups of high mental ability students.

(5) The traditionaly taught group of low mental ability students had significantly higher achievement on the six-week technique evaluation, the fourteen-week technique evaluation, and speed than the individually paced group. No significant difference was found between these two groups on the variable errors.

(6) The males in the traditionally taught group achieved significantly higher scores on the six-week technique evaluation and the fourteen-week technique evaluation than the males in the individually paced group. No significant difference was found between the groups on the variables speed or errors.

(7) The traditionally taught female students achieved significantly higher scores than the individually paced female students on the six-week technique evaluation and on the variable speed. No significant difference was found between the groups on the fourteen-week technique evaluation or on the variable errors.

Conclusions

In order to generalize from the results of this study, similar conditions would need to exist such as the age-level group, type of

materials used, the length of instruction, and a similar school system.

In addition, the reader should be aware that even though the text was designed with references to proper techniques and with motivational comments written in the margins related to techniques, there was no teacher demonstration of techniques in the individually paced class. Also, there was no teacher observation and feedback emphasizing proper techniques and there were few AIMS specifically related to techniques in the contracts that were being used by the students in the individually paced class. The students in the individually paced class were required to read all directions and received teacher assistance only when they asked for it.

It appears that the low reading ability student and/or the low mental ability student and perhaps the male student contribute to the overall difference in technique achievement in favor of the traditionally taught group. While the female student may acquire better techniques initially in a traditionally taught class, by the end of the semester it is likely there will be no difference in technique achievement regardless of which of these two methods of instruction is used.

While there may be no overall difference in speed achievement between the traditionally taught group and the individually paced group in seventh grade beginning typewriting, students with low reading ability and/or low mental ability may be expected to perform better in a traditionally taught class. Furthermore, female students may be expected to achieve higher speeds in a traditionally taught class.

It appears that students with low reading ability and/or low mental ability need more teacher direction, guidance, and encouragement than do students with high reading ability and/or high mental ability to develop

typewriting speed. In addition, female students seem to type with greater speed in a teacher directed class than in an individually paced class similar to the one in this study. It is understandable that low reading ability students and/or low mental ability students may need more teacher direction than high reading ability and/or high mental ability students; however, further testing is necessary to determine what factors contributed to female students in the traditionally taught class achieving higher speeds than female students in the individually paced class in this study.

Even though each one of the groups compared (male, female, high mental ability, etc.) typed with fewer errors in the individually paced group, it is only the low reading ability students who might be expected to type with signficantly fewer errors. These students may be expected to type accurately because they read slower and perhaps more deliberately than other students. These students probably type on a letter-by-letter response level rather than developing a word response level skill.

In summary, students with low reading ability and/or low mental ability need teacher instruction rather than individually paced materials similar to those used in this study to develop good typewriting techniques. While the low reading ability and/or low mental ability students did learn to type accurately with individually paced instruction, they need teacher direction to develop typewriting speed.

Recommendations

The recommendations for future research are:

(1) Additional research should be conducted in beginning typewriting to compare achievement of middle school students with high

school students using both instructional methods to determine if maturity level would influence achievement in either treatment.

(2) Further research should be done to compare techniques and straight-copy achievement after two semesters, rather than one semester of instruction, using both teaching methods.

(3) Research studies should be conducted to determine the effect of the two instructional methods on a student's ability to solve production problems particularly during the second semester of instruction.

(4) Additional research should be conducted using a combination of traditional teaching techniques and individually paced teaching techniques with one experimental class, along with the same types of experimental and control groups used in this study, to determine if a combination approach will influence the degree of achievement.

(5) This study should be repeated using a longer class period rather than the 30 minutes used in this experiment.

(6) This experimental research should be replicated to see if like results would be obtained from other samples.

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APPENDIX A

TECHNIQUE EVALUATION FORM

Technique Check Sheet

TECHNIQUE CONDITIONERS

RATINGS: Superior ..... 5 points
Satisfactory ..... 3 points
Needs Improvement 1 point

	Rating Periods									
	1	2	3	4	5	6	7	8	9	10
Position at the Machine										
1. Maintains proper distance from machine										
2. Holds body erect, but relaxed										
3. Holds elbows comfortably in toward body										
Quiet Keyboard Control										
1. Holds wrists low—just above frame of machine ...										
2. Keeps wrist movement to a minimum										
3. Moves forearms and elbows very little										
4. Hands vibrate quietly—do not bound in the air ..										
Eyes on the Copy										
1. Holds eyes on copy as carriage is returned										
2. Holds eyes on copy even when tempted to see if an error is made in drill practice										
3. Holds eyes on copy when using service mechanisms that are supposed to be operated by touch										
Right Mind-Set										
1. Shows enthusiasm about learning to typewrite ...										
2. Has a positive attitude toward improvement										
3. Is confident of success										
4. Displays alert attention, but shows no evidence of tenseness in shoulders, arms, and hands										
Total Points										

APPENDIX B

TIMED WRITINGS

(Published by South-Western Publishing Company)

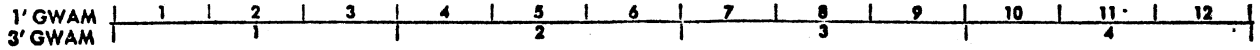
All letters are used.

SI 1.3
AWL 5.2
HFW 85

Have a set time and place for studying. Place the books and papers within easy reach. It will help you to understand and remember what you read if you will outline it or underline each key statement. Most of all, read for meaning and not just to cover so many pages in the book.

Many students have real learning difficulties and don't know why. The trouble may be that they do not use the best study habits. When they realize this, they should ask for help at once, and they may be led to acquire the exact study habits that can lead to good work while still in school and fine success on the job.

GWAM 1'	GWAM 3'	
11	4	44
23	8	48
36	12	52
49	16	56
56	19	59
11	22	62
23	26	66
35	30	70
47	34	74
59	38	78
64	40	80



All letters are used.

SI 1.3
AWL 5.2
HFW 90

Because the main emphasis in this unit has been on the handling of figures and symbols, your speed on regular copy will not have increased greatly. In ten days, however, you may have moved up by a word or two.

To realize your speed goal by the end of this phase of the course, you must work with a little extra effort during these next few days. Do not stop now. Just try quickly to improve your regular work patterns.

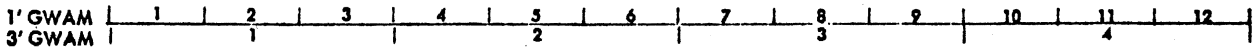
GWAM 1′	GWAM 3′	
11	4	32
23	8	36
35	12	40
42	14	42
11	18	46
23	22	50
35	26	54
42	28	56

1′ GWAM	1	2	3	4	5	6	7	8	9	10	11	12
3′ GWAM		1			2			3			4	

SI 1.1
AWL 4.5
NFW 88

All letters are used.

