

STATEMENT OF PERMISSION TO COPY

In presenting this paper to partial fulfillment of the requirements for an advanced degree at Montana State University, I agree that the Library shall make it freely available for inspection. I further agree that permission for extensive copying of this paper for scholarly purposes may be granted by my major professor, or, in his absence, by the Director of Libraries. It is understood that any copying or publication of this paper for financial gain shall not be allowed without my written permission.

Signature Melvin L. Helbeck

Date 8/17/79

STATUS OF SHORTHAND SYSTEMS IN MONTANA

by

MELVIN LYLE DILBECK

A professional paper submitted in partial fulfillment
of the requirements for the degree

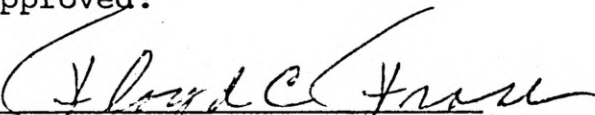
of

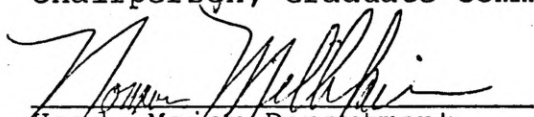
MASTER OF SCIENCE

in

Business Education

Approved:


Chairperson, Graduate Committee


Head, Major Department

Graduate Dean

MONTANA STATE UNIVERSITY
Bozeman, Montana

August, 1978

ACKNOWLEDGMENT

An expression of appreciation is extended to many people for their help in the completion of this study. A special thanks goes to Dr. Daniel Hertz, Committee Chairman, for his encouragement and guidance through the masters program and this study. The writer is grateful to Dr. Floyd Frost and Dr. Harvey Larson, committee members, for their interest and encouragement.

Appreciation is also extended to the many business chairpersons throughout the state of Montana who helped make this study possible.

A final expression of gratitude is made to this writer's wife, LaVerne, for her encouragement, understanding, and strength throughout this study.

TABLE OF CONTENTS

	Page
VITA	ii
ACKNOWLEDGMENT	iii
LIST OF TABLES	vi
ABSTRACT	viii
CHAPTER	
1. INTRODUCTION	1
Statement of the Problem	3
Need for the Study	3
Limitations of the Problem	4
Definition of Terms.	5
Summary.	5
2. REVIEW OF LITERATURE	8
Historical Background of Shorthand	8
Status of Shorthand.	17
Research in Comparative Shorthand Systems.	24
Student Achievement in Forkner and Gregg Shorthand.	24
Comparison by System at Each Speed Level.	28
Comparison by System and Grade- Point Average at Each Speed Level.	29
Summary.	38

3. PROCEDURES.	40
Sources of Data	40
Survey Instrument and Administration of the Survey Instrument.	40
Analysis of the Data.	41
4. PRESENTATION, ANALYSIS, AND INTERPRETATION OF DATA.	43
Other Pertinent Data Questions.	56
5. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS . . .	65
Summary	65
Conclusions	69
Recommendations	71
BIBLIOGRAPHY.	73
APPENDIXES	
A. SHORTHAND SURVEY.	76
B. COVER LETTER NO. 1.	79
C. COVER LETTER NO. 2.	81
D. RESEARCH SUMMARY OF COMPARATIVE STUDIES CENTURY 21 SHORTHAND AND OTHER SHORTHAND SYSTEMS by Jane Phelan.	83

LIST OF TABLES

Table		Page
1	Mean Achievement of Forkner and Gregg Groups by System, Grade-Point Average, Speed, Set.	27
2	Percent of Standard Words Correctly Transcribed in Terminal Test by Forkner and Gregg Above-Average, Average, and Below-Average Achievers	32
3	Number and Percentage of Returns of the Survey Instrument	43
4	Number and Percent of Respondents by Type of School.	44
5	Number and Percent of Respondent Schools Teaching Shorthand - 1977-78	45
6	Number and Percentage of Shorthand System Offerings by 77 of the 111 Respondent Schools During 1977-78 in Montana	46
7	Number and Percent of Montana Schools Who Feel the Needs of Students and Business Could be Better Met if More than One System of Shorthand were Offered in Your School System During the Same Instructional School Term	48
8	Have You or Your Teaching Staff Had the Necessary Educational Instruction to Make You Competent (Qualified) to Teach More than One System of Shorthand.	49
9	Should the Teacher Education Centers of the University System Offer Workshops or Similar Instructional Courses on a Year-to-Year Basis in Methodology of Shorthand Systems	50

Table		Page
10	Number and Percentage of Respondent Schools Offering a Second Year of Shorthand.	51
11	Number and Percentage of Respondent Schools Having Typewriters Available for Student Transcription Use During First-Year Shorthand Instruction.	53
12	Number and Percentage of Respondent Schools Requiring <u>All</u> Transcription for Second-Year Shorthand Students to be Done on the Typewriter.	54
13	Number and Percentage of Respondent Schools Utilizing Dictation Laboratory Equipment in the Instruction of Shorthand	55
14	Number and Percentage of Schools with Estimated Percentage Dropout Rates in Shorthand from 0-80 Percent.	58
15	The Estimated Percentage of Shorthand Students Who Reached the Speeds of 40-, 50-, 60-, 70-, 80-, 90-, 100-, 110-, 120-, and Above 120 Words Per Minute After One Year of Shorthand.	61
16	Estimated Percentage of Shorthand Students Who Reached the Speeds of 60-, 70-, 80-, 90-, 100-, 110-, 120-, 130-, 140-, 150-, and Above 150 Words Per Minute After Two Years of Shorthand.	64

ABSTRACT

The purpose of this study was to determine the number and kinds of shorthand systems currently being offered in Montana during the 1977-1978 school year with implications for future offerings in the business and office education curriculum in Montana to meet the present and future needs of students and business.

Survey questionnaires were mailed to Montana schools only, including 178 secondary schools, 1 career center, 3 community colleges, 2 private colleges, 5 vo-tech centers, and the 5 units of the university system of Montana. Of the 194 surveys sent, 111 were received by return mail.

Summary of the Findings

1. A total of 83 shorthand offerings were offered by the respondent schools in Montana during the 1977-78 school year. Gregg (Diamond Jubilee) offerings represented 69, or 83.13 percent of the total offerings; Gregg (Simplified) represented 1, or 1.20 percent of the offerings; Century 21 represented 8, or 9.64 percent of the offerings; Machine Shorthand represented 2, or 2.41 percent; Forkner represented 1, or 1.20 percent; ABC represented 1, or 1.20 percent; Landmark represented 0, or 0.0 percent; and Other-(Zinmann) represented 1, or 1.20 percent of the total 83 offerings.

2. The majority, 64.9 percent of the respondents did not feel that the schools of Montana could better meet the needs of students and business if more than one system of shorthand were offered in their school system during the same instructional school term.

3. The majority of the respondents indicated that they or their staff have not had the necessary educational instruction to make them competent to teach more than one system of shorthand.

4. The vast majority of respondents felt that the teacher education centers of the University system should offer workshops or similar instructional courses on a year-to-year basis in methodology of shorthand systems.

5. Of the respondent schools, 53.2 percent of them do not offer a second year of shorthand. The average percentage of shorthand one students who take a second year of

shorthand was 39.2 percent.

6. Typewriters are available for student transcription use during first-year shorthand instruction by 83.3 percent of the respondent schools.

7. Of the respondent schools offering a second year of shorthand, 83 percent indicated that they required all transcription for second-year shorthand students to be done on the typewriter.

8. The findings indicated that 57.7 percent of the respondent schools utilize dictation laboratory equipment in the instruction of shorthand.

9. The average dropout rate in shorthand in the respondent schools was 22 percent.

10. The majority of respondents who answered the question indicated that the length of dictation takes for grading transcription tests was three minutes.

11. The findings indicated that the estimated percentage of students who reached different speed levels after one year of shorthand for the respondents of the question were: 40 wpm, 100 percent; 50 wpm, 94.4 percent; 60 wpm, 87.1 percent; 70 wpm, 61.1 percent; 80 wpm, 48.6 percent; 90 wpm, 22.4 percent; 100 wpm, 14.8 percent; 110 wpm, 6.5 percent; 120 wpm, 4.4 percent; and above 120 wpm, 1.6 percent.

12. For schools who responded to the question, it was found that the estimated percentage of students who reached different speed levels after two years of shorthand were: 60 wpm, 99.7 percent; 70 wpm, 98.6 percent; 80 wpm, 97.6 percent; 90 wpm, 81.8 percent; 100 wpm, 66.9 percent; 110 wpm, 29.6 percent; 120 wpm, 21.2 percent; 130 wpm, 8.3 percent; 140 wpm, 4.9 percent; 150 wpm, 0.4 percent; and above 150 wpm, 0.3 percent.

