1-1-1983

Practices and requirements in Boston-area word processing centers with curriculum implications.

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PRACTICES AND REQUIREMENTS IN BOSTON-AREA WORD PROCESSING CENTERS WITH CURRICULUM IMPLICATIONS

A Dissertation Presented

By

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Submitted to the Graduate School of the
University of Massachusetts in partial fulfillment
of the requirements for the degree of

DOCTOR OF EDUCATION

February, 1983

School of Education

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ACKNOWLEDGMENTS

My sincere thanks and appreciation are extended to many individuals for their kindness and helpfulness while this research study was underway.

Special acknowledgment is given to Dr. Kenneth Ertel, my adviser, for his promptness, encouragement, and valuable assistance during the preparation and writing of this dissertation. My committee members, Dr. Helen Vaznaian and Dr. Kenneth Parker, also provided support and technical expertise during the formative stages of the study and in evaluating the finished product for which I am very grateful.

This study would not have been possible without the tremendous amount of time given to me by various members of the Boston Chapter of the International Information/Word Processing Association. To the supervisors and secretaries in the companies I visited while collecting data, I am indebted for allowing me to have an enjoyable experience during my visits with them.

To my colleagues and friends in business education, I will always be grateful for their constant support and encouragement.

My sincere appreciation is also extended to my wife Sandra for her patience and cooperation during the period of time required to bring the study to completion.

ABSTRACT

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Word Processing Centers With
Curriculum Implications

February, 1983

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The purpose of this study was to obtain information concerning word processing practices and the skills required for entry-level word processing positions in Boston-area offices. A series of competencies were identified and the participants in the study were asked to indicate the level of importance they attached to each of the competencies and, if important, where they believed the particular competencies should be learned.

During the Spring of 1982, the researcher visited 50 word processing installations at which time interviews were conducted with a supervisor and a secretary in each organization and the necesssary forms were completed by the appropriate individual.

One-half of the organizations used a centralized pattern for organizing their word processing function. Nearly four-fifths of the organizations administered employment tests with the straight-copy typing timed writing being the most common test given. Slightly more than two-thirds of the organizations used some form of work measurement, with the number of pages produced being the most common method. Handwritten copy was the chief method of input. Nearly two-thirds of the supervisors stated that they noted the existence of major weaknesses in dealing with entry-level word processing personnel.

The competencies considered to be important by all supervisors and secretaries and where they should be learned were the ability to: keyboard documents with satisfactory turnaround time--school and job; demonstrate competency in listening skills, following directions--school and job; spell--school; and follow directions from supervisor--school and job. Built-in career paths existed in three-fifths of the firms.

Recommendations included the suggestion that word processing instruction be included in all office education programs and that typing, proofreading, and language-arts skills be emphasized in the preparation of word processing workers.

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C H A P T E R I

INTRODUCTION

In the fewer than twenty years since International Business Machines (IBM) introduced the concept of word processing by placing on the market an automatic typewriter that would correct errors by backspacing and playing out revised copy at rates in excess of 150 words per minute, office procedures have changed phenomenally. No other movement has so affected the office education curriculum as much as word processing.

Broadly defined, word processing refers to the processing of typewritten copy at very rapid rates of speed through the efficient use of people, procedures, and equipment. Many business firms which have converted to the word processing concept have reorganized their office organization so that one group of secretaries performs the typing operations of the business, using automated electronic typing equipment and following definite procedures. Persons working in this group are known as correspondence specialists. Another group of secretaries handles solely administrative tasks such as filing, recordkeeping, the telephone, making travel arrangements, and related non-typing duties. Persons working in this group have come to be known as administrative specialists. In many other organizations, however, multi-functional office personnel handle both typing and non-typing activities, using

word processing equipment to increase production, ensure quality, and improve the paperwork flow of the office.

When the concept of word processing was first introduced, both business persons and educators were somewhat dubious about the advantages claimed for this new order of office organization. Their fears were increased further when early attempts to restructure the office environment for word processing failed.

Eventually, however, with advances in office technoloogy and the realization that each business had to structure its secretarial support in such a way that the needs of its own business were best met, word processing became an accepted way of life in many organizations. According to Romei:

> More than 100 vendors have introduced word processors over the past five years in pursuit of what turned out to be a $2 billion market in 1980. The market is projected to reach $6.8 billion in 1985. . .[1]

Meroney points out the importance of word processing as a system in today's business world:

> In recent years the rising administrative costs of producing business communications have made it necessary to examine alternative methods of producing paperwork in today's office. These alternatives center around different types and levels of office automation. The most popular of these is word processing. Two major factors contribute to this popularity. The first is the technological advances made in equipment manufacturing. The other, which is just as important, is the acceptance of word processing as a system rather than just as a piece of equipment.[2]

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[1]Laura Romei, "WP Market to Triple by 1985," Modern Office Procedures, October, 1981, p. 196.

[2]John W. Meroney, "Procedures, Equipment, and People," The Balance Sheet, November, 1981, p. 60.

It was not until the mid-1970s, though, that business education practices and policies started to be affected by this new concept of office organization, which had come to be known as word processing. In 1974, the Business Education Index[3] started to list a separate subject heading for word processing. This publication listed 4 theses and 15 articles dealing with word processing, which were written in 1974. In a more recent issue of the same publication,[4] 11 theses and 76 articles were listed on word processing.

Egry makes the following suggestion to business educators:

> In order to prepare personnel for entry-level positions in a word processing environment, educators must (1) incorporate word processing concepts and terminology into already existing programs; i.e., typing, shorthand, secretarial office procedures, business English, and office management courses; and (2) implement new word processing curriculum in order to train initial entry-level workers for this new area of specialized communication services.[5]

As more and more office positions require word processing-related competencies, educators will attempt to integrate these skills with existing and newly developed office education programs. This study should aid business teachers, curriculum planners, and vocational guidance workers in ascertaining the desired skills and knowledges necessary for successful employment in word processing positions.

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[3]Business Education Index 1974 (St. Peter, Mn.: Delta Pi Espilon National Office, 1975), p. 100.

[4]Business Education Index 1981 (St. Peter, Mn.: Delta Pi Epsilon National Office, 1982), pp. 80-81.

[5]Anne M. Egry, "Word Processing Personnel," The Changing Office Environment (Reston, Va.: National Business Education Association, 1980), p. 171.

Statement of the Problem

The problem of this study was an analysis of word processing centers in selected business organizations in the Boston, Massachusetts, area. The study attempted to identify the competencies needed by word processing secretaries in those centers and where the competencies should be learned (school, job, or both school and job) as perceived by word processing secretaries and word processing supervisors in these centers.

The study also attempted to gather data concerning the organization of word processing in those businesses which would be helpful to educators in planning office education curricula to meet the needs of persons preparing for word processing positions. Another aspect of the problem also examined career opportunities in the word processing centers as perceived by the word processing secretaries.

Purpose of the Study

The purpose of this study was to obtain data concerning word processing in selected offices in the Boston, Massachusetts, area. The researcher sought data relative to the skills and knowledges required for word processing secretaries and where these skills and knowledges could best be learned, career opportunities in word processing centers, and the general organization of word processing in these offices. Based on this information, the researcher made recommendations to educators interested in developing word processing curricula. The recommendations concerned the competencies

required of word processing secretaries and where each competency could more effectively be taught--in school or on the job.

More specifically, the study attempted to answer the following questions concerning word processing in the organizations surveyed:

1. What were the kinds and numbers of word processing positions available?

2. What types of pre-employment tests were administered to the applicants for positions as word processing secretaries?

3. What kinds of electronic word processing typewriters were used in the word processing centers?

4. What was the number of electronic word processing typewriters used in the word processing centers?

5. What was the organizational pattern for word processing used in these organizations?

6. What techniques of measuring word processing production were used in the word processing centers?

7. What were the kinds of typing jobs processed on electronic word processing equipment?

8. What were the kinds of input received for transcription by the word processing centers?

9. What were the major weaknesses of the word processing secretaries as perceived by the word processing supervisors?

10. How important are certain competencies in each of the following areas; and if important, where should the competencies be learned?

a. typewriting
b. transcription
c. records management

d. telephone
e. office machines and equipment
f. data processing
g. grammatical skills
h. mathematics
i. general clerical skills
j. administrative duties

11. What career opportunities are available for word processing secretaries in the word processing centers as perceived by the word processing secretaries?

Need for the Study

Although there have been several studies completed concerning the organization of word processing in business firms and the skills required of word processing personnel, no formal study of this type has been completed dealing specifically with the Boston, Massachusetts, area.

Witherow recognized the value of this type of research to business educators:

> Many periodicals today devote considerable space to articles about the office of the future, the equipment of the future, and the new personnel needs of the future. So it is only fitting that the secondary schools of this country be concerned about the curriculum needs of students being trained to take their places in the office of the future, using the equipment of the future, and fulfilling the personnel needs of the future. With this thought in mind, the usage of local surveys, interviews, and published research projects to identify desired content changes should be encouraged.[6]

Business educators at all levels--secondary school, private business school, vocational/technical school, and college--are faced

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[6]Mary Witherow, "Utilizing Local Surveys, Interviews, and Published Research Projects to Identify Desired Content Changes," Updating Content in Secondary Business Education (Reston, Va.: National Business Education Association, 1981), p. 90.

with the problem of trying to maintain relevant, up-to-date curricula with increased budget restraints. Many educators are uncertain as to what route they should take in placing word processing into the curriculum. Turner stresses the importance of word processing to business educators:

> The basic challenge to business educators is accepting word processing as a viable part of the business world and a necessary part of the business curriculum. Word processing is a change from the traditional and may require revising teaching methods and attitudes. However, word processing is here to stay; and anyone, regardless of the size of the school, can and should teach the concepts.[7]

Very few, if any, technological advancements have had such an impact on the business education curriculum as has word processing. As Kleinschrod writes, "In the entire history of the office, there has never been a decade of change like the one just past."[8]

As the cost of technology decreases, word processing will be more affordable to a greater number of businesses. The demand for word processing operators is expected to exceed 2.5 million by 1983.[9] And, according to the Bureau of Labor Statistics, the total number of annual job openings projected between now and 1990 for correspondence secretaries (word processors) is 150,000 annually.[10]

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[7]Hilda J. Turner, "Word Processing's Challenge to Business Educators," Business Education Forum, December, 1981, p. 24.

[8]Walter A. Kleinschrod, "Did All That Happen in Only 10 Years?", Administrative Management, January, 1981, p. 26.

[9]"Where to Get Trained Word Processing Operators?", The Office, February, 1982, p. 89.

[10]Claire F. Rosenberg, "Demand for Administrative Support Personnel," The Balance Sheet, December/January, 1981-82, p. 137.

Business educators are primarily responsible for preparing persons for occupational success in various office positions. As more and more positions require word processing-related competencies, it is imperative that the curriculum reflect these requirements. Graduates of such curricula, armed with word processing skills, will be in a highly desirable position when they enter the job market. Yacht says:

> Employment agencies. . .are barraged with requests for word processors; the demand is very high and the supply is small. This is turning out to mean that word processors are high-paid professionals.[11]

The information gathered and presented in this study should be useful to educators, particularly those in the Commonwealth of Massachusetts, in designing curricula to meet personnel requirements of the automated office. Data will also be provided in this study that should be useful to vocational guidance workers in counseling students about the required preparation for word processing occupations.

Limitations

1. Some aspects of the questionnaire completed by the word processing secretaries and word processing supervisors concern opinions of the respondents; therefore, biases of the respondents should be recognized.

2. Other trends and forces are having an impact on the preparation of office workers in addition to word processing. This study is limited to an analysis of word processing occupations with curriculum

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[11]Carol Yacht, "The Office of the Future, Today," The Balance Sheet, September/October, 1981, p. 19.

recommendations applying to the preparation of persons for such occupations.

Delimitations

1. This study is delimited to the 50 business organizations in the Boston, Massachusetts, area who agreed to participate in the study.

2. The study is delimited to word processing secretaries and word processing supervisors.

3. Recommendations are delimited to the information contained in the survey instruments developed for this study.

4. No attempt has been made to solicit the opinions of business education teachers in this study.

5. The study did not attempt to identify job tasks performed by other personnel who are components of the word processing system such as principals and administrative support secretaries.

Definition of Terms

1. Administrative Support Secretary - person responsible for handling all non-typing tasks such as filing, telephone, recordkeeping, mail, travel arrangements, etc., for one or more principals.

2. Centralized word processing - "The concentration of word processing services in a single room or area within an organization."[12]

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[12]Word Processing Glossary (Willow Grove, Pa.: International Information/Word Processing Association, n. d.), p. 6.

3. Decentralized word processing - "The organization of word processing services by department or physical area."[13]

4. Input - "Material entered into a word or data processing system for processing."[14]

5. Output - "The process of transferring information from internal storarge to an external source, to the printing device, or storage medium. Also refers to that information itself."[15]

6. Principal - "Work originator in the office who receives support services from the office staff."[16]

7. Word Processing - "A system of trained personnel, specific procedures, and automated equipment that provides more efficient and economical business communications; usually involves the transformation of information into readable form."[17]

8. Word Processing Center - "Usually refers to word processing facilities located within an enclosed area."[18] Can be centralized or decentralized.

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[13]Ibid., p. 10.

[14]Ibid., p. 15.

[15]Ibid., p. 20.

[16]Cecil, op. cit., p. 97.

[17]Word Processing Glossary, op. cit., p. 27.

[18]Ibid., p. 6.

9. Word Processing Secretary - person responsible for the typing and/or transcription of documents in a word processing center; may perform related office procedures in the word processing environment; also known as correspondence secretary, correspondence specialist, and word processor.

10. Word Processing Supervisor - person responsible for coordinating and directing activities of a group of employees in a word processing center.

11. Word Processing Typewriter - Sometimes referred to as an automatic typewriter, a text-editor, or an electronic typing system; it may be a standalone or interactive system. It has the ability to record typewriter keystrokes on a medium that will allow for corrections, additions, deletions, and other changes in format in the material that has been recorded before the final copy is produced.

12. Word Processor - "An automated system used for generating letters and documents. A word processor stores the documents permitting access for editing, and plays them out according to operator specifications."[19]

Organization of the Study

The paper is organized into five chapters entitled (1) Introduction, (2) Review of Related Literature, (3) Procedures, (4) Findings, and (5) Summary, Conclusions, and Recommendations and Implications. A listing of the materials contained in the Appendix is

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[19]Word Processing Glossary, Third Edition, (Milwaukee: Word Processing Society, Inc., 1982), p. 65.

found in the Table of Contents. The Bibliography lists the sources used in the research of this study.

C H A P T E R I I

REVIEW OF RELATED LITERATURE

The review of literature is divided into three sections: (1) the word processing concept; (2) a review of published writings indicating the opinions of business educators concerning word processing in the curriculum; and (3) a review of studies involving surveys of word processing installations in business organizations.

The Word Processing Concept

In 1964, International Business Machines (IBM) coined the term "word processing," by placing on the market the Magnetic-Tape Selectric Typewriter (MTST). This development was probably the most important event affecting the structure of the business office since Christopher Sholes invented the typewriter nearly one hundred years earlier.

As a result of further developments and refinements in electronic technology in the years that have elapsed since IBM's invention, word processing has become a basic component of administrative office operations. Through price reductions in the cost of word processing equipment, the "concept" has become affordable to even small business offices operating on a limited budget.

Word processing as a system. Since word processing is in a constant state of change as it merges with other sophisticated types of office

systems, a definition of word processing is dependent to a great extent on the user's own circumstances. Broadly defined, however, word processing is the economical production of business documents through the efficient utilization of people, procedures, and equipment.

Kleinschrod, et al., state that most definitions of word processing focus on the following key elements:

> The automation of secretarial work
> The use of machine dictation and automated typing equipment
> Specialization of office functions and tasks
> A systems approach to the communications process
> The transformation of information into readable form through the management of procedures, equipment, and personnel[1]

Typically, office activities have been allowed to remain unstructured for nearly one hundred years, while management has been concerned with the restructuring of other aspects of business operations in order to improve efficiency and increase production. Word processing, therefore, represents a significant transformation from the customary secretarial/clerical office environment.

Word processing can be described as an office system because there are several definite steps that are followed as words are produced to form a complete cycle. Casady identifies each of these steps:

1. Input--originating or creating ideas using words
2. Output--the production of typed or printed copy
3. Revision--the changing, correcting, and editing of copy
4. Distribution--transmitting the copy

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[1]Walter A. Kleinschrod, et al., Word Processing: Operations, Applications, and Administration (Indianapolis: Bobbs-Merrill Educational Publishing, 1980), p. 1.

5. Storage--filing and storing the hard copy as well as the media on which the information has been recorded.[2]

In the word processing system, the chief means of input involves the use of machine dictation equipment. Shorthand and longhand, two customary methods of input used extensively in traditional offices, may also be used. However, the average rates of word origination (dictation) and transcription are faster and thus more economical when machine dictation is used.[3] In many organizations, executives have been reluctant to use machine dictation equipment, thus causing the system to operate at less than maximum efficiency. Training sessions in the organization of input materials and the use of efficient dictation procedures have been found to be effective in many organizations in overcoming the resistance of personnel to using machine dictation equipment.

The most common medium of output in offices has been the typewriter. In the word processing system, electronic text-editing typewriters are used as the chief method of output. The machines have extensive capabilities that allow operators to produce documents, error free, at a very rapid rate of speed. The trend in electronic typewriters is to have some type of visual-display screen above the keyboard that will allow the operator to see the material that has been typed.

The revision stage of the word processing cycle involves changing and correcting material in a document. Revision can also

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[2]Mona Casady, Word Processing Concepts (Cincinnati: South-Western Publishing Company, 1980), p. 17.

[3]Gilbert J. Konkel and Phyllis J. Peck, The Word Processing Explosion (Stamford, Conn.: Office Publications, Inc., 1976), p. 6.

take place while a document is being input when the originator makes corrections during the dictation session.

Generally, however, revision occurs after a document has first been keyboarded. At this time, the word originator may choose to make changes in the document or the keyboarder may make changes as a result of proofreading the copy for errors or content. As the copy has been stored on some type of magnetic medium, revision is a relatively easy process. The keyboarder merely recalls the document that has been stored and makes the required corrections.

On early models of electronic typewriters, the revision process may have involved several steps, depending on the complexity of the change. The visual-display text-editors, however, allow for rapid and easy mass correction of copy.

Distribution refers to transmitting the copy that has been produced on the word processor to the receiver. The most popular methods of distribution have involved company mail services and the United States Postal Service. With the advent of more sophisticated forms of communication, companies have been experimenting with other ways of sending (and receiving) documents.

Communicating word processors, for example, can transmit materials that have been recorded on a magnetic medium in much the same way as a long-distance telephone call is made. Other forms of telecommunications such as the Mailgram, Telex and TWX, and various processes are also being used effectively to distribute documents as rapidly as possible.

The final stage of the word processing cycle involves storage. In word processing, storage involves not only the filing of a hard copy but also the magnetic media on which the hard copy has been stored. Offices are using various micrographic processes to store documents in an attempt to utilize space most effectively.

The amount of paperwork generated by expanded business operations has forced management to consider more effective ways of handling their typing and transcription activities. The cost of the typical business letter is continually escalating. In 1982, the Dartnell Corporation estimated the cost of the average business letter to be $7.11.[4] The major costs in arriving at this figure involve secretarial time, office overhead, and the dictator's time. Productivity in the typical office, too, is minimal in comparison to other aspects of business operations. During the time period between 1968 and 1978, office productivity increased only 4 percent while factory productivity rose 84 percent.[5]

Factors such as these have caused management to look seriously at implementing word processing in an attempt to offset spiraling costs. The need for word processing becomes even more paramount when one considers the improved productivity that can be brought about through the use of word processing equipment and procedures. Maedke, et al., state:

> Users report output has increased by as much as 100 percent with the use of word processors. Other statistics indicate

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[4]"Business Letter Costs Go Up (Again)," Modern Office Procedures, August, 1982, p. 22.

[5]"Today's Changing Office," Journal of Business Education, April, 1981, p. 271.

> one typist with a word processor can do the work of four typists with electric machines.[6]

Historical development of word processing. The invention of the typewriter over one hundred years ago marks the beginning of the processing of words for business purposes. The typewriter changed business practices and procedures greatly and created many new career opportunities for both men and women.

The letter and number positions of the keys on today's word processors are basically the same as those on the typewriter invented by Sholes in 1868, even though there have been some attempts over the years to rearrange the letter sequences in a more scientific fashion. The machine was greatly improved over the years by various manufacturers, although the basic design and features have remained the same.

In 1933, IBM started to market the first electric typewriter; however, in 1960, office manual typewriters still outsold the electric models.[7] In 1961, IBM started to market a more innovative kind of typewriter--one without a movable carriage. It was known as the IBM Selectric and featured a type ball or element which contained all the letter keys.[8]

Automatic typewriters were introduced in World War I. These machines produced copy at very rapid rates of speed and gave the appearance

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[6]William Maedke, et al., Information and Records Management, Second Edition, (Beverly Hills, Cal.: Glencoe Press, 1981), p. 425.

[7]Paula B. Cecil, Word Processing in the Modern Office, Second Edition, (Menlo Park, Cal.: The Benjamin/Cummings Publishing Company, 1980), p. 97.

[8]Kleinschrod, et al., op. cit., p. 4.

that documents were individually typed.[9] The early models used a paper roll or tape and operated much like a player piano. Error correction was a particularly cumbersome process on these early machines. Several companies were manufacturing these typewriters in the 1930s and used a punched paper as the recording medium that would play out copy at 175 words per minute.[10] The machines were used mainly for the production of repetitive form letters.

The first "word processing" typewriter was also introduced by IBM. Known as the Magnetic Tape Selectric Typewriter (MTST), it was first marketed in 1964. The chief feature of the machine was that if an error was made, the typist merely had to backspace and type over the incorrect letter; and it would be replaced by the desired one. It allowed the typist, therefore, to keyboard at rough-draft speeds and not worry about making mistakes. The machine was quite expensive and, as a result, could only be justified in offices where typing volume was so great that the equipment would be cost effective.

A few years later, in 1969, IBM introduced another further development in the typewriter. The machine was similar to the MTST but operated on a magnetic card principle, rather than on magnetic tape. It was known as the IBM Mag Card Selectric Typewriter (MCST). In the early 1970s, IBM further refined its "Mag Card" typewriter which was gaining popularity in all types of businesses.

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[9]"A Decade of WP Progress," Modern Office Procedures, February, 1982, p. 64.

[10]Casady, op. cit., p. 75.

The first visual-display text-editing typewriter was placed on the market by Lexitron in 1971. The significant feature of this system was the cathode-ray tube (CRT) above the keyboard. This allowed the typist to see the material that had been keyboarded and to make corrections expeditiously by simply manipulating the copy on the screen. In the later 1970s, equipment manufacturers started to market computer-based visual-display systems which allowed several keystations to share the intelligence of a central computer. The visual-display word processors have become extremely popular because of their ability to allow the typist to make corrections from the screen. In this way, he/she can see what the final product will look like before it is printed or sent to the system's internal memory system.

A key component in the word processing system is the utilization of dictation/transcription systems. Edison is credited with having developed the first mechanical medium used for the recording and reproducing of sound, while the first commercially usable dictation system was patented by Tainter and Bell in 1881. One of the leaders in today's market of dictation/transcription systems is Dictaphone Corporation, which trademarked its name in 1906.[11]

Early models of dictation equipment were awkward to operate and had poor fidelity qualities which accounted for their slow acceptance in the business office. When IBM introduced the first word processing typewriters in the 1960s, however, it used the marketing strategy that the equipment could be cost justified if used with a combination of

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[11]Kleinschrod, et al., op. cit., p. 5.

dictation equipment in a centralized manner. In this way, the equipment would be available on a company-wide basis; and experienced operators could be trained who would be solely involved with transcribing from dictating machines on the word processing typewriters. Today, this type of arrangement is found in many firms. Other patterns of organization, however, are also being used successfully in order to maximize the efficiency of the dictation/transcription and word processing systems.

Word processing equipment. The equipment used in word processing operations has changed constantly since the MTST was first marketed in 1964. While there are variations within categories of electronic word processing systems, basically the equipment falls into four classifications: (1) intelligent standalone electronic typewriters; (2) standalone word processing systems with magnetic storage; (3) standalone word processing systems with magnetic storage and visual display; and (4) shared-logic word processing systems.

The intelligent standalone electronic typewriters feature a combined keyboard and printer. The printing devices used in these systems are either selectric elements which print out copy at 150 words per minute or print (daisy) wheels which print out copy at approximately 400 words per minute. The storage capacity of these systems varies but is generally less than one page to 30 pages. The method of storage on these typewriters is usually a magnetic medium located in the chassis of the typewriter. Rosen and Hubbard point out some of the uses of machines in this category:

> The memory typewriter and similar machines, such as the Olivetti, Savin, and Olympia 6010, are popular where

> there is a small volume of short documents, especially if letters go through a revision or two, then are printed or filed, or where several short reports are revised at intervals.[12]

Some electronic typing systems, such as QYX, are upgradable as the needs of a particular organization warrant expansion. A few electronic typing systems have a character or partial-line display, sometimes referred to as a "thin window," which allows the typist to view a small portion of the material that has just been keyboarded. Electronic typewriters are becoming increasingly peopular for general office typing applications. Curley believes that by 1983 the electronic typewriter, with memory capability, will capture 40 percent of the market.[13]

The standalone word processing systems with magnetic storage also feature a combined keyboard and printer. However, because the storage media used with these systems are stored outside the machine, they are useful in offices where it is necessary to retain a number of items in "memory." The storage media used in these systems are magnetic cards, cassettes, cartridges, and mini or standard diskettes. The printing devices used with machines in this category are selectric elements or daisy-wheel printers. On some of these systems, the wheel printers are able to print out copy at rates of 600 words per minute bidirectionally.