The copy you have typed up to now has been typed line for line as shown in the book, and the lines have ended at the same point. For the most part, you will still type line for line in this and the next unit of lessons, but the lines may not be the same length. When copy is not in just the form in which it is to be typed, you may have to divide words at the end of some lines; so you must be quick to note the ringing of the bell as the cue to end the line. You must know the size word you may divide and how to divide it.



GWAM		
1'	3'	
11	4	39
23	8	43
35	12	47
47	16	51
59	20	55
71	24	59
83	28	63
94	31	67
105	35	70

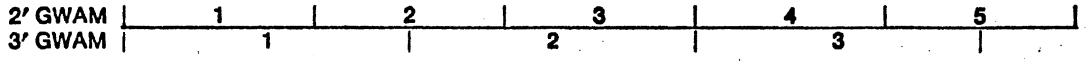
SI 1.3
AWL 5.2
HFW 90

All letters are used.

We must attempt to do the little things that come up every day just as if we think them duties of much importance. Little things may make doing something very big quite easy later. It is so in your learning effort now.

There is a huge difference between doing the work right and doing it just about right. If you expect to move up to a fine job, just about right is not good enough. Recognize this, and begin to perfect your work habits.

GWAM	2′	3′
4	6	32
9	3	36
14	10	39
19	13	42
22	15	44
26	18	47
31	21	50
36	24	54
41	28	57
44	29	59



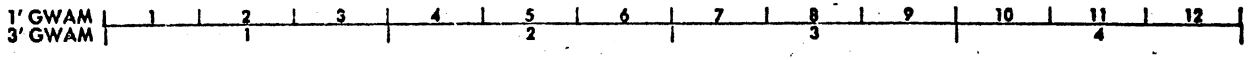
SI 1.3
AWL 5.2
HFW 85

All letters are used.

People must get along with others because they live in a community and "no man is an island." It is important, though, for all people to have a place of solitude, an island, where they can be still enough and alone long enough for the tensions of their life to drain out of them.

The island all people need can't be found on known maps. Exploring it must be just in thought, not in fact. It must be a place where people can be still. It may be found in the home, the school, the office, or wherever quiet hours can be known. Those who find their island can realize the restoring power of silence.

GWAM 1′	3′	
11	4	44
24	8	48
36	12	52
49	16	56
56	19	59
12	23	63
24	27	67
37	31	71
50	35	75
62	39	79
64	40	80



APPENDIX C

LETTER AND PERMISSION SLIP

Stillwater Public Schools
314 SOUTH LEWIS
Stillwater, Oklahoma 74074

August 12, 1974

Dear Parents:

This fall, Beginning Typewriting will be offered to 90 seventh grade students. These 90 students were randomly selected from all the seventh graders that had enrolled at the Stillwater Middle School by August 12.

Students participating in this project will be transported by bus to the College of Business Administration Building on the Oklahoma State University Campus for instruction. The classes will meet five days a week with 30 minutes of actual classroom time each day. All materials will be furnished and there will be no homework. The instructor for this class is an experienced classroom teacher with a Master's degree in Business Education.

Your child has been one of the 90 seventh grade students randomly selected for this project. If he chooses to enroll in this class, Beginning Typewriting will be substituted for one of his previously selected electives. In order for your child to participate in this program, it will be necessary for you to sign the enclosed permission slip. Your child should take this signed authorization to the Middle School on Tuesday, August 20, at 10 a.m.

If you have any questions regarding this project, please call me at 372-4650, or Jeanine Rhea at 377-7821.

Sincerely,

Kenneth Muncy

Ken Muncy
Principal

enclosure

_____ has my permission to participate in the Typewriting Program to be conducted at Oklahoma State University from August 22, to December 20, 1974. It is my understanding that he will be transported to the College of Business Administration Building in a Stillwater Public School Bus. It is also agreed that my child may participate in the testing program involved with this course.

_____

(Parent or Guardian)

_____

(Date)

RETURN TO: Stillwater Middle School
August 20, 1974
10 a.m.

or

MAIL TO: Jeanine Rhea
2224 W. Sunset Drive
Stillwater, OK

APPENDIX D

CONTRACTS

CONTRACT No. 1

Know all Men by these Presents,

THAT _____ hereinafter called The Trainee

AND _____ hereinafter called The Teacher

DO HEREBY AGREE AND PROMISE AS FOLLOWS, TO WIT:

Section 1. The Trainee will apply unstinting effort while doing the first Fifty (50) Applied Instructional Modules (AIMS) of VOLUME ONE of TYPING 300, so that upon executing the tests in AIM 49 and AIM 50 The Trainee will be able--

a. To name and to use correctly all the principal parts of the typewriter; and

b. To operate the first three rows of keys and spacebar by touch (without looking at the machine or fingers); and

c. To type not less than 25 words a minute for 2 minutes within 4 errors while copying an easy alphabetic paragraph line for line; and

d. To center material horizontally on the page; and

e. To center material vertically on the page; and

f. To make all basic machine adjustments, including the setting of margin stops, linespacing, paper guide, etc.; and

g. To maintain good posture, as shown on page 4; and

h. To supervise his/her own work schedule while working independently of other Trainees, thereby controlling his/her own progress and advancement.

Section 2. The Teacher will, upon request, help The Trainee in every way possible so that The Trainee will assuredly achieve the goals cited in Section 1 above; and further, when The Trainee has completed all assignments as designated on the following pages of This Contract, then the Teacher will designate The Trainee as follows:

"Superb," if This Contract is completed in 25 or fewer periods.
"Excellent," if This Contract is completed in 26-30 periods.
"Superior," if This Contract is completed in 31-40 periods.
"Satisfactory," if This Contract is completed in 41 or more periods.

In Witness Whereof, we have hereunto set our names on this _____ day of _____ in the year of one thousand nine hundred and _____.

_____ _____

The Trainee The Teacher

GUIDE LINES

1. All practice must be done under Teacher supervision.
2. Good posture and correct technique is used always.
3. Teacher will help Trainee whenever Trainee requests.
4. Place check mark in box as assignment is completed.
5. Never pass a "Teacher OK" line without initials and approval to continue.