Conclusions

Gregg (Diamond Jubilee) is the most popular and the most taught system of shorthand in Montana at the present time. Century 21 shorthand, in the short time it has been on the market, accounted for nearly 10 percent of the shorthand offerings in Montana during 1977-78 among the respondent schools.

The needs of students and business would not be better met at this time in Montana if more than one system of shorthand were offered in the schools teaching shorthand during the same instructional school term.

The majority of shorthand teachers in schools of Montana offering shorthand have not had the necessary educational instruction to make them competent (qualified) to teach more than one system of shorthand.

The vast majority of respondents feel that the teacher education centers of the University system of Montana should offer workshops or similar instructional courses on a year-to-year basis in methodology of shorthand systems.

Of the respondent schools teaching shorthand in 1977-78, the majority of them do not offer a second year of shorthand. In the schools offering a second year of shorthand, less than half of the students completing one year of shorthand take a second year.

A large majority of schools offering first-year shorthand had typewriters available for student transcription.

The vast majority of schools offering a second year of shorthand required all transcription for second-year shorthand students to be done on the typewriter.

Dictation laboratory equipment in the instruction of shorthand was utilized by the majority of schools.

Of respondent schools who taught shorthand, the dropout rate was 22 percent.

Three-minute dictation takes for grading transcription tests were used by the majority of responding schools who taught shorthand.

The majority of students of responding schools who completed one year of shorthand instruction reached a speed of 70 words per minute; slightly less than half of those students reached a speed of 80 words per minute. Less than one-sixth of those students reached the speed of 100 words per minute; less than one-twentieth of them reached the speed of 120 words per minute.

For respondent schools, the vast majority of students, after two years of shorthand, reach the speed of 90 words per minute; a simple majority reach the speed of 100 words per minute, and less than 1 percent of those same students reach the speed of 150 words per minute and above.

Recommendations

1. All teachers of shorthand obtain the necessary educational instruction (self-study course or otherwise) to make them competent (qualified) to teach more than one

system of shorthand.

2. The teacher education centers of the University system of Montana offer workshops or similar instructional courses on a year-to-year basis in methodology of shorthand systems—especially M.S.U. and the U. of M.

3. Further comparative studies of Gregg and Century 21 shorthand systems be completed five years or more from now, after Century 21 has become an established system nationwide, when and if it does.

4. Further research of speed attainment levels for grading transcription tests be limited to three and five-minute takes, unpreviewed, and mailable.

CHAPTER 1

INTRODUCTION

Dr. Edward L. Christensen, professor at the Graduate School of Management, Brigham Young University at Provo, Utah, wrote:

In a recent article that neatly analyzes the new and responsible role of the shorthand teacher and administrator, Dr. Judith J. Lambrecht, professor of business education at the University of Minnesota, made reference to emerging opportunities and options in the shorthand curriculum of the high schools and colleges throughout the fifty states:

'This is an exciting time for shorthand instruction. We now have new encouragement to examine the fundamental reasons for our teaching programs and activities.

What is more, we have the opportunity to select from among numerous options those shorthand systems or instructional materials that will better meet the diversity of student needs and interests.'

The current high interest, incidence, and enrollment in shorthand institutes across the country and the willingness of teachers to adopt new symbol systems as well as abbreviated longhand systems is evidence of a resurgence in the shorthand curriculum. The so-called reluctance of the shorthand teacher to learn a second shorthand system turns out, in many cases, to be "mere imaginings."

Over fifteen years ago, Professor George A. Wagoner, director of the prolific shorthand studies program at the University of Tennessee, was urging shorthand teachers to learn another system in order to better understand persistent shorthand teaching problems. Professor Wagoner wrote:

'The experience of the contributor (Wagoner) has been that learning another system every few years gives a shorthand teacher a deeper understanding of the learning problems in the system he is teaching.'

Adapting to a new shorthand system as urged by professor Wagoner is a minor consideration compared to the professional teachers' concern for decades of:

- . . . high student dropouts
 - . . . declining student performance
 - . . . heavy proselyting of a single teaching methodology
 - . . . text, with business vocabulary gaps and omissions
- (Christensen, 1976:52-53)

If teachers of shorthand could be persuaded to learn more than one shorthand system, if units of the University System of Montana could be persuaded to offer mini courses or introductory courses to shorthand teachers in the more extensively taught shorthand systems in this area of the country, maybe some of the problems confronting teachers of shorthand could be solved.

There have been many cases where shorthand students have transferred from one school system to another, both from in-state and out-of-state schools, only to find that the school to which they were transferring offered a shorthand system different from the one in which they had originally enrolled. Such students were forced to drop shorthand completely the current year. Teachers with a workable knowledge of the more popular shorthand systems in this western region such as Gregg, Forkner, ABC Shorthand, Landmark Edition, and Century 21 could eliminate much of

the attrition in such instances of transfer by being able to accommodate such transfer students.

If shorthand teachers were "prepared" to teach more than one shorthand system during the same school year, hopefully problems such as high student dropouts, declining student performance, and heavy proselyting of a single teaching methodology could be greatly reduced if not completely eliminated altogether.

With these facts in mind, this study was conducted to determine the status of shorthand in Montana.

Statement of the Problem

The problem of this study was to determine the number of and kinds of systems of shorthand currently being offered in Montana during the 1977-1978 school year with implications for future offerings in the business and office education curriculum in Montana to meet the present and future needs of students and business.

Need for the Study

Since the comparative shorthand systems institute offered at Montana State University during the summer quarter of 1975, discussion has been that more than one

shorthand system should be offered during the same year of instruction to better serve the individual needs of students and business.

To date, limited information is available as to the scope and nature of shorthand systems being offered in the secondary schools and the post-secondary educational institutions of Montana.

It is hoped that the results of this study will answer or give direction for recommendations and conclusions to the problem.

Limitations of the Problem

This study was limited to a survey of the 178 secondary schools, 1 career center, the 3 community colleges, 2 private colleges, the 5 vo-tech centers and the 5 units of the university system of Montana in order to search out implications of the current status of shorthand systems in Montana during the 1977-1978 school year. A questionnaire was constructed and mailed to the business education department chairman of each unit to collect pertinent data.

Definition of Terms

1. Symbol Systems. (Geometrical) A system that utilizes geometrical figures such as circles, ovals, straight lines, or a combination of these.
2. Alpha Systems. (Abbreviated words) A system that utilizes graphic or script processes in constructing outlines.
3. Machine Systems. A system that uses mechanical devices or apparatus in constructing or printing outlines, either letter combinations or abbreviated words.
4. Cursive Shorthand. A description of shorthand which literally means "running." Other alternative expressions are graphic or script.
5. Diacriticals. Usually dots and accent marks that are added to the shorthand symbol. The position of the diacritical generally indicates a vowel or a long or short sound.

Summary

This research paper was completed to determine the number of and kinds of systems of shorthand currently being offered in Montana during the 1977-1978 school year with

implications for future offerings in the business and office education curriculum in Montana to meet the present and future needs of students and business.

In order to determine the current status of shorthand systems, educational qualifications for shorthand instruction, the feasibility of teacher education centers of the units of the university system of Montana offering workshops or similar instructional courses on a year-to-year basis in methodology of shorthand systems, the availability of typewriters for student transcription during first-year shorthand instruction, the requirement of all transcription for second-year shorthand students to be done on the typewriter, the utilization of dictation laboratory equipment in shorthand instruction and the types used, the estimated percentage dropout rate in shorthand in each school system, at what time of the instructional year most shorthand dropouts occur in each school system, the length of dictation takes for grading transcription tests in each school system, the estimated percentage of shorthand students who reach a certain number of words transcribed per minute after one year of shorthand instruction in intervals of 10 words per minute starting at 40 words per minute and terminating at above 120 words per minute, and the estimated

percentage of shorthand students who reach a certain number of words transcribed per minute after two years of shorthand instruction in intervals of 10 words per minute starting at 60 words per minute and terminating at above 150 words per minute were researched.

CHAPTER 2

REVIEW OF LITERATURE

This chapter was constructed to review the literature considered relevant to the importance of shorthand education in the business education curriculum. The review of literature was divided into the areas of: the historical background of shorthand, the status of shorthand, and research in comparative systems.

Historical Background of Shorthand

It was in the Roman Empire that shorthand first became widely employed although some form of shorthand was known in the Orient, and Xenophon was an ancient Greek system to write down Socrates' memoirs. As at that time one usually wrote on wax tablets, the ancient shorthand systems would mostly have been lost, had not signs been written also on parchment, paper or stone.