Equipment in this category is best used for daily correspondence, forms, and repetitive documents. A few of these systems do feature a

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[12]Arnold Rosen and William Hubbard, Word Processing Keyboarding Applications and Exercises (New York: John Wiley & Sons, 1981), p. 3.

[13]Delores Curley, "Word Processing--Teaching Concepts in the Typing Class," AICS Compass, June, 1980, p. 4.

partial-line display; however, most of them are "blind" systems in that they do not allow the operator to view material that has been keyboarded, except on the paper that is in the machine. Kruse cites the disadvantages of this feature:

> With equipment using magnetic tape, magnetic card, cassette, or internal storage, there is a rule of thumb that, if 25 percent or more of a document is changed, it is faster to retype the entire text than to attempt to make correctiosn or changes on the stored files.[14]

The standalone display word processing systems with magnetic storage feature a split keyboard and printer. Because of the visual-display feature and the ability of the operator to simultaneously keyboard and print out material, they have become popular in recent years. Bergerud and Gonzalez list the following features of the display screen found on equipment in this category:

(1) Number of lines presented on the screen are from 1 to 50 at a time

(2) Wraparound capability (visual/width expanse)

(3) Scroll-up characteristics on the screen so that the operator can bring lines into view from the top or bottom of the screen

(4) Visual components: CRT or gas plasma

(5) Visual characteristics:

a. Color (green on black; white on green; orange on black)
b. Nonglare screens[15]

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[14]Benedict Kruse, Word Processing: VDT Systems (Beverly Hills, Cal.: Glencoe Press, 1981), p. 18.

[15]Marly Bergerud and Jean Gonzalez, Word/Information Processing Concepts: Careers, Technology, and Applications (New York: John Wiley & Sons, 1981), p. 82.

The storage media used in these systems are usually mini or standard diskettes. However, cassettes and magnetic cards are used with some of the systems. The printing device used with the printer that is separate from the keyboard and visual-display screen is usually a daisy-wheel printer. The selectric element may also be used. Another printing device which may be used is a thimble which prints out letter-quality copy at rates comparable to the daisy wheel. An ink-jet printer may also be interfaced with this equipment which allows material to be printed out at rates of approximately 2,000 words per minute. Ink-jet printers vary in quality of print.

This equipment is best used in situations requiring heavy editing and revision. It is also useful in typing forms that are comprised of variable data. For example, law offices could use this equipment advantageously by recording legal documents such as wills, trusts, and lease agreements. The standard paragraphs can then be played out with the variable data inserted, thus saving the typist unnecessary keyboarding time.

Some systems in this category are user programmable which allow for additional word processing, records processing, and data processing activities. Also, many of the equipment manufacturers design programs suitable to particular industry applications such as legal, medical, engineering, and so forth. An additional feature of the machines in this category is the shared-printer option which allows for several keystations to "share" a single printer, thus eliminating the expense of requiring additional printers. Word processing systems in this category

have become very popular. One recent study reported that 39.9 percent of the responding firms indicated they use this type of equipment.[16]

Shared-logic word processing systems, sometimes referred to as shared data-base systems, feature several terminals which "share" the logic/intelligence and the storage capacity of one central processing unit (CPU). Nearly all systems in this category offer visual display. Cecil offers the following suggestion in considering word processing equipment:

> A firm that has two or more individuals who prepare the same documents or work together at the same location might consider having two typing stations share the microprocessor or minicomputer. This saves the cost of two additional units and time that normally would be devoted to handling media and paper. This category is expanding, particularly for narrative text and longer documents.[17]

Several types of printing devices are available with shared-logic systems including the daisy wheel and thimble printers. A dot matrix printer is also available which forms characters to be printed by a series of wires being pushed together. It is useful when a high rate of speed can be sacrificed for quality of print. Laser printers use a beam of pure red light which has the capability of carrying millions of messages at one time. Fiber optics is another kind of printing mechanism consisting of smooth glass-like thin tubes which send a light source generated from electric power.[18] According to Bergerud and Gonzalez,

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[16]Frederick W. Miller and Raymond S. Winkler, "WP Salary Increases Range from 3.5 to 39 Percent," Infosystems, June, 1982, p. 56.

[17]Paula B. Cecil, Management of Word Processing Operations (Menlo Park, Cal.: The Benjamin/Cummings Publishing Company, 1980), p. 192.

[18]Bergerud and Gonzalez, op. cit., p. 364.

"Lasers and fiber optics are creating high-quality documents at greater speeds and reducing the cost of word/information processing."[19] In considering printers to be used in conjunction with word processing systems, it is important to consider speed and quality of output as related to the particular user requirements.

Diskettes and magnetic tape may also be used as storage devices in conjunction with word processing systems. Hard discs, traditionally used in data processing and having a storage capacity of approximately 500 pages, may also be used.

Shared-logic systems are most advantageous when the typing work involves heavy editing and much variable data. Because each keystation has access to a central data base, this system does offer more capability than the systems previously mentioned. Also, it is possible to interface the shared-logic systems with computers, photocomposers, and printers at other lcoations. Due to the advanced state-of-the-art technology of these systems, obsolescense is deferred.

Other recent developments in word processing technology include distributed-logic word processing systems in which intelligence is distributed among the various stations that comprise the system, computer word processors which are capable of handling regular data-processing activities, and time-sharing word processing systems, in which users at remote locations are allowed to share the costs of a computer by communicating through a telephone network system.

The long-range impact of the low-priced personal computers recently introduced by several vendors and easily capable of handling

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[19]Bergerud and Gonzalez, op. cit., p. 100.

word processing functions is still unknown. Undoubtedly, however, multi-function workstations will be found on the desk of most professional and managerial personnel in the not-too-distant future.

While an organization must consider the relative merits of particular word processing systems in their own situations, all categories of word processing systems have certain features that will increase typewriting production rates in the office. Initial document creation, for example, is speeded up 30 to 50 percent as the operators are able to input material at rough-draft rates. Also, formatting and repetitive document preparation, which accounts for 30 to 40 percent of all office typing activities, requires up to 90 percent fewer strokes when word processing systems are used. The excellent document quality and very rapid output speeds are inherent advantages found in word processing systems also.

The structure of word processing. When IBM first introduced the concept of word processing in 1964, it also introduced a new system of office organization in order to utilize the expensive equipment involved in the most cost-effective manner possible. This new order of office organization was quite different from the typical office in which one individual (or group) performed both typing and non-typing related tasks. IBM advocated the concept of separating the correspondence activities from the administrative activities of the office.

Under this arrangement, correspondence specialists handle all typing activities in a "correspondence center" utilizing word processing equipment, while administrative specialists handle all the non-typing activities such as filing, recordkeeping, telephoning, and related tasks.

The concept was based on the principle that if persons were permitted to specialize in areas that best suited their own talents and abilities, production would increase; and, therefore, office costs would decrease or at least level off.

Many organizations found this arrangement satisfactory while others faced problems in implementing the new structure. Some executives resented giving up their "private secretary" and, in turn, being serviced by a "pool." Some secretaries found the centers dehumanizing because of the rigidity of the work environment and the lack of variety in job tasks.

As word processing equipment became more sophisticated and its benefits realized by more and more businesses, new forms of organizing correspondence/administrative support functions were developed by various businesses to meet their own particular needs. A task-rotation system of cross training whereby operators are trained to handle both correspondence and administrative activities is an example of one arrangement that has been found to be an effective way of reorganizing the office structure.[20]

Decentralized word processing also divides the duties of the office personnel into correspondence and administrative specializations but on a small scale. The "mini-centers" or satellites are intended to serve individual departments within the company rather than to serve the entire organization.

In other businesses, word processing is organized according to an augmented mode. Here, traditional secretaries still perform typing and

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[20]Kleinschrod, et al., op. cit., p. 77.

administrative tasks for principals on a one-to-one basis. A "word processing center" exists in addition, however, which is used by the entire organization for extensive typing projects.

Miller and Winkler recently found a mixture of organizational patterns for word processing in a national study:

> . . .they have neither separate word processing departments, not centralized WP departments. They noted that the word processing function has been integrated into the current job functions such as secrtary, administrative assistant, clerk, technical writer, analyst, and other similar job titles.[21]

Word processing offers definite career paths that were not possible in the traditional office arrangement. Through the specialization of secretarial-support services, persons entering word processing occupations are able to make maximum use of their talents, interests, and abilities.

Implementing Word Processing. As an organization considers the possibility of converting its office operations to the word processing concept, preliminary planning is necessary in order to determine the feasibility of word processing in the particular organization. Formally known as a feasibility study, such an analysis will aid in determining the design of the proposed system, the kind of equipment that will be used, the organization of personnel, and the development of a word processing center.

Meroney cites the need for such a study:

> Every company or organization is structured differently; therefore, their need and applications for word processing are unique. A feasibility study is the only method by which an organization can accurately assess the needs,

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[21]Miller and Winkler, op. cit., p. 56.

applications, and potential benefits and cost effectiveness of word processing.[22]

When the decision is made to study the possibility of utilizing word processing in an organization, a planning committee is established in order to implement the feasibility study. It is important at this time to secure a definite commitment from top management. If the results of the feasibility study indicate that word processing should be implemented in the organization, the secretarial structure of the firm will, in all probability, be realigned.

The committee will also determine who will conduct the feasibility study. Several options are available including equipment vendors, outside consultants, or internal specialists. Each option would have certain advantages and disadvantages which should be considered by the committee. At this point it would be wise to develop a definite timetable with target dates for completion of various components of the study.

The actual analysis of present operations would involve questionnaires, sampling of secretarial activities, interviews with principals and secretarial personnel, and checklists and activity logs of daily work. Maedke, et al., believe the feasibility study should determine the following:

1. The kinds of documents being typed and the volume
2. The need for communicating word processing
3. The other functions that can be combined with word processing such as optical scanning, data entry, and photocomposition

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[22]John W. Meroney, "Word Processing Feasibility Studies: The Process of Discovery," Information and Records Management, July, 1981, p. 18.

4. The recommendations of principals and secretaries concerning word processing.[23]

The end result of the study should be a comparison of present costs of office operations with those of a proposed word processing system. Quible suggests applying the following formula for determining the financial cost of current typing/transcription activities with the cost of the proposed word processing system: "Input costs + output costs + equipment costs = costs of the system."[24] While there are many economical advantages that have been cited for using word processing equipment, the cost saving per page for offices who covert standard electric typewriters to automated typewriters is from one to two dollars.[25]

At this point, the organization would decide on the design of the word processing system which would include the extent to which office operations would be automated and the structure of the new organizational pattern. Also included would be the procurement of equipment and the determination of whether such equipment should be leased, rented, or purchased outright. Plans and procedure for evaluating word processing, designing procedures manuals, and determining work standards and control techniques would also be established at this time.

Umberger emphasizes the importance of planning:

> . . .advance planning always pays off, but in the case of word processing, where there is advanced technology,

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[23]Maedke, op. cit., p. 436.

[24]Zane K. Quible, Administrative Office Management, Second Edition, (Cambridge, Mass.: Winthrop Publishers, Inc., 1980), p. 185.

[25]Kleinschrod, et al., op. cit., p. 9.

multiple vendors, and potentially threatening changes to the office social structure, it is essential.[26]

The Future of Word Processing. Word processing has revolutionized methods of handling business paperwork in offices throughout the country within the past decade. It has been estimated that the industry has grown nearly 40 percent a year during the years between 1970 and 1980.[27]

Predictions for the future include that by 1985 1.5 million word processing units will be added to the over one million units that have already been installed in offices. It is also expected that the demand for word processing operators will exceed 2.5 million individuals by 1983.[28]

Administrative managers will be increasingly concerned with planning office operations and integrating word processing equipment, procedures, and personnel with more sophisticated office systems such as data processing, micrographics, reprographics, telecommunications, and other advanced office technologies that have not yet been developed. Flexibility and adaptability are essential requirements of those concerned with designing systems for the office of the future.

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[26]Daniel W. Umberger, "Plan Ahead When Considering a Word Processing Operation," The Office, June, 1981, p. 122.

[27]Kleinschrod, op. cit., p. 236.

[28]"Today's Changing Office," loc. cit.

Lindsey and Costain believe, "The $5,000 to $15,000 pure word processing workstations will have penetrated 30 percent of the U.S. heavy duty typewriter installed base by 1986. . ."[29]

Word Processing in the Curriculum

Even though word processing was first introduced in 1964, it was not until the early 1970s that business education literature indicated concern for implementing word processing concepts in office education programs. Teachers have been concerned with how to handle the various aspects of the word processing concept in preparing students for positions in the increasing number of offices that utilize word processing. While it has been obvious that education must play a role--an important role--in preparing persons for word processing positions, the exact nature and extent of that role is multifaceted.

Kutie pointed out:

> Only now as the eighties are underway are business education instructors beginning to recover from the shocking impact word processing has made on the business office. Most business educators can now use the term freely without their innate defense mechanisms rising to resist any change in the status quo of hallowed business education subject matter and teaching methods.[30]

Word processing managers believe that basic skills training is more important than knowledge of operation of sophisticated word

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[29]Clifford M. Lindsey and Robert G. Costain, "Word Processing in Transition," Modern Office Procedures, June, 1982, p. 52.

[30]Rita C. Kutie, "Beyond Word Processing," Business Education Forum, March, 1982, p. 23.

processing systems. Many units of instruction found in existing business education curricula could, therefore, be revised and/or updated to reflect current practices found in word processing centers. Johnson believes that there are several ways of approaching curriculum development in word processing:

> There is a large span of curriculum development possibilities--from very little change and/or equipment, to an existing program with emphasis on different things, to a completely separate skill-development program with extensive equipment.[31]

Basic Skills. Much has been written about the qualifications and skills that are necessary for persons entering word processing occupations. Most of these publications emphasize the basic skills as essential components for successful working experiences in a word processing installation.

Typical of this trend of thought is the following statement made by Fields, "Many supervisors will state that they would rather have personnel who are good in grammar with average productivity than vice versa."[32]

In order to produce documents of acceptable quality through word processing equipment, the machine operator must still possess superior skills in grammar, punctuation, spelling, sentence structure, and the related intricacies of the English language. The mastery of these

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[31]Arlene Johnson, "Word Processing: Your Curriculum is Showing!," Business Education Forum, March, 1976, p. 8.

[32]Joyce S. Fields, "Word Processing: Teach Concepts, Not Operation," The Office, June, 1982, p. 32.

skills must also be the goal of students preparing for word processing occupations.

Meroney supports this belief when he says, "Grammatical skills are a key qualification for any applicant."[33]

A workable understanding of basic language skills can be taught in business communications courses. Later, these same skills can be reviewed, refined, and integrated into the production of usable copy in machine transcription courses. Since machine dictation is the recommended method of input in word processing centers, students will, through such experiences, have developed two vital competencies that function in word processing occupations.

Curley contends:

> Those students enrolled in machine transcription courses should have their transcription skills polished in the intensive manner of shorthand students. Perhaps, when educators train all students in these areas to the extent that shorthand students are now trained, then business will not require shorthand skills as a entry requirement for so many secretarial positions.[34]

Materials designed primarily to develop skills in the language arts areas and geared toward word processing education have recently been introduced. Communication Skills for the Processing of Words[35] consists of grammar, punctuation, and related exercises with practical applications.

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[33]John Meroney, "The Business Community Reevaluates Staffing Needs for Word Processing," Information and Records Management, March, 1982, p. 44.

[34]Delores Curley, "Revise Office Curricula to Include Word Processing," Journal of Business Education, February, 1980, p. 200.

[35]Roseann Reiff, Communication Skills for the Processing of Words (Cincinnati: South-Western Publishing Co., 1981).

Other materials, too, are now available that integrate the language skills with machine transcription in a simple-to-complex structure. Machine Transcription Word Processing[36] and Transcription Skills for Information Processing[37] teach language arts skills while students learn to transcribe a variety of communications representing a wide range of businesses.

Another basic skill required of persons who are to be effective employees in word processing is typewriting. Most writers seem to indicate that a typing speed of 60 words per minute is the standard which word processing supervisors are generally seeking in candidates to fill word processing positions.[38, 39] Anderson supports this contention:

> Word Processing supervisors agree that if students are to attain a typing skill of 50 to 60 words per minute (with many requiring a minimum of 60) in less than two years, they would prefer that the student complete a second year of typing rather than one year of typing and one year of word processing.[40]

Proofreading, too, remains a vital skill in the word processing environment. In some large word processing centers, specialists are

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[36]William Pasewark, Machine Transcription Word Processing (Cincinnati: South-Western Publishing Co., 1979).

[37]Anne E. Schatz and Beverley M. Funk, Transcription Skills for Information Processing (New York: Gregg Division/McGraw-Hill Book Company, 1981).

[38]Linda H. Hasty and Stephen D. Lewis, "Teaching Word Processing Without Sophisticated Equipment," Journal of Business Education, January, 1981, p. 158.

[39]Harry R. Moon, "Teaching Word Processing. . .A Realistic, Job-Related Approach," Viewpoints in Business and Office Education, February, 1981, p. 1.

[40]Ruth I. Anderson, "Word Processing," The Changing Office Environment (Reston, Va.: National Business Education Association, 1980), p. 58.

hired to proofread all documents before they leave the center. The initial responsibility for accurate work, however, still remains with the original keyboarder.

Curley stresses the need for high-level skills in this area:

> No one wants to make dozens or hundreds of copies of a document which contains an error. Proofreaders must read copy for content, for typographical errors, and for grammatical, punctuation, and spelling errors. Somehow teachers must make students more aware of the need to proofread and produce perfect copy and to reward them for producing perfect copy. Perhaps teachers should include proofreading in grading procedures.[41]

The increased emphasis on developing proofreading skills is reflected by the publication recently of two books designed to develop competency in this important word processing skill. Proofreading Precision[42] and Developing Proofreading Skill[43] both provide ample practice materials with various sorts of copy as an aid to developing mastery of this skill.

Word Processing Without Equipment. With increased budget restraints, teachers are often concerned about realistically preparing persons for word processing positions because they are unable to acquire sophisticated, expensive electronic word processing systems for their classrooms. To many, unfortunately, word processing represents merely visual-display typing stations. While this equipment is, of course, a key component

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[41]Curley, loc. cit.

[42]Ellis J. Jones and David H. Kane, Proofreading Precision (Cincinnati: South-Western Publishing Co., 1981).

[43]Sue C. Camp, Developing Proofreading Skill (New York: Gregg Division/McGraw-Hill Book Company, 1980).

in the word processing concept, there are many aspects of the word processing cycle that can be taught quite effectively with no hardware.

Spring suggests eight different areas of word processing that can be integrated into existing office procedures courses. The areas recommended are: word processing concepts, word processing equipment, machine dictation and transcription, keyboarding applications, copy processing, records management, and word processing simulations.[44] Moody, too, offers a number of methods of teaching word processing concepts, applications, and procedures in existing courses without the acquisition of expensive equipment.[45] The backspace correction technique, for example, the procedure found in nearly all word processing systems, can be an effective teaching mechanism for exposing students to this technique, which they will find in a word processing situation. This method, once considered a taboo in the typewriting learning process, is now considered to be a pedigogically sound practice. Moody cautions, however, "Check to see if students are using the semi-colon finger to strike the backspace key."[46]

Word processing office simulations, which require only standard electric typewriters for completion, can also be an effective tool for acquiring many of the competencies required of persons working in word processing centers. In-basket and laboratory-type assignments can

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[44]Marietta Spring, "Teaching Word Processing as Part of Office Procedures," Journal of Business Education, February, 1981, p. 173.

[45]Patricia G. Moody, "Teaching Word Processing--What You Can Do On Monday," Journal of Business Education, February, 1980, p. 214.

[46]Ibid.

emphasize flow-of-work patterns, logging, prioritizing, work measurement, and time pressures even though the students are not using actual word processing systems in completing the assignments.

Two recent practice sets, Mercury Systems, Inc.,--Practice Set in Word/Information Processing[47] and Palmetto Insurance Co.--The Word Processing Correspondence Secretary[48] both incorporate activities such as these and can be completed either on conventional or text-editing typewriters.

In typing and office procedures courses, students can be given practice in building form letters from prepared paragraphs, an activity they will likely encounter in the word processing center.

The entire systems concept of word processing can also be taught in existing or new courses without necessarily purchasing electronic typing systems. Topics such as the organization and structure of word processing, feasibility studies, and the management and supervision of word processing activites are examples of topics that might be included in such courses.

In situations where it is not possible to acquire the costly equipment that has become so prevalent in word processing installations today, exposure to word processing can be handled in several ways.

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[47]Betty L. Boyce, Mercury Systems, Inc.--Practice Set in Word/Information Processing (New York: Gregg Division, McGraw-Hill Book Compnay, 1981).

[48]Anne L. Matthews and Patricia G. Moody, Palmetto Insurance Co.--The Word Processing Correspondence Secretary (Cincinnati: South-Western Publishing Co., 1981).

Spring offers the following suggestions in order to accomplish this objective:

1. Orient students to the word processing environment by visiting centers where equipment operation may be observed.
2. Acquaint students with a variety of media used with keyboarding equipment.
3. Invite marketing representatives to demonstrate word processing machines.
4. Use slides and a slide projector to introduce the operation of the word processing equipment.[49]

Equipment Considerations. If educational institutions are able to acquire word processing equipment, machines should be obtained in three categories; namely, electronic typewriters, standalone word processing systems with magnetic storage without visual display, and standalone word processing systems with magnetic storage with a visual-display screen. If sufficient funds are available and a number of training stations are desired, it may be more economical to purchase a shared-logic (or shared-resource) system which would permit the flexibility of adding on a number of keystations.

Federal funds are available for schools desiring to purchase word processing equipment and which meet certain requirements. A publication available through the International Information/Word Processing Association, Writing a Word Processing Grant Proposal,[50] might be useful

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[49]Spring, loc. cit.

[50]Rosemary Fielden, Writing a Word Processing Grant Proposal (Willow Grove, Pa.: International Information/Word Processing Association, n. d.).

to educators investigating the availability of federal funds for such a project. Anderson cautions educators on the amount of training that can be expected with a limited amount of word processing equipment:

> . . .schools which purchase one or two pieces of word processing equipment and enroll 30 students in the class, meeting one hour a day three times a week, cannot hope to do much more than acquaint the students with the basic concept of word processing.[51]

Anderson offers as a solution to this problem the suggestion that the word processing equipment course be taught on an individualized basis in order that maximum use be made of the available equipment. She states:

> Students would be required to sign up for a specific number of practice hours a week, at least five or six. In this way the equipment would be utilized throughout the day, and the students would have access to it for a sufficient amount of time to develop proficiency in its operation. The specific units of instruction on the equipment would depend upon the amount of equipment available and how much time each student is able to utilize the different types of machines.[52]

Kutie lists several strategies now being used by educators to provide realistic instruction on text-editing equipment:

1. Student-operated word processing centers servicing the needs of the educational institution.

2. Student-operated word processing centers providing a text-editing service center for outside customers.

3. Educational institutions contracting with outside firms to use equipment for teaching students text-editing.

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[51]Anderson, op. cit., p. 61.

[52]Anderson, op. cit., p. 62.

4. Educational institutions contracting with outside firms to use equipment in return for supplying operator help.

5. Student cooperative and apprenticeship programs in outside word processing centers.

6. Creation of electronic communications networks internally within an educational institution or externally in conjunction with other educational institutions.[53]

Materials have recently been published to supplement the self-instructional manuals provided by the manufacturer when equipment is purchased. These publications, such as Word Processing: VDT Systems[54] and Word Processing Keyboarding Applications and Exercises,[55] consist of application exercises involving the extensive capabilities found on most visual-display word processing systems.

Much research is necessary before an informed decision can be made concerning the purchase (or renting or leasing) of word processing equipment. Dorsett and Hatcher list the following specific criteria that should be considered before selecting word processing equipment: simplicity, training objective, adaptability, durability, service and maintenance, cost, flexibility and portability, space, and noise.[56] Making WP Demonstrations Work for You[57] is a useful guide in choosing word processing equipment.

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[54]Kutie, op. cit., p. 24.

[55]Arnold Rosen and William Hubbard, Word Processing Keyboarding Applications and Exercises (New York: John Wiley & Sons, 1981).

[56]Katie Dorsett and Shirley Hatcher, "Make Informed Decisions on the Purchase of WP Equipment," Business Education Forum, January, 1981, p. 7.

[57]D. Martin, Making WP Demonstrations Work for You (Willow Grove Pa.: International Information/Word Processing Association, 1980).

Selecting a vendor is another factor to consider in the over-all word processing equipment acquisition process. Dorsett and Hatcher offer the following criteria in the selection of a vendor:

- A representation of equipment that is in current use
- Competitive pricing with other companies for comparable equipment
- A market and technical staff located in a wide geographic area
- Availability of adequate instructional materials
- An excellent service reputation within the community
- Estimated training time for each piece of equipment to be purchased
- Amount of training offered by vendor
- Assistance offered to the educational agencies (personnel, training of staff, other materials)
- Future options for updating equipment
- Provisions for downtime
- Options for leasing, renting, or purchasing equipment.[58]

Once expensive word processing equipment is purchased, the school is likely to use the equipment for a number of years before it can be replaced. Since word processing equipment is changing so rapidly, it is important that the equipment selected be of a caliber that is likely to be found in the offices of the employing community for a number of years.

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[58]Dorsett and Hatcher, loc. cit.

