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AN ANALYSIS OF SHORTHAND USAGE AS PERCEIVED
BY SELECTED OGDEN, UTAH BUSINESS EXECUTIVES

by

Normadine D. Kennedy

A thesis submitted in partial fulfillment
of the requirements for the degree

of

MASTER OF SCIENCE

in

Business Education

Approved:



UTAH STATE UNIVERSITY
Logan, Utah

1978

ACKNOWLEDGMENTS

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Normadine D. Kennedy

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ABSTRACT

An Analysis of Shorthand Usage as Perceived by
Selected Ogden, Utah Business Executives

by

Normadine D. Kennedy, Master of Science

Utah State University, 1978

Major Professor: Dr. Lloyd W. Bartholome

Department: Business Education

A study of shorthand usage as perceived by selected Ogden, Utah business executives was conducted to determine if curriculum changes must be made in Business Education Department programs in order to meet the secretarial training requirements of Ogden, Utah businesses. Data were collected by telephone interview from 84 businessmen who employed one or more secretaries. These data were stratified according to type of business and size of business. Secretarial employment was stratified according to shorthand as a job requirement and to shorthand utilization of the job. In addition, utilization of shorthand supplements and substitutes was analyzed. Trends were determined by comparing three time periods: 1971, 1974, and projected 1977.

(63 pages)

CHAPTER I
INTRODUCTION

Shorthand Systems

The ability to rapidly and accurately record spoken words is an asset to any person. This is particularly true of a person whose livelihood depends upon his skill in recording these words and his skill in converting his recordings into written form. This person may be using symbols or abbreviations of the words in his recording and, therefore, may be utilizing a shorthand system. The business applications as well as personal usage applications of shorthand have been recognized. Because of this shorthand has become a traditional part of business education curriculums in secondary and post-secondary schools.

Although many shorthand systems have been devised, one system is taught in more than 98 percent of the schools in the United States (Tonne et al. 1965). This system is Gregg Shorthand. The Gregg system utilizes symbols rather than abbreviations and requires extensive study before vocational competency may be achieved by a student. Tonne et al. (1965) state that two years of study are required before the student attains the needed vocational competency level. This study time requirement is a disadvantage of this system due to high student dropout rates. In a survey conducted by the Delta Pi Epsilon Research Committee in cooperation with South-Western Publishing Company, it was found that enrollment in shorthand transcription

declined from 75,745 in the first semester to 3,918 in the sixth semester (Cook 1968).

Although the Gregg system is the most extensively taught in the United States school systems, other shorthand systems have been developed. An example is the Forkner system. This system is taught in some schools where lower speed goals will meet the needs of the student. Forkner shorthand requires less instruction time than Gregg Shorthand and is designed for speeds up to 120 words a minute (Forkner 1955). Another example is a relatively new system of shorthand, Century 21. According to Gold et al. (1976-1977), the methods used in teaching Century 21 are no different than those used in teaching Gregg Shorthand; however, student achievement is greater with the newer system.

These systems as well as the many other shorthand systems have personal use applications and, more importantly, vocational use applications. In vocational usage, these systems require one to one contact between the secretary and the dictator. This contact requirement is considered a disadvantage by some proponents of the new concept of word processing.

Word Processing

In a profit-oriented world, businesses need to operate efficiently to survive. In office operation, a by-product of this efficiency need is the concept of word processing, a relatively new approach to handling paperwork efficiently. According to Bely (1973), this method (word processing) was originated in Germany by Ulrich Steinhilper. He

called his idea "textverarbeitung." The application of his theory of directing all dictation toward one or more central transcribing locations was to result in time and money savings for businesses.

Long (1974) states that the thrust of the concept is that dictation of letters, reports, and memoranda is recorded on a machine and later transcribed by a typist through the use of an automatic typewriter, located in an area remote to the office of the dictator. The use of an automatic typewriter allows the transcriber to correctly keyboard the material at rough draft speeds then produce an error-free document at speeds of 150 words-per-minute (wpm) (Bely 1973). Technological advances since Bely's article now allow speeds of 500+ wpm (A.B. Dick Co. 1977).

According to Bely (1973), word processing has made and is making a definite impact on the secretarial area of the business world. Collins (1973) states that reasons for using word processing systems could be increasing paperwork volume, rising costs, and the plateau in secretarial production. These factors create a need for a more logical combination of personnel, procedures, and equipment to generate, distribute, and retain information more efficiently. He further states that an advantage of word processing is that it changes the method of input through the use of input processing equipment which allows the manager or principal and the secretary to work more independently. The manager may dictate whenever he wishes, and the secretary is able to schedule transcription of dictation and administrative tasks for maximum efficiency. In addition, the secretary may be able to perform administrative and correspondence duties for two or more managers or principals.

If the volume of correspondence and administrative duties is increased, the secretaries may specialize for greater efficiency. One administrative secretary could handle all administrative duties while another secretary could be assigned to magnetic keyboards with input processing equipment to transcribe typewritten documents (Collins 1973).

Beller states:

As one personnel manager observed, word processing made it possible for him to identify and tap two areas of employable skills instead of only one. The first, formerly unavailable to him, is the junior college or college graduate without typing or shorthand, but with the cognitive skills to perform well as an administrative secretary. The second, based on keyboard skills, he can now recognize and reward with equal job mobility, status and pay. (Beller 1973, p. 27)

This would enable secretaries to see clearly defined career paths and to see the need for developing skills to pursue these careers. However, manual shorthand was not mentioned as an employment criterion for either area.

Although the equipment of word processing is available, business educators must determine if it is being utilized by the business community and, if so, make curriculum changes to reflect the needs of the employers.

Curriculum

In a study of business education for the emergent office, Huffman and Gust found the following:

The first problem, therefore, requires a discovery of the activities that are and will be performed in the emergent office The second problem involves updating the business and office curriculum on the basis of the new and different abilities needed to carry out activities in the emergent office. (Huffman and Gust 1970, p. 3)

In addition, Steward (1973) states that since the business community is in a constant state of change, it is important that the school serving the community be flexible.

In 1966, Roman (1966, p. 3) foresaw the impact of automation on business and states that "a most pressing curriculum demand in the field of business education is the determination of what constitutes adequate preparation for types of positions available in business as a result of rapid technological shifts."

In 1966, Roman conducted a survey of business education curriculum in three size categories of high schools. He found that Shorthand I was taught in the eleventh or twelfth grade in all twenty schools surveyed in cities of less than 10,000 population; however, Shorthand II was taught in only seven of twenty schools. Proportionately similar statistics were found for the medium size city schools (10,000-50,000 population). Although all fifty surveyed schools offered Shorthand I, only twenty-four taught Shorthand II. The large city high schools (cities of 50,000-1,000,000 population) offered a proportionately greater number of Shorthand II courses: eighty schools offered Shorthand I while forty-nine offered Shorthand II. Although many schools did not offer Shorthand II, students were able to take a shorthand course during their final high school year. This enabled the student to attain his highest level of competency at a time when he would enter the job market.

Business Office Utilization of Shorthand

Shorthand is taught in secondary schools and colleges. But is it utilized in employment? In a study by Marshall (1973), it was found that shorthand was an employment requirement for 26.1 percent of the secretaries surveyed. However, 42.1 percent of the secretaries surveyed utilized shorthand. None of the responding secretaries used shorthand six or more hours per week.

In a similar survey by the Oregon Business Education Association (Hess 1971-72), it was found that 42 percent of the employers required shorthand. Sixty-two percent of the surveyed secretaries stated that shorthand was used 15 minutes or less. Only five percent used shorthand more than 60 minutes.

In a Portland, Oregon study, it was found that 53 percent of the 204 firms surveyed did not require shorthand for employment for a secretary, whereas 44 percent did require shorthand for employment as a secretary. Shorthand was considered an asset for promotion or advancement opportunities. Eighty-three percent of the employers had no preference for particular shorthand systems; however, forty-seven percent of the employers who required shorthand wanted dictation speeds of between 80 and 100 wpm (Robertson 1975).