Marcus Tiro, 103 B. C., Ciero's secretary, was the first important inventor of a system in Latin. His method, on the whole, was a shortened longhand with the subsequent addition of diacriticals.

Tiro's cursive shorthand, the most widely known at the time, also lasted the longest—about a thousand

years, longer than any modern system thus far. It lingered on until the Middle Ages and has played a part especially in perfecting the cursive systems of modern times.

Tiro, in taking down the political speeches of prominent statesmen of his day, was impressed by the manner in which they reported themselves; hence, he devised a system of shorthand by which a single word sign stood for an entire sentence. If he was unfamiliar with the orator and the orator's phraseology, he often called in several of his most promising students who would also take down the address making it possible to report the entire address by comparing notes. Although this method was a very primitive way of reporting, and required a great deal of time, it nevertheless was the stenography of nearly 2,000 years ago. (Hertz, 1966:3-4)

In a table, Hertz listed some of the more popular shorthand systems, their inventors, and the date of development. They are as follows: Tiro, B.C. 103; Bright, A.D. 1588; Willis, 1602; Shelton, 1620; Mason, 1692; Gurney, 1750; Taylor, 1786; Gabelsberger, 1834; Pitman, 1837; Sloan-Duployan, 1884; Gregg, 1888. (Hertz, 1966:4)

At the time of Christ, under the Emperor Augustus, there was increased interest in shorthand. Although Tiro

had not written a shorthand textbook, he had compiled a shorthand dictionary. Emperor Titus, Julius Ceasar, and many of the early bishops were accomplished shorthand writers. (Russon, 1968:1)

The first system of abbreviated writing for the use of the English speaking people was that of a monk named John of Tilbury. This plan of writing was published in 1180 as a treatise dedicated to the then reigning monarch, King Henry II. (Hertz, 1966:5)

Following the Middle Ages, Thomothe Bright, somewhat influenced by Tiro's system, designed an English system consisting of straight lines, circles, and half circles. (Russon, 1968:1)

Bright's was the first practical system of shorthand published in the English language. It was called "Bright's Characterie," printed in London in 1588 under patent of Queen Elizabeth. It is said that even some of Shakespeare's plays were transcribed from it.

Other methods of shorthand offered for publication followed during the next few years. Rev. John Willis, a London clergyman, produced for publication his "Art of Stenographie" in 1602. He is quoted as saying that the system of Bright's, "required such understanding and

memory, that few of the ordinary sort of people could attain to the knowledge thereof." Willis strived for simplicity and briefness in his system, although he did not reach that height. (Hertz, 1966:5-6)

Thomas Shelton, who was considerably influenced by Willis, followed with his system called "Short Writing." Pepys wrote his famous diary in Shelton's shorthand. John Swan adapted Shelton's system to Swedish and it became the official shorthand for the Swedish Parliament.

The Reformation gave shorthand its greatest impetus since the days of Tiro. Many people learned shorthand so they could take down the sermons of the new preachers and copy parts of the Bible, which had just been translated from Latin, in case some new ruler should decide to confiscate the translations. Daniel Defoe, author of "Robinson Crusoe," transcribed part of the Bible into shorthand. (Russon, 1968:1)

William Mason published a system in 1672 which he entitled "A Pen Plucked from an Eagle's Wing." His system was merely an improvement of that of a predecessor, Jeremiah Rich. Mason used diacriticals or dots to position vowel sounds.

Most of the systems that followed were short lived

until 1750 when Thomas Gurney published his system. The work is entitled, "Brachygraphy; or an easy and compendious system of shorthand, adapted to the various arts, sciences, and professions; improved after more than forty years experience, by Thomas Gurney." The system's merits would not have carried it beyond the middle of the eighteenth century. Its life was prolonged by Mr. Gurney being appointed shorthand writer to the Government about this time, a position held by several generations of his family. He then issued a neat edition of Mason's system at half a guinea, divested it of its arbitrary characters, which were adopted chiefly for reporting sermons, and introduced a few suitable for taking down Parliamentary and law proceedings. To prevent the work from being pirated, each book was numbered and signed. There are few surviving writers of the system at the present time. (Hertz, 1966:6-7)

Samuel Taylor invented a system based on that of one of his predecessors, John Byrom. Taylor's system lasted for nearly a century and formed the backbone of many present methods. His system was called the "Universal System of Stenography or Short Hand Writing."

Taylor's system was a great improvement over the other ones available and it was adapted to French in 1792

by Theodore Bertin. It was also adapted to Spanish, Portugues, Italian, Swedish, and others.

The event of the Industrial Revolution brought a demand for stenographers in business. The geometric systems, then in use, required a high standard of education and long training in the system. What was needed was a system that would be easier to learn.

Franz Gabelsberger, born in Munich in 1789, trying to meet the need, turned away from geometric methods and developed a simple cursive system. Gabelsberger is believed to be the greatest inventor of shorthand. He was the son of a musical instrument maker. His father dying early, he became a chorister, was brought up in a monastery, and learned Latin. He invented a system that was based on Latin longhand characters. His system had a neatness and beauty of outline that is unsurpassed; and it enjoyed a spontaneous, unequalled success. He called his system, "Speech-sign Art." (Russon, 1968:1-2)

The Sloan-Duployan system received much interest in 1884 because of its alphabetic simplicity. The years have shown the alphabet as too simple. Like most of the ordinary English stenographic alphabets, it provides only for single letters, making no provision for groups of

letters such as those which form so distinguishing a feature of the phonographic alphabet enabling the writer to compress into one or two easy strokes all the consonants of long and otherwise difficult words. (Hertz, 1966:8)

Developed during a period of time in between that of the Gabelsberger and the Sloan-Duployan systems, Isaac Pitman's "Stenographic Sound-Hand" found use in the United States. Pitman, a teacher, found his main interest not in shorthand but in spelling reform. He devoted much of his lifetime to furthering his plan of spelling phonetically. The publicity he received from his spelling reform ideas drew attention to his shorthand.

Pitman's method was based on the circle. Unlike ordinary handwriting, which slants to the right, it is written upright. Geometric systems before Pitman had been light-line; that is, the lines were of equal thickness. Pitman thickened certain strokes to distinguish heavy-sounding consonants from their lighter-sounding counterparts. For example, B is a thickened P. Pitman used diacriticals in 16 variations to express vowels. His method has been in use for over a century and has been adapted to many foreign languages.

John Robert Gregg, born in Ireland in 1867, devised

a system of his own; he called it "Light-Line Phonography." Gregg developed his shorthand system when he was 18 years old and published it at the age of 20. He brought his system to America in 1893.

The Gregg system, a modern cursive system, is predominantly a curve-motion shorthand with circles, hooks, and loops.

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. Charles Lee Swem, the reporter of the late President Woodrow Wilson, and a Gregg writer, holds the world record on three takes at 200, 240, and 280 words a minute with better than 99 percent accuracy.

Forkner Shorthand (1952) presents yet another approach. It uses a combination of conventional letters and a few symbols for the hard-to-write letters and sounds.

Alphabetic shorthand has been devised in recent years, including Hyspeed Longhand (1932), Speedwriting (1923 and 1951) (now known as ABC Shorthand, Landmark Edition, which was copyrighted in 1973 with a third printing in 1975), Abbreviatrix (1945), Quickhand (1950), Zinman (1950),

Stenospeed (1953), Stenocript (1955), and Carter Briefhand (1957). By 1883 there were 3,295 shorthand systems reported, 780 in the English language. (Russon, 1968:2-3)

The newest or most current of the symbol shorthand systems to be published and adapted to classroom use is Century 21. Copyrighted in 1974, it was authored by Dr. Edward L. Christensen, Professor of Business Management, Brigham Young University, and Dr. R. DerMont Bell, Professor of Business Education, also from Brigham Young University.

The unique features of Century 21 were derived from computer processing of vocabulary, numerical, and phonetic data; from analysis of hundreds of shorthand systems—past and present; and from studying the reading, writing, and transcribing problems of students. These unique features are: single-direction symbols—each primary alphabet symbol is written in only one direction; single symbol for each primary alphabet sound—each primary alphabet symbol represents a given sound; dominant-direction writing; consistent joining patterns—all circle vowels (a, e, i, and y) always join (touch or cross) all other strokes in a consistent, dominant direction; a phonetic (pronunciation) base. (Christensen and Bell, 1974:Preface)

In summing up the historical aspects of shorthand,

Holcomb does it very nicely as follows:

Until the latter part of the nineteenth century, shorthand was practiced primarily as a discrete art. As such, its primary impact was through recording and preserving evidence of the characteristics, traditions, and general culture of the historical periods during which shorthand writing was used. The significance of shorthand, as a discrete art, was greatest in the areas of religion, literature, and law. Today, the appreciation of shorthand as an art appears to be lacking. Only in the professional use of shorthand reporting is there evidence of great pride in the skillful practice of an art.