Word Processing Programs. Education for word processing occupations is currently found on the high school, vocational school, community/junior college, and college/university levels. According to Anderson and Kusek:

> . . .the differences in word processing education on the secondary and post-secondary levels is largely a matter of how and how much, not of what should be taught. On the secondary levels, basic communications skills should be stressed. On the post-secondary level, there may be a need for remedial courses in these areas, but the word processing education program should go beyond an introduction to the concept of word processing as they affect jobs and careers. The area of management should be a part of the post-secondary program, particularly for adult and continuing education students.[59]

The majority of educational institutions, however, offering formal intensive training programs in the various aspects of word processing are found at the post-secondary level, particularly the community or junior college.[60] The programs usually emphasize various aspects of word processing including equipment operation, word processing office procedures, word processing administration and supervision, as well as basic skills such as punctuation, grammar, and typewriting. The curricula usually provide experiences in other related areas such as data processing, records management, and accounting. Students graduating from such programs are usually prepared to enter positions as correspondence specialists, administrative specialists, or multifunctional word

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[59]Marcia A. Anderson and Robert W. Kusek, Word Processing Curriculum Guide (Springfield: Illinois Office of Education, 1977), p. 65.

[60]The Reference Guide to Word Processing Education (Willow Grove, Pa.: International Word Processing Association, 1980).

processing personnel in a word processing center with a view toward working into managerial or supervisory positions.

In order to develop a complete, viable word processing curriculum for a post-secondary institution, it is necessary first to survey the employing community to determine the occupational needs of the employers relative to word processing in order to determine if, in fact, a word processing curriculum can be justified. If a complete curriculum is warranted, an occupational analysis is advisable to ascertain the types of word processing positions that are available and the specific job requirements associated with each position.

Performance objectives can then be established around which a sequence of specific courses can be built. The types of students entering the program should also be determined in order that suitable methods of instruction might be employed in developing the desired competencies. Continuous evaluation and follow-up through the use of advisory committees, graduates of the program, and employers is also necessary if the curriculum is to keep abreast of changing practices and procedures in the word processing field. Some authorities recommend that students entering post-secondary word processing programs possess at least basic typing skills. Anderson, for example, suggests that students entering such programs be able to type at least 60 words per minute.[61]

Introductory course work in the word processing curriculum should emphasize basic skills in the language-arts areas. Instruction should also be provided in records management to include developing systems for filing and retrieving magnetic media.

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[61]Anderson, op. cit., p. 61.

It is advisable that machine transcription be a complete course if students are to reach a high level of proficiency in the production of usable documents from recorded media. A generous amount of training time should also be devoted to the operation of various electronic word processing systems. Certain competencies relating to the operation of the equipment can be developed depending on the time and equipment available. Students can then work at attaining a high level of performance on particular features of the equipment.

Simulated word processing activities consisting of in-basket and laboratory assignments will allow the students to experience a variety of realistic word processing office situations. A course in word processing concepts should also be included in the curriculum. Anderson recommends the following topics for inclusion in such a course:

A. Word Processing--What is it?

B. An Analysis and Evolution of Word Processing Equipment

C. Conducting a Feasibility Study

D. Word Processing Personnel

E. Training Word Processing Personnel

F. Management and Word Processing

G. Organization of Word Processing

H. WP Manuals

I. Production Standards for Word Processing

J. Developing Promotional Opportunities in WP

K. The Administrative Secretarial Team

L. Motivation and Supervision of WP Personnel

M. Systems Approach to WP--Relationship of WP to DP

N. The Office of the Future and WP

O. In-Depth Study of a WP Installation[62]

In the final stages of the student's experiences at the community or junior college, the student should receive preparation in the administration, organization, and supervision of word processing operations. Dorty, et al., claim, "Overlooked for the most part so far. . . has been the training of students for word processing management."[63] They further state:

> While some components of word processing management training should probably be best learned on the job, schools have a responsibility to provide a foundation of competencies that can facilitate initial job performance and provide growth by word processing managers. Community colleges and universities are in a unique position to service these people. . .[64]

Wagoner lists the basic skills necessary for word processing managers:

1. Human skills--ability to work effectively with others and build cooperative group relations to achieve goals.
2. Conceptual skills--to conceive new and creative methods and procedures.
3. A thorough knowledge of personnel, work organization, and equipment.[65]

During the final semester, a word processing cooperative component should also be included in the student's program. This work

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[62]Anderson, op. cit., pp. 62-63.

[63]Carolyn H. Dorty, et al., "Are We Adequately Training Students for WP Management?", Business Education Forum, February, 1981, p. 3.

[64]Ibid.

[65]Kathleen P. Wagoner, "The New White Collar Workers," Career World, December, 1978.

can be structured to provide the student with additional learning experiences in a word processing environment.

As word processing continues to develop and merge with other sophisticated technologies, business educators will have many unique opportunities to create realistic, up-to-date learning experiences for their students. Nichols stresses the importance of education for the automated office:

> Since the technological explosion in word processing, students are really mandated to receive training on automated equipment and become familiar with the systems approach concept to word processing before leaving their educational settings to meet the demands of today's offices.[66]

The opportunities for educators to provide meaningful experiences to students preparing for careers in the automated office are numerous and varied.

Research Studies in Word Processing

Since the acceptance of word processing in the business community, a number of researchers have investigated different facets of word processing in an attempt to ascertain how the word processing concept could best be integrated into the business education curriculum. These studies have dealt with job satisfaction, employment opportunities, curriculum development, surveys of current practices, and related issues. Several studies involving surveys of word processing will be reviewed here.

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[66]Patsy Nichols, "Word Processing Program Prepares Students for the Automated Office," Information and Records Management, February, 1982, p. 38.

The Claffey Study--1979.[67] The purpose of this research was a study of the organization, operation, and use of word processing centers in 15 selected companies representing finance, insurance, and manufacturing in New England. The information was intended to provide sufficient data in one unified body of research that would be useful to educators and business persons concerned with word processing.

Information was sought concerning the organization and operation of word processing centers, job characteristics of employees involved with some aspect of word processing, and how the word processing center was perceived by various individuals within the organization. Observation guides were developed that were used in interviewing the word processing center managers, supervisors, operator personnel, administrative assistants (or secretaries) and the center users.

The purpose of the word processing function was to provide quality typing of handwritten and dictated material in the business organization. There was variety relative to the organization, purpose, and operation of the word processing centers. Word processing center supervisors believed that the ability to get along with people was the principal quality required of persons in such a supervisory position. The criteria most often used by the word processing supervisors in evaluating operators were efficiency, productivity, effectiveness or competency, and initiative.

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[67]George F. Claffey, "Word Processing: Case Studies of 15 Selected Business Firms," 2 vols. (Ed.D. dissertation, Indiana University, 1979).

The majority of the word processing center personnel wanted to advance in the word processing area or become secretaries or administrative assistants either in their present company or another firm. The majority of the operators believed that they were being given all the responsibility they were capable of handling in their positions. Most of the administrative assistants wanted to advance to higher-level positions. The administrative assistants performed a variety of duties which they considered helpful to their principals.

Most of the companies provided users with instruction in the operation of dictation equipment. Most of the users believed that they used terminology that was related to the industry or their area of specialization. Additional findings dealt with the opinions of various individuals involved with the word processing activity in the organization surveyed.

The Delta Pi Epsilon National Study--1981.[68] The purpose of this study was to ascertain current practices relative to word processing in selected business organizations throughout the United States. A subproblem was to anticipate future developments in word processing. From this information, recommendations were made to business educators concerning occupational preparation of future office workers.

Six interview forms were developed to gather information from the organizations which had implemented word processing. The forms were used in interviewing the following individuals: word processing supervisors/

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[68]Jolene D. Scriven, et al., National Study of Word Processing Installations in Selected Business Organizations (St. Peter, Mn.: Delta Pi Epsilon National Office, 1981).

managers; word processing operators/correspondence secretaries; administrative support secretaries/managers; administrative support secretaries; principals/originators; and top/middle management/personnel.

The survey instruments were developed after a review of the literature was completed; the instruments were then validated by 25 members of the International Word Processing Association. The survey instruments and guidelines for their administration were distributed to the various Delta Pi Espilon chapters across the country who had agreed to participate in the study. The individual chapters were given a list of firms that would be visited, which were drawn from the membership list of the International Word Processing Association.

The interviews, which were conducted in the Spring and Summer of 1979, resulted in 336 usable responses for analysis.

The results of this study showed that word processing operators/correspondence secretaries are primarily involved with activities such as typing letters, memos, and reports; proofreading; and related correspondence production activities. The administrative support secretaries were involved primarily with non-typing activities. Training on word processing equipment was provided primarily by vendors and employing organizations on the job.

The centralized plan of word processing organization was the most common pattern in the organizations surveyed. The straight-copy timed writing was the most common employment test administered to potential word processing workers. The greatest job weakness of word processing workers was related to the use of English.

Recommendations based on the findings of this study to business educators included emphasis on a number of competencies related to typewriting, transcription, and related areas. Strong emphasis should be placed on the development of English skills. It was also recommended that business education programs incorporate vocabulary, organization, and competencies necessary for office workers to be successful in word processing occupations. It was further recommended that educational institutions develop cooperative programs in the word processing area and maintain close contact with word processing installations.

The Larson Study--1980.[69] The purpose of this study was to gather information that would serve as a basis for recommendations in implementing word processing in business education curricula. Thirty-four business organizations in the San Francisco, California, area that were using word processing constituted the sample used in the research. Both an interview method and a mail-response method was chosen for the data-collection process.

The researcher found that word processing supervisors are willing to hire high school graduates for the position of word processing operator, but a number of the supervisors required the candidate to have some experience. The major skills required of the operators included good typing, excellent English, and a knowledge of word processing concepts.

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[69]Carol Jean Larson, "A Study of Word Processing to Provide a Rationale for Educational Programs" (Ed.D. dissertation, University of Northern Colorado, 1980).

Even though on-the-job training was provided by the organizations, prior training on the equipment was considered beneficial to word processing operators.

Most word processing positions are filled from within the organization, by advertisement, or through friends and employees. The probability of promotion from the position of word processing operator was considered "high" or "average" by 50 percent of the word processing supervisors, but these positions varied with the industry and the size of the organization.

All of the supervisors recommended that word processing be included in the high school curriculum. The recommended curriculum for schools with limited budgets would include word processing concepts, business English, human relations, and secretarial skills. In schools having unlimited budgets, the curriculum should also include word processing equipment, data processing, and specialized typing courses.

All of the word processing supervisors expected to see changes within their own word processing systems within the next few years. These changes included the merger of word processing and data processing, decentralization of word processing, greater use of optical character recognition, and greater use of telecommunications.

The Moody Study--1978.[70] The purpose of this study was to identify the competencies needed by entry-level word processing administrative and

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[70]Patricia G. Moody, "Identification of Entry-Level Competencies and Locus of Training for Word Processing Secretaries in South Carolina" (Ph.D. dissertation, University of South Carolina, 1978).

correspondence secretaries and where the competencies should best be learned--at educational institutions, business organizations, or both.

Twenty-five business organizations in South Carolina were randomly selected to participate in the study. Correspondence and administrative secretaries, supervisors, and principals were included in the study.

Questionnaires were developed based on prior research, a review of the literature, observations to identify the entry-level competencies needed by word processing secretaries, and what was the most appropriate source for learning the particular competencies. A separate questionnaire was developed for the administrative and the correspondence secretaries. A panel of experts reviewed the questionnaires which included a series of skills grouped into 13 different clusters.

The researcher found that correspondence secretaries should have the ability to: (1) type with speed and accuracy; (2) type from dictation machines, rough drafts, and handwritten notes; (3) correct errors by the backspacing technique; (4) proofread all typed documents; (6) handle all confidential correspondence; (7) prioritize documents; (8) maintain a retention filing system; (9) interpret a coding system; (10) monitor centralized dictation equipment; (11) use reference manuals; (12) compute production records; (13) demonstrate superior grammatical skills; (14) demonstrate equipment; (15) follow directions; (16) work under pressure; (17) maintain a high volume of work; (18) demonstrate initiative.

The researcher found the administrative secretaries should have the ability to: (1) transcribe shorthand notes and machine dictation; (2) type with speed and accuracy; (3) type letters, memos, reports, and

statistical data; (4) proofread all typed documents; (5) compose and dictate business documents; (6) demonstrate competency in listening skills, following directions, and giving directions; (7) handle confidential data; (8) prioritize tasks; (9) maintain a filing system; (10) handle telephone duties; (11) handle mailing tasks; (12) utilize reference manuals; (13) demonstrate superior grammatical skills; (14) schedule and screen appointments; (15) manage employee records; and (16) work with interruptions.

Based on the data found in this study, Moody recommended that word processing be offered as a separate semester course and be integrated into existing courses. She also recommended that educators maintain close contact with the business community and that cooperative programs be developed where feasible.

The researcher also recommended that the typewriting program continue to emphasize both typing speed and accuracy as well as other typing tasks. She recommended that increased emphasis be placed on developing English and grammar skills.

The Ott Study--1979[71] The purpose of this study was to determine whether high schools and post-secondary institutions in Eastern Washington were training students effectively for positions involving word processing systems. The study attempted to determine the entry-level skills necessary for employment in word processing positions, how these skills

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[71]Lois Helen Stevens Ott, "Curricula Recommendations for Word Processing by Eastern Washington Businesses" (Ed.D. dissertation, Washington State University, 1979).

could best be incorporated into the business curriculum, the extent to which word processing systems are being used and the equipment that was used, and the extent to which entry-level positions existed as word processing operators that could be filled by disadvantaged students.

Responses to a mailed questionnaire identifying businesses that were using word processing equipment were received from 224 business organizations. A telephone interview was held with 57 of these organizations in order to obtain information about entry-level word processing positions.

Most of the respondents required a high school diploma for employment as word processing operators and administrative secretaries; two-fifths of the businesses required previous business experience. The skills mentioned most frequently as necessary for word processing employees to possess were basic English and math skills. The typing skills mentioned most often were between 60 and 65 words per minute, and machine transcription skills were also required by the majority of the responding firms.

Over ninety percent of the respondents recommended that word processing be taught in the Washington public schools. The equipment mentioned most frequently as essential for the teaching of word processing was the memory typewriter, selectric typewriter, and CRT video-display word processors.

Approximately one-fifth of the 224 businesses participating in the mailed survey were using word processing equipment. However, 57 percent of all the firms surveyed said they were interested in acquiring it

within a five-year period. IBM, Lexitron, and Wang were the most common vendors of the equipment used by the firms surveyed.

While the majority of the firms felt that there was a future for disadvantaged students in word processing, only slightly more than one-fourth of them were currently employing disadvantaged workers.

The Rohrer Study--1978.[72] The purpose of this study was an analysis of word processing in a large industrial city with implications for business education curriculum development. Newly created positions as a result of the centralization of typing activities within these business organizations were examined in order to evaluate current secretarial curricula in order to make recommendations for change. Information was also gathered relative to the future trends in word processing equipment.

The data was obtained via a questionnaire sent to word processing supervisors/managers in 12 companies in the Pittsburgh, Pennsylvania, area.

Those who responded to the questionnaire believed that there would be an increased need for trained word processing equipment operators in the future. Positions of both an entry-level nature and one with responsibility had developed as a result of the word processing movement.

The researcher recommended that both public and private educational institutions develop degree programs for word processing operators which need not include shorthand. It was also recommended that

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[72]Sarah K. Rohrer, "Current Status of Word Processing in Businesses in a Large Industrial City with Implications for Business Education Curricula Change" (Ph.D. dissertation, University of Pittsburgh, 1978).

secretarial programs include training on word processing equipment. The respondents indicated that the training programs of most value to word processing operators would include an emphasis on correct English usage. The researcher also recommended that business educators avoid curricula which have as their end goals the training of traditional secretaries. Increased emphasis should be devoted to the acquisition of management skills.

The Robinson Study--1980.[73] The purpose of this study was to gather data concerning the development and implementation of word processing centers in the Dallas-Fort Worth, Texas, area. The researcher investigated the kinds of equipment used, the sources of employees, frequencies of promotion, tasks performed, and methods used for measuring productivity. Information was also secured concerning the types of organizations that have developed word processing centers and the reasons the organizations converted to word processing.

In order to obtain this data, questionnaires were completed by 50 members of the Dallas Chapter of the International Word Processing Association who were in a supervisory or managerial position in a word processing center.

Most of the organizations in this study reported implementing word processing in order to improve the production typing task, with the decision to implement being made by the president or vice president most frequently. The largest segment of companies in this study was from the

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[73]Yvonne Metayer Robinson, "Factors Associated with the Development and Implementation of Word Processing Centers in the Dallas-Fort Worth Metroplex" (East Texas State University, Ed.D. dissertation, 1980).

insurance industry. The most popular word processing equipment used in the companies was the IBM Mag Card II Selectric Typewriter. Employment agencies and in-house employees were the two main sources for word processing employees. The most common typing speed requirement was 60 words per minute. Both typing and non-typing tasks were performed by employees within the word processing centers. The most common method of measuring word processing production was by line count.

The Spring Study--1977.[74] The purpose of this study was to determine the status of word processing in the Urban Corridor of Virginia, the identification of factors involved in the word processing conversion process, the identification of typing and non-typing tasks performed, and the employment tests administered in word processing centers. A series of questions was developed and interviews were held with a supervisor, a correspondence secretary, and an administrative secretary in 19 business organizations.

Most of the companies used word processing in order to improve the quality and quantity of correspondence in the offices. A five-minute straight-copy typing test with a requirement of 50 words per minute was the most common typing requirement of applicants for word processing positions. IBM equipment was the most prevalent and most employers provided on-the-job instruction in the use of the equipment. The line-count method was the most common technique used in measuring production. Both supervisors and correspondence secretaries were engaged in typing and

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[74]Marietta Spring, "A Survey of Word Processing Centers in the Urban Corridor of Virginia" (Ed.D. dissertation, Virginia Polytechnic Institute and State University, 1977).

non-typing tasks. Most centers had not adopted the administrative-support concept.

The researcher recommended the inclusion of word processing as an integral part of the business education curriculum. If separate courses could not be offered, word processing should be integrated into existing courses. Students should receive hands-on experiences in the use of word processing equipment with emphasis placed upon the typing and non-typing duties performed by correspondence secretaries.

Summary

The concept of word processing as a time-saving device in the production of typewritten business documents was first introduced in the mid-1960s. While it was slow to catch on in many business firms, by the mid-1970s it had become generally accepted as an efficient, effective way to reduce the spiraling costs associated with the traditional stenographic function.

Word processing systems can be interactive or stand-alone and can be acquired through a host of vendors that offer an assortment of configurations designed to meet the varied needs of businesses. Orginally it was thought that more advantages would come about if the word processing activity was centrally located, thereby serving the needs of the entire organization. Many firms did not find this pattern acceptable for various reasons and began to experiment with other methods of organizing the word processing function. Decentralized word processing in which the typing production activity is carried on in close proximity to the user has become widely accepted in recent years.

The feasibility of word processing must be studied carefully before an organization decides to convert to this form of secretarial support. Usually a study team will be established that will analyze current practices, decide on the practicality of word processing for the organization, and develop implementation procedures.

Most business persons as well as business educators believe that the basic skills--English grammar and typing--are necessary requisites for all word processing positions. It is possible, therefore, for educational institutions to prepare persons for the word processing field even if equipment is not available. Within recent years, an array of textbooks on various word processing topics have been marketed. These materials have focused on simulated word processing typing activities, word processing keyboarding applications, and word processing administration and supervision.

Before buying word processing equipment for training purposes, it is necessary to thoroughly examine the various systems that are available. Educational institutions can often obtain federal funds in acquiring word processing equipment. Since schools that purchase word processing equipment will probably be required to use it for a number of years, any equipment that is purchased should reflect current, state-of-the-art technology as much as possible.

Aspects of word processing are currently being taught in high schools, community and junior colleges, private business schools, vocational schools and four-year colleges. The two year post-secondary institutions seem to be in a particularly advantageous position to offer training in this field.

Several researchers have examined current business practices and requirements as related to word processing. The researchers have continually found that word processing employees should possess good typing skills and demonstrate competency in the language-arts areas. Several of the studies examined involved offices in which non-visual display word processing equipment predominated since the now more common visual-display systems were not widely used at the time the research was completed.

CHAPTER III

PROCEDURES

This chapter has been divided into four sections for a summary of the research process: (1) survey instruments; (2) population and respondents; (3) collection of data; and (4) treatment and analysis of data.

Survey Instruments

The survey instruments were designed to gather descriptive data about general operational procedures of word processing centers, to identify tasks commonly performed by word processing secretaries in these centers, and to determine where the tasks could best be learned.

The first part of the survey instrument, a word processing interview form, (See Appendix A) consisted of a series of questions that were asked in a personal interview held with word processing supervisors. The instrument attempted to gather information concerning administrative aspects of word processing, the type of equipment used, the responsibilities of the word processing centers, and factors related to the employment of word processing secretaries within word processing centers.

The second part of the survey instrument (Appendix B) consisted of a series of competencies deemed desirable by word processing

secretaries. The competencies were classified under ten clusters: (1) typewriting; (2) transcription; (3) records management; (4) telephone; (5) office machines and equipment; (6) data processing; (7) grammatical skills; (8) mathematics; (9) general clerical skills; and (10) administrative duties. A list of specific competencies was given under each of the clusters. Space was also provided for the respondents to list other competencies which they felt were important to word processing secretaries but were not included on the list.

The survey instruments used in the Delta Pi Epsilon National Study[1] and the Moody study[2] were used in developing the survey instruments used in this study. These survey instruments were particularly useful in identifying competencies that might be important to word processing personnel.

The respondents were asked to indicate the level of importance they attached to each competency--very important, somewhat important, or unimportant. If a competency was considered important, the respondents were asked to indicate where they believed the competency should best be learned--in school, on the job, or in school and on the job. A column was also provided for the respondent to check if he/she had no opinion as to where the particular competency should be learned. Both a word processing supervisor and a word processing secretary were asked to complete this same list of competencies in each organization surveyed.

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[1]Jolene D. Scriven, et al., National Study of Word Processsing Installations in Selected Business Organizations (St. Peter, Minn.: Delta Pi Epsilon National Office, 1981).

[2]Patricia G. Moody, "Identification of Entry-Level Competencies and Locus of Training for Word Processing Secretaries in South Carolina" (Ph.D. dissertation, University of South Carolina, 1978).

To insure clarity and to ascertain the validity of the instruments as developed by the researcher, an evaluation of the forms was made by a jury panel. This panel was composed of three word processing supervisors, one employee of a word processing equipment dealer, one word processing consultant and president of the Boston Chapter, International Information/Word Processing Association, and one business educator involved with the teaching of word processing. The names and addresses of these jury panelists are listed in Appendix C. Their suggestions were incorporated into the production of the revised survey instrument.

A series of questions was also developed that were asked of the word processing secretaries during the interview. The questions concerned the perceptions of the word processing secretaries regarding career opportunities in word processing in the organizations in which they were employed. The questions are listed in Appendix D.

Population

The population consisted of 50 business organizations in the Boston, Massachusetts, area that had organized their office production typing activities in such a way that word processing equipment was used by specialists working in centralized or decentralized word processing centers. Only organizations which had word processing centers in operation for a minimum of six months and which were managed by a word processing supervisor were considered as part of the investigation. The names of the participating business organizations were chosen from a list of members of the Boston Chapter of the International Information/Word Processing Association. Additional business firms known to have

organized word processing centers were added to the list. The list of participating organizations is presented in Appendix E.

Collection of Data

During April and May, 1982, the word processing supervisors in the business organizations were contacted by telephone and asked to participate in this study. The researcher believed that persons employed as word processing secretaries who were actually performing word processing-related tasks on a day-to-day basis would provide important information that would be valuable in this study; therefore, each word processing supervisor was requested to select a word processing secretary who had been working full time (35 hours or more per week) for at least six months in that particular word processing center to complete the questionnaire.

In May and June, 1982, the researcher scheduled appointments with each of the 50 word processing supervisors at which time the interviews were held and the questionnaires were completed by the word processing supervisors and secretaries. Each participant in the study was asked to respond to each item as it applied to the word processing work situation where he/she was currently employed. A thank-you letter was sent to each participating organization. It appears in Appendix F.

The interview method was chosen as it was believed that this method of research would provide a more in-depth and accurate base for analysis. The questionnaires were completed in the presence of the investigator in order to assure completeness of the form and to provide an opportunity to answer questions posed by the secretaries and supervisors that might have arisen while the forms were being completed.

Treatment and Analysis of Data

In the statistical procedures, the Word Processing Interview Form and the Competencies Needed by Word Processing Operators/ Correspondence Secretaries Forms were used as criteria for study. For all of the items in the forms, frequency distributions were derived by hand count; and the totals and percentages were computed on a calculator.

Data is presented in this study in terms of total numbers and percentages of respondents.

The variable analysis of this study is divided into three major parts. The first part, which is based on the Word Processing Supervisor Interview form, covers information relating to word processing employment expectations, the organization and administration of word processing in the 50 word processing centers surveyed, the word processing equipment used, and related information.

The second part, Competencies Needed by Word Processing Operators/ Correspondence Secretaries, is based on the forms completed by the 50 word processing secretaries and 50 supervisors. It covers information relating to the importance of the items in the various clusters of skills deemed desirable of word processing secretaries as perceived by word processing secretaries and supervisors and, if important, where the skills should be learned.

The third part, which is based on the questions asked of the word processing secretaries during the interview process, presents the perceptions of the word processing secretaries concerning career

opportunities in word processing in the organizations in which they were employed.

Summary

In order to obtain an in-depth view of word processing installations in the Boston, Massachusetts, area, two survey forms were developed. The first, completed by word processing supervisors in 25 word processing centers, consisted of a series of questions relating to the organization and administration of word processing in each business. The second, completed by both the word processing supervisors and the word processing secretaries in the 50 word processing centers surveyed, consisted of a series of competencies deemed desirable by word processing personnel. The respondents were asked to rate the level of importance that they attached to each competency; and, if important, where they believed each competency should be learned.