Purpose of the Study

The purpose of this study was to determine analytically the future of shorthand systems in Ogden, Utah businesses as projected and thereby provide curriculum suggestions to teachers of Ogden, Utah secretarial employees. This was accomplished by

- 1) determining the number of secretaries employed by each business surveyed;
- 2) comparing the shorthand job requirements in the surveyed offices in 1971, 1974, and projected 1977;
- 3) determining the percentage of the employed secretaries using shorthand on the job in 1971, 1974, and projected 1977;
- 4) determining the alternatives to shorthand currently utilized;
- 5) determining the employer's projection for word processing utilization and the impact, if any, on shorthand use; and
- 6) stratifying the above data according to type of business and size of business.

To assist in accomplishing objective 2, the null hypothesis "there is no significant difference in the proportion of businesses requiring shorthand between 1971 and 1974, between 1974 and projected 1977, and between 1971 and projected 1977" was tested. To assist in accomplishing objective 3, the null hypothesis "there is no significant difference in the number of secretaries using shorthand between 1971 and 1974, between 1974 and projected 1977, and between 1971 and projected 1977" was tested.

Importance of the Study

According to Ober (1972), the controversy concerning the future of shorthand is one with which business educators must come to grips. This controversy has been highlighted by the technological advances made in recent years with dictation equipment and other substitutes for manual shorthand. But business educators must have a basis for

making curriculum changes. Business's problem of efficient handling of paperwork may not be solved by eradicating shorthand from the business education curriculum if businessmen are not presently using the substitutes for shorthand, are not satisfied with the alternatives, or do not plan to change the status quo.

The business education department of each school has the responsibility of supplying an adequately trained labor force to meet the demands of its students' employers. Although students are taught the use of dictation equipment in office practice classes in some schools, the current emphasis in transcription is on manual shorthand transcription. This study has attempted to determine if this is a valid curriculum practice.

Manual shorthand systems are a traditional part of the business education curriculum and require extensive student training. One shorthand system requires two years of study for vocational competency level skill development. But is this investment of time by students necessary? Some proponents of automation in business equipment say no. This study has not attempted to determine if the most taught system is the system which should be taught; however, it has attempted to determine whether shorthand is an asset to job applicants in the Ogden, Utah business area.

This paper has compared the use of word processing equipment with the use of shorthand systems on a three time period basis in an attempt to give business educators, who train students for employment in the Ogden, Utah business district, a tool for analysis of their current shorthand curriculum and a basis for planning for the future shorthand demands of employers.

Delimitations of the Study

1. This study was delimited to a random sample of secretaries employed in Ogden, Utah businesses.
2. Although the size and type of business were considered in the analyses, there was no attempt to equalize the sample size in each category.
3. This study considered shorthand as a whole and was not concerned with specific systems of shorthand.
4. This study was concerned with the future of shorthand requirements in general and did not assess the levels of proficiency required.

Definition of Terms

These terms are pertinent to the study and are thus defined:

1. Business education: an area of education in which business skills and knowledges are emphasized.
2. Business executive: the officer in charge of office personnel.
3. Shorthand: any system of speed writing using symbols for letters, words, and phrases (Webster 1971).
4. Vocational competency: the level of skills required for entry level job proficiency.
5. Word processing: the combination of people, procedures, and equipment, properly organized and carefully selected which results in faster and more economical communication capability (Long 1974).
6. Magnetic medium typewriter (automatic typewriter): an electric typewriter that records words on a paper tape or on a magnetic medium at the same time as it types on a sheet of paper (or displays

on a screen, as in a video text editing machine). Recorded material can be played back at high rates of speed with little human assistance (Nielson 1975, p. 6).

Summary

Shorthand is a means to effective communication. One system, Gregg Shorthand, is the most commonly taught system in the United States. However, some authorities feel and have stated there are more efficient modes of transferring spoken word to written word than shorthand. These authorities refer to the concept of word processing as a replacement for shorthand need.

Because of the controversy, this study was performed to determine the future of shorthand through a trend analysis. This study is designed to provide a shorthand curriculum guide for educators in the Ogden, Utah area.

CHAPTER II

REVIEW OF LITERATURE

The purpose of the review of literature is to present a brief history of shorthand origins, usages, and system innovations. In addition, a synopsis of the current status of shorthand is presented. Since the need for this study was influenced by the relatively new concept of word processing, an overview of this concept is presented with its implications for shorthand.

History of Shorthand

Shorthand systems have been used since the time of Zenophon. Zenophon was a Greek historian and writer from 431-353 B.C. (Tonne et al. 1965). This first known system was used by Zenophon to write the memoirs of Socrates. The earliest surviving system is traced back to Marcus Tullius Tiro (born 103 B.C.) (Russon 1968, Christensen 1974). Tiro was a freedman of Cicero and used shorthand to record Cicero's orations. His system was the first Latin shorthand system, was cursive, and was compiled into a shorthand dictionary (Russon 1968).

Timothe Bright, "Doctor of Phisicki", is credited with the first shorthand system of modern times. This geometric system was produced during the perilous year of 1588 when England's fate hung in the balance; however, Queen Elizabeth took the time from political movements to grant a patent to "Characterie--an arte of shorte, swifte, and secrete writing by character . . . for the furtherance of good

learning." (Leslie 1964). Bright's system was designed in 1588 and consisted of straight lines, circles, and half circles (Russon 1968, Christensen 1974).

The next geometrical system was invented by John Willis, who is considered to be the father of modern shorthand. Willis published a book of his shorthand system in approximately 1600 (Russon 1968).

Although other systems were developed, the most important of this time period (1700s) was Samuel Taylor's. It was geometrical and was eventually adapted to languages other than English. Isaac Pitman's system was based on Taylor's work and was also adapted to many foreign languages (Russon 1968).

A modern cursive system which was published in England in 1888 and introduced in the United States in 1893 is the Gregg system. This system is based on light lines, absence of shading, absence of position writing, connective vowels, and the slant of longhand (Leslie 1964). This system is now the most popular shorthand system in use in the United States.

In this century, several shorthand systems have appeared. A geometrical system was published in 1917 by Reginald Dutton. Other present day systems using position to express vowels have appeared. Alphabetic shorthand systems including Speedwriting, Stenoscrypt, and Carter Briefhand have been devised (Russon 1968).

The Industrial Revolution brought about an increased demand for stenographers (Russon 1968). Of special impact was the commercial manufacture of the typewriter in 1873 (Nolan and Hayden 1958). After this time, the combination of shorthand and typewriting skills became essential to the effective production of correspondence in the office.

According to Tonne et al. (1965), shorthand has been the tool of many prominent men. One of the early users was Charles Dickens, who not only used shorthand but wrote about the difficulties of learning shorthand in *David Copperfield*. More recent prominent shorthand users were George Bernard Shaw, Woodrow Wilson, and James Byrnes.

Shorthand became part of the curriculum of business schools in approximately 1863. This was before the introduction of Gregg Shorthand and before the invention of the typewriter (Tonne et al. 1965). However, the importance of and need for shorthand increased after these events took place. Shorthand has developed in public and private schools to the point of being a "bread and butter" part of the business education curriculum. Although Roman (1966) does not include shorthand as part of the curriculum of junior high schools, he does stress its place in the small or large high school and in adult or evening programs. Nolan and Hayden (1958) state that shorthand is second in rank of being offered in business subjects only to typewriting. It is third in rank in enrollment. Shorthand is also an important segment of the business education curriculum of private and public community colleges, vocational-technical colleges, four-year colleges, and universities, as can be noted by reviewing the catalogs published by these types of schools.

Systems of Shorthand

According to Russon (1968), thousands of shorthand systems have been devised. Shorthand systems are either manual or machine. Manual systems are dominant and are older historically. Manual systems may

be cursive or geometric. Gregg Shorthand is an example of a cursive system. As discussed previously, the instruction period for this system is two years for vocational competency, and it currently is the most popular system in United States schools. An offshoot of Gregg Shorthand is Notehand which Aeschlimann (1975) describes as a simplified Gregg Shorthand and states is generally considered to be a college preparatory course.

An example of alphabetic systems is Stenoscrypt ABC, which was originally published in 1950 (Reap 1977). Alphabetic systems are generally thought to be designed for personal use rather than vocational, require less learning time, and offer less maximum speed potential. Russon (1968) lists the following alphabetic shorthand systems which have been devised in recent years: HySpeed Longhand (1932), Speedwriting (1923 and 1951), Abbreviatrix (1945), Quickhand (1950), Zinman (1950), Stenospeed (1953), and Carter Briefhand (1957). Tonne et al. (1965) describe some of these systems as hybrids--part longhand and part shorthand.