With the emergence of shorthand as a practical art, appreciation of the ability to write shorthand well and transcribe it effectively diminished. The significance of shorthand, as a practical art, was greatest in its influence in the lives of women in business. The demand for female office workers possessing shorthand and typewriting skills also brought revolutionary changes in the educational institutions of America. (Holcomb, 1972:296)

Status of Shorthand

Many experts and authorities in the field feel that shorthand is going to be in demand for many years to come despite the fact that technological advances in communications have offered many alternatives.

In support of the above statement, Christensen and Bell state:

According to the Occupational Outlook Handbook for 1972-73, nearly three million people were employed in 1970 in occupations requiring stenographic skills. Furthermore, a Bureau of the Census report of 1972 indicates that the number of employed stenographers, typists, and secretaries increased by almost 150 percent

from 1957 to 1971—about twice as fast as for other clerical workers. In addition, employment projections for the 1970's show that there will continue to be many job openings in business and industry, in local, state, and federal governments, and in professional and private offices for those who fully master shorthand and transcription skills. The growing use of machines for routine and bulk correspondence is not expected to reduce the demand for good stenographers and secretaries who have the personal qualities and skills . . . (Christensen and Bell, 1974:"To the Student")

Hertz, in his study, addresses the facts in more detail. He states:

A dictating machine records speech on the gramophone principle; but while a gramophone allows a slower, deeper-sounding reproduction, dictating machines usually reproduce only at the dictated speed so that a too fast dictation is unintelligible. As in any case, the typist by switching the dictating machine on and off, listens to only so much as can be conveniently typed; the person dictating cannot readily act as a pace maker and speed up the typing as he can speed up dictation with a shorthand writer. Therefore, with dictating machines, too, it is doubtful whether in the long run time and money are saved. Again, executives tend to secure a machine and then leave it unused while thinking of something to say instead of dictating from shorthand notes of their own. With doubtful dictation it happens that a typist first takes down the recording in shorthand before eventually typing. In any case she should be acquainted with the subject matter and the dictating habits of the speaker as questions cannot be addressed to and answered by a machine. A shorthand writer can, of course, during dictation remind his employer of this and that. A typist wearing earphones has to neglect important telephone and other calls.

Shorthand notebooks, if dated and retained for a time as they should be, are an orderly source of information in concise form; but paper strips from a "shorthand" machine must be taken out folded, cut, identified, sorted, and filed. This applies also to the dictation cylinders, discs, belts, or wire of dictating machines. Very often these records (like the

was tablets and slates of old) are smoothed out and used again, unfortunately destroying the original record. These machines cause a certain amount of tedious extra work. They need maintenance and repair, are not so easily obtainable, cheap and portable as notebooks and pencils. If unduly dependent on machines, one should have at least two in case one should fail. As moreover, confidential matter cannot be whispered to a machine, a special dictation room, entailing extra expense, is advisable.

Thus, although the machines mentioned have for a century not been unknown, shorthand will always be needed in the world. He who knows shorthand saves others and himself time, effort, and money. (Hertz, 1966:21-22)

In support of the preceding facts, findings in a doctoral study by Billie Dempsey Holcomb, published in summary form in The Journal of Business Education, the author stated as one of the findings that, "As a respectable and desirable skill, symbol shorthand can compete favorably with existing mechanical and electronic devices." (Holcomb, 1972:296)

Regarding voice-recording equipment, Lemaster supports Hertz's comments as follows:

Voice-recording equipment is becoming more sophisticated every day, and there is definitely a place for "recorded notes." However, the study indicates the percentage of use in business is not increasing. The major drawback of voice recordings is that the dictator must have his notes completely organized before beginning dictation because corrections are impractical, if not impossible, and insertions and special instructions are often lost. And, again, as with machine shorthand, special equipment must be available.

The major area of growth for voice-recording equipment is in the courtroom, where an exact transcript,

including interruptions and mistakes, is required. Voice-recording equipment is particularly adaptable to this situation. Alaska has adopted recorded court reporting. And other states will likely follow. But business usage of voice-recording equipment for correspondence is not increasing in percentage. (Lemaster, 1972:20)

In a chart summarizing major trends evident today in areas of office occupations in which our graduates will be seeking employment, it showed that 3,074,000 steno/secretarial positions were held by employees in 1972. By 1985 the projected employment figure for this occupation area is 4,950,000. The authors state:

The most significant change is apparent in the stenography/secretarial employment cluster where an increase of over 60 percent is anticipated in entry-level job opportunities by 1985. Of the nearly 5 million positions and 411,000 annual openings which will exist in these jobs by 1985, an increasing number is expected to require machine shorthand and machine transcription skills.

At the present time, approximately 140,000 persons are graduated annually from secondary and postsecondary schools who have completed occupational preparation for secretarial careers. Considerable effort must be devoted to expanding these enrollments if the needs of business are to be met. Unfortunately, the trend in recent years has been in the opposite direction. (Conover and Daggett, 1976:17, 41)

Lemaster is very positive about the present and future outlook (need) for shorthand. He states:

Shorthand is on the way in! The need for shorthand writers in business is increasing every day. In the United States there are now three million secretaries, and their ranks grow by 500 daily. A conservative estimate indicates that over three-quarters of these

secretaries are shorthand writers. Their jobs range from executive secretarial positions to stenographer-typist positions.

. . . However, the percentage of executive secretarial jobs requiring shorthand is approximately the same as the percentage of clerical jobs requiring shorthand, indicating that stenographic skill is equally important at all levels of secretarial work. The higher-level secretary is likely to spend less time taking dictation, but the skill is essential nonetheless.

Most beginning business jobs offer the secretary a chance to increase her salary by 25 percent or more if she can write shorthand. This is a significant improvement in salary for a very small investment in time. Shorthand students generally take stenography in school for a period ranging from 9 to 14 months. Most students spend one hour in class daily, five days a week. This amounts to a maximum of 280 hours—a small investment of time to gain a skill that will be an investment in a lifetime of work.

Shorthand is a vital skill for the modern secretary. It is an investment that will reap big dividends and provide an open door to employment in the seventies. (Lemaster, 1972:20-21)

Samuel M. Scammon wrote a Ph.D. thesis on, "An Analysis of the Need for and Use of Shorthand by Secretaries in Large Businesses as Indicated by Secretaries, Managers, and Personnel Directors" at Michigan State University (East Lansing) in 1974.

His methods and sources and summary of findings, as taken from a summary (abstract) printed in the October 1975 issue of the Business Education Forum is as follows:

Method and Sources. (a) The Million Dollar Directory, 1972, was used to locate 117 large businesses in Michigan which were stratified by six standard industrial classifications. (b) A population of 2,953 secretaries was identified in the 117 large businesses

and was stratified into two classifications: top management and other management secretaries. (c) Personal interviews were held with 72 secretaries who were randomly selected from the population, 72 managers to whom the 72 secretaries in the sample reported, and 40 directors who represented the large businesses from which the secretaries were selected.

Summary of Findings. (a) Shorthand was used by 76 percent of the secretaries, and 98 percent of those used symbol shorthand. (b) No significant difference existed at the .05 level in the degrees of manual shorthand proficiency needed by secretaries who worked for top management or who worked for other management as perceived by secretaries. (c) There was no significant difference at the .05 level in the minimum manual shorthand speeds required of secretaries at the time they were hired as indicated by personnel directors. (d) A grand mean indicated that secretaries perceived shorthand speeds of 60 to 80 words per minute to be needed on the job. (e) Of 55 secretaries who used shorthand on the job, an overall mean indicated that shorthand speeds of 80 to 100 words per minute were equal to dictation rates which they encountered. (f) The mode of the distribution of shorthand speed ranges which personnel directors indicated were required of secretaries was 80 to 100 words per minute with 60 percent of the personnel directors indicating this speed range. (g) There was a significant relationship at the .05 level between minimum shorthand speeds required of secretaries at the time they were hired as indicated by secretaries and maximum shorthand speeds which secretaries perceived were essential for their secretarial positions. (Scammon, 1975:50)

At the present time, it appears that our educational institutions are lacking in meeting the needs of business in the area of secretarial and stenographic employees.