Page	Assignment
	AIM 1: MACHINE PARTS
2	☐ Teacher will help
3	☐ Set carriage at 50
	☐ Set guide as directed
	☐ Insert paper (steps 1-6)
	☐ Set margins for Line 40
4	☐ Set spacing at "single"
	☐ Review pages 2-4 again
	AIM 2: BASIC POSITIONS
4	☐ Sit like pictured typist
5	☐ Put hands on home keys
	☐ Do space bar drill twice
	☐ Do returning drill twice
	☐ Do stroking drill once
6	☐ Do F J drill as shown
	☐ Do D K drill as shown
	☐ Do S L drill as shown
	☐ Do A ; drill as shown
	☐ Get Teacher OK _____
	PREP AIM: WORKBOOK RECORDS
-	☐ Read WB (workbook) ii
-	☐ Write heading, WB 1
-	☐ Write heading, WB 2
-	☐ Give WB pages ii, 1, 2
-	to Teacher to save
-	☐ Do Learning Guide, WB 3
-	☐ Do Learning Guide, WB 4
	☐ Get Teacher OK _____
	AIM 3: TYPE 60 STROKES IN 1 MINUTE ON 8 KEYS
6	☐ Type lines 1-3 as shown
7	☐ Type lines 4-21 as shown
	☐ Type lines 22-23 within 1 min.; Teacher times
	☐ Get Teacher OK _____
	AIM 4: 60/1 MINUTE/10 KEYS
8	☐ Lines 1-2 twice each
	☐ E Lines 3-5 three each
	☐ U Lines 6-8 three each
	☐ Lines 9-10 twice each
	☐ TW Lines 11-12 in 1 min. (Teacher will show how to time your work)
	☐ Get Teacher OK _____

Page	Assignment
	PREP AIM: PACING
-	☐ Read WB 5-6
-	☐ Practice pacing with a
-	classmate at 15 wam on
-	first 6 lines, WB 5
-	☐ Get Teacher OK _____
	AIM 5: 65/1 MINUTE/10 KEYS
9	☐ Review lines 1-2 twice
	☐ Pretest: Lines 3-4 in 1 minute; spot errors
	☐ Practice: Lines 5-14 two times each--extras for errors, as directed
	☐ Post-test: Lines 3-4 in 1 minute (try twice)
	AIM 6: 65/1 MINUTE/11 KEYS
10	☐ Review lines 1-2 twice
	☐ G Lines 3-5 three each
	☐ Shift Key Lines 6-8 three times each
	☐ Lines 9-10 twice each
	☐ TW Lines 11-12 in 1 min.

If you don't make goal, do pacing practice on "After AIM 6 drills" on WB 5 at 15 wam.

☐ Get Teacher OK _____

	AIM 7: 70/1 MINUTE/11 KEYS
11	☐ Review lines 1-2 twice
	☐ Pretest: Lines 3-4 in 1'
	☐ Practice: Lines 5-12 two times each, plus extras
	☐ Post-Test: Lines 3-4/1'
	AIM 8: 70/1 MINUTE/13 KEYS
11	☐ Review lines 1-2 twice
12	☐ R Lines 3-5 three each
	☐ Period key Lines 6-8 three times each
	☐ Lines 9-10 twice each
	☐ TW Lines 11-12 in 1 min.
	☐ Get teacher OK _____
	AIM 9: 75/1 MINUTE/13 KEYS
12	☐ Review lines 1-2 twice
13	☐ Pretest: Lines 3-4 in 1'
	☐ Practice: Lines 5-12 x 2
	☐ Post-Test: Lines 3-4/1'

CHECKUP 1

When AIM 10 (following) is done, ask your Teacher to test you on Lines 11-12 and score your work with you.

Page	Assignment
	AIM 10: 75/1MINUTE/14 KEYS
13	☐ Review lines 1-2 twice
	☐ H Lines 3-5 each 3 x
14	☐ Shift key Lines 6-8 three times each
	☐ Lines 9-10 twice each
	☐ TW Lines 11-12 in 1 min.
	☐ Teacher times you on lines 11-12 for 1 min.
	☐ Get Teacher OK _____

If you don't make goal, do pacing practice on "After AIM 10" drills, WB 5, at 15 wam.

	AIM 11: 80/1 MINUTE/15 KEYS
14	☐ Review lines 1-2 twice
15	☐ I key Lines 3-5 x 3
	☐ Lines 6-8 each 3 times
	☐ Lines 9-10 each 2 times
	☐ TW Lines 11-12 in 1 min.
	AIM 12: 80/1 MINUTE/15 KEYS
15	☐ Review lines 1-2 twice
16	☐ Pretest: Lines 3-4 in 1'
	☐ Practice: Lines 5-15 x 2
	☐ Post-test: Lines 3-4/1'
	☐ Get Teacher OK _____
	AIM 13: 80/1 MINUTE/17 KEYS
16	☐ Review lines 1-2 twice
17	☐ O Lines 3-5 each 3 x
	☐ T Lines 6-8 each 3 x
	☐ Lines 9-11 twice each
	☐ TW Lines 12-13 in 1 min.

If you don't make goal, do pacing practice on "After AIM 13" drills, WB 5, at 20 wam.

	AIM 14: 80/1 MINUTE/19 KEYS
17	☐ Review lines 1-2 twice
18	☐ Study punctuation spacing
	☐ Comma Lines 3-5 x 3
	☐ C key Lines 6-8 x 3
	☐ Lines 9-11 twice each
	☐ TW Lines 12-13 in 1 min.
	☐ Get Teacher OK _____
	PREP AIM: SCORING
-	☐ Do LG on errors, WB 7
-	☐ Do LG on speeds, WB 8
-	☐ Study scoreboard, WB 9
-	☐ Study scoreboard, WB 10
	AIM 15: 32 WORDS IN 2 MIN. WITHIN 4 ERRORS, ON 19 KEYS
18	☐ Review lines 1-2 twice
19	☐ Study: scoring, page 19
	☐ Pretest: Lines 3-4 twice in 2 min. within 4 er.
20	☐ Practice: lines 5-12 x 2
19	☐ Post-test: Lines 3-4 x 2 in 2 min. within 4 er.

Page	Assignment
	AIM 16: 32/2/4 ON 20 KEYS
20	☐ Review lines 1-2 twice
	☐ M key Lines 3-5 x 3
21	☐ Colon Lines 6-8 x 3
	☐ Lines 9-11 twice each
	☐ TW Lines 12-13 twice in 2 min. within 4 errors
	If you don't make goal, do "After AIM 16" pacing drills WB 6 at 20 wam.
	☐ Get Teacher OK _____
	AIM 17: 32/2/4 ON 22 KEYS
21	☐ Review lines 1-2 twice
	☐ W key Lines 3-5 x 3
22	☐ Y key Lines 6-8 x 3
	☐ Lines 9-11 twice each
	☐ TW Lines 12-15 in 1'
	AIM 18: 34/2/4 ON 22 KEYS
22	☐ Review lines 1-2 twice
23	☐ Pretest: Lines 3-5 x 2 within 2 min., 4 er.
	☐ Practice: Lines 6-10 x 2
	☐ Post-test: Lines 3-5 x 2 within 2 min., 4 er.
	☐ Get Teacher OK _____
	AIM 19: 34/2/4 ON 24 KEYS
23	☐ Review lines 1-2 twice
24	☐ V key Lines 3-5 x 3
	☐ N key Lines 6-8 x 3
	☐ Lines 9-11 twice each
	☐ TW Lines 12-14 twice in 2 min. within 4 errors
	If you don't make goal, do "After AIM 19" pacing drills WB 6 at 20 wam.
	CHECKUP 2 When AIM 20 (following) is done, ask your Teacher to test you on Lines 12-17 and score your work with you.
	AIM 20: 34/2/4 ON 26 KEYS
24	☐ Review lines 1-2 twice
25	☐ X key Lines 3-5 x 3
	☐ P key Lines 6-8 x 3
	☐ Lines 9-11 twice each
	☐ TW Lines 12-17 within 2 minutes, 4 errors
	☐ Teacher TW Test
	☐ Get Teacher OK _____
	AIM 21: 36/2/4 ON 26 KEYS
26	☐ Review lines 1-2 twice
	☐ Drills 3-10 twice each
	☐ 1-1-2-2 TW Goal writings
	☐ Get Teacher OK _____