Another alphabetic system is Forkner Shorthand. This system is based mainly on the use of the alphabet (with a few symbols); therefore, it enables students to gain a high level of writing speed in less time than some other systems and provides fewer look-alike outlines than symbol systems which gives more accurate transcription (Diskin 1976).

In the early 1970s, a new cursive shorthand system was introduced. It is called Century 21 and is a symbol system. In an effort to reduce decreased enrollments in shorthand classes, the faculty of the Business

Department in West Hartford, Connecticut introduced Century 21 in their schools. At the end of the 1975-76 school year, the instructors found 72.2 percent of their students had attained 70 wpm on a three-minute writing, within three percent error. This was a 21.3 percent increase over timings the prior school year (Gold et al. 1976-77). According to Pullis (1976), Century 21 Shorthand instructional materials appear to be proving that they were scientifically controlled and developed to insure comprehensive and systematic coverage. This should provide a basis for student performance improvement as discussed by Gold et al. (1976-77).

Geometric systems of shorthand began with Timothe Bright's system, which was designed in 1588 and consisted of straight lines, circles, and half circles. The father of modern shorthand, John Willis, developed the next geometrical system (Russon 1968, Christensen 1974).

In 1786, Samuel Taylor devised a system which is the basis for many present methods. Taylor's system influenced the next system of major importance, Pitman. The Pitman system was based on the circle. It is written upright and uses line thickness to distinguish some consonants from others. More recently, a geometric system was published by Dutton (1917) (Russon 1968).

Machine shorthand systems have not gained the popularity of manual systems; however, they are important particularly in the court reporting field. According to Marshall (1973), the first models of Stenotype machines were constructed in 1911. According to Drexler (1969), less time is needed for teaching theory in machine shorthand; therefore, more time can be devoted to grammar, word recognition, and

spelling. The author recently observed a court reporting business in which a computer is being experimentally utilized to transcribe court reporter's notes. If this technological advancement is successfully implemented, it could bring about an increase in machine shorthand popularity by offering more efficiency than manual shorthand systems.

Current Status of Shorthand

Russon states:

The Gregg system is now taught in more than 90 percent of the schools in the United States. Pitman shorthand predominates in New York City, Chicago, and Philadelphia. Pitman is also the predominate system in Canada and Europe. (Russon 1968, p. 3)

Tonne et al. (1965) agree that Gregg Shorthand is the most popular system; however, they state that 98 percent of the schools in the United States that offer shorthand instruction offer Gregg. The original Gregg Shorthand system has been simplified several times since its introduction. Diamond Jubilee is the most recent version (1963). However, the new shorthand system, Century 21, seems to be gaining popularity in some areas of the United States, particularly Utah.

Shorthand is a technical subject and is taught for both personal and vocational use. However, leaders in business education agree that shorthand must be justified on a purely vocational basis (Nolan and Hayden 1958). The reason for this statement is that Gregg Shorthand skill is developed over a lengthy period and is a skill that must be used often for proficiency retention. Russon (1968) agrees that

shorthand is basically vocational in nature. In relation to this, Tonne et al. state:

The primary aim, then, of shorthand instruction is to develop the ability to take the dictation that is encountered in a business situation with sufficient speed to insure getting it down and with sufficient accuracy to produce a mailable transcript. (Tonne et al. 1965, p. 180)

But to what extent should this ability be developed? Russon states:

The minimum standard for the shorthand course is to write shorthand from new matter, medium difficulty, for 5 minutes at 100 words a minute and to produce mailable transcripts at 30 words a minute. (Russon 1968, p.4)

For Gregg Shorthand, this standard is based on a two-year shorthand course.

In an analysis of office dictation of 72 different businessmen, it was found that an experienced stenographer must be able to take dictation at 100 wpm to get 75 percent of all dictation. This dictation was four or five consecutive letters for a total dictation period of 10 or 11 minutes (Tonne et al. 1965).

While the question of skill required for vocational competency can be answered, it is also necessary to determine to what extent shorthand is utilized in the business world. This requires a comparison of employment requirements and on the job use.

In a study by Marshall (1973), it was found that 26.1 percent of the employers required shorthand; however, 42.1 percent of the surveyed secretaries utilized shorthand in performing their jobs. All of the secretaries who utilized shorthand used Gregg Shorthand. The uses of shorthand were for recording telephone messages, taking dictation, and

making notes. Two of the secretaries also used shorthand in taking minutes of meetings.

In a survey of the graduates of the secretarial department of State University of New York at Alfred, it was found that of the 51 graduates surveyed only seven stated that they did not use shorthand. The speeds required varied from 80 to 120 wpm (Steward 1973).

According to Conley, a similar situation exists in the Los Angeles-Long Beach area. He states:

In 1970 an in-depth study was made of representative jobs in the entire field in the Los Angeles-Long Beach area Results in the area of recording and transcription of dictated material were most significant; they indicated that approximately 80 percent of all dictation was recorded in pen shorthand. (Conley 1972, p. 21)

From the surveys cited, it is shown that shorthand is needed by many secretarial employees. Therefore, the investment of time to develop the shorthand skills required for vocational competency is worthwhile to many graduates.

In contrast, another study found shorthand to be less important. In a study conducted for the Oregon Business Education Association, it was found that 62 percent of the secretaries surveyed use shorthand 15 minutes or less per day. Fifty-seven percent of the employers did not require shorthand (Hess 1971-72).

A basic problem with the currently taught shorthand is the failure or dropout rate. Forkner states:

There is, however, ample evidence that something must be wrong with these systems of shorthand (Pitman and Gregg) because it is well known that the failure and dropout rates among students of these two subjects are among the highest of any high school subject. (Forkner 1969, p. 3)

Roman (1966) also states that there is a marked decrease in enrollment in advanced shorthand classes. Pullis (1976-77) states that historically, shorthand instruction has been characterized by high failure rates, high dropout rates, and low achievement rates. Boswell (1976) performed a study to determine why students do or do not enroll in second-year shorthand classes. She found in a survey of Cache County, Utah schools that students did not enroll in second-year shorthand classes due to scheduling problems more than any other reason; however, lack of time to complete homework assignments was also given as a factor for non-enrollment.

In an analysis of shorthand dropout rates, Ober (1976) states that shorthand courses have no more or no fewer dropouts than do most other subjects. His view was rather optimistic since he seemed to feel subject matter was not necessarily the problem; however, this seems to be supported by Boswell's study results.

In a recent article, Stoddard (1976) states that a validation study has shown Century 21 Shorthand to be superior to Gregg Shorthand in retaining students in the first-year shorthand classes. This may alleviate some dropout problems.

Despite the optimism concerning shorthand and its enrollment problems, the number of skilled shorthand secretaries in the job market is limited, and some businesses are unable to fill their vacancies with qualified personnel. Perhaps this is one reason alternatives to shorthand have become more widely used by businesses in recent years.

Word Processing

According to Dolecheck (1973), word processing is a term which business educators are now seeing in most business and secretarial journals. In today's world, shorthand cannot be viewed without evaluating its place in word processing. But what is word processing?

According to Collins (1973), word processing is a systems approach to an organization's total communications program. The basis for utilizing the systems approach is to bring more efficiency to the paperwork area which is becoming more expensive each year. For example, Bely (1973) states that letters cost more than \$3.00 to produce. A recent Dartnell Report indicates the cost of producing a letter is \$4.47 (Winger 1977). Another reason is to utilize effectively the sophisticated equipment which is available to business offices.

Long (1974, p. 59) defines word processing as "the combination of people, procedures, and equipment, properly organized and carefully selected, resulting in faster and more economical communication capability." He further states:

The thrust of the concept is that dictation of letters, reports, and memoranda is recorded on a machine and later transcribed by a typist through the use of an automatic typewriter located in an area remote to the office of the dictator. (Long 1974, p. 59)

Some of the advantages of using dictating machines are: 1) better organization of work; 2) dictating without tying up the secretary; and 3) working outside the office and office hours (Anonymous 1972).

Word processing implementation by business is not without its problems. Two of the areas for concern are obsolescence and the human factor. Technological advances in the word processing field are happening rapidly, and due to the cost of the equipment, this cannot be overlooked when a business is considering the implementation of a word processing unit. Cumpston (1974a) states that manufacturers are aware of the technological problem and have begun "buy-back" guarantee options. The human factor becomes involved when an employee (typist) thinks that his job is dehumanizing (Cumpston 1974b). This problem must be reconciled by management, preferably before it happens.