A series of questions was also asked of each word processing secretary concerning his/her perceptions of career opportunities in word processing.

During the Spring of 1982, the researcher visited the 50 word processing centers, at which time the supervisors and secretaries were interviewed and the appropriate forms completed.

Chapter 4 contains an analysis and interpretation of data obtained from the interviews and questionnaires.

C H A P T E R I V

FINDINGS

This chapter presents information of three types: (1) an analysis of the information gathered relating to the organization and administration of word processing in the 50 offices surveyed; (2) an analysis of the responses of the word processing supervisors and secretaries concerning the importance of selected competencies and where the competencies should be learned; and (3) an analysis of the career perceptions of word processing occupations according to the word processing secretaries.

Factors Relating to the Organization of Word Processing

This section presents an analysis of the data obtained from the interviews held with the 50 word processing supervisors relative to the organization and administration of their respective word processing center (see Appendix E). The information is organized for presentation as follows: nature of participating organizations, word processing positions, employment testing, word processing equipment, organizational pattern of word processing, measurement system, general areas of responsibility of word processing personnel, typing jobs produced on word processing equipment, input received for word processing, and major weaknesses of word processing personnel.

The data are presented in terms of percentages of the total sample (N = 50); however, in cases where a further analysis of a specific question has been made, the percentages reflect only the portion of the total sample that has been examined.

Nature of participating organizations. A variety of types of business organizations participated in this study. Twenty percent of the organizations represented the insurance industry, while six percent were represented by both the engineering and manufacturing industries. Table 1 shows the number and percentage by type of industry for the organizations participating in this study.

Word processing positions. The word processing supervisors in the 50 organizations were asked to indicate the number of full-time positions (35 hours or more per week) that were available in their organization and that fell under their jurisdiction. Table 2 shows that there was a total of 293, or a mean of 5.86, positions for word processing secretaries/correspondence specialists; 23, or a mean of .46 for administrative specialists, and 111, or a mean of 2.22 for multifunctional word processing personnel.

Word processing organizational patterns. Table 3 shows the various types of organizational patterns employed in the 50 businesses. The centralized pattern was found in one-half the organizations. A mixed organizational pattern was found in 23 of the businesses, and a decentralized pattern was found in 4 of the businesses. Of the two businesses using the decentralized pattern, one used a satellite system and one used a mini-word processing center or cluster.

TABLE 1

NATURE OF PARTICIPATING ORGANIZATIONS
(N = 50)

Organization	Number	Percent
Banking	3	6
Education	4	8
Engineering	6	12
Finance	2	4
Government	2	4
Insurance	10	20
Legal	4	8
Manufacturing	6	12
Medical	3	6
Publishing	1	2
Research	5	10
Service	3	6
Utilities	1	2
Total	50	100

TABLE 2

NUMBER OF WORD PROCESSING POSITIONS IN THE PARTICIPATING ORGANIZATIONS
(N = 50)

Organization	Word Processing Secretary/ Correspondence Specialist	Administrative Specialist	Multifunctional Word Processing Personnel
1	1	0	0
2	4	0	0
3	20	0	2
4	1	0	0
5	8	0	2
6	2	0	0
7	0	0	5
8	5	0	0
9	6	5	0
10	2	0	6
11	3	0	1
12	0	0	6
13	3	0	1
14	6	0	0
15	5	0	1
16	0	0	3
17	2	0	0
18	7	0	1
19	18	0	0
20	16	0	1
21	2	0	1
22	18	1	0
23	13	6	6
24	13	2	1
25	6	0	0
26	1	0	0
27	4	0	4
28	0	2	20
29	20	0	0
30	14	1	0
31	17	0	1
32	7	0	0
33	8	0	0
34	5	0	1
35	0	1	3
36	0	0	8
37	3	2	0
38	0	0	3
39	5	0	0
40	2	0	1
41	5	0	1
42	5	1	1
43	9	1	0
44	15	0	0
45	1	0	8
46	0	0	3
47	0	0	9
48	4	0	0
49	4	0	2
50	3	1	9
Total	293	23	111
Mean	5.86	.46	2.22

TABLE 3

WORD PROCESSING ORGANIZATIONAL PATTERNS
(N = 50)

Word Processing Pattern	Number	Percent
Centralized	25	50
Decentralized	2	4
Mixed	23	46
Total	50	100

Employment testing. Table 4 shows the number of organizations administering employment tests to potential entry-level word processing employees. Slightly more than three-quarters (78 percent) of the firms indicated that they administered some form of employment test.

The types of tests administered to potential entry-level word processing employees are shown in Table 5. The most common type of test given was the typing straight-copy timed-writing test which was administered by 87 percent of the organizations administering tests.

Over 90 percent of the organizations had set up minimum requirements on the straight-copy timed-writing tests. The most common length of the timed writing was five minutes; a variety of accuracy standards existed. The speeds required ranged from 40 to 65 words per minute. The information related to the typing timed-writing requirements is presented in Table 6.

TABLE 4

EMPLOYMENT TESTS ADMINISTERED TO POTENTIAL ENTRY-LEVEL WORD PROCESSING EMPLOYEES (N = 50)

Response	Number	Percent
Yes	39	78
No	11	22
Total	50	100

TABLE 5

TYPES OF EMPLOYMENT TESTS ADMINISTERED TO POTENTIAL ENTRY-LEVEL WORD PROCESSING PERSONNEL (N = 38)

Type of Test	Number*	Percent
General Knowledge	3	8
Grammar, Punctuation, Spelling, etc.	7	18
Machine Transcription	5	13
Proofreading	1	3
Typing (production)	4	11
Typing (straight-copy timed writing)	33	87
Word processing equipment	2	5

*Total number exceeds 38 because some organizations stated that they administer more than one type of test.

TABLE 6

TYPING TIMED-WRITING REQUIREMENTS FOR POTENTIAL ENTRY-LEVEL WORD PROCESSING EMPLOYEES (N = 33)

Length of Test (minutes)	Word Per Minute Required	Accuracy Standard	Number	Percent*
5	No standard	No standard	3	9
5	40	2 errors	1	3
5	40	3 errors	1	3
10	40	No standard	1	3
5	45	NWAM**	2	6
5	45	5 errors	1	3
3	50	No standard	1	3
5	50	NWAM	3	9
5	50	2 errors	1	3
5	55	No standard	3	9
5	55	NWAM	3	9
5	55	3 errors	3	9
5	55	5 errors	1	3
3	60	2 errors	1	3
5	60	NWAM	3	9
5	60	3 errors	1	3
5	60	5 errors	1	3
10	60	No standard	1	3
5	65	NWAM	1	3
5	65	3 errors	1	3
Total			33	99

*Tables in this report do not necessarily total 100 percent due to rounding.

**Net words a minute.

Word processing equipment. Table 7 shows the number, make, and model of the word processing equipment used in the 50 business organizations that participated in this study. The most widely used equipment was manufactured by IBM and Wang, respectively. The single most common piece of word processing equipment was the Wang OIS 140, which accounted for 22 percent of the total number of keystations; the IBM System 6 was the second most common piece of word processing equipment used, which accounted for 10 percent of the total number of keystations.

Word processing measurement systems. The word processing supervisors were queried as to whether any form of work measurement system was used for measuring the productivity of the word processing secretaries in their organizations. This information is presented in Table 8. The most prevalent method of measuring word processing production was the number of pages produced, which was indicated by 17 or 34 percent of the organizations. No system of work measurement was indicated by 16 or 32 percent of the organizations.

Of those organizations indicating "other" as the type of measurement system employed, the responses included the use of total job production time used for computing charge-back and the document statistics feature found on some word processing systems.

General areas of responsibility of word processing personnel. The supervisors were asked to indicate the general areas of responsibility with which word processing personnel were involved. All of the organizations indicated that typing/keyboarding was an area of responsibility. Twenty-six percent indicated copy and teletyping as areas of responsibility for

TABLE 7

DISTRIBUTION OF WORD PROCESSING EQUIPMENT
(N = 450)

Make/Model	Number	Percent*
AMText 425	2	-1
Burroughs Redactron I	7	2
Burroughs Redactron Text-Editor	1	-1
Commodore 8050	2	-1
CPT 8000	3	1
CPT 8100	5	1
DEC 78	6	1
DEC 202	7	2
DEC 211	18	4
DEC 310	2	-1
DECword	1	-1
A. B. Dick Magna SL	2	-1
IBM ATMS III	12	3
IBM Displaywriter	18	4
IBM Electronic 60	1	-1
IBM Electronic 75	2	-1
IBM Mag Card I	10	2
IBM Mag Card II	19	4
IBM Mag Card A	22	5
IBM Mag Card 6240	4	1
IBM System 6	46	10
IBM 3732	9	2
IBM 5520	26	6
IBM 8100	11	2
Lanier No Problem Shared System	4	1
Lexitron 1220	1	-1
Lexitron 1303	8	2
NBI System 3000	8	2
QYX	1	-1
Vydec 1146	2	-1
Vydec 1200	3	1
Vydec 1400	3	1
Vydec 1800	2	-1
Wang System 5	1	-1
Wang System 30	39	9
Wang OIS 105	1	1
Wang OIS 140	97	22
Wordplex 1	1	-1
Wordplex 7	12	3
Xerox VTII	14	3
Xerox 850	8	2
Xerox 860	4	1
Total	450	98

*Includes number of keystations in a "shared" system.

TABLE 8

SYSTEMS USED FOR MEASURING WORD PROCESSING WORK PRODUCTION
(N = 50)

Type of System	Number	Percent
Number of lines produced	9	18
Number of pages produced	17	34
Number of belts, tapes, or cassettes transcribed	0	0
Other	8	16
Not measured	16	32
Total	50	100

word processing personnel. Of the seven organizations indicating "other" as an area of responsibility, included were computer work, binding, switchboard operation, editing, proofreading, designing forms, and general secretarial work. This information can be seen in Table 9.

Typing jobs produced on word processing equipment. Table 10 shows the various kinds of typing jobs produced on the word processing equipment. The kinds of typing jobs most frequently produced on the word processing equipment were repetitive correspondence, short documents, and medium-length documents. Each of these categories of typing jobs were handled in 94 percent of the business organizations. Of the 29 businesses reporting "other" as a kind of typing job, each stated that forms typing was a job for which the word processing equipment was used. A small number also indicated using the word processing equipment for typing labels and envelopes.

TABLE 9

GENERAL AREAS OF RESPONSIBILITY OF WORD PROCESSING PERSONNEL
(N = 50)

Areas	Number*	Percent
Copying	13	26
Facsimile Services	6	12
Mailing	3	6
Reprographics	1	2
Teletyping	13	26
Typing/keyboarding	50	100
Other	7	14

*Number is greater than 50 because some respondents indicated more than one area of responsibility.

Input received for word processing. Table 11 shows the various kinds and extent of input received for word processing. Handwritten input was received by 96 percent of the organizations; typewritten work with light revisions and typewritten work with heavy revisions each were received by 94 percent of the organizations. "Other" input included computer printouts which were received as a method of input by six organizations.

Major weaknesses of word processing personnel. The 50 supervisors were asked to indicate whether they had noted any major job weaknesses in dealing with entry-level word processing personnel in their organizations. Nearly two-thirds of the supervisors indicated that they had noted such weaknesses. These data are presented in Table 12.

TABLE 10

KINDS AND EXTENT OF TYPING PROCESSED ON WORD PROCESSING EQUIPMENT

Kinds of Typing	Number*	Percent
Correspondence		
Repetitive	47	94
Revised	45	90
Original	44	88
Narrative/Manuscript		
Short Documents (10 or fewer pages)	47	94
Medium-length Documents (11 to 25 pages)	47	94
Long Documents (26 or more pages)	46	92
Statistical Typing		
Simple	39	78
Complex	33	66
Other	29	58

*Number exceeds 50 because respondents were asked to identify all of the kinds of typing processed on word processing equipment.

TABLE 11

KINDS AND EXTENT OF INPUT RECEIVED FOR WORD PROCESSING
(N = 50)

Kinds of Input Processed	Number*	Percent
Handwritten	48	96
Typewritten (light revision)	47	94
Typewritten (heavy revision)	47	94
Machine dictation	33	66
OCR	11	22
Other	9	18

*Number exceeds 50 because supervisors were asked to indicate all of the kinds and extent of input processed by word processing secretaries.

TABLE 12

EXISTENCE OF MAJOR WEAKNESSES OF ENTRY-LEVEL WORD PROCESSING PERSONNEL AS INDICATED BY SUPERVISORS
(N = 50)

Response	Number	Percent
Yes	32	64
No	15	30
No Opinion	3	6
Total	50	100

The major weaknesses in rank order of the word processing personnel are listed in Table 13. For discussion purposes, comments are geared to the "total" column which indicates that a specific weaknesses was ranked 1, 2, or 3. The percentages that have been indicated reflect this combining of responses. The greatest weakness indicated was inadequate grammar skills which was indicated by 66 percent of the supervisors. The second greatest weakness ranked by the supervisors was inadequate proofreading skills which was ranked by 44 percent of the respondents.

Needed Competencies and Where They Should be Learned

Each of the word processing supervisors and secretaries was asked to complete a checklist of items consisting of competencies that were deemed as possibly being important for employment in entry-level positions as word processing secretaries. The competencies were broken down into ten categories: (1) typewriting; (2) transcription; (3) records management; (4) telephone; (5) office machines and equipment; (6) data processing; (7) grammatical skills; (8) mathematics; (9) general clerical skills; and (10) administrative duties.

Each of the supervisors and secretaries was asked to check each item as being very important, somewhat important, or unimportant for entry-level word processing operators in the company in which the individual was currently employed. If an item was checked as being very important or somewhat important, the person filling out the checklist was asked to also check where he/she believed the particular competency could best be learned--in school, on the job, both in school and on the job, or no opinion.

TABLE 13

RANKING OF WEAKNESSES OF ENTRY-LEVEL WORD PROCESSING PERSONNEL AS PERCEIVED BY WORD PROCESSING SUPERVISORS (N = 32)

Specific Weakness	Ranked 1	Ranked 2	Ranked 3	Total*	Percent
Inadequate basic typing skills (speed and accurcy)	0	3	1	4	13
Inadequate grammar skills	8	10	3	21	66
Inadequate knowledge of punctuation	1	4	4	9	28
Inadequate proofreading skills	3	3	8	14	44
Inadequate spelling skills	7	3	3	13	41
Inadequate use of dictionary and/or reference materials	1	3	5	9	28
Inadequate vocabulary; lack specialized terminology	1	0	2	3	9
Lack of experience in business world and in the office	5	3	5	13	41
Lack of experience and training on word processing equipment	5	3	0	8	25
Poor attitude	1	0	1	2	6

*Number exceeds 32 because the 32 supervisors indicating the existence of weaknesses were asked to indicate the 3 major weaknesses.

Each category of competencies will be discussed separately; however, the typewriting competencies have been broken down into subgroups. In the analysis of the data, the discussion will first center upon the importance of the various competencies followed by a discussion of where the competencies should be learned.

Typewriting competencies related to equipment operation. Tables 14 through 19, pages 87 through 92, refer to typewriting competencies related to the operation of specific kinds of typing equipment needed by entry-level word processing personnel.

Table 14 presents the data supplied by the word processing secretaries concerning the typewriting competencies related to equipment operation. The competency deemed to be very important by the largest percentage of word processing secretaries surveyed was the ability to operate the electric typewriter and CRT (visual-display) units. Both were cited by 38 percent of the participants as being very important. Next in the frequency distribution, in terms of being identified as very important, was the ability to operate a correcting selectric typewriter, which was cited by 77 percent of the respondents.

When the word processing secretaries who had indicated that a competency was important were asked where a selected competency should be learned, 68 percent said the ability to operate an electric typewriter should be learned in school; and 25 percent indicated that this should be learned both in school and on the job. Sixty percent of the secretaries believed that the ability to operate CRT (visual-display) units should be learned both in school and on the job, and 24 percent believed this

competency should be acquired on the job. Sixty-five percent of the respondents believed that the ability to operate a correcting selectric typewriter should be learned on the job. Table 15 shows these data and may be compared with the information presented in Table 14.

The competency deemed to be very important by the largest number of word processing supervisors surveyed was the ability to operate CRT (visual-display) units. The second most frequently mentioned competency considered to be very important was the ability to operate an electric typewriter, which was mentioned by 40 percent of the supervisors. Table 16 presents these data.

Slightly more than one-half (55 percent) of the word processing supervisors believed that the ability to operate CRT (visual-display) units should be learned in both school and on the job. Twenty-seven percent believed that this competency should be acquired in school. The majority of the participants (88 percent) believed that the ability to operate an electric typewriter should be learned in school. Table 17 shows this information and should be compared with the information presented in Table 16.

Table 18 shows the combined responses of the word processing secretaries and supervisors relating to the typewriting competencies involving equipment operation. The ability to operate CRT (visual-display) units was considered to be very important more than any of the other competencies listed. Fifty percent indicated this competency to be very important, and 39 percent indicated the ability to operate an electric typewriter as being very important.

Nearly three-fifths (57 percent) of all the participants believed the ability to operate CRT (visual-display) units should be learned in school and on the job. Slightly over three-fourths (78 percent) of the participants believed the ability to operate an electric typewriter should be learned in school. These data are presented in Table 19 and should be compared with the information presented in Table 18.

General typewriting competencies. Tables 20 through 25, pages 94 through 99, refer to general typewriting competencies needed by entry-level word processing personnel.

Competency data concerning the level of importance of general typewriting competencies as perceived by the word processing secretaries are shown in Table 20. Two competencies were considered to be equal in terms of being very important--the ability to type letters and memos (62 percent) and the ability to type reports (also 62 percent).

When queried about where the previously mentioned competencies should be learned, the response most often mentioned by the word processing secretaries was that the ability to type letters and reports should be learned in both school and on the job (50 percent), and 43 percent thought the ability to type reports should be learned in both school and on the job. Table 21 presents this information and should be compared with Table 20.

The opinions of the word processing supervisors concerning the importance of the general typewriting competencies are presented in Table 22. The ability to type letters and memos was the competency most often indicated by the supervisors as being very important (74 percent).

TABLE 14

LEVEL OF IMPORTANCE OF TYPEWRITING COMPETENCIES RELATED TO EQUIPMENT OPERATION NEEDED BY ENTRY-LEVEL WORD PROCESSING SECRETARIES ACCORDING TO WORD PROCESSING SECRETARIES (N = 50)

Competencies		Very Important	Somewhat Important	Unimportant
Ability to operate:				
Electric typewriter	No.	19	21	10
	%	38	42	20
Correcting selectric	No.	12	25	13
	%	24	50	26
Facsimile	No.	4	19	27
	%	8	38	54
Memory typewriter	No.	6	19	25
	%	12	38	50
Mag card	No.	11	14	25
	%	22	28	50
CRT (visual-display) units	No.	19	23	8
	%	38	46	16
Phototypesetting equipment	No.	2	9	39
	%	4	18	78
OCR equipment	No.	5	10	35
	%	10	20	70

TABLE 15

WHERE TYPEWRITING COMPETENCIES RELATED TO EQUIPMENT OPERATION SHOULD BE LEARNED BY ENTRY-LEVEL WORD PROCESSING SECRETARIES ACCORDING TO WORD PROCESSING SECRETARIES
(N = 50)

Competencies		Learned In School	Learned On the Job	Learned In School and On the Job	No Opinion
Ability to operate:					
Electric typewriter	No.	27	3	10	0
	%	68	8	25	0
Correcting selectric	No.	24	5	8	0
	%	65	14	22	0
Facsimile	No.	8	4	11	0
	%	35	17	48	0
Memory typewriter	No.	7	3	15	0
	%	28	12	60	0
Mag card	No.	6	7	12	0
	%	24	28	48	0
CRT (visual-display) units	No.	7	10	25	0
	%	17	24	60	0
Phototypesetting equipment	No.	1	5	4	1
	%	9	45	36	9
OCR equipment	No.	1	4	9	1
	%	7	27	60	7

TABLE 16

LEVEL OF IMPORTANCE OF TYPEWRITING COMPETENCIES RELATED TO EQUIPMENT OPERATION NEEDED BY ENTRY-LEVEL WORD PROCESSING SECRETARIES ACCORDING TO WORD PROCESSING SUPERVISORS
(N = 50)

Competencies		Very Important	Somewhat Important	Unimportant
Ability to operate:				
Electric typewriter	No.	20	20	10
	%	40	40	20
Correcting selectric	No.	11	22	17
	%	22	44	34
Facsimile	No.	2	12	36
	%	4	24	72
Memory typewriter	No.	3	22	25
	%	6	44	50
Mag card	No.	5	20	25
	%	10	40	50
CRT (visual-display) units	No.	31	13	6
	%	62	26	12
Phototypesetting equipment	No.	4	7	39
	%	8	14	78
OCR equipment	No.	6	12	32
	%	12	24	64

TABLE 17

WHERE TYPEWRITING COMPETENCIES RELATED TO EQUIPMENT OPERATION SHOULD BE LEARNED BY ENTRY-LEVEL WORD PROCESSING SECRETARIES ACCORDING TO WORD PROCESSING SUPERVISORS
(N = 50)

Competencies		Learned In School	Learned On the Job	Learned In School and On the Job	No Opinion
Ability to operate:					
Electric typewriter	No.	35	0	5	0
	%	88	0	13	0
Correcting selectric	No.	22	7	4	0
	%	67	21	12	0
Facsimile	No.	2	7	4	1
	%	14	50	29	7
Memory typewriter	No.	9	6	9	1
	%	36	24	36	4
Mag card	No.	8	5	11	1
	%	32	20	44	4
CRT (visual-display) units	No.	12	8	24	0
	%	27	18	55	0
Phototypesetting equipment	No.	4	1	6	0
	%	36	9	55	0
OCR equipment	No.	2	9	6	1
	%	11	50	33	6

TABLE 18

LEVEL OF IMPORTANCE OF TYPEWRITING COMPETENCIES RELATED TO EQUIPMENT OPERATION NEEDED BY ENTRY-LEVEL WORD PROCESSING SECRETARIES ACCORDING TO WORD PROCESSING SECRETARIES AND SUPERVISORS (N = 100)

Competencies		Very Important	Somewhat Important	Unimportant
Ability to operate:				
Electric typewriter	No.	39	41	20
	%	39	41	20
Correcting selectric	No.	23	47	30
	%	23	47	30
Facsimile	No.	6	31	63
	%	6	31	63
Memory typewriter	No.	9	41	50
	%	9	41	50
Mag card	No.	16	34	50
	%	16	34	50
CRT (visual-display) units	No.	50	36	14
	%	50	36	14
Phototypesetting equipment	No.	6	16	78
	%	6	16	78
OCR equipment	No.	11	22	67
	%	11	22	67

TABLE 19

WHERE TYPEWRITING COMPETENCIES RELATED TO EQUIPMENT OPERATION SHOULD BE LEARNED BY ENTRY-LEVEL WORD PROCESSING SECRETARIES ACCORDING TO WORD PROCESSING SECRETARIES AND SUPERVISORS (N = 100)

Competencies		Learned In School	Learned On the Job	Learned In School and On the Job	No Opinion
Ability to operate:					
Electric typewriter	No.	62	3	15	0
	%	78	4	19	0
Correcting selectric	No.	46	12	12	0
	%	66	17	17	0
Facsimile	No.	10	11	15	1
	%	27	30	41	3
Memory typewriter	No.	16	9	24	1
	%	32	18	48	2
Mag card	No.	14	12	23	1
	%	28	24	46	2
CRT (visual-display) units	No.	19	18	49	0
	%	22	21	57	0
Phototypesetting equipment	No.	5	6	10	1
	%	23	27	45	5
OCR equipment	No.	3	13	15	2
	%	9	39	45	6

Fifty-eight percent of the supervisors believed the ability to type reports was very important.

Table 23 shows where the word processing supervisors believed the general typewriting competencies should be learned. The ability to type letters and memos should be learned in school according to the majority of the supervisors (51 percent). Nearly one-half (46 percent) of the supervisors believed that the ability to type reports should be learned in school and on the job. This table should be compared with the information presented in Table 22.

Table 24 shows the combined responses of the word processing secretaries and supervisors concerning the importance of the general typewriting competencies. The ability to type letters and memos was considered very important by 68 percent of the participants, and the ability to type reports was considered very important by 60 percent of the participants.

Table 25 presents information concerning where the general typewriting competencies should be learned according to both groups of participants. The ability to type letters and memos should be learned in both school and on the job according to 47 percent of the participants, and the ability to type reports should be learned in both school and on the job according to 44 percent of the participants. This table should be compared with the information presented in Table 24.