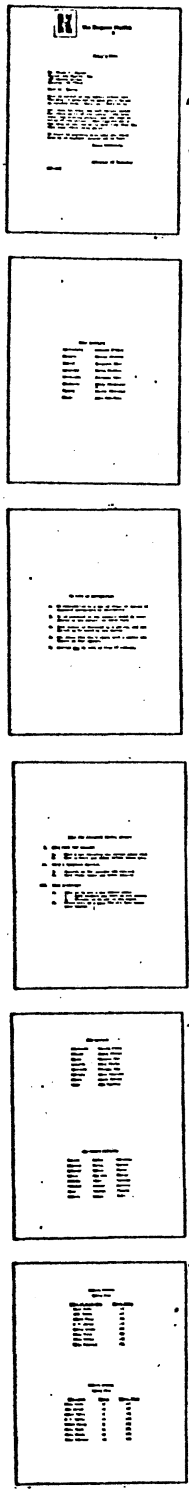
Page	Assignment
	AIM 22: 36/2/4 ON 28 KEYS
27	☐ Review lines 1-2 twice
	☐ B key Lines 3-5 x 3
	☐ / key Lines 6-9 x 3
	☐ Lines 10-12 twice each
	☐ 1-1-2-2 TW Goal writings
	If you don't make goal, repeat lines 4, 5, 8, 9, 11, 12 three times each.
	AIM 23: 38/2/4 ON 28 KEYS
28	☐ Review lines 1-2 twice
	☐ Drills 3-10 twice each
	☐ 1-1-2-2 TW Goal writings
	☐ Get Teacher OK _____
	AIM 24: 38/2/4 ON 30 KEYS
29	☐ Review lines 1-2 twice
	☐ Z key Lines 3-5 x 3
	☐ Hyphen Lines 6-8 x 3
	☐ Drills 9-12 twice each
	☐ 1-1-2-2 TW Goal writings
	AIM 25: 40/2/4 ON 30 KEYS
30	☐ Review lines 1-2 twice
	☐ Drills 2-10 twice each
	☐ 1-1-2-2 TW Goal writings
	☐ Get Teacher OK _____
	AIM 26: 40/2/4 ON 31 KEYS
31	☐ Review lines 1-2 twice
	☐ Q key Lines 3-5 x 3
	☐ ? key Lines 6-8 x 3
	☐ Study hyphen usages
	☐ 1-1-2-2 TW Goal writings
	AIM 27: 40/2/4 ON 31 KEYS
32	☐ Review lines 1-2 twice
	☐ Drills 3-12 twice each
	☐ 1-1-2-2 TW Goal writings
	If you don't finish in 2 minutes, repeat lines 8-12 three times; if you make more than 4 errors, repeat lines 3-7 three times. Then try the 2-minute writing again.
	AIM 28: 40/2/4 ON 31 KEYS
33	☐ Review lines 1-2 twice
	☐ Drills 3-12 twice each
	☐ 1-1-2-2 TW Goal writings
	If necessary, repeat 3-7 three times for accuracy or 8-12 three times for speed; repeat 2' timing.
	AIM 29: TEST PREVIEW
34	☐ Review lines 1-2 twice
	☐ Ask Teacher to give you 2' TW on lines 3-16 and

Page	Assignment
34	score your paper.
	☐ Discuss: should you repeat speed and/or accuracy drills in AIMs 27-28 or are you ready for Checkup 3?
	☐ Get Teacher OK _____
	CHECKUP 3 **AIM 30 TEST**
35	☐ Review lines 1-2 twice
	☐ Ask Teacher to test you for 2 minutes on lines 3-16. Grade your work.
	☐ Get Teacher OK _____
	AIM 31: 41/2/4
37	☐ Preview lines 1-2 twice
	☐ Pretest: Lines 3-7 once
	☐ Practice: Copies 3 and 1 of 8-11 or 12-15
	☐ Post-test: 1-1-2-2 Goal writings, Lines 3-7
	AIM 32: 42/2/4
38	☐ Preview lines 1-2 twice
	☐ Pretest: Lines 3-7 once
	☐ Practice: Copies 3/1 of Lines 8-11 or 12-15
	☐ Post-test: 1-1-2-2 Goal writings, Lines 3-7
	If you don't make goal, recycle lines 8-11 and 12-15 to increase skill.
	☐ Get Teacher OK _____
	AIM 33: 43/2/4
38	☐ Preview lines 1-2 twice
39	☐ Pretest: Lines 3-7 once
	☐ Practice: Copies 3 and 1 of 8-11 or 12-15
	☐ Post-test: 1-1-2-2 Goal writings, Lines 3-7
	☐ Recycle if necessary
	PREP AIM: HORIZONTALS
-	☐ Do Learning Guide, WB
-	15 and 16.
-	☐ Get Teacher OK _____
	AIM 34: HORIZ. CENTERING
39	☐ Preview lines 1-3 x 3
	☐ Study tab stops, do
40	"Practice" exercise
	☐ Study horiz. centering.
	☐ Do Job 34.1 (0 aligns)
	☐ Do Job 34.2 (L aligns)
	☐ Do Job 34.3 (R aligns)
	☐ Get Teacher OK _____

Page	Assignment
	AIM 35: BLOCK CENTERING
40	☐ Preview lines 1-3 x 3
41	☐ Study block centering
	☐ Do Job 35.1 (T aligns)
	☐ Do Job 35.2 (R aligns)
	☐ Do Job 35.3 (S aligns)
	AIM 36: 44/2/4
41	☐ Preview lines 1-2 twice
	☐ Pretest: Lines 3-8 once
42	☐ Practice: Copies 3/1 on lines 9-12 and 13-16
41	☐ Post-test 1-1-2-2 Goal writings, Lines 3-8
	☐ Get Teacher OK _____
	AIM 37: 45/2/4
42	☐ Preview lines 1-3 twice
	☐ Pretest: Lines 4-9 once
43	☐ Practice: Copies 3/1 on lines 10-13 and 14-17
42	☐ Post-test: 1-1-2-2 Goal writings, Lines 4-9
	If you don't make goal, recycle lines 10-13 and 14-17 to increase skill.
	PREP AIM: VERTICALS
-	☐ Do Learning Guide, WB
-	17 and 18
-	☐ Get Teacher OK _____
	AIM 38: VERT. CENTERING
43	☐ Preview lines 1-3 x 3
	☐ Study vertical spacing
	☐ Study vertical centering
44	☐ Do Job 38.1 and check
	AIM 39: USING ALL CAPS
44	☐ Preview lines 1-3 x 3
	☐ Study typing all caps
	☐ Practice shift lock
	☐ Do Job 39.1 and check
	☐ Get Teacher OK _____
	CHECKUP 4
	After AIM 40 is done, ask your teacher to test you on Lines 4-9 and rerun of the centering task in Job 39.1.
	AIM 40: 46/2/4
45	☐ Preview lines 1-3 x 2
	☐ Pretest: Lines 4-9 once
	☐ Practice: Lines 10-17
	☐ Post-test: 1-1-2-2 Goal writings, Lines 4-9
	☐ Teacher 2' TW Test
	☐ Teacher Job 39.1 Test
	☐ Get Teacher OK _____