Word Processing Implications for Shorthand

Although some authorities have proclaimed the toll of death for shorthand with the advent of automation, Klotz (1970) indicates shorthand is not dead. The classified ads still indicate a demand for qualified secretaries with shorthand skills. However, nine percent of the large firms surveyed in the Minneapolis-St. Paul area indicated a decrease in future needs for shorthand writers (Mitchell and Olsen 1970).

Collins states:

As technology expands the input, word processing equipment is being used more widely. Perhaps the time is near to consider shorthand as a personal skill, not a vocational skill. The trend in business is to lessen the shorthand requirement, and it is evident that it has become a personnel selection device in the last two decades, rather than a pure prerequisite for employment. (Collins 1973, p. 31)

Word processing centers utilize two types of secretaries: 1) the administrative secretary, and 2) the correspondence secretary.

The administrative secretary would not necessarily have typing and shorthand skills; nor would the correspondence secretary need shorthand skills (Beller 1973).

Although the costs of one-to-one contact between dictator and secretary are greater than use of machine dictation, not all dictators are able to adjust to dictating to a machine. In addition, not all types of correspondence adapt to machine dictation (Nolan and Hayden 1958) nor are all businesses willing to pay the initial costs of purchasing equipment. Because of these reasons and others, shorthand writers will continue to be needed. However, Bely (1973) states that high schools should stop preparing quantities of shorthand writers and should concentrate on quality writers.

Sherster also feels shorthand will not be totally replaced by word processing. She does feel there is a place for word processing in the business world and in the classroom (Long 1974).

Powell (1976) states business and office teachers are responsible for preparing students for secretarial positions in AWP (Automated Word Processing) systems. He further states:

The appropriate subject matter areas to be taught must be determined. An important consideration in determining curriculum content for changing office operations is to test the subject matter being taught to determine its relevance to new systems involved in a particular job. (Powell 1976, p. 23)

He suggests it may be necessary to deemphasize some traditional subject matter.

Among the implications of word processing given by Long (1974) are: 1) only one year of shorthand may be required; 2) the content of typewriting and shorthand will be modified; 3) the terminal

objectives of typewriting and shorthand will undergo modifications; and 4) shorthand will not be eliminated, nor will it be required of the corresponding secretary.

Kennedy (1973) found business educators were unanimous in feeling word processing has made a definite impact on the secretarial area and that these educators feel secondary schools should reexamine their secretarial programs to determine their alignment with job requirements. She also found 88 percent of management personnel surveyed expressed the need for continuing shorthand studies in the high school business program. She felt word processing would have its greatest impact in businesses which have a high volume of paperwork such as legal firms, insurance companies, and banks. Although word processing was not popular with all secretaries, Kennedy indicated it has presented additional opportunities for secretaries through career paths.

Summary

Shorthand is known to have existed since 431 B.C., and a surviving system can be traced to approximately 103 B.C. It is an ancient skill and as such has gone through many changes and innovations, such as geometric applications.

Among the historical events which had great impact on shorthand usage are the Industrial Revolution and the invention of the typewriter. With its increased usage, shorthand became part of the curriculum of schools.

The most popular shorthand system in the United States is Gregg Shorthand, which has been simplified several times. Gregg Shorthand

is a cursive system. There are additional cursive systems, including the relatively new Century 21 system, as well as numerous alphabetic and/or hybrid systems. In contrast to the cursive systems are the geometric systems of which Pitman is now the most commonly used. In contrast to the manual systems, both cursive and geometric, is machine shorthand which has its greatest impact through court reporting usage.

The most justifiable reason for teaching Gregg Shorthand or most other systems is vocational usage. Although this is true, it has been found that shorthand is often not utilized on the job even though it may have been a job requirement.

In an effort to handle paperwork more efficiently, the concept of word processing has come into being. Just as shorthand has problems, such as high student dropout rates, word processing has problems, such as employee motivation. Nevertheless, it is felt by proponents of the concept that word processing will have or is having an impact on shorthand usage.

CHAPTER III
METHODS AND PROCEDURES

The data were collected from a random sample of Ogden, Utah businesses listed in the 1973 Ogden telephone directory yellow pages. There were 10,749 businesses listed in the directory. No efforts were made to determine how many of the listings were repetitive due to yellow page cross-referencing. Of these, 338 businesses (3 percent) were contacted. The response was as follows:

a) interviewed	84
b) uncooperative	10
c) no secretary	137
d) eliminated	<u>107</u>
Total	338

Ogden, Utah is representative of a medium-sized city. Although it has limitations, such as time lapse from publication to usage and repetitions due to use of the directory as an advertising medium, the telephone directory was considered to be the most complete, concise listing of the businesses available. The businesses were counted on each page, and the pages were assigned series of consecutive numbers. A table of random numbers from Paden and Lindquist's *Statistics for Economics and Business* (1956) was utilized in choosing the businesses which were surveyed. A listing of the surveyed businesses is contained in Appendix A. The following businesses were eliminated from the survey initially:

- 1) Those with long distance numbers and
- 2) Fire departments.

The businesses were contacted by telephone and were surveyed through the use of a questionnaire (Appendix B) designed to meet the objectives of the study. The questionnaire was pilot-tested, modified, and retested before being used as a data gathering tool. If a businessman did not wish to participate in the survey, the business was eliminated. In addition, those businesses contacted which did not employ a secretary were eliminated. It was determined that answering services were not qualified to be representatives of the business being contacted; therefore, those businesses were eliminated. If a wrong number was reached which was the current listing for the business, the business was eliminated. If no answer was received during the first call, a follow-up call was made at a later date. If again no answer was received, the business was eliminated from the survey. If the telephone was disconnected as indicated by a recording, the business was eliminated.

When the interviews were completed, the data were compiled and tabulated by question. A mean number of secretaries per business was calculated for 1971, 1974, and projected 1977, and the standard deviation was calculated.

The null hypothesis "there is no significant difference in the proportion of businesses requiring shorthand between 1971 and 1974, between 1974 and projected 1977, and between 1971 and projected 1977" was tested at the 0.05 level of significance using the chi-square criterion. The chi-square statistic was calculated by using the

following equation:

$$\chi^2 = \sum \frac{(\text{observed} - \text{expected})^2}{\text{expected}}$$

The value was compared with χ^2 table values to determine if a significant difference existed.

The chi-square test was also used to test the null hypothesis "there is no significant difference in the number of secretaries using shorthand between 1971 and 1974, between 1974 and projected 1977, and 1971 and projected 1977."

Descriptive data of shorthand supplements and/or replacements were tabulated according to whether shorthand was or was not required for secretarial employment. These data were not statistically treated.

A tabulation of the increase in equipment in the office was completed with an analysis of the kind of equipment and its impact or lack of impact on shorthand.

The data were tabulated according to type of business and size of business. Additional chi-square tests were run to determine if there were significant differences in the requirements of different types and sizes of businesses.

CHAPTER IV

FINDINGS

The findings of a study of the future of shorthand as perceived by Ogden, Utah businessmen are presented in this chapter. The data were collected through telephone interviews with representatives of 84 businesses. The information is presented as it was sequenced on the questionnaire (Appendix B).

Type of Business

Five categories of businesses were established. These were: 1) manufacturing, 2) merchandising, 3) service, 4) government, and 5) other. A total of 84 businesses were surveyed and the number and percentage of businesses per category were tabulated (See Table 1).

Table 1. Number and percentage of Ogden, Utah businesses surveyed by type of business.

Type of business	Number	Percentage
Manufacturing	9	11
Merchandising	27	32
Service	45	54
Government	2	2
Other	1	1
Total	84	100

Service was the most common type of business surveyed constituting 54 percent of the total. Merchandising was the next most common with

32 percent of the total. Only one business did not fit in the categories. Government and other categories were merged with the service category in subsequent analyses.

Number of Employees

To aid in measuring the impact of the size of a business on number of secretaries and shorthand usage, four categories were established. These were: 1) 1-10, 2) 11-50, 3) 51-100, and 4) over 100. The results of the survey are shown in Table 2.

Table 2. Number and percent analyses of surveyed Ogden, Utah businesses by total number of employees.