Schwartz comments on the problem as follows:

. . . The yearly need for secretaries, stenographers, and typists in New York City alone is currently estimated to be 30,300, a quarter of the state's requirements and one-tenth that of the nation.

The demand for office help is outrunning the supply in most metropolitan areas, according to a recent article in Business Week. Job applications have become so scarce in Seattle that one employment agency has assistants on the streets distributing flyers urging people to apply for jobs, and extraordinary measures are also being taken in Dallas, Boston, and Los Angeles. (Schwartz, 1973:30)

Another author says that the demand for shorthand is definitely not decreasing in either the Los Angeles-Long Beach area or the San Francisco Bay region. Conley refers to a study conducted of businesses in the Los Angeles-Long Beach area in 1970. In the area of recording and transcription of dictated material, the results indicated that approximately 80 percent of all dictation was recorded in pen shorthand.

Results from Conley's survey of the San Francisco Bay area, for both business and government concerns, indicated a strong need for shorthand. All three branches of government—federal, state, and local—answered "Yes" to the question: "Do Civil Service examinations for stenographers or stenographer-clerks require shorthand in all cases?" In general, comments from business employers indicated that shorthand writers are in greater demand than machine operators.

Conley seems to sum up the conclusions or opinions of most writers in general when he states: "On the basis

of the statistics gathered, one fact is paramount: shorthand training should not be decreased. Indeed, in most cases it should be greatly increased." (Conley, 1972:20-22)

Research in Comparative Shorthand Systems

Student Achievement in Forkner and Gregg Shorthand

E. Ray Smith, of the University of Tennessee, Knoxville, conducted a study comparing student achievement in Forkner and Gregg shorthand systems. He relates that as a result of the increased demand for stenographers and secretaries and the increased pressure for reducing learning time, several abbreviated shorthand systems have been developed and tried. Because the Gregg shorthand system has become established as the predominant shorthand system in the United States, new abbreviated shorthand systems have not been readily accepted. Shorthand authorities are not in agreement concerning these abbreviated shorthand systems. Some persons hold the view that the abbreviated shorthand systems are satisfactory for personal use but are not adequate for students desiring vocational skills in shorthand.

Smith says that experimental research concerning

the achievement of students of abbreviated shorthand systems is limited. In order to compare the achievement of high school students in Forkner Alphabet Shorthand and in Gregg (DJ) Shorthand, an experimental study was conducted during the 1965-66 school year. The study was concerned with eleventh and twelfth grade high school students during the second semester of study of Forkner and Gregg shorthand. A total of 536 students—234 Forkner students and 302 Gregg students—participated. Eighteen schools—8 Forkner schools and 10 Gregg schools—located throughout the United States were used. A sample of 180 students' transcripts was selected at random and used for statistical analysis. The statistical treatment of the data (analysis of variance with four factors) was completed at The Ohio State University Computer Center, Columbus, Ohio.

In his study, Smith said in order to study the achievement of the students, three sets of dictation letters were constructed. Each set of dictation consisted of revised business letters (each three minutes in length) dictated at the speeds of 50, 60, 70, 80, 90, and 100 words per minute. The first set of dictation material was completed by the students during the third week of February, 1966. Five weeks later, a second set of dictation material

was completed. Each set of dictation with directions was taped. All papers were returned to the researcher for checking and analysis.

After the dictation had been completed, the students transcribed the dictation in longhand. The results of the achievement of the Forkner and Gregg students were based on an analysis of the students' transcripts. The mean achievement of the two groups is presented in Table 1.

Table 1

Mean Achievement of Forkner and Gregg
Groups by System, Grade-Point
Average, Speed, Set

Speed	Set	Above-Average		Average		Below-Average	
		Forkner	Gregg	Forkner	Gregg	Forkner	Gregg
50	I	146	133	143	115	113	97
	II	154	153	153	147	151	143
	III	151	146	149	145	151	131
60	I	170	150	158	128	139	101
	II	168	169	172	158	161	138
	III	177	174	177	167	175	152
70	I	150	83	110	39	61	42
	II	181	175	180	154	155	128
	III	200	188	197	170	179	152
80	I	180	149	160	120	120	93
	II	164	162	133	118	117	102
	III	214	165	196	126	96	95
90	I	141	128	119	100	95	62
	II	170	138	112	79	123	87
	III	200	159	188	132	100	82
100	I	73	78	72	37	44	52
	II	148	140	107	83	85	76
	III	178	153	180	122	98	78

(The word achievement refers to the number of standard words [1.4 syllable intensity] correctly transcribed for each letter. Mean achievement was used as the basis for comparison.)

Since the third set of dictation material represented terminal achievement of the students in Forkner and Gregg shorthand, the results from the third dictation set of materials were used as the basis for Smith's article. (Results from the first two sets of dictation were similar to those of the third set of dictation.)

The first part of the following discussion presents a comparison of the Forkner and Gregg shorthand groups at each speed level on the third set of dictation material; the second part presents a comparison of the Forkner and Gregg groups by grade-point average at each speed level. A comparison of the transcription accuracy of the two groups is also given, plus several concluding remarks.

Comparison by System at
Each Speed Level

A comparison of the two groups by speed level on the terminal test revealed that the Forkner group achieved higher than the Gregg group at each level of speed. At the speed of 70 and higher, both groups decreased in the number of standard words correctly transcribed. The Forkner group, however, did not decrease as rapidly between the speeds of 70 and 80, 80 and 90, and 90 and 100 as did the Gregg group. The mean standard words correctly

transcribed by the Forkner group at the speed of 50 was 9 more than for the Gregg group; at the speed of 60, 11 more; at 70, 22 more; at 80, 40 more; at 90, 39 more; and at 100, 34 more. The Forkner group correctly transcribed more words at the speed of 100 than did the Gregg group at the speeds of 80 and 90. Statistical treatment of the data reveals that the difference in the achievement of the two groups was significant in favor of the Forkner group.

Comparison by System and Grade-Point
Average at Each Speed Level

In order to examine more thoroughly the achievement of the students in Forkner and Gregg shorthand, the students in each system were grouped into three classifications according to grade-point average. The grade-point classification was based upon all grades which had been received in Grades 9 and 10. On a four-point basis, the classifications used were as follows: above-average—3.00 and above; average—2.0 and 2.99; below-average—1.99 and below. The mean achievement of the students in both systems is presented in the following paragraphs and in Table 1.

Above-average achievers. When a comparison was made of the achievement of the Forkner and Gregg above-average achievers at each speed level on Set III, the Forkner above-average achievers achieved higher than the Gregg above-average achievers at each speed level. The Forkner above-average achievers continued to

increase in the number of standard words correctly transcribed at the speeds of 50, 60, 70, and 80 while the Gregg above-average achievers began decreasing in the number of standard words correctly transcribed at the speed of 80 and continued to decrease at each higher speed level. The mean standard words correctly transcribed by the Forkner above-average achievers at the speed of 50 was 5 more than for the Gregg above-average achievers; at the speed of 60, 30 more; at 70, 12 more; at 80, 49 more; at 90, 41 more; and at 100, 25 more. Similar comparisons can be made for the first two sets of material.

Average achievers. A comparison of the achievement of the Forkner and Gregg average achievers at each speed level on the terminal test revealed that the Forkner average achievers achieved higher than the Gregg average achievers at each speed level. Both the Forkner and Gregg average achievers continued to increase in the number of standard words correctly transcribed at the speeds of 50, 60, and 70 and then decreased for each higher speed. However, the Forkner average achievers did not decrease as much as did the Gregg average achievers. The mean standard words correctly transcribed by the Forkner average achievers at the speed of 50 was 4 more than for the Gregg average achievers; at the speed of 60, 10 more; at 70, 27 more; at 80, 70 more; at 90, 56 more; and at 100, 58 more. Additional information can be obtained by comparing the results in the other two sets of material.

Below-average achievers. At each speed level, the Forkner below-average achievers achieved higher than the Gregg below-average achievers. The Forkner below-average achievers increased in the number of standard words correctly transcribed at each speed—50, 60, and 70—and then decreased. The Gregg below-average achievers increased in the number of standard words correctly transcribed between 50 and 60; at the speeds of 60 and 70, the Gregg achievers achieved the same. Although the Forkner below-average achievers achieved higher than the Gregg below-average achievers at the speeds of 80, 90, and 100, neither group did well at the speeds of 80, 90, and 100.

The Mean standard words correctly transcribed by the Forkner below-average achievers at the speed of 50 was 20 more than for the Gregg below-average achievers; at the speed of 60, 23 more; and at 70, 27

more.