TABLE 20

LEVEL OF IMPORTANCE OF GENERAL TYPEWRITING COMPETENCIES NEEDED BY ENTRY-LEVEL WORD PROCESSING SECRETARIES ACCORDING TO WORD PROCESSING SECRETARIES
(N = 50)

Competencies		Very Important	Somewhat Important	Unimportant
Ability to type:				
Letters and memos	No.	31	19	0
	%	62	38	0
Reports	No.	31	16	3
	%	62	32	6
Legal documents	No.	14	24	12
	%	28	48	24
Business forms	No.	15	24	11
	%	30	48	22
Company manual, policies	No.	22	22	6
	%	44	44	12
Tabulated material	No.	23	24	3
	%	46	48	6
Statistical data	No.	20	28	2
	%	40	56	4

TABLE 21

WHERE GENERAL TYPEWRITING COMPETENCIES SHOULD BE LEARNED BY ENTRY-LEVEL WORD PROCESSING SECRETARIES ACCORDING TO WORD PROCESSING SECRETARIES
(N = 50)

Competencies		Learned In School	Learned On the Job	Learned In School and On the Job	No Opinion
Ability to type:					
Letters and memos	No.	19	6	25	0
	%	38	12	50	0
Reports	No.	12	15	20	0
	%	26	32	43	0
Legal documents	No.	8	12	18	0
	%	21	32	47	0
Business forms	No.	6	18	15	0
	%	15	46	38	0
Company manuals, policies	No.	7	25	12	0
	%	16	57	27	0
Tabulated material	No.	19	7	21	0
	%	40	15	45	0
Statistical data	No.	11	6	31	0
	%	23	13	65	0

TABLE 22

LEVEL OF IMPORTANCE OF GENERAL TYPEWRITING COMPETENCIES NEEDED BY ENTRY-LEVEL WORD PROCESSING SECRETARIES ACCORDING TO WORD PROCESSING SUPERVISORS
(N = 50)

Competencies		Very Important	Somewhat Important	Unimportant
Ability to type:				
Letters and memos	No.	37	2	11
	%	74	4	22
Reports	No.	29	19	2
	%	58	38	4
Legal documents	No.	16	17	17
	%	32	34	34
Business forms	No.	16	20	14
	%	32	40	28
Company manual, policies	No.	21	18	11
	%	42	36	22
Tabulated material	No.	28	20	2
	%	56	40	4
Statistical data	No.	20	24	6
	%	40	48	12

TABLE 23

WHERE GENERAL TYPEWRITING COMPETENCIES SHOULD BE LEARNED BY ENTRY-LEVEL WORD PROCESSING SECRETARIES ACCORDING TO WORD PROCESSING SUPERVISORS
(N = 50)

Competencies		Learned In School	Learned On the Job	Learned In School and On the Job	No Opinion
Ability to type:					
Letters and memos	No.	20	2	17	0
	%	51	5	44	0
Reports	No.	7	19	22	0
	%	15	40	46	0
Legal documents	No.	2	16	15	0
	%	6	48	45	0
Business forms	No.	3	17	16	0
	%	8	47	44	0
Company manuals, policies	No.	2	21	16	0
	%	5	54	41	0
Tabulated material	No.	18	10	20	0
	%	38	21	42	0
Statistical data	No.	15	10	19	0
	%	34	23	43	0

TABLE 24

LEVEL OF IMPORTANCE OF GENERAL TYPEWRITING COMPETENCIES NEEDED BY ENTRY-LEVEL WORD PROCESSING SECRETARIES ACCORDING TO WORD PROCESSING SECRETARIES AND SUPERVISORS
(N = 100)

Competencies		Very Important	Somewhat Important	Unimportant
Ability to type:				
Letters and memos	No.	68	21	11
	%	68	21	11
Reports	No.	60	35	5
	%	60	35	5
Legal documents	No.	30	41	29
	%	30	41	29
Business forms	No.	31	44	25
	%	31	44	25
Company manual, policies	No.	43	40	17
	%	43	40	17
Tabulated material	No.	51	44	5
	%	51	44	5
Statistical data	No.	40	52	8
	%	40	52	8

TABLE 25

WHERE GENERAL TYPEWRITING COMPETENCIES SHOULD BE LEARNED BY ENTRY-LEVEL WORD PROCESSING SECRETARIES ACCORDING TO WORD PROCESSING SECRETARIES AND SUPERVISORS
(N = 100)

Competencies		Learned In School	Learned On the Job	Learned In School and On the Job	No Opinion
Ability to type:					
Letters and memos	No.	39	8	42	0
	%	44	9	47	0
Reports	No.	19	34	42	0
	%	20	36	44	0
Legal documents	No.	10	28	33	0
	%	14	39	46	0
Business forms	No.	9	35	31	0
	%	12	47	41	0
Company manuals, policies	No.	9	46	28	0
	%	11	55	34	0
Tabulated material	No.	37	17	41	0
	%	39	18	43	0
Statistical data	No.	26	16	50	0
	%	28	17	54	0

Typewriting competencies related to producing copy from various input. Data concerning producing typewritten copy from various kinds of input are presented in Tables 26 through 31, pages 102 through 107.

Competency data concerning the level of importance of being capable of typing from certain kinds of input according to the word processing secretaries are presented in Table 26. The two competencies most frequently considered very important were the ability to type from rough draft (76 percent) and the ability to type from handwritten notes (64 percent).

When asked about where the previously mentioned competencies should be learned, the response most often checked by the word processing secretaries was that the ability to type from rough draft should be learned both in school and on the job (35 percent), and 51 percent believed the ability to type from handwritten notes should also be learned in school and on the job. Table 27 presents this information and should be related to the information presented in Table 26.

The opinions of the word processing supervisors concerning producing copy from various kinds of input are presented in Table 28. The ability to type from typed copy was considered very important by 70 percent of the supervisors, and the ability to type from handwritten notes was considered very important by 66 percent of the participants. These were the two competencies most frequently checked as being very important.

The opinions of the word processing supervisors concerning where these competencies should be learned are presented in Table 29. Slightly more than two-fifths (42 percent) of the participants believed that the

ability to type from typed copy should be learned in both school and on the job. The ability to type from handwritten notes should be learned in both school and on the job according to nearly one-half (49 percent) of the participants. Table 29 shows these responses and should be viewed in relation to Table 28.

The combined responses of both the word processing secretaries and supervisors concerning producing typewritten copy from various sources of input are presented in Table 30. Seventy-one percent considered the ability to type from rough draft as more important than any of the other competencies listed. Two competencies were next considered to be equal in terms of being very important: the ability to type from handwritten notes and the ability to type from typed copy. Each was checked by 65 percent of the participants.

The combined responses of the secretaries and supervisors concerning where competencies related to producing copy from various kinds of input should be learned are listed in Table 31. The ability to type from rough draft should be learned in both school and on the job according to 41 percent of the participants. One half of the participants believed the ability to type from handwritten notes should be learned in both school and on the job, and slightly more than two-fifths (41 percent) of the participants believed that the ability to type from typed copy should be learned in both school and on the job. These data are presented in Table 31 and should be compared with the data presented in Table 30.

TABLE 26

LEVEL OF IMPORTANCE OF COMPETENCIES RELATED TO PRODUCING TYPEWRITTEN COPY FROM VARIOUS INPUTS NEEDED BY ENTRY-LEVEL WORD PROCESSING SECRETARIES ACCORDING TO WORD PROCESSING SECRETARIES (N = 50)

Competencies		Very Important	Somewhat Important	Unimportant
Ability to type from:				
Shorthand notes	No.	3	8	39
	%	6	16	78
Handwritten notes	No.	32	17	1
	%	64	32	2
Dictation machines	No.	22	16	12
	%	44	32	24
Typed copy	No.	30	16	4
	%	60	32	8
Rough draft	No.	38	11	1
	%	76	22	2

TABLE 27

WHERE COMPETENCIES RELATED TO PRODUCING TYPEWRITTEN COPY FROM VARIOUS INPUTS SHOULD BE LEARNED BY WORD PROCESSING SECRETARIES ACCORDING TO WORD PROCESSING SECRETARIES
(N = 50)

Competencies		Learned In School	Learned On the Job	Learned In School and On the Job	No Opinion
Ability to type from:					
Shorthand notes	No.	8	1	1	1
	%	73	9	9	9
Handwritten notes	No.	6	17	25	1
	%	12	35	51	2
Dictation machines	No.	15	4	19	0
	%	39	11	50	0
Typed copy	No.	19	7	19	1
	%	41	15	41	2
Rough draft	No.	16	16	17	0
	%	33	33	35	0

TABLE 28

LEVEL OF IMPORTANCE OF COMPETENCIES RELATED TO PRODUCING TYPEWRITTEN COPY FROM VARIOUS INPUTS NEEDED BY ENTRY-LEVEL WORD PROCESSING SECRETARIES ACCORDING TO WORD PROCESSING SUPERVISORS (N = 50)

Competencies		Very Important	Somewhat Important	Unimportant
Ability to type from:				
Shorthand notes	No.	0	11	39
	%	0	22	78
Handwritten notes	No.	33	12	5
	%	66	24	10
Dictation machines	No.	24	15	11
	%	48	30	22
Typed copy	No.	35	13	2
	%	70	26	4
Rough draft	No.	33	15	2
	%	66	30	4

TABLE 29

WHERE COMPETENCIES RELATED TO PRODUCING TYPEWRITTEN COPY FROM VARIOUS INPUTS SHOULD BE LEARNED BY WORD PROCESSING SECRETARIES ACCORDING TO WORD PROCESSING SUPERVISORS
(N = 50)

Competencies		Learned In School	Learned On the Job	Learned In School and On the Job	No Opinion
Ability to type from:					
Shorthand notes	No.	11	0	0	0
	%	100	0	0	0
Handwritten notes	No.	8	15	22	0
	%	18	33	49	0
Dictation machines	No.	18	4	17	0
	%	46	10	44	0
Typed copy	No.	18	10	20	0
	%	38	21	42	0
Rough draft	No.	14	11	23	0
	%	29	23	48	0

TABLE 30

LEVEL OF IMPORTANCE OF COMPETENCIES RELATED TO PRODUCING TYPEWRITTEN COPY FROM VARIOUS INPUTS NEEDED BY ENTRY-LEVEL WORD PROCESSING SECRETARIES ACCORDING TO WORD PROCESSING SECRETARIES AND SUPERVISORS (N = 100)

Competencies		Very Important	Somewhat Important	Unimportant
Ability to type from:				
Shorthand notes	No.	3	19	78
	%	3	19	78
Handwritten notes	No.	65	29	6
	%	65	29	6
Dictation machines	No.	46	31	23
	%	46	31	23
Typed copy	No.	65	29	6
	%	65	29	6
Rough draft	No.	71	26	3
	%	71	26	3

TABLE 31

WHERE COMPETENCIES RELATED TO PRODUCING TYPEWRITTEN COPY FROM VARIOUS INPUTS SHOULD BE LEARNED BY WORD PROCESSING SECRETARIES ACCORDING TO WORD PROCESSING SECRETARIES AND SUPERVISORS (N = 100)

Competencies		Learned In School	Learned On the Job	Learned In School and On the Job	No Opinion
Ability to type from:					
Shorthand notes	No.	19	1	1	1
	%	86	5	5	5
Handwritten notes	No.	14	32	47	1
	%	15	34	50	1
Dictation machines	No.	33	8	36	0
	%	43	10	47	0
Typed copy	No.	37	17	39	1
	%	39	18	41	1
Rough draft	No.	30	27	40	0
	%	31	28	41	0

Other typewriting competencies. Tables 32 through 37, pages 110 through 115, refer to the other typewriting competencies needed by entry-level word processing secretaries.

Table 32 presents the data supplied by the word processing secretaries related to the other typewriting competencies. The typewriting competency deemed to be very important by the largest number (82 percent) of word processing secretaries was the ability to type with accuracy. Next in order of frequency as very important was the ability to keyboard documents with satisfactory turnaround time which was checked by 80 percent of the secretaries.

When the word processing secretaries were asked where the competencies should be learned, 47 percent believed that the ability to type with accuracy should be learned in school; and 56 percent of the secretaries believed that the ability to keyboard documents with satisfactory turnaround time should be learned in both school and on the job. These data are presented in Table 33 and should be compared with the information presented in Table 32.

The competency thought to be very important by the largest number (96 percent) of word processing supervisors surveyed was the ability to type with accuracy. Ninety-two percent of the supervisors believed that the ability to keyboard documents with satisfactory turnaround time was very important. This information is presented in Table 34.

Table 35 presents the information related to where the other typewriting competencies should be learned according to the word processing supervisors. The ability to type with accuracy should be learned in school according to 74 percent of the supervisors. The ability to

keyboard documents with satisfactory turnaround time should be learned both in school and on the job according to 52 percent of the supervisors. This table should be compared with Table 34.

Table 36 shows the combined responses of the word processing secretaries and supervisors related to the other typewriting competencies. The two competencies believed to be very important by the largest number of word processing secretaries and supervisors were the ability to type with accuracy (89 percent) and the ability to keyboard documents with satisfactory turnaround time (86 percent).

Slightly more than three-fifths (67 percent) of all the participants believed that the ability to type with speed should be learned in school. Slightly more than one-half (54 percent) of all of the participants believed that the ability to keyboard documents with satisfactory turnaround time should be learned both in school and on the job. Information related to the combined responses of the secretaries and supervisors concerning the other typewriting competencies is presented in Table 37. This table should be compared with Table 36.

Transcription competencies. Tables 38 through 43, pages 118 through 123, refer to the transcription competencies needed by entry-level word processing secretaries. While some of the competencies listed are not actual components of the transcription process per se, it was believed that they more accurately deal with this area than any of the other clusters of competencies analyzed; therefore, the five individual competencies have been grouped together under the area of transcription.

TABLE 32

LEVEL OF IMPORTANCE OF OTHER TYPEWRITING COMPETENCIES NEEDED BY ENTRY-LEVEL WORD PROCESSING SECRETARIES ACCORDING TO WORD PROCESSING SECRETARIES
(N = 50)

Competencies		Very Important	Somewhat Important	Unimportant
Ability to:				
Type with speed	No.	16	34	0
	%	32	68	0
Type with accuracy	No.	41	8	1
	%	82	16	2
Keyboard information on magnetic media	No.	24	17	9
	%	48	34	18
Change typewriter ribbons, care for equipment	No.	25	21	4
	%	50	42	8
Keyboard documents with satisfactory turnaround time	No.	40	10	0
	%	80	20	0
Produce copy by automatic playback	No.	21	16	13
	%	42	32	26
Revise previously typed work by correcting magnetic media	No.	25	14	11
	%	50	28	22

TABLE 33

WHERE OTHER TYPEWRITING COMPETENCIES NEEDED BY ENTRY-LEVEL WORD PROCESSING SECRETARIES SHOULD BE LEARNED ACCORDING TO WORD PROCESSING SECRETARIES
(N = 50)

Competencies		Learned In School	Learned On the Job	Learned In School and On the Job	No Opinion
Ability to:					
Type with speed	No.	24	6	20	0
	%	48	12	40	0
Type with accuracy	No.	23	4	22	0
	%	47	8	45	0
Keyboard information on magnetic media	No.	10	12	19	0
	%	24	29	46	0
Change typewriter ribbons, care for equipment	No.	17	5	24	0
	%	37	11	52	0
Keyboard documents with satisfactory turnaround time	No.	9	13	28	0
	%	18	26	56	0
Produce copy by automatic playback	No.	9	12	16	0
	%	24	32	43	0
Revise previously typed work by correcting magnetic media	No.	5	12	22	0
	%	13	31	56	0

TABLE 34

LEVEL OF IMPORTANCE OF OTHER TYPEWRITING COMPETENCIES NEEDED BY ENTRY-LEVEL WORD PROCESSING SECRETARIES ACCORDING TO WORD PROCESSING SUPERVISORS
(N = 50)

Competencies		Very Important	Somewhat Important	Unimportant
Ability to:				
Type with speed	No.	22	26	2
	%	44	52	4
Type with accuracy	No.	48	2	0
	%	96	4	0
Keyboard information on magnetic media	No.	20	17	13
	%	40	34	26
Change typewriter ribbons, care for equipment	No.	27	14	19
	%	54	28	38
Keyboard documents with satisfactory turnaround time	No.	46	4	0
	%	92	8	0
Produce copy by automatic playback	No.	23	13	14
	%	46	26	28
Revise previously typed work by correcting magnetic media	No.	27	13	10
	%	54	26	20

TABLE 35

WHERE OTHER TYPEWRITING COMPETENCIES NEEDED BY ENTRY-LEVEL WORD PROCESSING SECRETARIES SHOULD BE LEARNED ACCORDING TO WORD PROCESSING SUPERVISORS
(N = 50)

Competencies		Learned In School	Learned On the Job	Learned In School and On the Job	No Opinion
Ability to:					
Type with speed	No.	34	2	14	0
	%	68	4	28	0
Type with accuracy	No.	37	2	11	0
	%	74	4	22	0
Keyboard information on magnetic media	No.	5	10	22	0
	%	14	27	59	0
Change typewriter ribbons, care for equipment	No.	16	9	16	0
	%	39	22	39	0
Keyboard documents with satisfactory turnaround time	No.	4	20	26	0
	%	8	40	52	0
Produce copy by automatic playback	No.	7	11	18	0
	%	19	31	50	0
Revise previously typed work by correcting magnetic media	No.	9	10	21	0
	%	23	25	53	0

TABLE 36

LEVEL OF IMPORTANCE OF OTHER TYPEWRITING COMPETENCIES NEEDED BY ENTRY-LEVEL WORD PROCESSING SECRETARIES ACCORDING TO WORD PROCESSING SECRETARIES AND SUPERVISORS
(N = 100)

Competencies		Very Important	Somewhat Important	Unimportant
Ability to:				
Type with speed	No.	38	60	2
	%	38	60	2
Type with accuracy	No.	89	10	1
	%	89	10	1
Keyboard information on magnetic media	No.	44	34	22
	%	44	34	22
Change typewriter ribbons, care for equipment	No.	52	35	13
	%	52	35	13
Keyboard documents with satisfactory turnaround time	No.	86	14	0
	%	86	14	0
Produce copy by automatic playback	No.	44	29	27
	%	44	29	27
Revise previously typed work by correcting magnetic media	No.	52	27	21
	%	52	27	21

TABLE 37

WHERE OTHER TYPEWRITING COMPETENCIES NEEDED BY ENTRY-LEVEL WORD PROCESSING SECRETARIES SHOULD BE LEARNED ACCORDING TO WORD PROCESSING SECRETARIES AND SUPERVISORS
(N = 100)

Competencies		Learned In School	Learned On the Job	Learned In School and On the Job	No Opinion
Ability to:					
Type with speed	No.	58	8	34	0
	%	58	8	34	0
Type with accuracy	No.	60	6	33	0
	%	61	6	33	0
Keyboard information on magnetic media	No.	15	22	41	0
	%	19	28	53	0
Change typewriter ribbons, care for equipment	No.	33	14	40	0
	%	38	16	46	0
Keyboard documents with satisfactory turnaround time	No.	13	33	54	0
	%	13	33	54	0
Produce copy by automatic playback	No.	16	23	34	0
	%	22	32	47	0
Revise previously typed work by correcting magnetic media	No.	14	22	43	0
	%	18	28	54	0

Table 38 presents the data relative to transcription competencies needed by entry-level word processing secretaries as viewed by word processing secretaries. The competency determined to be very important by the largest number of word processing secretaries was the ability to demonstrate competency in listening and following directions (94 percent). The next competency in the frequency distribution considered to be very important was the ability to prioritize documents and tasks, which was cited by 76 percent of the secretaries.

Table 42 shows that the word processing secretaries believed that the ability to demonstrate competency in listening and following directions should be learned in both school and on the job (54 percent). The ability to prioritize documents, which was the competency next most frequently cited as being very important, should be learned on the job, according to 42 percent of the secretaries. For further analysis, this information should be compared with the information presented in Table 38.

Information concerning the importance of the various transcription competencies as perceived by the word processing supervisors is presented in Table 40. As with the word processing secretaries, 94 percent of the word processing supervisors believed that the ability to demonstrate competency in listening skills and following directions was very important. This was the competency most often checked as being very important by the word processing supervisors. The ability to handle confidential correspondence and data was the second item most often listed as being very important which was checked by 66 percent of the supervisors.

When queried about where the transcription competencies should be learned, one-half (50 percent) of the supervisors believed that the ability to demonstrate competency in listening skills and following directions should be learned in school and on the job; 44 percent believed that this competency should be learned in school. The ability to handle confidential correspondence and data can best be learned in school and on the job according to nearly one-half (48 percent) of the supervisors; 39 percent of the supervisors believed that this competency could best be learned on the job. These data are presented in Table 41 and should be compared with the information presented in Table 40.

The combined opinions of the word processing secretaries and supervisors concerning the level of importance of the various transcription competencies are presented in Table 42. Ninety-five percent of those surveyed believed that the ability to demonstrate competency in listening skills and following directions was very important. Sixty-eight percent believed that the ability to proofread all typed documents was very important.

In the combined responses, slightly more than one-half (52 percent) believed that the ability to demonstrate competency in listening skills and following directions should be learned in both school and on the job. Forty-six percent of the participants believed that the ability to proofread all typed documents should be learned in both school and on the job. These data are presented in Table 43. For purposes of analysis, this table should be compared with Table 42.

TABLE 38

LEVEL OF IMPORTANCE OF TRANSCRIPTION COMPETENCIES NEEDED BY ENTRY-LEVEL WORD PROCESSING SECRETARIES ACCORDING TO WORD PROCESSING SECRETARIES
(N = 50)

Competencies		Very Important	Somewhat Important	Unimportant
Ability to:				
Transcribe machine dictation (recorded media) with speed and accuracy	No.	23	16	11
	%	46	32	22
Demonstrate competency in listening skills, following directions	No.	47	3	0
	%	94	6	0
Prioritize documents, tasks	No.	38	12	0
	%	76	24	0
Proofread all typed documents	No.	36	12	2
	%	74	24	4
Handle confidential correspondence, data	No.	34	13	3
	%	68	26	6

TABLE 39

WHERE TRANSCRIPTION COMPETENCIES SHOULD BE LEARNED BY ENTRY-LEVEL WORD PROCESSING SECRETARIES ACCORDING TO WORD PROCESSING SECRETARIES
(N = 50)

Competencies		Learned In School	Learned On the Job	Learned In School and On the Job	No Opinion
Ability to:					
Transcribe machine dictation (recorded media) with speed and accuracy	No.	13	5	21	0
	%	33	13	54	0
Demonstrate competency in listening skills, following directions	No.	45	8	27	0
	%	30	16	54	0
Prioritize documents, tasks	No.	6	23	21	0
	%	12	46	42	0
Proofread all typed documents	No.	14	9	25	0
	%	29	19	52	0
Handle confidential correspondence, data	No.	6	20	21	0
	%	13	43	45	0

TABLE 40

LEVEL OF IMPORTANCE OF TRANSCRIPTION COMPETENCIES NEEDED BY ENTRY-LEVEL WORD PROCESSING SECRETARIES ACCORDING TO WORD PROCESSING SUPERVISORS
(N = 50)

Competencies		Very Important	Somewhat Important	Unimportant
Ability to:				
Transcribe machine dictation (recorded media) with speed and accuracy	No.	25	15	10
	%	50	30	20
Demonstrate competency in listening skills, following directions	No.	47	3	0
	%	94	6	0
Prioritize documents, tasks	No.	29	14	7
	%	58	28	14
Proofread all typed documents	No.	32	12	6
	%	64	24	12
Handle confidential correspondence, data	No.	33	11	6
	%	66	22	12

TABLE 41

WHERE TRANSCRIPTION COMPETENCIES SHOULD BE LEARNED BY ENTRY-LEVEL WORD PROCESSING SECRETARIES ACCORDING TO WORD PROCESSING SUPERVISORS
(N = 50)

Competencies		Learned In School	Learned On the Job	Learned In School and On the Job	No Opinion
Ability to:					
Transcribe machine dictation (recorded media) with speed and accuracy	No.	17	6	17	0
	%	43	15	43	0
Demonstrate competency in listening skills, following directions	No.	22	3	25	0
	%	44	6	50	0
Prioritize documents, tasks	No.	5	20	18	0
	%	12	47	42	0
Proofread all typed documents	No.	20	7	17	0
	%	45	16	39	0
Handle confidential correspondence, data	No.	6	17	21	0
	%	14	39	48	0

TABLE 42

LEVEL OF IMPORTANCE OF TRANSCRIPTION COMPETENCIES NEEDED BY ENTRY-LEVEL WORD PROCESSING SECRETARIES ACCORDING TO WORD PROCESSING SECRETARIES AND SUPERVISORS
(N = 100)

Competencies		Very Important	Somewhat Important	Unimportant
Ability to:				
Transcribe machine dictation (recorded media) with speed and accuracy	No.	48	31	21
	%	48	31	21
Demonstrate competency in listening skills, following directions	No.	94	6	0
	%	94	6	0
Prioritize documents, tasks	No.	67	26	7
	%	67	26	7
Proofread all typed documents	No.	68	24	8
	%	68	24	8
Handle confidential correspondence, data	No.	67	24	9
	%	67	24	9

TABLE 43

WHERE TRANSCRIPTION COMPETENCIES SHOULD BE LEARNED BY ENTRY-LEVEL WORD PROCESSING SECRETARIES ACCORDING TO WORD PROCESSING SECRETARIES AND SUPERVISORS
(N = 100)

Competencies		Learned In School	Learned On the Job	Learned In School and On the Job	No Opinion
Ability to:					
Transcribe machine dictation (recorded media) with speed and accuracy	No.	30	11	38	0
	%	38	14	48	0
Demonstrate competency in listening skills, following directions	No.	37	11	52	0
	%	37	11	52	0
Prioritize documents, tasks	No.	11	43	39	0
	%	12	46	42	0
Proofread all typed documents	No.	34	16	42	0
	%	37	17	46	0
Handle confidential correspondence, data	No.	12	37	42	0
	%	13	41	46	0

Records management competencies. The word processing secretaries and supervisors were asked the level of importance that they attached to certain records management competencies for entry-level word processing secretaries. Tables 44 through 49, pages 128 through 133, present this information.

The responses of the word processing secretaries concerning the importance of the various records management competencies are presented in Table 44. Over three-fourths of the secretaries (76 percent) stated that ability to interpret a coding system for documents typed in the word processing center was very important. The ability to organize and maintain a filing system for stored or recorded media was the next most frequently checked competency as being very important; it was checked by 64 percent of the secretaries.