Size Category	Number	Percent
1-10	39	46
11-50	28	33
51-100	10	12
Over 100	7	9
Total	84	100

The largest business size category was 1-10 employees (46 percent). Eleven through fifty employees was the next most common (33 percent). The category of over 100 was least common with 9 percent.

Type of Business and Number of Employees

The data on type of business and size of business (as determined by number of employees) were combined. In this analysis the government and "other" categories of type of business were combined with service since there were only three businesses in these categories. Again

the results revealed service to be the most often surveyed type of business and 1-10 to be the most often occurring size of business (Table 3).

Table 3. Analysis of the size of business and type of business of 84 Ogden, Utah businesses surveyed in 1974.

Type of Business	Number of Employees				Total
	1-10	11-50	51-100	Over 100	
Manufacturing	1	4	1	3	9
Merchandising	12	9	5	1	27
Service, Government, Other	<u>26</u>	<u>15</u>	<u>4</u>	<u>3</u>	<u>48</u>
Total	39	28	10	7	84

Secretarial Employment

The trend in secretarial employment is an important counseling tool for business educators; therefore, analyses of the surveyed businesses for this area were completed.

The businesses which did not employ secretaries were eliminated by the survey; therefore, the smallest category in secretarial employment was one. The scale continued with consecutive numbers through five. The final category was the actual number of secretaries employed if more than five. The businesses were surveyed for secretarial employment during three separate time periods: actual for 1971, actual for 1974, and projected for 1977.

It was found that the number of secretaries increased for each time period. In 1971, 147 secretaries were employed by the 84 businesses surveyed, whereas in 1974, 176 secretaries were employed. It is anticipated that 210 secretaries will be employed by these businesses

in 1977. The mean number of secretaries for each time period is shown in Table 4.

Table 4. Analysis of secretarial employment by 84 surveyed businesses for three time periods: 1971, 1976, and projected 1977.

Year	Number Employed or Anticipated	Mean Number of Secretaries per Business
1971	147	1.75
1974	176	2.10
1977	<u>210</u>	2.50
Total	533	

Since a trend may be shown in employment which may affect the need for employees who are qualified in shorthand, an analysis of variance was calculated to determine if there will be a significant increase in the number of secretaries. The result of the data analysis for 1971 versus 1974 showed no significant difference ($F = 1.09 < F_{.05,1,00} = 3.84$); however, when a comparison was made between the mean number of secretaries for 1971 and the anticipated mean number of secretaries for 1977, the results were:

<u>Source of variation</u>	<u>df</u>	<u>ss</u>	<u>ms</u>	<u>F</u>
Between groups	1	42.12	42.12	8.49*
Within groups	166	824.37	4.96	

*Significant at .05 level

Type of business

Analysis of secretarial employment trends by type of business revealed service (including government and other) to be the most

frequently occurring type of business and to employ the greatest number (mean) of secretaries for all three time periods (Table 5).

Table 5. Analysis of 84 Ogden, Utah businesses' secretarial employment by type of business for 1971, 1974, and projected 1977.

Year	Type of Business						Total
	Manufacturing		Merchandising		Service*		
	Number	Mean	Number	Mean	Number	Mean	
1971	13	1.44	35	1.30	99	2.06	147
1974	15	1.66	39	1.44	122	2.54	176
1977	17	1.88	51	1.88	142	2.96	210

*Includes two government businesses surveyed and one other category business

Size of business

An analysis of secretarial employment by size of business for the 84 businesses surveyed revealed the greatest number of secretaries are or will be employed in the businesses which employ 11 to 50 employees; the over 100 category of business employed or will employ more than four secretaries per business or the greatest mean number of secretaries (Table 6).

Table 6. Analysis of 84 Ogden, Utah businesses' employment of secretaries by total and mean for 1971, 1974, and projected 1977 for size of business.

Year	Size of Business								Total
	1-10		11-50		51-100		Over 100		
	Total	Mean	Total	Mean	Total	Mean	Total	Mean	
1971	41	1.05	46	1.64	29	2.90	31	4.43	147
1974	56	1.43	64	2.29	25	2.50	31	4.43	176
1977	68	1.74	76	2.71	33	3.30	33	4.71	210
Sample size	39		28		10		7		84

Since the number of businesses remained constant while the number of secretaries employed or to be employed increased, it can be assumed that the job market for secretaries will continue to be bright through 1977 in the Ogden, Utah area. This was shown to be significant through statistical analysis. However bright the job market, this is not an indicator of the skills which will be required in 1977 and possibly the future. Since this study was delimited to shorthand skills as a job requirement, the next area of discussion is the trend in shorthand as a requirement for employment.

Shorthand Requirement

There were two areas which were surveyed in this subject. First, was shorthand a requirement for employment in 1971 and 1974, and will it be a requirement in 1977. Then it was necessary to determine how many secretaries were required to have adequate shorthand skills as compared to the number of secretaries employed in the office. In addition, shorthand requirements were analyzed by type of business and size of business.

It was found that of 147 secretaries employed in 1971, 68 (46 percent) were required to have shorthand skills whereas 79 (54 percent) were not required to have shorthand skills for employment (Table 7). In 1974, shorthand was required as an employment criterion for 82 (47 percent) secretaries and was not required for 94 (53 percent) secretaries. When the ratios of these two years were compared, it resulted in a calculated chi-square value of .0036 (Table 8). Since this value is less than $\chi^2_{.05, 1df} = 3.841$, it is concluded

Table 7. Percentage analysis of shorthand as a job requirement according to year.

Year	Required	Not Required	Total		Total
			Number of Secretaries	Percent Required	
1971	68	79	147	46	100
1974	82	94	176	47	100
1977	<u>82</u>	<u>128</u>	<u>210</u>	39	100
Total	232	301	533		

that there was no significant change in the number of secretaries who were required to have shorthand skills for employment between 1971 and 1974.

Table 8. Chi-square analysis of shorthand as a job requirement for secretaries employed by 84 Ogden, Utah businesses for 1971, 1974, and projected 1977.

Year	Number of Secretaries	Secretaries Required to Have Shorthand (Percent)	Secretaries Not Required to Have Shorthand (Percent)	Chi-square Value
1971	147	68 (46)	79 (54)	.0036
1974	<u>176</u>	<u>82</u> (47)	<u>94</u> (53)	
	323	150	173	
1974	176	82 (47)	94 (53)	2.23
1977	<u>210</u>	<u>82</u> (39)	<u>128</u> (61)	
	386	164	222	
1971	147	68 (46)	79 (54)	1.844
1977	<u>210</u>	<u>82</u> (39)	<u>128</u> (61)	
	357	150	207	

When comparison analyses were calculated for the years 1974 and projected 1977, the percentage of secretaries who were not required to

have shorthand skills increased from 53 percent to 61 percent. However, the calculated chi-square value was 2.23. This value is also less than $\chi^2_{.05, 1df} = 3.841$; therefore, it is concluded that there was no significant difference in the number of secretaries who were required or will be required to have shorthand skills for employment between 1974 and projected 1977.

A comparison of 1971 and projected 1977 again demonstrated no significant difference. The percentage of secretaries required to have shorthand skills decreased from 46 percent to 39 percent; however, the comparison of the ratios of secretaries whose employers required shorthand to those whose employers did not require shorthand in 1971 and 1977 resulted in a calculated chi-square value of 1.844. This value is less than $\chi^2_{.05, 1df} = 3.841$; therefore, it is concluded that there was no significant change in the number of secretaries whose employers required or will require shorthand between 1971 and 1977.