Additional comparisons. For each grade-point average comparison, the Forkner group achieved higher than did the comparable Gregg group. In order to present another contrast, the achievement of the Forkner average achievers was compared with the achievement of the Gregg above-average achievers. At each speed level (50, 60, 70, 80, 90, and 100) the Forkner average achievers achieved higher than the Gregg above-average achievers. At the speeds of 50 and 60, the Forkner average achievers achieved 3 more standard words than did the Gregg above-average achievers, at 70, 9 more standard words; at 80, 31 more; at 90, 29 more; and at 100, 27 more.

A further contrast, of the Forkner below-average achievers with the Gregg average achievers, revealed that at the speeds of 50, 60, and 70 the Forkner below-average achievers achieved higher than the Gregg average achievers; at the speeds of 70, 80, and 90, the Gregg average achievers achieved higher than the Forkner below-average achievers.

At the speed of 50, the Forkner below-average achievers achieved 20 more standard words than the Gregg average achievers; at 60, 23 more; and at 70, 27 more. At the speed of 80, the Gregg average achievers achieved only 1 more standard word than did the Forkner below-average achievers; at the speed of 90, 18 more; and at the speed of 100, 20 more.

Transcription accuracy. Since the accuracy of the transcript is important, an additional comparison was made of the accuracy of transcription by both groups. Table 2 presents the percent of accuracy for students in both systems of shorthand by grade-point average group.

Table 2

Percent of Standard Words Correctly Transcribed
in Terminal Test by Forkner and Gregg
Above-Average, Average, and
Below-Average Achievers

Speed	Percent					
	Forkner			Gregg		
	Above- Average	Average	Below- Average	Above- Average	Average	Below- Average
50	99	98	99	96	95	86
60	98	98	97	96	92	84
70	95	94	85	90	81	72
80	89	82	40	69	53	40
90	73	68	36	58	48	30
100	59	60	33	51	41	26

Smith goes on to say that except for the Forkner below-average achievers at the speed of 70, each of the Forkner grade-point average groups correctly transcribed at least 94 percent of the standard words in each of the letters at the speeds of 50, 60, and 70. The Forkner above-average achievers correctly transcribed 80 percent of the standard words in the letter at the speed of 80, 73 percent at the speed of 90, and 59 percent at the speed of 100.

The Forkner average achievers correctly transcribed 82 percent of the standard words in the letter at the speed of 80, 68 percent at the speed of 90, and 60 percent at the speed of 100.

The Forkner below-average achievers correctly transcribed 86 percent of the standard words in the letter at the speed of 50 and then decreased in percentage for letters at the speeds of 60 and higher.

Except for the Gregg average achievers at the speed of 70, the Gregg average and above-average achievers correctly transcribed at least 90 percent of the standard words in each of the letters at the speeds of 50, 60, and 70. The Gregg above-average achievers correctly transcribed 69 percent of the standard words in the letter at the speed of 80 and decreased in percentage of accuracy for letters

at the speeds of 90 and 100. The Gregg average achievers correctly transcribed 53 percent of the standard words in the letters at the speed of 80 and then decreased in percentage of accuracy for letters at the speeds of 90 and 100.

Each of the Forkner grade-point average groups transcribed at a higher degree of accuracy than did the comparable Gregg group at each speed level. The Forkner average achievers transcribed with a higher degree of accuracy than did the Gregg above-average achievers at each speed level. At the speeds of 50, 60, and 70, the Forkner below-average achievers transcribed at a higher degree of accuracy than did the Gregg average achievers.

In conclusion, Smith states that an analysis of variance with four factors—system, speed, grade-point average, and set—indicated that the Forkner students performed better than did the Gregg students regardless of the manner of comparison. The difference in achievement was significant in favor of the Forkner group. Conclusions from this experimental research concerning the achievement of Gregg and Forkner students included the following: the Forkner shorthand system is easier to learn, is superior to the Gregg (DJ) Shorthand system for a one-year shorthand

course, and is better adapted for all grade-point average groups.

His final remarks were that additional experimental studies comparing student achievement in other abbreviated shorthand systems should be conducted. A comparison of the second year of shorthand study in the Forkner and Gregg systems would reveal additional information concerning the achievement of the students in both systems. These studies would also provide more information about the place of abbreviated shorthand systems in the area of vocational use. A follow-up study of students taking abbreviated systems should be made to determine the success of students on the job. If these abbreviated shorthand systems can provide vocational shorthand skills in less time, then these systems should be considered more carefully by persons concerned with training stenographers and secretaries. (Smith, 1971:44-46)

Arthur Hadfield, in a doctoral study for his Ed.D. at Utah State University in 1975, wrote on, "A Comparison of the Learning Achievement in Gregg (DJ) Symbol Shorthand and Selected Abbreviated Longhand Systems." The purpose of his study was to determine and compare the learning achievement of students using the Gregg symbol shorthand and

two abbreviated longhand systems—Forkner Shorthand and Stenoscript ABC Shorthand—as measured by the dictation speed and standard words correctly transcribed at the end of two semesters by eleventh and twelfth grade students.

Hadfield's method and sources were as follows:

(a) Nine public high schools were included in the study [three high schools for each of the three shorthand systems]. (b) A language achievement test was used to determine the student's ability level. (c) A dictation test of three 3-minute letters was prepared on tape for each of the nine schools and administered in May. The speeds of the three letters were 60, 80, and 100 wpm respectively. (d) The achievements of 129 students (Gregg 43; Forkner 55; Stenoscript 31) were analyzed with a repeated measures analysis of variance.

The findings of Hadfield's study, published in summary form in the October, 1976, issue of the Business Education Forum, are stated:

(a) Forkner Shorthand, as concluded by the author, allows the student to develop a higher skill than the Gregg (DJ) Shorthand and the Stenoscript ABC Shorthand. (b) Forkner Shorthand is better suited for students of any ability level—below-average, average, and above-average—than Gregg (DJ) Shorthand and Stenoscript ABC Shorthand. (c) The basic language ability of a student has a direct relationship to his achievement in all shorthand systems. (d) For a one-year shorthand course, the Forkner Shorthand system is superior to the Gregg (DJ) Shorthand and the Stenoscript ABC Shorthand system. (e) If the ability to take dictation at 80 wpm, followed by transcribing the shorthand within 95 percent accuracy of the dictated material, is considered the necessary requirement for initial employment, then none of the three shorthand systems can provide this ability for most of their students in one year of classroom instruction. (Hadfield, 1976:47)

Regarding pen shorthand versus machine shorthand, Lemaster writes:

Is machine shorthand making significant inroads in business today? According to the survey, fewer than 10 percent of the businesses ask for machine shorthand writers. There is, of course, a definite place in business for machine shorthand writers; no one disputes this. However, approximately 90 percent of the businesses prefer to continue to ask for pen shorthand for two basic reasons of convenience: (1) the secretary does not have to have a machine handy to take dictation, and (2) corrections, additions, and deletions are easily made during both dictation and transcription. (Lemaster, 1972:20)

Lemaster also addresses himself to the competency levels of symbol versus alphabetic shorthand systems writers. He comments that most importantly, no alphabetic system can ever give speeds sufficient for more than the most basic stenographic position. (Lemaster, 1972:21)

Upon request, Jane Phelan of South-Western Publishing Company mailed this writer the results of six studies conducted by researchers comparing student achievement in Gregg and Century 21 shorthand systems. The first study was conducted by Dr. Ted D. Stoddard of Brigham Young University. The second study was done by Dr. Devern Perry, also of Brigham Young University. The third study was conducted by Ball State University in Muncie, Indiana. The fourth study was conducted by Dr. Arnola Ownby, University of Oklahoma. Study five took place in three high schools

in Hazelwood School District, St. Louis, Missouri. The sixth study was done in selected Utah High Schools by Barbara Cowley of Brigham Young University.

One last page of information included by Jane Phelan gave the results of the achievement level of beginning shorthand students of Century 21 on new material for three-minute takes with 95 percent accuracy for two different school years, 1975-76 and 1976-77.

Refer to Appendix D for a complete summary of the results of the six studies of research and for the achievement levels of the Century 21 shorthand students for the two years.

Summary

By presenting the historical background of shorthand, one should be able to reflect and gain a greater appreciation of what shorthand has contributed to our society and to the world. By presenting a broad aspect of the status of shorthand, the fears of many people should be quieted in terms of thinking that shorthand is a lost art and is no longer a useful tool or one that has nothing to contribute to a technological society. Shorthand skills are not obsolete.

By presenting some of the research that has been done in comparative shorthand systems, any teacher-of-shorthand reader of this paper should be made to stop and think and question as to what might be the one best shorthand system for meeting the needs of his or her students and for meeting the needs of business in his or her own geographic area. It may also induce a desire on the part of any such readers to do some comparative research of their own.