Table 45 presents the opinions of the word processing secretaries as to where the records management competencies should be learned. The competency most frequently checked as being very important, the ability to interpret a coding system for documents typed in the word processing center, can best be learned on the job according to 47 percent of the secretaries. An almost equal number (45 percent), however, believed that this competency should be learned in both school and on the job. The ability to organize and maintain a filing system for stored or recorded media was checked by an equal number of secretaries (46 percent) as being best learned on the job and learned both in school and on the job. The data presented in this table should be compared with the data presented in Table 44.

Table 46 presents the opinions of the word processing supervisors concerning the importance of the various records management competencies. An equal number of supervisors (one-half--50 percent) checked two competencies as being very important more than any of the others listed. These competencies were the ability to use a filing system and ability to interpret a coding system for documents typed in a word processing center. The next most frequently checked competency as being very important was the ability to organize and maintain a filing system for stored or recorded media. This competency was checked by 44 percent of the secretaries.

When queried about where the various records management competencies should be learned, an equal number (36 percent) believed that the ability to use a filing system should be learned in school and both in school and on the job. The ability to interpret a coding system for documents typed in a word processing center could best be learned on the job according to 53 percent of the secretaries. The ability to organize and maintain a filing system for stored or recorded media could best be learned in both school and on the job according to 44 percent of the supervisors. These data are shown in Table 47 and should be compared with the information presented in Table 46.

Table 48 shows the combined responses of the word processing secretaries and supervisors concerning the various records management competencies. The ability to interpret a coding system for documents typed in the word processing center was the item most frequently checked in the combined responses (63 percent). The second most frequently checked item was the ability to organize and maintain a filing system for

stored or recorded media which was checked by 54 percent of the participants.

Nearly one-half of the participants (49 percent) believed that the ability to interpret a coding system for documents typed in the word processing center could best be learned on the job. The ability to organize and maintain a filing system for stored or recorded media could best be learned in both school and on the job according to 45 percent of the participants. Table 49 presents the combined responses of the word processing secretaries and supervisors concerning where they believed the various records management competencies could best be learned. For purposes of analysis, this table should be compared with Table 48.

Telephone competency. The word processing secretaries and supervisors were asked to evaluate only one telephone competency, which was the ability to handle telephone duties. Information related to this competency is presented in Tables 50 through 55, pages 134 through 139.

Table 50 shows that the ability to handle telephone duties was considered very important by 40 percent of the secretaries. An almost equal number, 38 percent, considered this duty to be somewhat important.

Table 51 shows that nearly one-half (49 percent) of the secretaries believed that the ability to handle telephone duties should be learned both in school and on the job. This table should be compared with Table 50.

The ability to handle telephone duties was considered very important by 46 percent of the word processing supervisors; 32 percent considered this duty to be somewhat important. This information is seen in Table 52.

In the combined responses of the word processing secretaries and supervisors, 43 percent believed that the ability to handle telephone duties was very important. This information is shown in Table 54.

Forty-five percent of the word processing secretaries and supervisors believed that this competency should be learned both in school and on the job. This information is presented in Table 55 and should be compared with the information that is presented in Table 54.

Office machines and equipment competencies. The word processing secretaries and supervisors were asked to identify the level of importance they attached to selected office machines and equipment competencies for entry-level word processing secretaries. If a particular competency was identified as being important, the secretary or supervisor was then asked to identify where he/she believed the competency could best be learned. Tables 56 through 61, pages 142 through 147, present the data related to the various office machines and equipment competencies.

The ability to operate dictation equipment (individualized) was the competency most frequently checked by the secretaries as being very important (36 percent). The second most frequently checked competency was the ability to monitor dictation equipment (centralized) which was checked by 22 percent of the secretaries. These data are shown in Table 56.

Two-fifths (40 percent) of the secretaries believed that the ability to operate dictation equipment would best be learned both in school and on the job. An almost equal number (37 percent) believed that this competency should be learned in school. The ability to monitor dictation equipment (centralized) should be learned both in school and on the job

TABLE 44

LEVEL OF IMPORTANCE OF RECORDS MANAGEMENT COMPETENCIES NEEDED BY ENTRY-LEVEL WORD PROCESSING SECRETARIES ACCORDING TO WORD PROCESSING SECRETARIES
(N = 50)

Competencies		Very Important	Somewhat Important	Unimportant
Ability to:				
Use a filing system	No.	24	22	4
	%	48	44	8
Organize and maintain a retention filing system	No.	23	22	5
	%	46	44	10
Organize and maintain a filing system for stored or recorded media	No.	32	16	2
	%	64	32	4
Interpret a coding system for documents typed in word processing center	No.	38	11	1
	%	76	22	2

TABLE 45

WHERE RECORDS MANAGEMENT COMPETENCIES SHOULD BE LEARNED BY ENTRY-LEVEL WORD PROCESSING SECRETARIES ACCORDING TO WORD PROCESSING SECRETARIES
(N = 50)

Competencies		Learned In School	Learned On the Job	Learned In School and On the Job	No Opinion
Ability to:					
Use a filing system	No.	12	16	18	0
	%	26	35	39	0
Organize and maintain a retention filing system	No.	7	19	19	0
	%	16	42	42	0
Organize and maintain a filing system for stored or recorded media	No.	4	22	22	0
	%	8	46	46	0
Interpret a coding system for documents typed in word processing center	No.	4	23	22	0
	%	8	47	45	0

TABLE 46

LEVEL OF IMPORTANCE OF RECORDS MANAGEMENT COMPETENCIES NEEDED BY ENTRY-LEVEL WORD PROCESSING SECRETARIES ACCORDING TO WORD PROCESSING SUPERVISORS
(N = 50)

Competencies		Very Important	Somewhat Important	Unimportant
Ability to:				
Use a filing system	No.	25	11	14
	%	50	22	28
Organize and maintain a retention filing system	No.	18	16	16
	%	36	32	32
Organize and maintain a filing system for stored or recorded media	No.	22	17	11
	%	44	34	22
Interpret a coding system for documents typed in word processing center	No.	25	15	10
	%	50	30	20

TABLE 47

WHERE RECORDS MANAGEMENT COMPETENCIES SHOULD BE LEARNED BY ENTRY-LEVEL WORD PROCESSING SECRETARIES ACCORDING TO WORD PROCESSING SUPERVISORS
(N = 50)

Competencies		Learned In School	Learned On the Job	Learned In School and On the Job	No Opinion
Ability to:					
Use a filing system	No.	13	10	13	0
	%	36	28	36	0
Organize and maintain a retention filing system	No.	7	12	15	0
	%	21	35	44	0
Organize and maintain a filing system for stored or recorded media	No.	8	14	17	0
	%	21	36	44	0
Interpret a coding system for documents typed in word processing center	No.	4	21	15	0
	%	10	53	38	0

TABLE 48

LEVEL OF IMPORTANCE OF RECORDS MANAGEMENT COMPETENCIES NEEDED BY ENTRY-LEVEL WORD PROCESSING SECRETARIES ACCORDING TO WORD PROCESSING SECRETARIES AND SUPERVISORS
(N = 100)

Competencies		Very Important	Somewhat Important	Unimportant
Ability to:				
Use a filing system	No.	49	33	18
	%	49	33	18
Organize and maintain a retention filing system	No.	41	38	21
	%	41	38	21
Organize and maintain a filing system for stored or recorded media	No.	54	33	13
	%	54	33	13
Interpret a coding system for documents typed in word processing center	No.	63	26	11
	%	63	26	11

TABLE 49

WHERE RECORDS MANAGEMENT COMPETENCIES SHOULD BE LEARNED BY ENTRY-LEVEL WORD PROCESSING SECRETARIES ACCORDING TO WORD PROCESSING SECRETARIES AND SUPERVISORS
(N = 100)

Competencies		Learned In School	Learned On the Job	Learned In School and On the Job	No Opinion
Ability to:					
Use a filing system	No.	25	26	31	0
	%	30	32	38	0
Organize and maintain a retention filing system	No.	14	31	34	0
	%	18	39	43	0
Organize and maintain a filing system for stored or recorded media	No.	12	36	39	0
	%	14	41	45	0
Interpret a coding system for documents typed in word processing center	No.	8	44	37	0
	%	9	49	42	0

TABLE 50

LEVEL OF IMPORTANCE OF TELEPHONE COMPETENCY NEEDED BY ENTRY-LEVEL WORD PROCESSING SECRETARIES ACCORDING TO WORD PROCESSING SECRETARIES
(N = 50)

Competency		Very Important	Somewhat Important	Unimportant
Ability to:				
Handle telephone duties	No.	20	19	11
	%	40	38	22

TABLE 51

WHERE TELEPHONE COMPETENCY SHOULD BE LEARNED BY ENTRY-LEVEL WORD PROCESSING SECRETARIES ACCORDING TO WORD PROCESSING SECRETARIES
(N = 50)

Competency		Learned In School	Learned On the Job	Learned In School and On the Job	No Opinion
Ability to:					
Handle telephone duties	No.	6	12	19	2
		15	31	49	5

TABLE 52

LEVEL OF IMPORTANCE OF TELEPHONE COMPETENCY NEEDED BY ENTRY-LEVEL WORD PROCESSING SECRETARIES ACCORDING TO WORD PROCESSING SUPERVISORS
(N = 50)

Competency		Very Important	Somewhat Important	Unimportant
Ability to:				
Handle telephone duties	No.	23	16	11
	%	46	32	22

TABLE 53

WHERE TELEPHONE COMPETENCY SHOULD BE LEARNED BY ENTRY-LEVEL WORD PROCESSING SECRETARIES ACCORDING TO WORD PROCESSING SUPERVISORS
(N = 50)

Competency		Learned In School	Learned On the Job	Learned In School and On the Job	No Opinion
Ability to:					
Handle telephone duties	No.	13	10	15	1
	%	33	26	38	3

TABLE 54

LEVEL OF IMPORTANCE OF TELEPHONE COMPETENCY NEEDED BY ENTRY-LEVEL WORD PROCESSING SECRETARIES ACCORDING TO WORD PROCESSING SECRETARIES AND SUPERVISORS
(N = 100)

Competency		Very Important	Somewhat Important	Unimportant
Ability to:				
Handle telephone duties	No.	43	35	22
	%	43	35	22

TABLE 55

WHERE TELEPHONE COMPETENCY SHOULD BE LEARNED BY ENTRY-LEVEL WORD PROCESSING SECRETARIES ACCORDING TO WORD PROCESSING SECRETARIES AND SUPERVISORS
(N = 100)

Competency		Learned In School	Learned On the Job	Learned In School and On the Job	No Opinion
Ability to:					
Handle telephone duties	No.	19	22	34	3
	%	24	28	44	4

according to 46 percent of the secretaries. Table 57 shows the opinions of the secretaries as to where office machines and equipment competencies should be acquired. The information presented in this table should be compared with the information presented in Table 56.

Table 58 shows the level of importance indicated by the word processing supervisors concerning office machines and equipment competencies. The ability to operate dictation equipment (individualized) was considered very important by 44 percent of the word processing supervisors. The next most frequently checked competency in terms of being very important was the ability to monitor dictation equipment which was checked by 24 percent of the supervisors.

One-half of the word processing supervisors believed that the ability to operate dictation equipment (individualized) should be learned in school. Slightly more than two-fifths (42 percent) believed that the ability to monitor dictation equipment (centralized) should be learned on the job. Information concerning where the office machines and equipment competencies should be learned according to the word processing supervisors is presented in Table 59. For purposes of analysis, these data should be examined and compared with the information in Table 58.

The combined responses of the word processing secretaries and supervisors concerning the level of importance of office machines and equipment competencies are presented in Table 60. The ability to operate dictation equipment (individualized) was the competency most frequently listed as being very important; two-fifths (40 percent) of the participants checked this item. The ability to monitor dictation equipment (centralized) was checked by 23 percent of the participants as being very important.

Table 61 shows the combined responses of the word processing secretaries and supervisors concerning where the office machines and equipment competencies should be learned. Slightly more than two-fifths (44 percent) believed that the ability to operate dictation equipment (individualized) should be learned in school. The ability to monitor dictation equipment (centralized) should be learned both in school and on the job according to 40 percent of the secretaries and supervisors. This information should be compared with the information presented in Table 60.

Data processing competencies. The word processing secretaries and supervisors were queried about the level of importance they attached to certain data processing competencies for entry-level word processing secretaries and, if important, where the competencies should be learned. These data are presented in Tables 62 through 67, pages 150 through 155.

Table 62 shows the level of importance of the various data processing competencies needed by entry-level word processing secretaries according to the word processing secretaries. Only a very small number of secretaries considered any of the data processing competencies to be very important. Each of the following three competencies was checked as being very important by six (12 percent) of the word processing secretaries: ability to program word processor in BASIC, to use and understand BASIC and other computer languages, and to use data-entry equipment.

Table 63 shows where the secretaries believed these competencies should be learned. The ability to program the word processor in BASIC should be learned both in school and on the job according to 55 percent

TABLE 56

LEVEL OF IMPORTANCE OF OFFICE MACHINES AND EQUIPMENT COMPETENCIES NEEDED BY ENTRY-LEVEL WORD PROCESSING SECRETARIES ACCORDING TO WORD PROCESSING SECRETARIES
(N = 50)

Competencies		Very Important	Somewhat Important	Unimportant
Ability to:				
Operate copier	No.	8	29	13
	%	16	58	26
Operate dictation equipment (individualized)	No.	18	17	15
	%	36	34	30
Monitor dictation equipment (centralized)	No.	11	13	26
	%	22	26	52
Utilize endless loop, phone-in, or remote systems	No.	3	17	30
	%	6	34	60
Operate adding machine	No.	4	13	33
	%	8	26	66
Operate electronic calculator	No.	2	15	33
	%	4	30	66

TABLE 57

WHERE OFFICE MACHINES AND EQUIPMENT COMPETENCIES SHOULD BE LEARNED BY ENTRY-LEVEL WORD PROCESSING SECRETARIES ACCORDING TO WORD PROCESSING SECRETARIES (N = 50)

Competencies		Learned In School	Learned On the Job	Learned In School and On the Job	No Opinion
Ability to:					
Operate copier	No.	8	15	13	1
	%	22	41	35	3
Operate dictation equipment (individualized)	No.	13	7	14	1
	%	37	20	40	3
Monitor dictation equipment (centralized)	No.	5	8	11	0
	%	21	33	46	0
Utilize endless loop, phone-in, or remote systems	No.	2	8	10	0
	%	10	40	50	0
Operate adding machine	No.	12	1	4	0
	%	71	6	24	0
Operate electronic calculator	No.	12	3	2	0
	%	71	18	12	0

TABLE 58

LEVEL OF IMPORTANCE OF OFFICE MACHINES AND EQUIPMENT COMPETENCIES NEEDED BY ENTRY-LEVEL WORD PROCESSING SECRETARIES ACCORDING TO WORD PROCESSING SUPERVISORS
(N = 50)

Competencies		Very Important	Somewhat Important	Unimportant
Ability to:				
Operate copier	No.	10	22	18
	%	20	44	36
Operate dictation equipment (individualized)	No.	22	14	14
	%	44	28	28
Monitor dictation equipment (centralized)	No.	12	14	24
	%	24	28	48
Utilize endless loop, phone-in, or remote systems	No.	6	15	29
	%	12	30	58
Operate adding machine	No.	1	18	31
	%	2	36	62
Operate electronic calculator	No.	1	18	31
	%	2	36	62

TABLE 59

WHERE OFFICE MACHINES AND EQUIPMENT COMPETENCIES SHOULD BE LEARNED BY ENTRY-LEVEL WORD PROCESSING SECRETARIES ACCORDING TO WORD PROCESSING SUPERVISORS
(N = 50)

Competencies		Learned In School	Learned On the Job	Learned In School and On the Job	No Opinion
Ability to:					
Operate copier	No.	8	16	6	2
	%	25	50	19	6
Operate dictation equipment (individualized)	No.	18	5	13	0
	%	50	14	36	0
Monitor dictation equipment (centralized)	No.	6	11	9	0
	%	23	42	35	0
Utilize endless loop, phone-in, or remote systems	No.	4	10	5	2
	%	19	48	24	10
Operate adding machine	No.	11	2	6	0
	%	58	11	32	0
Operate electronic calculator	No.	11	2	6	0
	%	58	11	32	0

TABLE 60

LEVEL OF IMPORTANCE OF OFFICE MACHINES AND EQUIPMENT COMPETENCIES NEEDED BY ENTRY-LEVEL WORD PROCESSING SECRETARIES ACCORDING TO WORD PROCESSING SECRETARIES AND SUPERVISORS (N = 100)

Competencies		Very Important	Somewhat Important	Unimportant
Ability to:				
Operate copier	No.	18	51	31
	%	18	51	31
Operate dictation equipment (individualized)	No.	40	31	29
	%	40	31	29
Monitor dictation equipment (centralized)	No.	23	17	50
	%	23	17	50
Utilize endless loop, phone-in, or remote systems	No.	9	32	59
	%	9	32	59
Operate adding machine	No.	5	31	64
	%	5	31	64
Operate electronic calculator	No.	3	33	64
	%	3	33	64

TABLE 61

WHERE OFFICE MACHINES AND EQUIPMENT COMPETENCIES SHOULD BE LEARNED BY ENTRY-LEVEL WORD PROCESSING SECRETARIES ACCORDING TO WORD PROCESSING SECRETARIES AND SUPERVISORS
(N = 100)

Competencies		Learned In School	Learned On the Job	Learned In School and On the Job	No Opinion
Ability to:					
Operate copier	No.	16	31	19	3
	%	23	45	28	4
Operate dictation equipment (individualized)	No.	31	12	27	1
	%	44	17	38	1
Monitor dictation equipment (centralized)	No.	11	19	20	0
	%	22	38	40	0
Utilize endless loop, phone-in, or remote systems	No.	6	18	15	2
	%	15	44	37	5
Operate adding machine	No.	23	3	10	0
	%	64	8	28	0
Operate electronic calculator	No.	23	5	8	0
	%	64	14	22	0

of the secretaries; the ability to use BASIC and other computer languages should be learned in school according to 53 percent of the secretaries; and the ability to use data-entry equipment should be learned both in school and on the job according to 69 percent of the secretaries. This information is presented in Table 63 and should be compared with the information presented in Table 62.

Very little importance was ascribed to the data processing competencies by the great majority of word processing supervisors. This information can be seen in Table 64. According to 3 (6 percent) of the supervisors, the ability to program the word processor in BASIC and the ability to use data-entry equipment were very important competencies.

An equal number of supervisors (4 or 44 percent) believed that the ability to program the word processor in BASIC should be learned in school and both in school and on the job. Ten, or 59 percent, of the supervisors believed that the ability to use data-entry equipment should be learned both in school and on the job. Table 65 presents these data and should be compared with the data presented in Table 64.

In the combined responses of the word processing secretaries and supervisors concerning the level of importance of the data processing competencies, 9 percent believed the ability to program the word processor in BASIC was very important; and 9 percent considered the ability to use data-entry equipment as being very importnat. Information related to the importance of data processing competencies as indicated by the aggregate responses of the word processing secretaries and supervisors can be seen in Table 66.

Table 67 shows the combined responses of the word processing secretaries and supervisors concerning where the data processing competencies should be learned. Slightly more than one-half (52 percent) believed that the ability to program the word processor in BASIC should be learned both in school and on the job. Sixty-four percent believed that the ability to use data-entry equipment should be learned both in school and on the job. This information should be compared with the data in Table 66.

Grammatical competencies. The word processing supervisors were asked the level of importance they attached to a series of grammatical competencies and, if important, where they believed these competencies should be learned. Tables 68 through 73, pages 157 through 162, present these data.

Table 68 shows how important the various grammatical competencies are according to the word processing secretaries. The ability to spell was considered to be very important by nearly all (98 percent) of the secretaries. The second most frequently chosen grammatical competency was the ability to punctuate and capitalize which was cited by 96 percent of the secretaries as being very important.

When asked where these competencies should be learned, 68 percent believed that the ability to spell should be learned in school. Nearly three-fourths (74 percent) believed that the ability to punctuate and capitalize should be learned in school. Table 69 presents the opinions of the secretaries as to where the grammatical competencies should be learned and should be viewed in relation to Table 68.

TABLE 62

LEVEL OF IMPORTANCE OF DATA PROCESSING COMPETENCIES NEEDED BY ENTRY-LEVEL WORD PROCESSING SECRETARIES ACCORDING TO WORD PROCESSING SECRETARIES
(N = 50)

Competencies		Very Important	Somewhat Important	Unimportant
Ability to:				
Program word processor in BASIC	No.	6	14	30
	%	12	28	60
Use and understand BASIC and other computer languages	No.	6	13	31
	%	12	26	62
Interpret computer printouts	No.	4	9	37
	%	8	18	74
Use data-entry equipment	No.	6	10	34
	%	12	20	68

TABLE 63

WHERE DATA PROCESSING COMPETENCIES SHOULD BE LEARNED BY ENTRY-LEVEL WORD PROCESSING SECRETARIES ACCORDING TO WORD PROCESSING SECRETARIES
(N = 50)

Competencies		Learned In School	Learned On the Job	Learned In School and On the Job	No Opinion
Ability to:					
Program word processor in BASIC	No.	8	1	11	0
	%	40	5	55	0
Use and understand BASIC and other computer languages	No.	10	1	8	0
	%	53	5	42	0
Interpret computer printouts	No.	6	1	6	0
	%	46	8	46	0
Use data-entry equipment	No.	5	0	11	0
	%	31	0	69	0

TABLE 64

LEVEL OF IMPORTANCE OF DATA PROCESSING COMPETENCIES NEEDED BY ENTRY-LEVEL WORD PROCESSING SECRETARIES ACCORDING TO WORD PROCESSING SUPERVISORS
(N = 50)

Competencies		Very Important	Somewhat Important	Unimportant
Ability to:				
Program word processor in BASIC	No.	3	6	41
	%	6	12	82
Use and understand BASIC and other computer languages	No.	2	8	40
	%	4	16	80
Interpret computer printouts	No.	2	13	35
	%	4	26	70
Use data-entry equipment	No.	3	14	33
	%	6	28	66

TABLE 65

WHERE DATA PROCESSING COMPETENCIES SHOULD BE LEARNED BY ENTRY-LEVEL WORD PROCESSING SECRETARIES ACCORDING TO WORD PROCESSING SUPERVISORS
(N = 50)

Competencies		Learned In School	Learned On the Job	Learned In School and On the Job	No Opinion
Ability to:					
Program word processor in BASIC	No.	4	1	4	0
	%	44	13	44	0
Use and understand BASIC and other computer languages	No.	5	1	4	0
	%	50	10	40	0
Interpret computer printouts	No.	5	2	8	0
	%	33	13	53	0
Use data-entry equipment	No.	4	3	10	0
	%	24	18	59	0

TABLE 66

LEVEL OF IMPORTANCE OF DATA PROCESSING COMPETENCIES NEEDED BY ENTRY-LEVEL WORD PROCESSING SECRETARIES ACCORDING TO WORD PROCESSING SECRETARIES AND SUPERVISORS
(N = 100)

Competencies		Very Important	Somewhat Important	Unimportant
Ability to:				
Program word processor in BASIC	No.	9	20	71
	%	9	20	71
Use and understand BASIC and other computer languages	No.	8	21	71
	%	8	21	71
Interpret computer printouts	No.	8	23	69
	%	8	23	69
Use data-entry equipment	No.	9	24	67
	%	9	24	67

TABLE 67

WHERE DATA PROCESSING COMPETENCIES SHOULD BE LEARNED BY ENTRY-LEVEL WORD PROCESSING SECRETARIES ACCORDING TO WORD PROCESSING SECRETARIES AND SUPERVISORS
(N = 100)

Competencies		Learned In School	Learned On the Job	Learned In School and On the Job	No Opinion
Ability to:					
Program word processor in BASIC	No.	12	2	15	0
	%	41	7	52	0
Use and understand BASIC and other computer languages	No.	15	2	12	0
	%	52	7	41	0
Interpret computer printouts	No.	10	2	19	0
	%	32	6	61	0
Use data-entry equipment	No.	9	3	21	0
	%	27	9	64	0

The importance of the grammatical competencies according to the word processing supervisors is presented in Table 70. An equal number of supervisors (96 percent) checked two competencies as being very important. These were the ability to spell and the ability to punctuate and capitalize.

Table 71 shows that 92 percent of the supervisors believed that the ability to spell should also be learned in school. The ability to punctuate and capitalize should also be learned in school according to 98 percent of the secretaries. This table should be compared with the information presented in Table 70.

The combined responses of the word processing secretaries and supervisors concerning the importance of the various grammatical competencies are presented in Table 72. The ability to spell was considered to be very important by 97 percent of the participants; the ability to punctuate and capitalize was considered to be very important by 96 percent of the participants.

Table 73 shows the combined responses of the word processing secretaries and supervisors concerning where they believed the various grammatical competencies should be learned. The two grammatical competencies that were indicated most frequently as being very important should both be learned in school according to the majority of the participants. Eighty percent indicated that the ability to spell should be learned in school, and 81 percent indicated that the ability to punctuate and capitalize should be learned in school. For further understanding, these data should be compared with the data presented in Table 72.