Page	Assignment
	AIM 41: 47/2/4
45	☐ Preview lines 1-3 twice
46	☐ Pretest: Lines 4-9 once
	☐ Practice: Lines 11-18
	☐ Post-test: 1-1-2-2 Goal writings, Lines 4-9
	If you don't make goal, do pacing practice for 15 minutes at 25 wam speed on WB 19.
	AIM 42: SPREAD CENTERING
46	☐ Preview lines 1-3 x 3
	☐ Study spread centering
47	☐ Do Job 42.1 and check
	☐ Do Job 42.2 and check
	☐ Get Teacher OK _____
	AIM 43: SPREAD CENTERING
47	☐ Preview lines 1-3 x 3
	☐ Analyze the two Jobs
	☐ Do Job 43.1 and check
	☐ Do Job 43.2 and check
	AIM 44: 48/2/4
48	☐ Preview lines 1-3 twice
	☐ Study paragraph styles
	☐ Pretest: Lines 4-8 once
	☐ Practice: Lines 9-16 on the 3/1 or 1/3 pattern
	☐ Post-test: 1-1-2-2 Goal writing, lines 4-8
	If you don't make goal, do pacing practice for 15 minutes at 25 wam speed on WB 19 or 20.
	PREP AIM: LIKE ENDINGS
-	☐ Do Learning Guide, WB
-	21 and 22
-	☐ Get Teacher OK _____
	AIM 45: 49/2/4
49	☐ Preview lines 1-3 twice
	☐ Study about margin bell
	☐ Pretest: Lines 4-9 once
50	☐ Practice: L.10-18 twice
49	☐ Post-test: 1-1-2-2 Goal writing, lines 4-9
	PREP AIM: DIVIDING WORDS
-	☐ Do Learning Guide, WB
-	23 and 24
-	☐ Get Teacher OK _____
	AIM 46: DIVIDING WORDS
50	☐ Preview lines 1-3 x 3
	☐ Drills 4-6 twice each
	☐ Study division rules
51	☐ Do centering Job 46.1
	☐ Do centering Job 46.2
	☐ Get Teacher OK _____

Page	Assignment
	AIM 47: CENTERING REVIEW
51	☐ Preview lines 1-3 twice
	☐ Drills 4-7 three times
52	☐ Do centering Job 47.1
	☐ Do centering Job 47.2
	☐ Do centering Job 47.3
	AIM 48: 50/2/4
52	☐ Review lines 1-3 twice
	☐ Pretest: Lines 4-8 once
	☐ Practice: Lines 9-16 x 2
	☐ Post-test: 1-1-2-2 Goal writings, lines 4-8
	☐ Get Teacher OK _____
	TEST PREP
	The Prep Test in AIM 49 is an exact match for the test in AIM 50. If you do well in Test Prep 2 (timed writing) and Test Prep 3 (centering), you can be excused from the similar tasks in the AIM 50 test.
	AIM 49: TEST PREP
53	☐ Do Test Prep 1: review objective test, WB 25
	☐ Do Test Prep 2: 2-minute TW on Paragraph 1
	☐ Do Test Prep 2: 2-minute TW on Paragraph 2
	☐ Do Test Prep 3: center task on a full page
	☐ Discuss with Teacher: should you recycle any drills before taking the AIM 50 test? May you be excused from part of AIM 50 test?
	☐ Get Teacher OK _____
	AIM 50: CONTRACT TEST
54	☐ Do Test 2-A: objective test, WB 25-26. Give to Teacher to score.
	☐ Do Test 2-B: 2-minute TW on Paragraph 1
	☐ Do Test 2-B: 2-minute TW on Paragraph 2
	☐ Do Test 2-C: center task on full page (letter I should align all lines)
	☐ Get Teacher OK _____
	CONTRACT CHECKOUT
	The Trainee, having shown the ability to type _____ words a minute and to center lines of material both horizontally and vertically, is hereby advanced to Contract No. 2.
	_____ THE TEACHER



CONTRACT No. 2

Know all Men by these Presents,

THAT _____ having demonstrated the ability to type by touch at the rate of at least 25 words a minute for 2 minutes within 4 errors, is hereby accepted into Contract No. 2 and will be known in it as The Trainee

AND _____, hereinafter called The Teacher,

DO HEREBY AGREE AND PROMISE AS FOLLOWS, TO WIT:

Section 1. The Trainee will apply full personal effort while increasing skill and learning to apply it via Applied Instructional Modules (AIMS) 51-100 of TYPING 300, VOLUME ONE, so that, when This Contract is completed, the Trainee will have demonstrated at least the following capabilities:

a. To type at least 30 words a minute for 4 minutes within 5 errors on printed paragraph copy that, while fairly easy, will require the Trainee to make line-ending decisions on every line; and require the Trainee

b. To operate the machine and all its keys and its principal parts, such as the tabulator, margin release, and the like, wholly by touch; and

c. To type basic enumerations in all common styles; and

d. To type short and average business letters in blocked form, with all parts appropriately spaced and positioned; and

e. To type tabular data in open style, with titles, subtitles, column headings and columns in appropriate display and style; and

f. To conduct his/her work routines efficiently and effectively, independent of the routines of other Trainees, thereby controlling the rate of his/her progress and advancement.

Section 2. The Teacher will, upon request, help The Trainee in every way possible so that The Trainee will assuredly achieve the goals cited in Section 1 above; and further, when The Trainee has completed all assignments as designated on the following pages of This Contract, then the Teacher will designate The Trainee as follows:

"Superb," if This Contract is completed in 25 or fewer periods.
"Excellent," if This Contract is completed in 26-30 periods.
"Superior," if This Contract is completed in 31-40 periods.
"Satisfactory," if This Contract is completed in 41 or more periods.

In Witness Whereof, we have hereunto set our names on this _____ day of _____ in the year of one thousand nine hundred and _____.