CHAPTER 3

PROCEDURES

The research method used for this study was the normative survey or descriptive research method. A questionnaire (see Appendix A) comprised of 14 questions was designed to collect the necessary data.

Sources of Data

The data for this study was obtained by surveying the department chairperson of the 178 secondary schools, of the 5 vo-tech centers, of the 3 community colleges, of 1 career center, of 2 private colleges, and of the 5 units of the university system, only Montana schools, previously mentioned in the "Limitations of the Problem" section of Chapter 1.

The mailing list for department chairpersons was obtained through the courtesy of the business education department of Montana State University at Bozeman.

Survey Instrument and Administration of the Survey Instrument

The survey instrument used for this study was developed by the researcher in the summer of 1977 with the help

of several fellow master's candidates along with Dr. Daniel G. Hertz, Dr. Floyd Frost, and Dr. Harvey Larson. Critiquing of the questionnaire in its rough draft form by the master's candidates was beneficial to its completed form. The help of Dr. Hertz, Dr. Frost, and Dr. Larson was that of advisor and committee members.

The questionnaire and a cover letter (Appendix B) were mailed to the department chairpersons on May 10, 1978. A self-addressed, stamped envelope was included along with the questionnaire and cover letter. A follow-up letter (Appendix C) with a copy of the questionnaire and another self-addressed, stamped envelope was sent to those chairpersons who had not responded on May 20, 1978. There was no need for a second follow-up letter due to the response of the first follow-up mailing.

In answer to the two mailings, 111 out of 194 department chairpersons responded; this represented a 57 percent return. Table 3 indicates the breakdown of the number of questionnaires sent and the number and percentage of those returned.

Analysis of the Data

For the purpose of this research, no statistical

tool was used for interpreting the results of the survey instrument. The data received was totaled for each question. This information was then shown in percentage tables illustrating the breakdown and were preceded by contextual explanations on a percentage basis.

CHAPTER 4

PRESENTATION, ANALYSIS, AND INTERPRETATION OF DATA

Of the total 194 schools surveyed, in response to the two mailings, the initial mailing on May 10, 1978, and a follow-up made on May 20, 1978, 111 out of 194 responded. This represented a 57.2 percent return. Eighty-three, or 42.8 percent, did not reply to either of the two mailings. Table 3 indicates this breakdown of the number of questionnaires sent and the number and percentage of those returned.

Table 3

Number and Percentage of Returns
of the Survey Instrument

Responses	No.	%
Questionnaires Returned	111	57.2%
Questionnaires Not Returned	83	42.8%
TOTALS	194	100.0%

Of the 111 questionnaires returned, 100, or 90.1 percent, were from high schools; 3, or 2.7 percent, were from units of the university system; 3, or 2.7 percent, were

from community colleges; 2, or 1.8 percent, were from private colleges; 2, or 1.8 percent, were from vo-tech centers; and 1, or 0.9 percent, from career centers.

Table 4 shows the percentage of questionnaires representing each type of school of the 111 questionnaires returned.

Table 4
Number and Percent of Respondents by
Type of School

Responses	No.	%
High School	100	90.1%
Units of Univ. System	3	2.7
Community Colleges	3	2.7
Private Colleges	2	1.8
Vo-Tech Centers	2	1.8
Career Center	1	0.9
TOTALS	111	100.0%

Question number one of the survey asked: Is your school teaching a system of shorthand this 1977-1978 school year? The limited-response answers were yes, no, or undecided. Seventy-seven or 69.4 percent, of the 111 respondent schools answered yes; and 34, or 30.6 percent, of the 111

respondent schools answered no. No schools, or 0.0 percent, answered undecided. Table 5 gives a percentage breakdown of the school responses.

Table 5

Number and Percent of Respondent Schools
Teaching Shorthand - 1977-78

Responses	No.	%
Yes	77	69.4%
No	34	30.6
Undecided	0	0.0
TOTALS	111	100.0%

Question two asked: If the answer to question one is yes, which of the following systems of shorthand are being taught in your system? Please check one or more. The possible responses were : Gregg (simplified), Gregg (Diamond Jubilee), Century 21, Machine Shorthand, Forkner, ABC, Landmark, and other. Of the 77 schools offering shorthand in 1977-78 out of the 111 respondents, 3 of the 77 schools offered more than one system. One school offered Gregg Simplified, Gregg Diamond Jubilee, and Machine shorthand. Another of those three schools offered Century 21

and Zinmann. The last of those three schools offered Gregg Diamond Jubilee, Century 21, Machine Shorthand, and ABC. Among the 77 schools offering shorthand in 1977-78, there were 83 shorthand offerings, 6 more offerings than the number of schools offering shorthand due to the multiple offerings by 3 of the schools. Table 6 gives the number and percentage of shorthand system offerings by the schools offering shorthand in Montana in 1977-78 among the respondent schools.

Table 6

Number and Percentage of Shorthand System
Offerings by 77 of the 111 Respondent
Schools During 1977-78 in Montana

Shorthand System	No. of Offerings	%
Gregg (Simplified)	1	1.20%
Gregg (Diamond Jubilee)	69	83.13
Century 21	8	9.64
Machine Shorthand	2	2.41
Forkner	1	1.20
ABC	1	1.20
Landmark	0	0.00
Other - (Zinmann)	1	1.20
TOTALS	83	100.00%

Question three asked: Do you feel that the schools of Montana could better meet the needs of students and business if more than one system of shorthand were offered in your school system during the same instructional school term? Of the 111 questionnaires returned, 20, or 18.0 percent, indicated yes; 72, or 64.9 percent, answered no; 11, or 9.9 percent, indicated undecided; and 8, or 7.2 percent did not answer the question. Table 7 shows the number of schools and the percentage of schools answering yes, no, undecided, or no answer to question three. The majority of the respondents did not feel that the needs of students and business could be better met by offering more than one system of shorthand in a school system during the same instructional school term.

Table 7

Number and Percent of Montana Schools Who Feel
the Needs of Students and Business Could
be Better Met if More than One System
of Shorthand were Offered in Your
School System During the Same
Instructional School Term

Responses	No. of Schools	%
Yes	20	18.0%
No	72	64.9
Undecided	11	9.9
No Answer	8	7.2
TOTALS	111	100.0%

Question four asked: Have you or your teaching staff had the necessary educational instruction to make you competent (qualified) to teach more than one system of shorthand? Forty, or 36.0 percent of the respondents, answered yes; 64, or 57.7 percent of the respondents, answered no; 3, or 2.7 percent of the respondents, answered undecided; and 4, or 3.6 percent of the respondents, did not answer the question. The percentage breakdown of question four is shown in Table 8.

Table 8

Have You or Your Teaching Staff Had the
Necessary Educational Instruction to
Make You Competent (Qualified) to
Teach More than One System
of Shorthand

Responses	No. of Schools	%
Yes	40	36.0%
No	64	57.7
Undecided	3	2.7
No Answer	4	3.6
TOTALS	111	100.0%

Question five asked: Should the teacher education centers of the University system offer workshops or similar instructional courses on a year-to-year basis in methodology of shorthand systems? The vast majority of respondents to this question definitely felt that the teacher education centers of the University system of Montana should offer workshops or similar instructional courses on a year-to-year basis in methodology of shorthand systems. Ninety, or 81.1 percent, checked yes; 6, or 5.4 percent, checked no; 10, or 9.0 percent, checked undecided; and 5, or 4.5 percent, did not answer the question. Table 9 shows the number and

percentage of schools answering this question.

Table 9

Should the Teacher Education Centers of the University
System Offer Workshops or Similar Instructional
Courses on a Year-to-Year Basis in
Methodology of Shorthand
Systems

Responses	No. of Schools	%
Yes	90	81.1%
No	6	5.4
Undecided	10	9.0
No Answer	5	4.5
TOTALS	111	100.0%

Question six asked: Do you offer a second year of shorthand instruction? If so, state the percentage of first-year shorthand students taking a second year of shorthand. Forty-seven, or 42.3 percent, checked yes; 59, or 53.2 percent, checked no; 0, or 0.0 percent, checked undecided; and 5, or 4.5 percent, did not answer the question. Table 10 breaks down the number and percentage of schools offering a second year of shorthand of the schools returning questionnaires.