TABLE 68

LEVEL OF IMPORTANCE OF GRAMMATICAL COMPETENCIES NEEDED BY ENTRY-LEVEL WORD PROCESSING SECRETARIES ACCORDING TO WORD PROCESSING SECRETARIES
(N = 50)

Competencies		Very Important	Somewhat Important	Unimportant
Ability to:				
Read and interpret business documents	No.	29	19	2
	%	58	38	4
Spell	No.	49	1	0
	%	98	2	0
Punctuate, capitalize	No.	48	2	0
	%	96	4	0
Proofread	No.	44	3	3
	%	88	6	6
Alphabetize	No.	34	12	4
	%	68	24	8
Construct correct sentences	No.	40	8	2
	%	80	16	4
Sequence sentences in a paragraph	No.	28	18	4
	%	56	36	8
Determine correct paragraphing	No.	30	16	4
	%	60	32	8
Recognize and correct improper sentence structure, use of words	No.	39	6	5
	%	78	12	10
Demonstrate acceptable vocabulary	No.	42	7	1
	%	84	14	2
Compose business letters	No.	19	18	13
	%	38	36	26

TABLE 69

WHERE GRAMMATICAL COMPETENCIES NEEDED BY ENTRY-LEVEL WORD PROCESSING SECRETARIES SHOULD BE LEARNED ACCORDING TO WORD PROCESSING SECRETARIES
(N = 50)

Competencies		Learned In School	Learned On the Job	Learned In School and On the Job	No Opinion
Ability to:					
Read and interpret business documents	No.	14	10	24	0
	%	29	21	50	0
Spell	No.	34	1	15	0
	%	68	2	30	0
Punctuate, capitalize	No.	37	1	12	0
	%	74	2	24	0
Proofread	No.	30	0	16	1
	%	64	0	64	2
Alphabetize	No.	33	0	13	0
	%	72	0	28	0
Construct correct sentences	No.	39	1	8	0
	%	81	2	17	0
Sequence sentences in a paragraph	No.	32	1	12	1
	%	70	2	26	2
Determine correct paragraphing	No.	34	0	11	1
	%	74	0	24	2
Recognize and correct improper sentence structure, use of words	No.	31	0	14	0
	%	69	0	31	0
Demonstrate acceptable vocabulary	No.	33	1	15	0
	%	67	2	31	0
Compose business letters	No.	21	1	14	1
	%	57	3	38	3

TABLE 70

LEVEL OF IMPORTANCE OF GRAMMATICAL COMPETENCIES NEEDED BY ENTRY-LEVEL WORD PROCESSING SECRETARIES ACCORDING TO WORD PROCESSING SUPERVISORS
(N = 50)

Competencies		Very Important	Somewhat Important	Unimportant
Ability to:				
Read and interpret business documents	No.	31	12	7
	%	62	24	14
Spell	No.	48	2	0
	%	96	4	0
Punctuate, capitalize	No.	48	2	0
	%	96	4	0
Proofread	No.	39	9	2
	%	78	18	4
Alphabetize	No.	38	10	2
	%	76	20	4
Construct correct sentences	No.	42	6	2
	%	84	12	4
Sequence sentences in a paragraph	No.	33	10	7
	%	66	20	14
Determine correct paragraphing	No.	33	11	6
	%	66	22	12
Recognize and correct improper sentence structure, use of words	No.	36	10	4
	%	72	20	8
Demonstrate acceptable vocabulary	No.	41	1	8
	%	82	2	16
Compose business letters	No.	18	21	11
	%	36	42	22

TABLE 71

WHERE GRAMMATICAL COMPETENCIES NEEDED BY ENTRY-LEVEL WORD PROCESSING SECRETARIES SHOULD BE LEARNED ACCORDING TO WORD PROCESSING SUPERVISORS
(N = 50)

Competencies		Learned In School	Learned On the Job	Learned In School and On the Job	No Opinion
Ability to:					
Read and interpret business documents	No.	17	11	15	0
	%	40	26	35	0
Spell	No.	46	1	3	0
	%	92	2	6	0
Punctuate, capitalize	No.	44	1	4	1
	%	88	2	8	2
Proofread	No.	30	0	10	0
	%	75	0	25	0
Alphabetize	No.	42	1	7	0
	%	84	2	14	0
Construct correct sentences	No.	43	0	5	0
	%	90	0	10	0
Sequence sentences in a paragraph	No.	36	0	7	0
	%	84	0	16	0
Determine correct paragraphing	No.	33	2	9	0
	%	75	5	20	0
Recognize and correct improper sentence structure, use of words	No.	36	2	7	1
	%	78	4	15	2
Demonstrate acceptable vocabulary	No.	39	2	8	1
	%	78	4	16	2
Compose business letters	No.	23	3	13	0
	%	59	8	33	0

TABLE 72

LEVEL OF IMPORTANCE OF GRAMMATICAL COMPETENCIES NEEDED BY ENTRY-LEVEL WORD PROCESSING SECRETARIES ACCORDING TO WORD PROCESSING SECRETARIES AND SUPERVISORS
(N = 100)

Competencies		Very Important	Somewhat Important	Unimportant
Ability to:				
Read and interpret business documents	No.	60	31	9
	%	60	31	9
Spell	No.	97	3	0
	%	97	3	0
Punctuate, capitalize	No.	96	4	0
	%	96	4	0
Proofread	No.	83	12	5
	%	83	12	5
Alphabetize	No.	72	22	6
	%	72	22	6
Construct correct sentences	No.	82	14	4
	%	82	14	4
Sequence sentences in a paragraph	No.	61	28	11
	%	61	28	11
Determine correct paragraphing	No.	63	27	10
	%	63	27	10
Recognize and correct improper sentence structure, use of words	No.	75	16	9
	%	75	16	9
Demonstrate acceptable vocabulary	No.	83	8	9
	%	83	8	9
Compose business letters	No.	37	39	24
	%	37	39	24

TABLE 73

WHERE GRAMMATICAL COMPETENCIES NEEDED BY ENTRY-LEVEL WORD PROCESSING SECRETARIES SHOULD BE LEARNED ACCORDING TO WORD PROCESSING SECRETARIES AND SUPERVISORS
(N = 100)

Competencies		Learned In School	Learned On the Job	Learned In School and On the Job	No Opinion
Ability to:					
Read and interpret business documents	No.	31	21	39	0
	%	34	23	43	0
Spell	No.	80	2	18	0
	%	80	2	18	0
Punctuate, capitalize	No.	81	2	16	1
	%	81	2	16	1
Proofread	No.	60	0	26	1
	%	69	0	30	1
Alphabetize	No.	75	1	20	0
	%	78	1	21	0
Construct correct sentences	No.	82	1	13	0
	%	85	1	14	0
Sequence sentences in a paragraph	No.	68	1	19	1
	%	76	1	21	1
Determine correct paragraphing	No.	67	2	20	1
	%	74	2	22	1
Recognize and correct improper sentence structure, use of words	No.	67	2	21	1
	%	74	2	23	1
Demonstrate acceptable vocabulary	No.	72	3	23	1
	%	73	3	23	1
Compose business letters	No.	44	4	27	1
	%	58	5	36	1

Mathematics competencies. The word processing secretaries and supervisors were asked to indicate the level of importance they attached to two competencies related to mathematics. If the competency was checked as being important, the participant was then asked to indicate where he/she believed the competency should be learned. Tables 74 through 79, pages 165 through 170, presents the information related to the various mathematics competencies.

Slightly more than one-fourth (26 percent) of the secretaries considered the ability to compute total word processing center production rates as very important. Only eight percent of the secretaries considered the ability to compute individual production rates as being very important. This information can be seen in Table 74.

Table 75 presents the opinions of the word processing secretaries as to where they believed the various mathematics competencies should be learned. The ability to compute total word processing center production rates should be learned both in school and on the job according to 47 percent of the secretaries. Table 75 should be compared with Table 74 for analysis.

The word processing supervisors were also queried as to the level of importance they attached to the mathematics competencies. Table 76 shows this information. Sixteen percent of the supervisors considered the ability to compute individual production rates as being very important; ten percent considered the ability to compute total word processing center production rates as being very important.

Table 77 shows that the majority of the word processing supervisors believed the two mathematics competencies should be learned on the

job. Slightly more than one-half (52 percent) of the supervisors believed that the ability to compute individual production rates should be learned on the job, and 67 percent believed that the ability to compute total word processing center production rates should be learned on the job. The information presented in Table 77 should be viewed in relation to the information presented in Table 76.

Table 78 shows the combined responses of the word processing secretaries and supervisors concerning the mathematics competencies. Eighteen percent of the participants considered the ability to compute total word processing center production rates as being very important. Twelve percent considered the ability to compute individual production rates as being very important.

The combined responses of the word processing secretaries and supervisors concerning where they believed the mathematics competencies should be learned are presented in Table 79. One-half (50 percent) of the respondents who indicated that the ability to compute total word processing center production rates was important believed that this competency should be learned both in school and on the job. The ability to compute individual production rates should be learned on the job according to 45 percent of the participants who indicated this competency to be important. Table 79 should be compared with the information presented in Table 78.

Clerical competencies. The participants were asked their opinions concerning two clerical competencies--the ability to meet and greet people and the ability to requisition and maintain office supplies. Information

TABLE 74

LEVEL OF IMPORTANCE OF MATHEMATICS COMPETENCIES NEEDED BY ENTRY-LEVEL WORD PROCESSING SECRETARIES ACCORDING TO WORD PROCESSING SECRETARIES
(N = 50)

Competencies		Very Important	Somewhat Important	Unimportant
Ability to:				
Compute individual production rates	No.	4	15	31
	%	8	30	62
Compute total WP center production rates	No.	13	16	21
	%	26	32	42

TABLE 75

WHERE MATHEMATICS COMPETENCIES SHOULD BE LEARNED BY ENTRY-LEVEL WORD PROCESSING SECRETARIES ACCORDING TO WORD PROCESSING SECRETARIES
(N = 50)

Competencies		Learned In School	Learned On the Job	Learned In School and On the Job	No Opinion
Ability to:					
Compute individual production rates	No.	3	7	9	0
	%	16	37	47	0
Compute total WP center production rates	No.	3	7	19	0
	%	10	24	66	0

TABLE 76

LEVEL OF IMPORTANCE OF MATHEMATICS COMPETENCIES NEEDED BY ENTRY-LEVEL WORD PROCESSING SECRETARIES ACCORDING TO WORD PROCESSING SUPERVISORS
(N = 50)

Competencies		Very Important	Somewhat Important	Unimportant
Ability to:				
Compute individual production rates	No.	8	15	27
	%	16	30	54
Compute total WP center production rates	No.	5	10	35
	%	10	20	70

TABLE 77

WHERE MATHEMATICS COMPETENCIES SHOULD BE LEARNED BY ENTRY-LEVEL WORD PROCESSING SECRETARIES ACCORDING TO WORD PROCESSING SUPERVISORS
(N = 50)

Competencies		Learned In School	Learned On the Job	Learned In School and On the Job	No Opinion
Ability to:					
Compute individual production rates	No.	3	12	8	0
	%	13	52	35	0
Compute total WP center production rates	No.	2	10	3	0
	%	13	67	20	0

TABLE 78

LEVEL OF IMPORTANCE OF MATHEMATICS COMPETENCIES NEEDED BY ENTRY-LEVEL WORD PROCESSING SECRETARIES ACCORDING TO WORD PROCESSING SECRETARIES AND SUPERVISORS
(N = 100)

Competencies		Very Important	Somewhat Important	Unimportant
Ability to:				
Compute individual production rates	No.	12	30	58
	%	12	30	58
Compute total WP center production rates	No.	18	26	56
	%	18	26	56

TABLE 79

WHERE MATHEMATICS COMPETENCIES SHOULD BE LEARNED BY ENTRY-LEVEL WORD PROCESSING SECRETARIES ACCORDING TO WORD PROCESSING SECRETARIES AND SUPERVISORS
(N = 100)

Competencies		Learned In School	Learned On the Job	Learned In School and On the Job	No Opinion
Ability to:					
Compute individual production rates	No.	6	19	17	0
	%	14	45	40	0
Compute total WP center production rates	No.	5	17	22	0
	%	11	39	50	0

concerning the clerical competencies is presented in Tables 80 through 85, pages 173 through 178.

Slightly more than one-fourth (26 percent) of the secretaries believed that the ability to requisition and maintain office supplies was very important. Slightly more than one-half (52 percent) of the secretaries believed that the ability to meet and greet people was very important. Table 80 presents these data.

The majority of the secretaries (56 percent) believed that the ability to requisition and maintain office supplies should be learned on the job. Sixty-one percent of the secretaries believed that the ability to meet and greet people should be learned both in school and on the job. Table 81 presents these data and should be compared with the information presented in Table 80.

Table 82 shows the level of importance attached to the clerical competencies by the word processing supervisors. The ability to meet and greet people was considered very important by 36 percent of the supervisors. The ability to requisition and maintain office supplies was considered very important by one-fifth (20 percent) of the supervisors.

The ability to meet and greet people should be learned both in school and on the job according to 57 percent of the supervisors. One-half (50 percent) of the supervisors believed that the ability to requisition and maintain office supplies should be learned on the job. Table 83 presents these data and should be compared with the data presented in Table 82.

Table 84 presents the combined opinions of the secretaries and supervisors concerning the importance of the clerical competencies. The

ability to meet and greet people was considered very important by 45 percent of the participants. The ability to requisition and maintain office supplies was considered very important by 23 percent of the participants.

Table 85 shows the combined opinions of the secretaries and supervisors concerning where the clerical competencies should be learned. According to 59 percent of the participants, the ability to meet and greet people should be learned both in school and on the job. The ability to requisition and maintain office supplies should be learned on the job according to slightly more than one-half (53 percent) of the participants. Table 85 should be compared with Table 84 for analysis.

Administrative competencies. The word processing secretaries and supervisors were asked their opinions concerning a series of administrative competencies. Tables 86 through 91, pages 181 through 186, present the information related to the administrative competencies.

Table 86 shows the opinions of the secetaries concerning the importance of the various administrative competencies. The ability to follow directions from the supervisor was considered very important by nearly all (96 percent) of the secretaries. The ability to use the equipment operation manual was considered very important by 70 percent of the secretaries.

When asked where they thought the ability to follow directions from the supervisors should be learned, 46 percent of the secretaries believed that this competency should be learned on the job. Nearly one-half of the secretaries (48 percent) thought that the ability to use an equipment operation manual should also be learned on the job. Table 87

TABLE 80

LEVEL OF IMPORTANCE OF GENERAL CLERICAL COMPETENCIES NEEDED BY ENTRY-LEVEL WORD PROCESSING SECRETARIES ACCORDING TO WORD PROCESSING SECRETARIES
(N = 50)

Competencies		Very Important	Somewhat Important	Unimportant
Ability to:				
Meet and greet people	No.	27	14	9
	%	54	28	18
Requisition and maintain office supplies	No.	13	21	16
	%	26	42	32

TABLE 81

WHERE GENERAL CLERICAL COMPETENCIES SHOULD BE LEARNED BY ENTRY-LEVEL WORD PROCESSING SECRETARIES ACCORDING TO WORD PROCESSING SECRETARIES
(N = 50)

Competencies		Learned In School	Learned On the Job	Learned In School and On the Job	No Opinion
Ability to:					
Meet and greet people	No.	3	10	25	3
	%	7	24	61	7
Requisition and maintain office supplies	No.	3	19	12	0
	%	9	56	35	0

TABLE 82

LEVEL OF IMPORTANCE OF GENERAL CLERICAL COMPETENCIES NEEDED BY ENTRY-LEVEL WORD PROCESSING SECRETARIES ACCORDING TO WORD PROCESSING SUPERVISORS
(N = 50)

Competencies		Very Important	Somewhat Important	Unimportant
Ability to:				
Meet and greet people	No.	18	26	6
	%	36	52	12
Requisition and maintain office supplies	No.	10	22	18
	%	20	44	36

TABLE 83

WHERE GENERAL CLERICAL COMPETENCIES SHOULD BE LEARNED BY ENTRY-LEVEL WORD PROCESSING SECRETARIES ACCORDING TO WORD PROCESSING SUPERVISORS
(N = 50)

Competencies		Learned In School	Learned On the Job	Learned In School and On the Job	No Opinion
Ability to:					
Meet and greet people	No.	10	6	25	3
	%	23	14	57	7
Requisition and maintain office supplies	No.	2	16	14	0
	%	6	50	44	0

TABLE 84

LEVEL OF IMPORTANCE OF GENERAL CLERICAL COMPETENCIES NEEDED BY ENTRY-LEVEL WORD PROCESSING SECRETARIES ACCORDING TO WORD PROCESSING SECRETARIES AND SUPERVISORS
(N = 100)

Competencies		Very Important	Somewhat Important	Unimportant
Ability to:				
Meet and greet people	No.	45	40	15
	%	45	40	15
Requisition and maintain office supplies	No.	23	43	34
	%	23	43	34

TABLE 85

WHERE GENERAL CLERICAL COMPETENCIES SHOULD BE LEARNED BY ENTRY-LEVEL WORD PROCESSING SECRETARIES ACCORDING TO WORD PROCESSING SECRETARIES AND SUPERVISORS
(N = 100)

Competencies		Learned In School	Learned On the Job	Learned In School and On the Job	No Opinion
Ability to:					
Meet and greet people	No.	13	16	50	6
	%	15	19	59	7
Requisition and maintain office supplies	No.	5	35	26	0
	%	8	53	39	0

presents these data and should be compared with the data presented in Table 86.

Table 88 shows the level of importance attached to the various administrative competencies according to the word processing supervisors.

The ability to follow directions from the supervisor was considered very important by 49 percent of the supervisors. The ability to use the equipment operation manual was considered very important by 64 percent of the supervisors.

Table 89 shows that the majority (56 percent) of the word processing supervisors believed that the ability to follow directions from the supervisor should be learned both in school and on the job. The ability to use the equipment operation manual should also be learned both in school and on the job according to the majority (62 percent) of the supervisors. Table 89 should be compared with Table 88 for analysis.

The combined responses of the word processing secretaries and supervisors concerning the level of importance of the various administrative competencies are presented in Table 90. The ability to follow directions from the supervisors was considered very important according to 97 percent of the participants. The ability to use the equipment operation manual was considered very important by 67 percent of the participants.

Table 91 presents the combined responses of the word processing secretaries and supervisors concerning where they believed the various administrative competencies should be learned. The ability to follow directions from the supervisors should be learned both in school and on the job according to nearly one-half (49 percent) of the participants.

The ability to use the equipment operation manual should be learned both in school and on the job according to slightly more than one-half (51 percent) of the participants. Table 91 presents these data and should be compared with the data presented in Table 90.

Other skills and knowledges. The word processing secretaries and supervisors were asked to list any skills or knowledges that they believed were needed by entry-level word processing secretaries but that were not included in the checklist of competencies. The comments indicated an area of emphasis that the participant felt should be included in the education of prospective word processing employees. The comments are listed according to those supplied by the word processing secretaries and word processing supervisors. The number in parentheses following the suggestion indicates the number who offered the suggestion.

Comments offered by the word processing secretaries. The comments and suggestions given by the word processing secretaries are grouped into four categories.

Initiative (4)
Flexibility (2)
Organizational skills (1)
Use of editorial marks (1)

Comments offered by the word processing supervisors. The comments and suggestions given by the word processing supervisors are grouped into four categories.

Human relations/dealing with personnel problems (4)
Organizational skills (1)
Technical typing (equations, etc.) (1)
Use of dictionary (1)

TABLE 86

LEVEL OF IMPORTANCE OF ADMINISTRATIVE COMPETENCIES NEEDED BY ENTRY-LEVEL WORD PROCESSING SECRETARIES ACCORDING TO WORD PROCESSING SECRETARIES
(N = 50)

Competencies		Very Important	Somewhat Important	Unimportant
Ability to:				
Follow directions from supervisor	No.	48	2	0
	%	96	4	0
Develop procedures for WP center	No.	23	19	8
	%	46	38	16
Manage employee records	No.	13	12	25
	%	26	24	50
Demonstrate equipment use	No.	27	15	8
	%	54	30	16
Use equipment operation manual	No.	35	15	0
	%	70	30	0

TABLE 87

WHERE ADMINISTRATIVE COMPETENCIES SHOULD BE LEARNED BY ENTRY-LEVEL WORD PROCESSING SECRETARIES ACCORDING TO WORD PROCESSING SECRETARIES
(N = 50)

Competencies		Learned In School	Learned On the Job	Learned In School and On the Job	No Opinion
Ability to:					
Follow directions from supervisor	No.	5	23	21	1
	%	10	46	42	2
Develop procedures for WP center	No.	2	25	15	0
	%	5	60	36	0
Manage employee records	No.	2	11	11	1
	%	8	44	44	4
Demonstrate equipment use	No.	5	19	18	0
	%	12	45	43	0
Use equipment operation manual	No.	5	24	20	1
	%	10	48	40	2

TABLE 88

LEVEL OF IMPORTANCE OF ADMINISTRATIVE COMPETENCIES NEEDED BY ENTRY-LEVEL WORD PROCESSING SECRETARIES ACCORDING TO WORD PROCESSING SUPERVISORS
(N = 50)

Competencies		Very Important	Somewhat Important	Unimportant
Ability to:				
Follow directions from supervisor	No.	49	1	0
	%	98	2	0
Develop procedures for WP center	No.	13	20	17
	%	26	40	34
Manage employee records	No.	7	15	28
	%	14	30	56
Demonstrate equipment use	No.	16	19	15
	%	32	38	30
Use equipment operation manual	No.	32	13	15
	%	64	26	10

TABLE 89

WHERE ADMINISTRATIVE COMPETENCIES SHOULD BE LEARNED BY ENTRY-LEVEL WORD PROCESSING SECRETARIES ACCORDING TO WORD PROCESSING SUPERVISORS
(N = 50)

Competencies		Learned In School	Learned On the Job	Learned In School and On the Job	No Opinion
Ability to:					
Follow directions from supervisor	No.	10	12	28	0
	%	20	24	56	0
Develop procedures for WP center	No.	1	15	15	2
	%	3	45	45	6
Manage employee records	No.	1	8	12	1
	%	5	36	55	5
Demonstrate equipment use	No.	3	17	15	0
	%	9	49	43	0
Use equipment operation manual	No.	4	13	28	0
	%	9	29	62	0

TABLE 90

LEVEL OF IMPORTANCE OF ADMINISTRATIVE COMPETENCIES NEEDED BY ENTRY-LEVEL WORD PROCESSING SECRETARIES ACCORDING TO WORD PROCESSING SECRETARIES AND SUPERVISORS
(N = 100)

Competencies		Very Important	Somewhat Important	Unimportant
Ability to:				
Follow directions from supervisor	No.	97	3	0
	%	97	3	0
Develop procedures for WP center	No.	36	39	25
	%	36	39	25
Manage employee records	No.	20	27	53
	%	20	27	53
Demonstrate equipment use	No.	43	34	23
	%	43	34	23
Use equipment operation manual	No.	67	28	5
	%	67	28	5

TABLE 91

WHERE ADMINISTRATIVE COMPETENCIES SHOULD BE LEARNED BY ENTRY-LEVEL WORD PROCESSING SECRETARIES ACCORDING TO WORD PROCESSING SECRETARIES AND SUPERVISORS
(N = 100)

Competencies		Learned In School	Learned On the Job	Learned In School and On the Job	No Opinion
Ability to:					
Follow directions from supervisor	No.	15	35	49	1
	%	15	35	49	1
Develop procedures for WP center	No.	3	40	30	2
	%	4	53	40	3
Manage employee records	No.	3	19	23	2
	%	6	40	49	4
Demonstrate equipment use	No.	8	36	33	0
	%	10	47	43	0
Use equipment operation manual	No.	9	37	48	0
	%	10	39	51	0

Career Opportunities for Word Processing Secretaries

This section provides an analysis of the questions asked of the 50 word processing secretaries concerning their perceptions of career opportunities in word processing within the particular organization in which they were employed. This information is organized for presentation as follows: (1) an analysis of career paths for word processing secretaries; (2) career paths which include or do not include managerial/ supervisory positions; (3) and the individual word processing secretary's perception of his/her own potential for advancing to a managerial/ supervisory position if such a career path existed within the organization.

The data for the first section is presented in terms of a percentage of the total sample (N = 50). For the remaining questions, the percentages are based only upon the portion of the sample being examined.

Built-in career progression. As indicated by the 50 word processing secretaries, a built-in career progression had been established in three-fifths of the organizations surveyed. Six percent of the organizations were working on the establishment of such a career progression, according to the word processing secretaries. This information is presented in Table 92.

TABLE 92

BUILT-IN CAREER PROGRESSION FOR WORD PROCESSING SECRETARIES
(N = 50)

Career Progression	Number	Percent
Yes	30	60
No	17	34
Working on it	3	6
Total	50	100

Career progression including managerial/supervisory positions. According to the 30 word processing secretaries who indicated the existence of a career progression within their organizations, 26 indicated that these career progressions included positions of a managerial/supervisory nature. Table 93 presents this information.

TABLE 93

WORD PROCESSING SECRETARIAL CAREER PROGRESSIONS INCLUDING MANAGERIAL/SUPERVISORY POSITIONS
(N = 30)

Managerial/Supervisory Career Progression	Number	Percent
Yes	26	87
No	4	13
Total	30	100

Chances for promotion to managerial/supervisory positions. Each of the 26 secretaries who indicated that there existed within their organization a career progression that included positions of a managerial/supervisory nature was asked to indicate how he/she perceived his/her chances of being promoted to one of these positions. Nine secretaries indicated the possibility as "great," and six indicated the possibility as "moderate." Further information relative to the career perceptions of the word processing secretaries being promoted to managerial/supervisory positions is included in Table 94.