_____ _____

The Trainee The Teacher

GUIDE LINES

1. All practice must be done under Teacher supervision.
2. Good posture and correct technique is used always.
3. Teacher will help Trainee whenever Trainee requests.
4. Place check mark in box as assignment is completed.
5. Never pass a "Teacher OK" line without initials and approval to continue.
6. After each TW line is an Rx (remedy) assignment to do if you DIDN'T make the 3-minute TW goal. Put an X (excused) in the box if you achieved the TW goal.

Page	Assignment
56	AIM 51: 75 WORDS IN 3 MIN. WITHIN 5 ERRORS ☐ Warmup lines 1-3 twice ☐ 1 key lines 4-6 twice ☐ 2 key lines 7-9 twice ☐ TW lines 10-18 in 3 min. ☐ Rx: Do "After AIM 51" drills on WB 27 for 10 minutes at 25 wam rate ☐ Get Teacher OK _____
57	AIM 52: 76 / 3 MIN / 5 ERRORS ☐ Warmup lines 1-3 twice ☐ 3 key lines 4-6 twice ☐ 4 key lines 7-9 twice ☐ TW lines 10-17 in 3 min. ☐ Rx: Do "After AIM 52" drills on WB 27 for 10 minutes at 30 wam rate ☐ Get Teacher OK _____
58	AIM 53: 77 / 3 MIN / 5 ERRORS ☐ Warmup lines 1-3 twice ☐ Drills lines 4-7 twice ☐ Drills lines 8-9 twice ☐ TW lines 10-18 in 3 min. ☐ Rx: Type two more copies of lines 4-9, same page.
59	AIM 54: 78 / 3 MIN / 5 ERRORS ☐ Warmup lines 1-3 twice ☐ 7 key lines 4-6 twice ☐ 8 key lines 7-9 twice ☐ TW lines 10-19 in 3 min. ☐ Rx: Do "After AIM 54" drills on WB 27 for 10 minutes at 30 wam rate ☐ Get Teacher OK _____
60	AIM 55: 79 / 3 MIN / 5 ERRORS ☐ Warmup lines 1-3 twice ☐ 9 key lines 4-6 twice ☐ 0 key lines 7-9 twice ☐ TW lines 10-18 in 3 min. ☐ Rx Type two more copies of lines 4-9, same page
61	AIM 56: 80 / 3 MIN / 5 ERRORS ☐ Warmup lines 1-3 twice ☐ Drills lines 4-11 twice ☐ TW lines 12-19 in 3 min. ☐ Rx: Repeat lines 4-11 two more times ☐ Get Teacher OK _____
62	AIM 57: 81 / 3 MIN / 5 ERRORS ☐ Warmup lines 1-3 twice ☐ 5 key lines 4-6 twice ☐ 6 key lines 7-9 twice ☐ TW lines 10-19 in 3 min. ☐ Rx: Do "After AIM 57" drills on WB 28 for 10 min. at 30 wam rate.
63	AIM 58: 82 / 3 MIN / 5 ERRORS ☐ Warmup lines 1-3 twice ☐ ½ key lines 4-6 twice ☐ ¼ key lines 7-9 twice ☐ TW lines 10-19 in 3 min. ☐ Rx: Repeat lines 10-19, typing each line twice ☐ Get Teacher OK _____
64	AIM 59: 83 / 3 MIN / 5 ERRORS ☐ Warmup lines 1-3 twice ☐ Pretest: lines 4-12 once ☐ Practice: lines 13-20 in 3-or-1 practice pattern (directions on page 37) ☐ Post-test: TW lines 4-12 ☐ Rx: 3 copies lines 17-20
65	AIM 60: SPECIAL SPEED DRIVE ☐ Warmup lines 1-3 twice ☐ Step 1: 1-1-1-3-3 TWs ☐ Step 2: type whole line of each word with error ☐ Step 3: 6 words 3 times ☐ Step 4: final 3-min. TW ☐ Get Teacher OK _____
65 66	AIM 61: REVIEW OF BASICS ☐ Warmup lines 1-3 twice ☐ Copy bell-response para. ☐ Do centering Job 61.1 ☐ Do centering Job 61.2
66 67	AIM 62: SPECIAL SPEED DRIVE ☐ Warmup lines 1-3 twice ☐ Step 1: 1-1-1-3-3 TWs ☐ Step 2: words in error ☐ Step 3: 6 words 3 times ☐ Step 4: final 3-min. TW ☐ Get Teacher OK _____

CHECKUP 1

When you have completed AIM 63, including the 1-1-1-3-3 TW sequence at its end, ask your teacher to test you by giving you one more 3-minute writing on lines 10-18.

Page	Assignment
67	AIM 63: 84 / 3 MIN / 5 ERRORS ☐ Warmup lines 1-3 twice ☐ Underscore key Study uses, type 4-6 twice ☐ Apostrophe key Study uses, type 7-9 twice
68	☐ TW lines 10-18 in 3 min. ☐ Teacher-timed repeat on 3-minute TW (Checkup 1) ☐ Get Teacher OK _____
68	AIM 64: 85 / 3 MIN / 5 ERRORS ☐ Warmup lines A-C twice ☐ Warmup line D once ☐ Study "Enumerations" ☐ TW lines 1-10 in 3 min. ☐ Do enumeration Job 64.1
69	AIM 65: SPECIAL SPEED DRIVE ☐ Warmup lines 1-3 twice ☐ Step 1: 1-1-1-3-3 TWs ☐ Step 2: words in error ☐ Step 3: 6 words 3 times ☐ Step 4: final 3-min. TW ☐ Rx: 1 copy of AIM 287 or 294 in Supplement II. ☐ Get Teacher OK _____
69 70	AIM 66: 86 / 3 MIN / 5 ERRORS ☐ Warmup lines 1-3 twice ☐ Parentheses keys Study, type lines 4-7 twice ☐ TW lines 8-17 in 3 min. ☐ Rx: 1 copy of AIM 288 or 295 in Supplement II
70 71	AIM 67: 87 / 3 MIN / 5 ERRORS ☐ Warmup lines A-C twice ☐ Warmup line D once ☐ Study "Bibliography" ☐ TW lines 1-11 in 3 min. ☐ Do enumeration Job 67.1 ☐ Get Teacher OK _____
71	AIM 68: SPECIAL SPEED DRIVE ☐ Warmup lines 1-3 twice ☐ Step 1: 1-1-1-3-3 TWs ☐ Step 2: words in error ☐ Step 3: 6 words 3 times ☐ Step 4: final 3-min. TW ☐ Rx: With line 50, type twice each of the first 10 lines in the TW copy
72	AIM 69: 88 / 3 MIN / 5 ERRORS ☐ Warmup lines 1-3 twice ☐ Study quotation usages ☐ " key lines 4-6 twice ☐ TW lines 7-14 in 3 min. ☐ Rx: lines 7-14 twice each ☐ Get Teacher OK _____