Type of business

Chi-square analyses were performed for type of business. In addition, percentages are as shown in Table 9 and illustrated in Figure 1. Manufacturing businesses are shown to require shorthand as an employment criterion for a greater percent of their secretaries than merchandising or service type businesses. Manufacturing businesses show a small decline in the shorthand requirement from 1971 (69 percent) to 1974 (67 percent) with an increase projected for 1977 (71 percent). Service businesses required shorthand for employment for

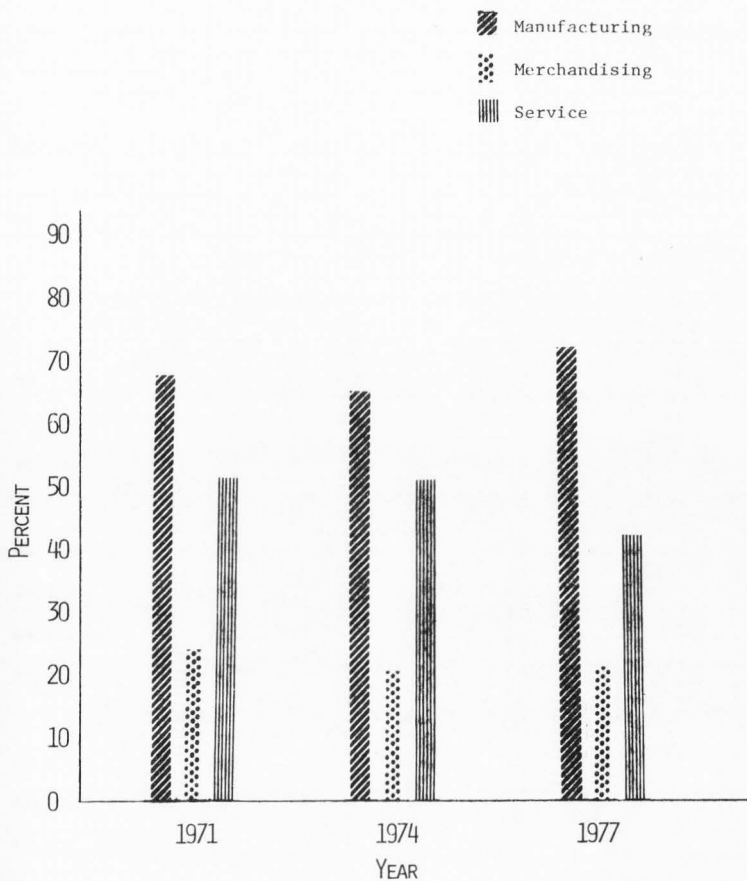


Figure 1. Percent analysis of shorthand as an employment requirement for secretaries of 84 businesses according to type of business for the years 1971, 1974, and projected 1977.

Table 9. Analysis of shorthand as an employment requirement for secretaries of 84 businesses according to type of business for the years 1971, 1974, and projected 1977.

Type of Business	Year	Shorthand Required for		Shorthand Not Required for	
		Employment	Percent	Employment	Percent
Manufacturing	1971	9	69	4	31
	1974	10	67	5	33
	1977	12	71	5	29
Merchandising	1971	8	23	27	77
	1974	8	21	31	79
	1977	10	20	41	80
Service*	1971	51	52	48	48
	1974	64	52	58	48
	1977	60	42	82	58

*Including the categories of government and other

52 percent of their secretaries in 1971 and 1974 with a decrease projected for 1977 (42 percent). Merchandising business data radically differed from those data of manufacturing and service businesses (Figure 1). The demand for shorthand as an employment criterion was much less for 1971 (23 percent) and 1974 (21 percent) with a slight decrease projected for 1977 (20 percent). A review of the questionnaires of the twenty-seven businesses in this category revealed no apparent reason for this difference.

When the ratios of 1971 and 1974 for manufacturing were compared, a chi-square value of .022 was found; therefore, no significant difference in the number of secretaries who were required to have shorthand skills for employment for these two time periods was found. This was also true of 1974 and projected 1977 with a value of .057 and 1971 and projected 1977 with a value of .007.

The chi-square values for merchandising were not significant (1971 versus 1974 = .059; 1974 versus 1977 = .433; 1971 versus projected 1977 = .407); therefore, there was not nor will there be a significant difference in secretarial employment in shorthand requirements for Ogden, Utah merchandising businesses for 1971, 1974, or projected 1977.

Analysis of shorthand requirements for service business secretaries revealed no significant change between 1971 and 1974 (chi-square value = .018); 1974 and projected 1977 (chi-square value = 2.743); and 1971 and projected 1977 (chi-square value = 2.014).

Size of business

For 1971, the size of business surveyed which required the largest percentage of its secretaries to have shorthand skills was the over 100 category which was 97 percent for 1971, 1974, and projected 1977. Conversely, the smallest size category required the smallest number of secretaries to have shorthand skills (24 percent) (Table 10). This category increased to 29 percent of the secretaries required to have shorthand skills in 1974 and projected a decrease to 16 percent in 1977. The 51-100 size category also increased in percent required from 1971 (28 percent) to 1974 (32 percent) with a projected decrease for 1977 (21 percent). The 11-50 size category was almost static for the three time periods: 43 percent, 44 percent, and a projected 42 percent. Although an overall percent comparison reveals a decrease from 46 percent of the secretaries required to have shorthand skills to 39 percent, there was no significant difference between the three time periods as discussed previously.

Table 10. Analysis of shorthand skills as an employment criterion for secretaries of 84 Ogden, Utah businesses by size category for 1971, 1974, and projected 1977.

Size of Business	Number (and Percent) of Secretaries			
	Shorthand Required	Shorthand not Required	Total	
1971	1-10	10(24)	31(76)	41
	11-50	20(43)	26(57)	46
	51-100	8(28)	21(72)	29
	Over 100	30(97)	1(03)	31
	Total	68(46)	79(54)	147
1974	1-10	16(29)	40(71)	56
	11-50	28(44)	36(56)	64
	51-100	8(32)	17(68)	25
	Over 100	30(97)	1(03)	31
	Total	82(47)	94(53)	176
1977	1-10	11(16)	57(84)	68
	11-50	32(42)	44(58)	76
	51-100	7(21)	26(79)	33
	Over 100	32(97)	1(03)	33
	Total	82(39)	128(61)	210

Chi-square analysis by size of business supported the statement of no significant difference over the three time periods. As shown in Table 11, no significant differences were revealed for any of the size categories since all values were less than $\chi^2 = 3.841$.
 $.05, 1df$

Table 11. Chi-square analyses of size categories of 84 Ogden, Utah businesses' requirement of shorthand as an employment criterion of secretaries in 1971, 1974, and projected 1977.

Number of Employees	Time Periods		
	1971,1974	1974, 1977	1971,1977
1-10	.212	2.773	1.107
11-50	.001	.038	.022
51-100	.125	.777	.342
Over 100	.000	.002	.002

Shorthand Usage

Shorthand skills as a criterion for secretarial employment are not necessarily indicative of shorthand usage on the job. Therefore, an analysis of on the job shorthand usage was performed. Two approaches were used for the general data on the 84 businesses. These approaches were 1) utilization of shorthand by secretaries who were required to have shorthand skills, and 2) utilization of shorthand by secretaries who were not required to have shorthand skills. The stratified data by type of business and size of business were analyzed in the same manner.

In 1971, 147 secretaries were considered. Sixty-eight of these secretaries were required to have shorthand skills and 62 (91 percent) of these secretaries utilized their shorthand on the job. Seventy-nine secretaries were not required to have shorthand skills; however, fourteen (18 percent) of these secretaries used shorthand on the job. Of the 147 secretaries, 76 (52 percent) utilized shorthand.

The number of secretaries using shorthand increased in 1974 to 92, but the number of secretaries also increased by 29. The utilization percentage remained the same as 1971 (52 percent). Although 82 secretaries were required to have shorthand skills, the percentage utilizing these skills dropped to 82 percent. Of the 94 secretaries who were not required to have shorthand skills, 25 (27 percent) used shorthand on the job. This was an increase of 9 percent.

The total shorthand utilization projected for 1977 decreased to 48 percent. The predicted utilization for secretaries who were

required to have shorthand skills increased to 92 percent (higher than 1971 or 1974). The predicted utilization by secretaries who were not required to have shorthand skills decreased to 20 percent (higher than 1971; lower than 1974).

Chi-square analyses of the three time periods for total utilization, required versus utilized, and not required versus utilized revealed no significant difference for any of these analyses (Table 12).

Table 12. Chi-square analyses of utilization of shorthand skills by secretaries of 84 Ogden, Utah businesses for 1971, 1974, and projected 1977.

	Time Periods		
	1971,1974	1974,1977	1971,1977
Total utilization versus required for employment	.004	.222	.151
Utilization by secretaries required to have shorthand skills	.208	.304	.005
Utilization by secretaries not required to have shorthand skills	1.232	.973	.071

Manual versus machine shorthand utilization

Through an analysis of type of shorthand utilized, it was found only one secretary used machine shorthand, and this was true in only one time period--1974. The other secretaries used or will use manual systems of shorthand. No attempt was made to determine which manual systems were used; however, it was found through literature review that Gregg Shorthand is the dominant system in the United States.