TABLE 94

OPPORTUNITIES FOR PROMOTION FOR WORD PROCESSING SECRETARIES TO MANAGERIAL/SUPERVISORY POSITIONS IN ORGANIZATIONS HAVING CAREER PATHS INCLUDING MANAGERIAL/SUPERVISORY POSITIONS (N = 26)

Opportunity for Promotion	Number	Percent
Great	9	35
Moderate	6	23
Slight	1	4
Impossible	1	4
Not sure	4	15
Not interested	5	20
Total	26	100

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS AND IMPLICATIONS

The purpose of this study was to obtain information concerning existing word processing practices and the skills required for entry-level word processing positions in selected offices in the Boston, Massachusetts, area. Data gathered included the following facets of word processing: positions available, employment testing, equipment utilized, organizational patterns of word processing, kind of input received for word processing, weaknesses of word processing employees, and career opportunities in word processing.

In addition, a series of competencies were identified as possibly being important for entry-level word processing employees. The participants in the study were asked to identify the importance they attached to a particular competency and, if important, where they believed the particular competencies should be learned. The competencies involved the following clusters of skills: typewriting, transcription, records management, telephone, office machines and equipment, data processing, grammatical skills, mathematics, general clerical skills, and administrative duties.

During the Spring of 1982, the researcher visited 50 word processing installations at which time interviews were conducted with a word processing secretary and a word processing supervisor in each

organization and the necessary forms were completed by the appropriate individual.

This chapter has been divided into four parts: (1) summary of the findings; (2) conclusions; (3) recommendations and implications; and (4) suggestions for further research.

Summary of the Findings

Findings related to the organization of word processing. The following findings related to the organization, administration, and supervision of word processing in the 50 business firms surveyed in the Boston, Massachusetts, area can be drawn from this study:

1. Of the various occupational fields represented in this study, the largest number, 10 (20 percent), represented the insurance industry. Six firms (12 percent) represented both the engineering and manufacturing industries.

2. The mean for the total number of word processing secretary/correspondence specialist positions in the 50 organizations surveyed was 5.86; for administrative specialists positions, .46; and for multifunctional word processing personnel positions, 2.22.

3. The most common method of organizing the word processing function was the centralized pattern, which was found in one-half (50 percent) of the firms. A mixed arrangement, which included both centralized and decentralized word processing, was found in 23 (46 percent) of the firms.

4. Slightly more than three-fourths (78 percent) of the organizations administered employment tests to potential entry-level word processing employees. The most common type of test administered was the typing straight-copy timed writing, which was administered in 33 (87 percent) of the firms giving employment tests. The most common length of the timed writing was five minutes, with required speeds ranging from 40 to 65 words per minute. A variety of accuracy standards was applied.

5. The most widely used word processing equipment in the firms studied were manufactured by IBM and Wang, respectively. The single most popular word processing keystation was the Wang OIS 140, which accounted for 22 percent of the total number of keystations.

6. Of the 34 organizations using some form of work measurement system for determining word processing typing production, the number of pages produced was the most common method, which was used by 17 of these firms.

7. All of the word processing personnel were engaged in the typing/keyboarding activity. Slightly more than one-quarter (26 percent) were also involved with copying and teletyping.

8. Short- and medium-length documents of a narrative/manuscript nature were produced on the word processing equipment in 47 (94 percent) of the business organizations. Also produced on the word processing equipment in the majority of firms were the following types of correspondence: repetitive (94 percent), revised (90 percent), and original (88 percent).

9. Handwritten copy was the chief method of input in 48 (96 percent) of the firms. Typewritten copy with both light and heavy revisions

was received for input in 47 (94 percent) of the firms. Machine dictation was used in two-thirds (66 percent) of the firms.

10. Nearly two-thirds (64 percent) of the supervisors stated that they noted the existence of major weaknesses in dealing with entry-level word processing personnel. The weakness cited most often by the supervisors was inadequate grammar skills (66 percent).

Major competencies and where they should be learned. The following competencies were identified as being important (very important or somewhat important) by at least two-thirds (66-100 percent) of the participants in this study (combined responses of the word processing secretaries and word processing supervisors--N = 100). Following each competency is listed where the largest number of word processing secretaries and supervisors believed the particular competency should be learned. The competencies are listed in descending order according to their ranking of importance by the secretaries and supervisors.

The ability to:

Keyboard documents with satisfactory turnaround time (100%)--school and job
Demonstrate competency in listening skills, following directions (100%)--school and job
Spell (100%)--school
Follow directions from supervisor (100%)--school and job
Type with accuracy (99%)--school
Type with speed (98%)--school
Type from rough draft (97%)--school and job
Construct correct sentences (96%)--school
Punctuate, capitalize (96%)--school
Proofread (95%)--school
Use equipment operation manual (95%)--school and job
Type reports (95%)--school and job
Type tabulated material (95%)--school and job
Type from handwritten notes (94%)--school and job
Type from typed copy (94%)--school and job
Alphabetize (94%)--school
Prioritize documents, tasks (93%)--job

Proofread all typed documents (92%)--job
Type statistical material (92%)--school and job
Demonstrate acceptable vocabulary (91%)--school
Recognize and correct improper sentence structure, use of words (91%)--school
Read and interpret business documents (91%)--school and job
Handle confidential correspondence, data (91%)--school and job
Determine correct paragraphing (90%)--school
Type letters and memos (89%)--school and job
Sequence sentences in a paragraph (89%)--school
Interpret a coding system for documents typed in a word processing center (89%)--job
Change typewriter ribbons, care for equipment (87%)--school and job
Organize and maintain a filing system for stored or recorded media (87%)--school and job
Operate CRT (visual-display) units (86%)--school and job
Meet and greet people (85%)--school and job
Type company manual, policies (83%)--job
Use a filing system (82%)--school and job
Operate electric typewriter (80%)--school
Transcribe machine dictation (recorded media) with speed and accuracy (79%)--school and job
Revise previously typed work by correcting magnetic media (79%)--school and job
Keyboard information on magnetic media (78%)--school and job
Handle telephone duties (78%)--school and job
Type from dictation machines (77%)--school and job
Demonstrate equipment use (77%)--job
Compose business letters (76%)--school
Develop procedures for word processing center (75%)--job
Type business forms (75%)--job
Produce copy by automatic playback (73%)--school and job
Operate dictation equipment (individualized) (71%)--school
Type legal documents (71%)--school and job
Operate correcting selectric (70%)--school
Operate copier (69%)--job
Requisition and maintain office supplies (66%)--job

Career opportunities for word processing secretaries. The following findings are related to the career opportunities available for word processing secretaries in the participating organizations as perceived by the word processing secretaries.

1. A built-in career progression existed in three-fifths (60 percent) of the business firms.

2. Nearly all of the firms (87 percent) that had established a career progression included positions of a managerial/supervisory nature in the career paths.

3. Slightly more than one-third (35 percent) of the word processing secretaries reporting that career paths existed within their firms to include positions of a managerial/supervisory nature in the word processing environment also reported that their chances for advancement to such positions were "great."

Conclusions

The following conclusions can be drawn from the findings of this study:

1. Word processing positions exist in a variety of types and sizes of business organizations in the Boston area. The position of administrative support specialist, however, has not been extensively developed by firms utilizing word processing. A far greater number of positions exist for word processing operators and persons capable of handling both word processing and related secretarial tasks.

2. Opportunities exist in most organizations for advancement from the entry-level position of word processing operator.

3. A straight-copy typing speed test is the chief means used by employers in evaluating the competency of prospective employees for entry-level word processing positions.

4. A variety of word processing equipment is found in the business organizations; however, the older stand-alone "blind" word processing

systems, such as the IBM Mag Card, are rapidly being replaced by visual-display systems.

5. Organizational patterns for word processing differ within business organizations. In some companies, nearly all typing activities are completed in a centralized area. In other firms, typing assignments are completed in smaller, decentralized areas.

6. A variety of techniques is used for measuring word processing typing production. Page count and line count are two commonly found methods of evaluation.

7. Word processing equipment is used to process a variety of typing jobs. Manuscripts and correspondence are the most prevalent kinds of jobs for which word processing equipment is used.

8. Handwritten and revised typewritten copy are the chief means of input received for word processing.

9. The major job-related weakness of entry-level word processing employees involve deficiencies in the language-arts areas.

10. The major competencies required of word processing employees involve typing, transcription, and grammatical skills. Human relations skills, too, are extremely important for word processing employees.

11. Shorthand skills, while useful in some secretarial positions, are not a requirement for many positions in offices where the traditional stenographic function has become automated.

12. Word processing activities will be increasingly interfaced with other developing technologies such as OCR, photocomposition, telecommunications, and data processing.

Recommendations and Implications

Based on the foregoing findings and conclusions, a review of the literature, and general observations, the following recommendations and implications are made for business education programs:

1. Since word processing has become an integral part of today's business environment, it should, too, become an integral part of all office education programs. Any program of studies, secondary or post-secondary, which prepares persons for office work must contain word processing instruction if it is to maintain its relevancy.

2. Students should be made aware of the various career opportunities available in the field of word processing. Students will then be in a position to match their interests and abilities with the needed educational preparation for the types of positions to which they aspire. Office education programs at the high school and post-secondary levels should provide training that will develop the needed competencies so that graduates of such programs will be able to secure entry-level word processing positions. Collegiate programs should provide managerial skills specifically directed to office automation for the expanding number of positions becoming available in the supervisory aspects of word processing.

3. Various options should be available to students enrolled in office education programs. Shorthand need not be required of all students in traditional secretarial curricula.

4. Students preparing for positions in the automated office environment should possess excellent typing skills. In addition to speed

and accuracy skill development, students' typewriting experiences in school should emphasize the following: rough-draft typing of letters, manuscripts and reports, and statistical copy; and producing copy from various kinds of input-handwritten, revised copy, and machine dictation.

5. Students preparing for word processing positions should be aware of the pre-employment tests they will encounter when applying for entry-level word processing positions. They will, more than likely, be required to demonstrate a straight-copy typing speed of between 50 to 60 words per minute. While the net-words-a-minute method of scoring is not recommended by typewriting methods authorities as an effective evaluation device, students should be at least familiar with this method of scoring typewriting performance since it is used by a large number of businesses.

6. Proofreading competency should be developed in the various stages of the office education program. Not only should students develop skill in the area of proofreading for typographical errors but, in addition, skills should be developed in proofreading for content and correct English usage.

7. Language-arts skills should be emphasized in all of the students' school experiences. Punctuation, grammar, spelling, capitalization, and related English skills need to be taught, reviewed, and refined throughout the students' program of studies. In advanced courses, students can be given realistic word processing office assignments in which they must demonstrate mastery of these skills in completing practical assignments. A definite program must be established to assure

competence in the language-arts areas. The acquisition of these valuable skills cannot be left to chance.

8. Schools should attempt to provide some training on visual-display word processing systems. Since the equipment is expensive, it is unlikely that the school would be able to provide a piece of equipment for each student. Rotation plan units, however, can be developed and incorporated into existing advanced typewriting and office procedures courses or newly developed word processing courses.

9. For schools unable to secure word processing equipment, relevant education can still be provided for word processing positions. Many of the skills required of entry-level word processing personnel can be taught in traditional programs. Word processing office simulation assignments can be completed on existing typewriters. Through such assignments, students can gain an understanding of word processing concepts and procedures, workflow patterns, the ability to prioritize and complete documents with satisfactory turnaround, and, most importantly, following directions. Simulated experiences can also include logging work, using a procedures manual, and work measurement--all activities germane to word processing centers.

10. Since many word processing skills can be learned on the job, business educators should consider developing cooperative and internship programs for students interested in pursuing word processing careers. Students can then gain first-hand exposure to many areas that are impossible to simulate in the classroom.

11. Students completing office education programs should have a knoweldge of information processing techniques and methods currently

found in today's offices. Not only should students possess operational skills but they should also be knowledgeable about word processing theory, concepts, and procedures. Much instruction can be provided in this area even if equipment is not available. The business community, through field trips and related activities, and supplementary teaching materials can serve as excellent devices in acquainting students with these areas of word processing.

12. While the findings of this study did not show the importance of data processing skills per se for entry-level word processing positions, educators should be aware that data processing and word processing will continue to merge into one area in the total information processing network. All students graduating from office education programs should be aware of current technologies that interact closely with word processing--data processing, OCR, photocomposition, and telecommunications.

13. Persons responsible for developing and implementing curricula in the area of word processing should maintain close liaison with word processing installations to determine developments and changes taking place related to word processing job requirements. Close cooperation should also be maintained with professional organizations such as the International Information/Word Processing Association. Current administrative and office management periodicals can also provide up-to-date information relative to developing trends and practices in the word processing field.

Suggestions for Further Research

The completion of this research study has shown that several other areas of word processing should possibly be investigated. Needed research would include:

1. Since the areas of word processing and office automation are so rapidly changing, a study similar to this one should be completed within the next three to five years.

2. Follow-up studies should be completed of current educational programs geared to providing specific occupational training for word processing positions. Information should be gathered concerning what types of positions the graduates of such programs hold and whether or not the skills they acquired in the school program are adequate in meeting the the demands of these positions.

3. What are the skills and job requirements for persons serving as managers and supervisors of word processing operations?

4. What are the practices and requirements of word processing in specific types of business organizations; e.g., law firms, insurance companies, research and development firms, etc.?

5. What are the personal characteristics found in successful word processing employees--both at an operator and supervisor level?

6. What are the differences in the work environment and practices of centralized and decentralized word processing centers?

7. Do persons using word processing equipment view the machinery as a force which humanizes their work or makes it more mechanical?

8. Does working on a visual-display terminal for an extended period of time cause certain deleterious psychological and physiological effects on employees such as the following:

a. job frustration
b. lowered morale
c. social isolation
d. increased blood pressure
e. problems in pregnancy
f. other health-related problems?

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APPENDICES

APPENDIX A

WORD PROCESSING INTERVIEW FORM

SURVEY OF WORD PROCESSING IN SELECTED OFFICES IN THE BOSTON AREA

Word Processing Interview Form

Firm Name_____ Type of Business_____

Completed by_____ Title_____

1. WP POSITIONS

Indicate the number of word processing positions in your organization in each of the following categories.

☐ Word Processing Secretary/Correspondence Specialist (Keyboarder, Word Processor)

☐ Administrative Specialist (Handles solely non-keyboarding office activities)

☐ Multifunctional WP Personnel (Handles many office tasks in the WP environment including keyboarding and non-keyboarding duties)

2. WP EMPLOYMENT STANDARDS

What performance standards have been established in typing and related areas as a prerequisite for filling entry-level word processing positions? (For instance: type 50 words per minute in a 5-minute timing with not more than 5 errors)

_____

_____

3. WP EQUIPMENT

Please indicate the exact name and number of word processing systems you have in your organization. (For instance: CPT System 8000 = 5
IBM Memory Typewriter = 2)

_____=_____ _____=_____

_____=_____ _____=_____

4. ORGANIZATIONAL PATTERN

Which of the following WP organizational patterns best fits the structure used in your organization? (Check one)

☐ Centralized (All or most production typing completed in a central location)

☐ Decentralized (WP equipment spread throughout the organization; may use a variety of patterns such as satellite, mini-wp centers, clusters, or work stations)

NOTE: If you have a decentralized system, please check the type of system below:

☐ Satellite (usually located near principals serviced)
☐ Mini-wp center(s) or clusters
☐ Individual work stations
☐ Other (Please specify)_____

_____

☐ Mixed (Some personnel do only typing using wp equipment; other personnel may assist in the wp center(s) or clusters when needed; also might include personnel from other areas of the organization who use the equipment to do special typing projects from time to time)

☐ Other (Please specify)_____

5. WORK MEASUREMENT

How is the work of the correspondence/word processing secretaries measured?

☐ Number of Lines Produced
☐ Number of Pages Produced
☐ Number of Belts, Tapes, or Cassettes Transcribed
☐ Other (Please specify) _____
☐ Not measured

6. GENERAL AREAS OF RESPONSIBILITY OF WORD PROCESSING

Check all of the areas of responsibility that are primarily performed by WP personnel engaged in document production.

☐ Copying ☐ Mailing Services ☐ Teletyping ☐ Other (please specify) _____

☐ Facsimile Services ☐ Reprographics ☐ Typing/keyboarding _____

7. KINDS OF TYPING JOBS PROCESSED ON WP EQUIPMENT

Please check all of the kinds of typing jobs processed or completed on WP equipment.

Correspondence
- ☐ Repetitive
- ☐ Revised
- ☐ Original

Narrative/manuscript
- ☐ Short documents (10 or fewer pages)
- ☐ Medium-length documents (11-25 pages)
- ☐ Long documents (26 or more pages)

Statistical typing
- ☐ Simple
- ☐ Complex

Other (please specify)

_____

8. KINDS OF INPUT

Please check the form(s) in which you receive the input to your center(s), cluster(s), or work station(s)?

- ☐ Handwritten input
- ☐ Typewritten (light revision)
- ☐ Typewritten (heavy revision)
- ☐ Machine-dictated input
- ☐ OCR
- ☐ Other (Please specify)

_____

9. MAJOR WEAKNESSES OF WP EMPLOYEES

A. In working with entry-level WP employees in your organization, have you noted any major weaknesses relative to their skills, knowledge of office procedures, and/or attitudes?

☐ Yes ☐ No ☐ No Opinion

B. If Yes, rank the three weaknesses of which you are most aware. (Please add any weaknesses which have not been included in the listing provided.)

Rank	Weakness
☐	Inadequate basic typing skills (speed and accuracy)
☐	Inadequate grammar skills
☐	Inadequate knowledge of punctuation
☐	Inadequate proofreading skills
☐	Inadequate spelling skills
☐	Inadequate use of dictionary and/or reference materials
☐	Inadequate vocabulary; lack specialized terminology
☐	Lack of experience in the business world and in the office
☐	Lack of experience or training on WP equipment
☐	Poor attitude ("don't care" attitude; little or no initiative; unwilling to learn new skills)
☐	Other (Please specify)_____

APPENDIX B

CHECKLIST OF COMPETENCIES

COMPETENCIES NEEDED BY WORD PROCESSING OPERATORS/CORRESPONDENCE SECRETARIES

Firm Name_____ Completed By_____

In an effort to determine the basic competencies needed by entry-level WP personnel as well as where each competency can best be learned, a list of competencies are identified below. Please add any additional competencies you consider to be important that are not listed. Please indicate in the appropriate columns for each item (with a check mark):

(1) whether you believe the acquisition of the competency is very important, somewhat important, or unimportant; and
(2) if important, where the competency should be learned--in school, on-the-job, both in school and on-the-job, or no opinion.

Competencies	Level of Importance			If Important, Where Competency Should Be Learned			
	Very Important	Somewhat Important	Unimportant	Learned In School	Learned On-The-Job	Learned In School And On-The-Job	No Opinion
SAMPLE: Type business letters	✓					✓	
I. TYPEWRITING COMPETENCIES							
A. The ability to type with speed							
B. The ability to type with accuracy							
C. The ability to type the following: Letters and memos							
Reports							
Legal documents							
Business forms							
Company manuals, policies							
Tabulated materials							
Statistical data							
D. The ability to keyboard information on magnetic media (cards, discs, etc.)							
E. The ability to type from: Shorthand notes							
Hand-written notes							
Dictation machines							
Typed copy							
Rough draft							
F. The ability to change typewriter ribbons, care for equipment							
G. The ability to keyboard documents with satisfactory turn-around time							
H. The ability to operate: Electric typewriter							
Correcting Selectric							
Facsimile							
Memory typewriter							
Mag Card							
CRT (visual display) units							
Phototypesetting equipment							
OCR equipment							
I. The ability to: Produce copies by automatic playback							
Revise previously typed work by correcting mag media							
II. TRANSCRIPTION COMPETENCIES							
A. The ability to: Transcribe machine dictation (recorded media) with speed and accuracy							
Demonstrate competency in listening skills, following directions							
Prioritize documents, tasks							
Proofread all typed documents							
Handle confidential correspondence, data							

Competencies	Level of Importance			If Important, Where Competency Should Be Learned			
	Very Important	Somewhat Important	Unimportant	Learned In School	Learned On-The-Job	Learned In School And On-The-Job	No Opinion
III. RECORDS MANAGEMENT							
A. The ability to:							
Use a filing system							
Organize and maintain a retention filing system							
Organize and maintain a filing system for stored or recorded data							
Interpret coding system for documents typed in a WP center							
IV. TELEPHONE							
The ability to handle telephone duties							
V. OFFICE MACHINES AND EQUIPMENT							
A. The ability to operate:							
Copier							
Dictation equipment (individual)							
Monitor dictation equipment (centralized)							
Utilize endless-loop, phone-in, or remote systems							
Adding machine							
Electronic calculator							
VI. DATA PROCESSING							
A. The ability to:							
Program word processor in BASIC							
Use and understand BASIC and other computer languages							
Interpret computer printouts							
Use data-entry equipment							
VII. GRAMMATICAL SKILLS							
A. The ability to:							
Read and interpret business documents							
Spell							
Punctuate, capitalize							
Proofread							
Alphabetize							
Construct correct sentences							
Sequence sentences in a paragraph							
Determine correct paragraphing							
Recognize and correct improper sentence structure, use of words							
Demonstrate acceptable vocabulary							
Compose business letters							
VIII. MATHEMATICS							
A. The ability to perform the following:							
Compute individual production rates							
Compute total WP center production rates							
IX. GENERAL CLERICAL SKILLS							
A. The ability to:							
Meet and greet people							
Requisition and maintain office supplies							
X. ADMINISTRATIVE DUTIES							
A. The ability to:							
Follow directions from supervisor							
Develop procedures for WP center							
Manage employee records							
Demonstrate equipment use							
Use equipment operation manual							

XI. OTHER

A. Please list any other skills or knowledges, necessary in your work, but not listed above that should be taught to prospective word processing employees.

APPENDIX C

JURY PANELISTS

JURY PANELISTS

Word Processing Center Supervisors

Ms. Carol Harrington
Fidelity Data Services, Boston

Ms. Janet Manter
Babson College, Wellesley

Ms. Barbara Scholl
Mt. Auburn Hospital, Cambridge

Word Processing Equipment Vendor Employee

Ms. Carol McCarron
Special Projects Coordinator
Systems Automation, Wakefield

Word Processing Consultant and President, Boston Chapter, International Information/Word Processing Association

Ms. Patricia M. Stano
Patricia M. Stano & Associates
Marlboro

Word Processing Educator

Ms. Marjorie T. Kenney, Professor
Office Administration and Education Division
Massachusetts Bay Community College, Wellesley

ADDENDIX D

INTERVIEW QUESTIONS--WORD PROCESSING CAREERS

QUESTIONS ASKED CONCERNING WORD PROCESSING CAREERS DURING THE INTERVIEWS WITH THE WORD PROCESSING SECRETARIES

1. Has a "built-in" career progression been established for persons working in word processing centers in your organization?

☐ Yes

☐ No

☐ Working on it

2. If "yes," does this career progression include postions of a managerial/supervisory nature?

☐ Yes

☐ No

3. If "yes," what is the possibility of <u>your</u> being promoted from your current position as a word processing secretary to one of a managerial/supervisory nature in the word processing area?

☐ Great

☐ Moderate

☐ Slight

☐ Impossible

☐ Not sure

☐ Not interested

APPENDIX E

PARTICIPATING ORGANIZATIONS

ORGANIZATIONS PARTICIPATING IN THE STUDY

American Mutual Insurance Companies	Wakefield
AMICA	Wellesley
AVCO	Wilmington
Babson College	Wellesley
R. W. Beck and Associates	Wellesley
Blue Cross/Blue Shield	Boston
Bose Corporation	Framingham
Boston College Law School	Newton
Boston Company	Boston
Boston Mutual Insurance Company	Canton
Camp, Dresser, and McKee	Boston
William Carter Company	Needham
Codman and Shurtleff	Randolph
COM/Energy Services Company	Cambridge
Dennison Manufacturing Co.	Framingham
Factory Mutual	Norwood
F. W. Faxon Co., Inc.	Westwood
Fidelity Data Services	Boston
Fireman's Fund	Boston
First National Bank	Boston
GTE Shareholder Services Incorporated	Quincy
General Electric Co.	Lynn
Goodwin, Procter & Hoar	Boston
Hale & Dorr	Boston
John Hancock Mutual Life Insurance Co.	Boston
Harvard Community Health Plan	Boston
Harvard University Business School	Cambridge
Commonwealth of Massachusetts, Massachusetts Port Authority	Boston
Commonwealth of Massachusetts, Secretary of State's Office	Boston
Massachusetts Institute of Technology, School of Engineering	Cambridge
Massachusetts Teachers' Association	Boston
Metcalf and Eddy	Boston
Mitre Corporation	Bedford
Leonard Morse Hospital	Natick
Mount Auburn Hospital	Cambridge
National Fire Protection Association	Quincy
New England Mutual Life Insurance Co.	Boston
Ortho Diagnostics	Westwood
Polaroid Corporation	Waltham
Raytheon	Bedford
Ropes and Gray	Boston
Sentry Insurance Co.	Concord
Shawmut Bank	Boston
Gaston Snow and Ely Bartlett	Boston
State Street Bank	Boston
Sun Life Assurance Company of Canada	Wellesley
TASC	Reading
William Underwood Company	Westwood
Whitman and Howard	Wellesley
Yankee Group	Boston

APPENDIX F

THANK-YOU LETTER

July 14, 1982

Dear

Thank you for the time you and the word processing operator from your department spent with me last month. Your participation in the word processing research study will allow me to make suggestions and a rationale for the implementation of word processing skills in various types of business education programs. This information will be particularly useful to educators who are responsible for preparing workers for today's automated offices.

Fifty organizations participated in the study. They represented a variety of organizational patterns of word processing and types of businesses. Included in the study were law firms, banks, educational institutions, engineering firms, government offices, hospitals, insurance companies, and several other types of businesses.

Your participation is appreciated in helping improve business education practices in the Commonwealth of Massachusetts.

Sincerely,

Peter F. Meggison