Page	Assignment
	AIM 70: BIBLIOGRAPHY
73	☐ Warmup lines 1-3 twice
72	☐ Quotation rules review
73	☐ Lines 4-6 once
67	☐ Review underscore: type twice lines 4-6, page 67
71	☐ Study bibliography rules
73	☐ Do bibliography Job 70.1
	☐ Review production counts
	AIM 71: 89/3 MIN/5 ERRORS
74	☐ Warmup lines A-C twice
	☐ Warmup Line D once
	☐ TW lines 2-10 in 3 min.
	☐ Do enumeration Job 71.1
	☐ Get Teacher OK _____
	AIM 72: 90/3 MIN/5 ERRORS
74	☐ Warmup lines A-C twice
	☐ Warmup line D once
75	☐ TW lines 2-11 in 3 min.
	☐ Study outline rules
	☐ Do enumeration Job 72.1
	AIM 73: 90/3 MIN/5 ERRORS
76	☐ Warmup lines A-C twice
	☐ Warmup line D once
	☐ TW lines 1-9 in 3 min.
	☐ Study poetry typing
	☐ Do Job 73.2 by the rules
	☐ Do Job 73.3 by the rules
	☐ Get Teacher OK _____

CHECKUP 2

The test prep in AIM 74 is an exact match for the "middle of the contract" checkup test in AIM 75. If you do well in test prep 2 (timed writing) and/or test prep 3 (enumeration), you can be excused from the similar assignments in the AIM 75 test.

	AIM 74: TEST PREP
77	☐ Do Test Prep 1: review objective test, WB 31
	☐ Do Test Prep 2: 3-minute TW: 90/3 min/5 errors
	☐ Do Test Prep 3: center task on a full page
	☐ Discuss with Teacher: should you recycle any drills before taking the AIM 75 test? may you be excused from any parts of AIM 50 test?
	☐ Get Teacher OK _____
	AIM 75: PART THREE TEST
78	☐ Do Test 3-A: objective test, WB 31-32. Give to Teacher to score.
	☐ Do Test 3-B: 3-minute TW on line 50, spacing 2
	☐ Go to next column

Page	Assignment
	AIM 75 (Continued)
78	☐ Do Test 3-C: center task on a full sheet.
	☐ Get Teacher OK _____
	AIM 76: SPECIAL SPEED DRIVE
80	☐ Warmup lines 1-4 x 3
	☐ Step 1: 4-minute TW. If you make goal (135 words in 4 minutes within 5 errors), advance to AIM 77. Otherwise:
	☐ Step 2: two 2-minute TWs.
	☐ Step 3: one more line 3 x
	☐ Step 4: final 4-minute TW
	☐ Rx Repeat the warmup
	PREP AIM: LETTER PARTS
-	☐ WB 33-34: detach and review new scoreboards
-	☐ WB 35-36: detach and do LG on letter details
-	☐ WB 37-38: learn to use letter placement guide
-	☐ Get Teacher OK _____
	AIM 77: LETTER INTRODUCTION
81	☐ Read: pica vs. elite
	☐ Read: letter part names
	☐ Read: letter margins
82	☐ Read: letter procedure
	☐ On Workbook 39, copy Job 78 in the 5 steps shown
	☐ Get Teacher OK _____
	AIM 78: 105/4 MIN/5 ERRORS
82	☐ Warmup lines A-C twice
	☐ Warmup line D once
83	☐ TW on Taylor letter page 83 or 84, plain paper
	☐ Do Job 78.1 or Job 78.2 on WB 41 letterhead
	☐ Get Teacher OK _____
	AIM 79: 107/4 MIN/5 ERRORS
85	☐ Warmup lines A-C twice
	☐ Warmup line D once
	☐ TW lines 5-14 in 4 min.
	☐ Do Job 79.1 on WB 43

"OPTIONAL" JOBS

TYPING 300 includes many optional Jobs. They are not required in the AIM in which they appear. They are Jobs you can substitute for other Jobs. For example, if Job 79.1 turns out poorly, you can try optional Job 79.2 and--if it is better--turn it in as a substitute for the poorer Job. It is scored (on WB 34 scoreboard) the same as the Job it follows.

Page	Assignment
	AIM 80: 108/4 MIN/5 ERRORS
86	☐ Warmup lines A-C twice
	☐ Warmup line D once
	☐ TW lines 3-11 in 4 min.
	☐ Do Job 80.1 on WB 47
	☐ Get Teacher OK _____
	AIM 81: SPECIAL SPEED DRIVE
87	☐ Warmup lines 1-4 x 3
	☐ Step 1: 4-minute TW. If you make goal (135/4/5), advance to AIM 82.
	☐ Step 2: two 2-minute TWs
	☐ Step 3: one more line 3 x
	☐ Step 4: final 4-min. TW
	☐ Rx Repeat the warmup
	AIM 82: 109/4 MIN/5 ERRORS
88	☐ Warmup lines A-C twice
	☐ Warmup line D once
	☐ TW lines 8-20 in 4 min.
89	☐ Study "Personal-Business Letters," top, page 89
	☐ Do Job 82.1 from either page 88 or 89
	☐ Get Teacher OK _____
	AIM 83: 110/4 MIN/5 ERRORS
90	☐ Warmup lines A-C twice
	☐ Warmup line D once
	☐ TW lines 8-17 in 4 min.
	☐ Do letter Job 83.1
	AIM 84: 111/4 MIN/5 ERRORS
91	☐ Warmup lines A-C twice
	☐ Warmup line D once
	☐ Read: composing letters
	☐ TW lines 7-16 in 4 min.
	☐ Do Job 84.1, modified as directed in column two
	☐ Get Teacher OK _____

CHECKUP 3

AIM 85 will be used as the next checkup. You may practice the TW and even practice typing the letter (on plain paper, to save the letterhead in the workbook). When you are ready, let your Teacher know, so that you may be officially timed and observed on the timing and letter.

	AIM 85: 112/4 MIN/5 ERRORS
92	☐ Warmup lines A-C twice
	☐ Warmup line D once
	☐ Teacher-timed TW: lines 3-11 in 4 minutes
	☐ Teacher-supervised letter production: Job 85.1 on Workbook 51
	☐ Get Teacher OK _____