Type of Business

Secretaries (9) of the manufacturing businesses who were required to have shorthand in 1971 utilized shorthand on the job. One secretary of four who were not required to have shorthand skills utilized shorthand on the job. In 1974, ten secretaries were required to have shorthand skills and nine used shorthand. Five secretaries were not required to have shorthand skills; however, two of these secretaries used shorthand. In 1977, it is projected that all twelve secretaries required to have shorthand skills will utilize their shorthand. Of five not required to have shorthand, two will use it.

It was found that a lower percentage of secretaries of merchandising businesses were or will be required to have shorthand skills. In 1971, eight of 35 secretaries were required to have shorthand skills; six of these utilized shorthand. Two of the 27 secretaries who were not required to have shorthand skills utilized it. In 1974, six of eight secretaries required to have shorthand utilized it, four of 31 not required to have shorthand used it. In 1977, seven of ten secretaries required to have shorthand used it; four of 41 not required to have shorthand used it.

Ninety-two percent of the secretaries employed by service businesses in 1971 utilized the skills. Twenty-three percent of the secretaries not required to have shorthand skills utilized shorthand. In 1974, the percentage of utilization by secretaries required to have shorthand skills decreased (81 percent). Utilization by secretaries not required to have shorthand skills increased to 33 percent. It is projected that utilization by secretaries who are required to

have shorthand in 1977 will increase to 95 percent, and that utilization by secretaries who are not required to have shorthand will decrease to 23 percent.

Size of business

As shown in Table 13, secretaries for the over 100 employees business category showed the highest rate of utilization of shorthand. Those secretaries in the 51-100 employee business category utilized shorthand the least as shown by percentages.

Table 13. Analyses of shorthand utilization by secretaries of 84 Ogden, Utah businesses by size of business.

Year	Size of Business (Number of Employees)			
	1-10	11-50	51-100	Over 100
Shorthand Utilized				
1971	17(41%)	25(56%)	7(23%)	30(97%)
1974	26(46%)	29(45%)	7(28%)	30(97%)
1977	29(43%)	33(43%)	7(21%)	32(97%)
Shorthand not Utilized				
1971	24(59%)	20(44%)	23(77%)	1(3%)
1974	30(54%)	35(55%)	18(72%)	1(3%)
1977	39(57%)	43(57%)	26(79%)	1(3%)

Shorthand Substitutes

In those businesses where shorthand was not required, it was found that composition by the secretary was most often used in place of shorthand. This was true in 27 businesses. The next most popular shorthand substitute was handwritten drafts (23 businesses). Dictation equipment was used in fourteen of the businesses. Dictation given directly to the typist was used in seven of the businesses. One

business used forms. Shorthand substitutes were not identified for six businesses.

Shorthand Supplements

The businesses which required shorthand skills for secretarial employment did not solely depend on shorthand. In seventeen of these businesses, shorthand was supplemented with the use of handwritten drafts. Composition by the secretary was used in fourteen of the businesses. Dictation equipment was used in nine businesses. Direct dictation to the typist was also used in nine businesses. Only two businesses did not supplement shorthand.

Future Equipment Usage

In 63 of the 84 businesses no plans have been made to acquire additional office equipment. Of the 21 businesses in which equipment purchases or leases are planned, only two office managers indicated need for a word processing unit; however, both of these managers indicated the impact of this equipment would be to decrease shorthand usage in their offices. Other items of equipment which will be acquired include duplication equipment (2 businesses), computer (1 business), copier (1 business), typewriter (4 businesses), posting machine (3 businesses), dictation equipment (6 businesses), electronic calculator (3 businesses), and postal meter (2 businesses).

It was found three of the dictation units would cause a decrease in shorthand need as would the two word processing units. One manager felt the purchase of a typewriter would increase the need for shorthand

in his business. The other equipment acquisitions would not affect shorthand usage.

General Comments on the Status of Shorthand

Several comments made by the persons interviewed were of interest and reflect the problem business educators have in meeting the needs of their students' future employers. These are:

1. The office manager for a medical clinic stated she feels shorthand is obsolete. This business had a word processing unit in use.
2. The manager of a recreational business stated he loves shorthand. He personally knows shorthand and requires his secretaries to know shorthand.
3. One manager stated he will purchase dictation equipment only if he cannot hire a secretary with shorthand skills.
4. An insurance agency manager would require shorthand if he could get the qualified employees.

Summary

Data were collected from representatives of 84 Ogden, Utah businesses through telephone interviews. A questionnaire was used to standardize the discussion and insure all points were covered. The data were presented as sequenced on the questionnaire.

It was found service was the most common type of business surveyed. The most frequently occurring size of business was 1-10 employees. A significant increase in the number of secretaries was found for the time periods of 1971 through projected 1977.

There was not nor will there be a significant difference in the number of secretaries who are required to have shorthand skills for 1971, 1974, and projected 1977. This was also true by type of business and size of business; however, the demand for shorthand was greater for service and manufacturing businesses than it was for merchandising businesses.

It was found secretaries who are required to have shorthand skills utilize shorthand on the job more than secretaries who are not required to have shorthand skills. No significant change was found between 1971, 1974, and projected 1977.

The most common substitutes or supplements for shorthand were found to be usage of handwritten drafts and composition by the secretary.

Equipment acquisitions were not predicted to have an impact on the future of shorthand since 75 percent of the surveyed businessmen do not plan equipment purchases.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

This chapter is a presentation of a summary of the purposes, the methods and procedures, and the findings of the study. In addition, conclusions based on the findings are discussed, and recommendations based on the findings are presented.

Summary

The need for shorthand trained employees by businesses has been and still is a controversy which has curriculum implications for business educators. Much literature has extolled the obsolescence of shorthand due to machine technology advancements; however, a review of job descriptions in want ads shows shorthand as an employment criterion for many secretarial positions. The purpose of this study was to determine analytically the future of shorthand in Ogden, Utah businesses as projected for 1977 and thereby provide curriculum suggestions to teachers of Ogden, Utah secretarial employees. These suggestions are based on a survey of the shorthand needs of their students' potential employers. This was done by determining the trend shown by comparing three time periods: 1971, 1974, and projected 1977. The specific areas analyzed were 1) secretarial employment, 2) shorthand as a job requirement, 3) on the job utilization of shorthand, 4) shorthand substitutes, and 5) word processing utilization.

Population identification

The Ogden, Utah businesses to be surveyed were randomly selected from the businesses listed in the 1973 Ogden, Utah telephone directory yellow pages. Three hundred thirty-eight businesses were contacted. Of these, personnel of eighty-four businesses which met the delimitations of the study were interviewed by telephone.

Survey instrument

A questionnaire was utilized in interviewing the personnel of the businesses. The questionnaire was designed to meet the objectives of the study and was pilot-tested, modified, and retested before use.

Collection and analysis of data

The business personnel were contacted by telephone. After the business was found to meet the criteria of the study (a local business employing one or more secretaries), the interview took place. When all interviews were completed, the data were compiled and tabulated by question. When possible, a chi-square criterion or analysis of variance was tested to prove significant differences.

Major Findings

Secretarial employment

No significant difference was found in comparing secretarial employment of the 84 Ogden, Utah businesses surveyed for 1971 and 1974; however, a significant difference (.05 level) in number of secretaries employed was found when 1971 and projected 1977 secretarial employment were compared. Service was the type of business found to

employ the greatest mean number of secretaries for 1971, 1974, and projected 1977. The greatest number of secretaries are or will be employed in the 11-50 employees size of business; however, the greatest number of secretaries per business are or will be employed in businesses employing over 100 persons.

Shorthand requirement

Although there was a slight decrease shown between 1971 and 1974 in the percent of secretaries required to have shorthand for employment in the 84 Ogden, Utah businesses surveyed, it was not shown to be significant. This was also true when the data for 1974 and projected 1977 were compared, and when the data for 1971 and projected 1977 were compared.

Shorthand as a job requirement for manufacturing businesses surveyed decreased between 1971 and 1974; however, the trend was reversed (though not significantly) for projected 1977. For the other types of businesses surveyed, the trend was toward a slight decrease in shorthand as a job requirement. Again the decrease was not significant.

No significant difference was found in shorthand as a job requirement according to size of business in the 84 Ogden, Utah businesses surveyed. The trend revealed a decrease from 1971 to projected 1977 of 46 percent to 39 percent.

Shorthand usage

No significant differences were revealed in shorthand usage on the job in the 84 Ogden, Utah businesses surveyed either for those

secretaries required to have shorthand skills for employment or those not required to have shorthand skills. The overall trend was toward a slight decrease in shorthand utilization on the job. Manual systems of shorthand were utilized more than machine systems. Data from businesses with shorthand as a job requirement revealed manufacturing secretaries used or will use shorthand to the greatest extent on the job. The same is true of secretaries in the Ogden, Utah businesses which have more than 100 employees.

Shorthand substitutes or supplements

For Ogden, Utah businesses where shorthand was not required for secretarial employment, composition by the secretary was the most popular substitute for shorthand. Handwritten drafts were the second most popular replacement, followed by dictation equipment usage.

In businesses where shorthand was required for secretarial employment, handwritten drafts were the most popular supplement, followed by composition by the secretary. Use of dictation equipment was the third most popular supplement.

Conclusions

Conclusions will be discussed as they relate to secretarial employment and shorthand usage.

1. Secretaries will continue to be employed in Ogden, Utah businesses, and the number of secretaries employed is expected to increase by 1977. The greatest demand for secretaries will be in the service industries for Ogden, Utah, and/or in businesses in which 11-50 persons are employed.

2. There will be an overall slight decrease (although not significant) in shorthand as a requirement for secretarial employment in Ogden, Utah businesses. Secretaries with shorthand training will be more competitive in obtaining positions with manufacturing businesses than those without shorthand training and will also be more competitive in the businesses which employ more than 100 people.
3. Shorthand will continue to be used on the job in Ogden, Utah businesses. It will be utilized to a greater extent by secretaries who are required to have the skill than those who are not required to have the skill. In usage, machine shorthand will continue to be dominated by manual systems of shorthand. Again the secretary who plans to work in a manufacturing business or a business which employs over 100 people has a greater need for shorthand training than the secretaries who work for other types or sizes of business.
4. Secretaries, regardless of shorthand training, must be able to compose correspondence independently. Also they must be trained to type from handwritten drafts of correspondence and must be capable of using dictation equipment efficiently.

Recommendations

The following recommendations are made to educators of Ogden, Utah secretaries, based on the findings of this study:

1. The number of secretaries trained should be increased to accommodate the increased need for secretaries in the Ogden, Utah area.

2. A major emphasis in training future secretaries should be on those skills required by service type businesses, including government, since this is where the greatest number of secretaries will be employed, and on skills required for secretaries of medium sized businesses (11-50 employees) for the same reason.
3. Shorthand should continue to be taught especially for those secretarial students who desire to work in large businesses (over 100 employees) and/or manufacturing businesses. Because secretaries with shorthand skills have a greater probability of being employed in these types of business, skills utilized by secretaries of these businesses should be emphasized in shorthand classes.
4. In addition, major emphasis must be placed on teaching secretarial students the writing skills needed to be able to produce correspondence effectively and efficiently, the skills used in typing from handwritten drafts, and the skills required to use efficiently different types of dictation equipment.
5. A validation study should be performed on a minimum five-year basis to determine the continued impact of word processing as well as the trends in secretarial employment.

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APPENDIXES

APPENDIX A
LIST OF BUSINESSES INTERVIEWED

LIST OF BUSINESSES INTERVIEWED

Clearfield State Bank Syracuse Branch	Buckway Vending Corp
Macfarlane, J. Ralph PC	Smith, Vern M. (Insurance)
Newton, John D. Internal Medicine	Daines, Lowell R. MD PC
Judd, C. DeMont Jr. Lawyer	Interlake Thrift
Carden Land Title Co	City of South Ogden
Burglar and Fire Alarms Inc	Marriott-Lewis Inc
Security Title Company of Ogden	Stevens Henager College
Reeve Engineering Co Inc	Advance Schools Inc
A A M Data Processing	Chapel of Flowers Mortuary
Dean Real Estate	Weber Music Co.
Maas & Grassli Landscape Architects	Anchor Realty
Howe Rents of Ogden	Western Mortgage Loan Corp
Church of Jesus Christ of Latter-Day Saints The (Adoption Agency)	White Barn Golf Course
Fidelity Industrial Credit Co.	Zions National Bank of Ogden
Taco Time Main Office	Ward-Jones Construction Co
Blackburn-Jones Co.	Department of Defense Mapping Agency
Wasatch Hill Storage	R.W. Taylor Steel Co
Uintah Auto Towing	The Horsley Co
Rent-A-Cop	Del Monte Corp Division Office
	American Can Co
	Parson Asphalt Products of Ogden

LISTING OF BUSINESSES INTERVIEWED cont'd

B. Vern Stacey Remodeling Contractor	Petersen Motor Co
North Davis Cabinet	Kiesel Sales & Service
Amalgamated Sugar Co.	Ogden Ford Sales
Bank of Utah Main Office	Read Bros.
Mental Health Center of Weber County	W.C. Parks & Sons
Hales, D. Wilson Ear Nose Throat & Ear Surgery	Climate Control Inc.
Smedley Plumbing	Bowman & Kemp Steel
Hillhaven Convalescent Center	Boyles Furniture Co
Downs Portrait	Amoco Oil Company
Ogden Iron Works Co	Northern Utah Glass
Consolidated Draperies Inc	A.B. Hadley Co
Mills Equipment	Ogden Muffler
Gibson's Discount Center	Allen's Shaklee Products
Steed Electric	Marler Tire Supply
Rasmussen Sprinkler Co.	Bon Marche of Ogden
Kearsley Service Center	Southern Pacific Transportation Co
Auto Care Center	Credit Bureau of Ogden
Acme Rental	Ogden Clinic Wheelwright, Harvey P
Astro Trans Inc	Division of Rehabilitation Services
Wolfe's Sportsman's Headquarters	Colonial Insurance Agency
Samuel Barker Lawyer	Ford's Finance & Insurance Co
Norton Fruit Co.	

APPENDIX B
QUESTIONNAIRE

INTERVIEW QUESTIONNAIRE

1. Type of business: Manufacturing _____ No. of business _____
 Merchandising _____ Name of business _____
 Service _____
 Government _____
 Other: What? _____
2. Number of employees:
 1-10 _____ 11-50 _____ 51-100 _____ Over 100 _____
3. a. How many secretaries do you currently employ?
 0 _____ 2 _____ 4 _____ How many? _____
 1 _____ 3 _____ 5 _____
- b. How many secretaries did you employ in 1971?
 0 _____ 2 _____ 4 _____ How many? _____
 1 _____ 3 _____ 5 _____
- c. How many secretaries do you anticipate employing in 1977?
 0 _____ 2 _____ 4 _____ How many? _____
 1 _____ 3 _____ 5 _____
4. a. Is shorthand a requirement for employment for your secretaries?
 No _____ Yes _____ For how many of your secretaries? _____
- b. Was shorthand a requirement for employment for your secretaries in 1971?
 No _____ Yes _____ How many secretaries were required to have shorthand? _____
- c. Do you expect shorthand to be a requirement for employment for your secretaries in 1977?
 No _____ Yes _____ How many of your secretaries? _____
5. a. Do your secretaries use shorthand?
 No _____ Yes _____ How many? _____ What kind, manual or machine?

b. Did your secretaries use shorthand in 1971?

No _____ Yes _____ How many? _____ What kind, manual or machine?

c. Do you think your secretaries will use shorthand in 1977?

No _____ Yes _____ How many? _____ What kind, manual or machine?

6. If shorthand is not a requirement for your secretaries, what is used in place of it?

Nothing _____ Dictation equipment _____ Hand-written drafts _____
 Oral dictation _____ Other _____

7. If shorthand is a requirement, does your secretary use any of the following in addition to shorthand?

Dictation equipment _____ Hand-written drafts _____
 Oral dictation _____ Anything else? _____

8. Do you plan to increase the use of equipment in your office?

No _____ Yes _____ What equipment? _____

Will this have an impact on shorthand use in your office?

No _____ Yes _____ How? _____

VITA

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Candidate for the Degree of

Master of Science

Thesis: An Analysis of Shorthand Usage as Perceived by
Selected Ogden, Utah Business Executives

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