Page	Assignment
	AIM 86: SPECIAL SPEED DRIVE
92	☐ Warmup lines 1-4 twice
	☐ Read about the ZIP Code
93	☐ Step 1: 4-minute TW. If you make goal (140/4/5), advance to AIM 87
	☐ Step 2: two 2-minute TWs
	☐ Step 3: one more line 3 x
	☐ Step 4: final 4-min. TW
	☐ Rx: 1 copy of AIM 288 or 295 in Supplement II
	PREP AIM: TABULATION STEPS
-	☐ Do Learning Guide about tables on WB 53-54
-	☐ Get Teacher OK _____
	AIM 87: TABLE INTRODUCTION
93	☐ Warmup lines 1-3 x 3
	☐ Study: parts of a table
94	☐ Study: steps in 2-column table
	☐ Do Job 87.1
	☐ Do Job 87.1 second time
	☐ Get Teacher OK _____
	AIM 88: 113/4 MIN/5 ERRORS
95	☐ Warmup lines 1-4 twice
	☐ TW lines 5-10 twice in 4 min. Leave 1 space between the 2 copies.
	☐ Study: steps in multi-column table
	☐ Do table Job 88.1
	☐ Do Job 88.1 second time
	AIM 89: 114/4 MIN/5 ERRORS
96	☐ Warmup lines 1-4 twice
	☐ TW lines 5-10 twice in 4 min. Spacing 2.
	☐ Study: table subtitles
	☐ Do table Job 89.1
	☐ Get Teacher OK _____
	AIM 90: 115/4 MIN/5 ERRORS
97	☐ Warmup lines 1-4 twice
	☐ Adjust machine for Job 90.1 (to use in TW)
	☐ Rehearse spread-centering of title line
	☐ TW lines 7-19 in 4 min.
	☐ Do table Job 90.1
	AIM 91: SPECIAL SPEED DRIVE
97	☐ Warmup lines 1-4 twice
98	☐ Step 1: 4-minute TW. If you make goal (140/4/5), advance to AIM 92.
	☐ Step 2: two 2-minute TWs
	☐ Step 3: one more line 3 x
	☐ Step 4: final 4-min. TW
	☐ Rx: 1 copy of AIM 287 or 294 in Supplement II.
	☐ Get Teacher OK _____

Page	Assignment
	AIM 92: 116/4 MIN/5 ERRORS
98	☐ Warmup lines 1-4 twice
	☐ TW lines 5-10 twice in 4 min. Spacing 2.
99	☐ Study: blocked column headings
	☐ Do table Job 92.1
	☐ Do Job 92.1 second time
	AIM 93: 117/4 MIN/5 ERRORS
99	☐ Warmup lines 1-4 twice
100	☐ TW lines 5-10 twice in 4 min. Spacing 1.
	☐ Study: centered short column headings
	☐ Do table Job 93.1
	☐ Do table Job 93.1 again
	☐ Get Teacher OK _____
	AIM 94: COLUMN HEADINGS
100	☐ Warmup lines A-C x 3
	☐ Warmup line D once
101	☐ Study: centered long column headings
	☐ Do Job 94.1
	☐ Do Job 94.1 second time
	AIM 95: 119/4 MIN/5 ERRORS
101	☐ Warmup lines 1-4 twice
102	☐ TW lines 5-10 twice in 4 min. Spacing 1
	☐ Study: line grouping to make reading easier
	☐ Do table Job 95.1
	☐ Get Teacher OK _____
	AIM 96: SPECIAL SPEED DRIVE
102	☐ Warmup lines 1-4 twice
103	☐ Step 1: 4-minute TW. If you make goal (140/4/5), advance to AIM 97
	☐ Step 2: two 2-minute TWs
	☐ Step 3: one more line 3 x
	☐ Step 4: final 4-min. TW
	☐ Rx: repeat warmup twice
	AIM 97A: 120/4 MIN/5 ERRORS
103	☐ Warmup lines 1-4 twice
	☐ TW lines 5-14 in 4 min.
	☐ Review pages 81 and 82
104	☐ Study: enclosure notes
	☐ Do letter Job 97.1 on Workbook 55 letterhead
	☐ Get Teacher OK _____
	AIM 97B: 120/4 MIN/5 ERRORS
103	☐ Warmup lines 1-4 twice
	☐ TW lines 5-14 in 4 min. (second time--make it!)
	☐ Review pages 93, 94, 95, and 100
	☐ Do table Job 97.2 (don't consider it optional)

Page	Assignment
	AIM 98A: 120/3 MIN/5 ERRORS
104	☐ Warmup lines 1-4 twice
105	☐ TW lines 5-9 twice in 4 minutes. Spacing 2.
	☐ Do Job 98.1 on plain paper.
	☐ Do Job 98.1 again, this time on Workbook 57.
	AIM 98B: 120/3 MIN/5 ERRORS
104	☐ Warmup lines 1-4 twice
105	☐ TW lines 5-9 twice in 4 minutes. Second time--you should make goal!
	☐ Do Job 98.2 (don't consider it optional)
	☐ Do Job 98.2 second time
.	☐ Get Teacher OK _____

TEST PREP

The test prep in AIM 99 is an exact match for the test in AIM 100. If you do well in the test preps, you can be excused from the similar Jobs in the AIM 100 test.

	AIM 99: TEST PREP
105	☐ Do Test Prep 1: review objective test, WB 61.
106	☐ Do Test Prep 2: 4-minute TW. Goal: 120/3/5
	☐ Do Test Prep 3: letter on Workbook 59
	☐ Do Test Prep 4: table; center on plain paper
	☐ Discuss with Teacher: Should you recycle anything before taking the AIM 100 test? May you be excused from any part of the test?
	☐ Get Teacher OK _____
	AIM 100: CONTRACT TEST
106	☐ Do Test 4-A: objective test on WB 61-62
107	☐ Do Test 4-B: 4-minute timed writing
	☐ Do Test 4-C: blocked letter on WB 63
	☐ Do Test 4-D: open table
	☐ Get Teacher OK _____

CONTRACT CHECKOUT

The Trainee, having the ability to type _____ words a minute and to produce short letters and tables, is hereby advanced to Contract No. 3.

_____ THE TEACHER

Date

VITA[2]

Jeanine Newton Rhea

Candidate for the Degree of

Doctor of Education

Thesis: A COMPARISON OF ACHIEVEMENT OF STUDENTS RECEIVING INDIVIDUALLY PACED INSTRUCTION WITH ACHIEVEMENT OF STUDENTS RECEIVING TRADITIONAL INSTRUCTION IN SEVENTH GRADE BEGINNING TYPEWRITING

Major Field: Business Education

Biographical:

Personal Data: Born April 28, 1938, at Omaha, Nebraska, the daughter of Edgar S. and Mildred I. Newton.

Education: Graduated from Plattsmouth High School at Plattsmouth, Nebraska, in May, 1956. Received the Bachelor of Science in Education degree from the University of Nebraska - Lincoln in May, 1961; received the Master of Science degree from Memphis State University in May, 1969. Completed requirements for the Doctor of Education degree in December, 1975.

Professional Experience: Employed as secretary at Union National Life Insurance in Lincoln, Nebraska, during 1957. Taught in the Business Department at Washington High School, Kansas City, Kansas, from January, 1965 to September, 1967. Taught half-time as a graduate assistant in the Office and Business Education Department at Memphis State University from September, 1967 to June, 1969. Taught as a part-time instructor in the Administrative Services and Business Education Department at Oklahoma State University from September, 1973 to December, 1975.

Professional Organizations: Member of Delta Mu Delta, Beta Gamma Sigma, Delta Pi Epsilon, National Business Education Association, Mountain-Plains Business Education Association, and Oklahoma Business Education Association.