Table 10

Number and Percentage of Respondent Schools
Offering a Second Year of Shorthand

Responses	No. of Schools	%
Yes	47	42.3%
No	59	53.2
Undecided	0	0.0
No Answer	5	4.5
TOTALS	111	100.0%

Only 39 of the 47 respondent schools offering a second year of shorthand instruction gave the percentage of first-year shorthand students taking a second year of shorthand. The percentages given ranged from 0 percent to 90 percent. Ten of the 39 schools that have the percentage of first-year shorthand students taking a second year of shorthand indicated that 50 percent of their first-year shorthand students took a second year of shorthand instruction. Five of those same 39 schools indicated that 25 percent of their first-year shorthand students took a second year of shorthand. Of the other percentages given, only from one to three schools indicated the same percentage.

The average percentage for the 39 schools was 39.2 percent.

Question seven asked: Are typewriters available for student transcription use during first-year shorthand instruction? Ninety-three, or 83.8 percent, of the 111 respondent schools checked yes to this question; 5, or 4.5 percent, checked no; 1, or 0.9 percent, checked undecided; 2, or 1.8 percent, checked not applicable; and 10, or 9.0 percent, did not answer the question. The number and percentage of respondent schools having typewriters available for student transcription use during first-year shorthand instruction are given in Table 11.

Table 11

Number and Percentage of Respondent Schools Having
Typewriters Available for Student Transcription
Use During First-Year Shorthand Instruction

Responses	No. of Schools	%
Yes	93	83.8%
No	5	4.5
Undecided	1	0.9
Not Applicable	2	1.8
Not Answered	10	9.0
TOTALS	111	100.0%

Question eight asked: Do you require all transcription for second-year shorthand students to be done on the typewriter? Of the 47 respondent schools offering a second year of shorthand, 39, or 83.0 percent, checked yes; 8, or 17.0 percent checked no; and 0, or 0.0 percent, checked undecided. Table 12 shows the number and percentage of respondent schools requiring all transcription for second-year shorthand students to be done on the typewriter.

Table 12

Number and Percentage of Respondent Schools
Requiring All Transcription for Second-
Year Shorthand Students to be Done
on the Typewriter

Responses	No. of Schools	%
Yes	39	83.0%
No	8	17.0
Undecided	0	0.0
TOTALS	47	100.0%

Question nine asked: Does your school utilize dictation laboratory equipment in the instruction of shorthand? Please specify types of laboratory equipment used in the following space. Of the 111 schools that returned the questionnaire, 64, or 57.7 percent, answered yes; 27, or 24.3 percent, answered no; 1, or 0.9 percent, answered undecided, 3, or 2.7 percent, answered not applicable; and 16, or 14.4 percent did not answer the question. The number and percentage of respondent schools utilizing dictation laboratory equipment in the instruction of shorthand is shown in Table 13.

Table 13

Number and Percentage of Respondent Schools
Utilizing Dictation Laboratory Equipment
in the Instruction of Shorthand

Responses	No. of Schools	%
Yes	64	57.7%
No	27	24.3
Undecided	1	0.9
Not Applicable	3	2.7
Not Answered	16	14.4
TOTALS	111	100.0%

No attempt was made to tabulate percentages of the types of laboratory equipment used. The following narrative attempts to describe the types of equipment used as well as the number of each type of equipment. Some of the respondents gave brand names of the equipment being used and others did not. Sixteen of the respondent schools indicated that they used reel-to-reel tape recorders, 1 indicated that system five tapes were used, 1 indicated that an "old" Voicewriter was used, 7 indicated that a Dictaphone was used, 1 indicated that a Stenorette was used, 1 indicated that a Motorola-loop was used, 11 indicated that they used

a Norelco dictating unit with 4 sending units, 2 indicated that a Shorthand Lab with headsets were used, 1 indicated that a Dictaphone-Wireless-3 channel was used, 1 indicated that a Sony Memo Scribe was used, 1 indicated that an IBM Dictaphone was used, 1 indicated that a Steno Trainer with cassettes was used, 25 indicated that record players with records were used, 1 indicated that a P/H Electronics-Classroom Broadcaster, 6 channel was used, 6 indicated that cassette recorders with earphones were used, and 16 indicated that cassette recorders without earphones were used.

Other Pertinent Data Questions

Question ten asked: What is the estimated percentage dropout rate in the specific shorthand system or systems your school teaches? ____ percentage. The answers ranged from 0 percent to 75 percent dropout rate for 83 of the respondent schools who answered the question. Twenty-eight of the 111 respondent schools did not answer the question. The average dropout rate for the 83 schools was 22 percent. To make the results more meaningful, the estimated percentage dropout rates indicated by the 83 respondent schools were grouped into percentage intervals of 10, the intervals being 0-10 percent, 11-20 percent, 21-30 percent, 31-40

percent, 41-50 percent, 51-60 percent, 61-70 percent, and 71-80 percent. Thirty-seven, or 44.6 percent, of the schools, indicated an estimated percentage dropout rate of 0-10 percent; 12, or 14.5 percent, of the schools indicated an estimated percentage dropout rate of 11-20 percent; 11, or 13.2 percent, of the schools indicated an estimated percentage dropout rate of 21-30 percent; 12, or 14.5 percent, of the schools indicated an estimated percentage dropout rate of 31-40 percent; 7, or 8.4 percent, of the schools indicated an estimated percentage dropout rate of 41-50 percent; 2, or 2.4 percent, of the schools indicated an estimated percentage dropout rate of 51-60 percent; 1, or 1.2 percent, of the schools indicated an estimated percentage dropout rate of 61-70 percent; and 1, or 1.2 percent, of the schools indicated an estimated percentage dropout rate of 71-80 percent.

Table 14 shows the number of schools and the percentage of schools grouped into each of the percentage intervals for estimated dropout rates.

Table 14

Number and Percentage of Schools with
Estimated Percentage Dropout Rates
in Shorthand from 0-80 Percent

Percentage Intervals— Dropout Rate	No. of Schools	%
0-10	37	44.6%
11-20	12	14.5
21-30	11	13.2
31-40	12	14.5
41-50	7	8.4
51-60	2	2.4
61-70	1	1.2
71-80	1	1.2
TOTALS	83	100.0%

Question eleven asked: At what time of the instructional year do most of your dropouts occur? First week ____, Second week ____, One month ____, Nine weeks ____, First semester ____, During the second semester ____.

Although only one answer was expected from each of the schools for one of the six choices, some of the responding schools checked more than one choice. No attempt was made to determine any averages or percentages for this

question. First week, as a choice, was checked 14 times; Second week, 13 times; One month, 9 times; Nine weeks, 14 times; First semester, 30 times; and During second semester, 1 time. The only conclusion to be drawn here is that the vast majority of dropouts occur sometime during or at the end of the first semester of shorthand instruction.

Question twelve asked: What is the length of dictation takes for grading transcription tests in your school system? Three minute ____, Five minute ____, Other (specify) ____, ____.

Of the responses or choices checked, the three-minute take was checked 78 times and the five-minute take was checked 28 times. For other (specify), two-minute takes were indicated eight times, one-minute takes were indicated nine times, and one and one half-minute takes, mailable copy, was indicated one time. As with question number 11, no attempt was made to determine any average or percentages for this question. The majority of respondents indicated that they used three-minute takes for grading transcription tests in their school systems.

Question thirteen asked: What is the estimated percentage of shorthand students who reach the following speeds in your school system after one year of shorthand?

40 words per minute	_____ %	50 words per minute	_____ %
60 words per minute	_____ %	70 words per minute	_____ %
80 words per minute	_____ %	90 words per minute	_____ %
100 words per minute	_____ %	110 words per minute	_____ %
120 words per minute	_____ %	Above	
		120 words per minute	_____ %

Of the 111 respondent schools, 86 of them responded to this question; 81 of the questionnaires were usable, 5 were not. The estimated percentage of shorthand students from the 81 schools who reached 40 words per minute after one year of shorthand was 100 percent; the estimated percentage of shorthand students who reached 50 words per minute was 94.4 percent; the estimated percentage of shorthand students who reached 60 words per minute was 87.1 percent; the estimated percentage of shorthand students who reached 70 words per minute was 61.1 percent; the estimated percentage of shorthand students who reached 80 words per minute was 48.6 percent; the estimated percentage of shorthand students who reached 90 words per minute was 22.4 percent; the estimated percentage of shorthand students who reached 100 words per minute was 14.8 percent; the estimated percentage of shorthand students who reached 110 words per minute was 6.5 percent; the estimated percentage of shorthand students who reached 120 words per minute was 4.4 percent; and the estimated percentage of shorthand students

who reached above 120 words per minute was 1.6 percent.

Table 15 shows the estimated percentage of shorthand students who reached the different speed levels after one year of shorthand. Percentages are rounded to the nearest one-tenth of one percent.

Table 15

The Estimated Percentage of Shorthand Students
Who Reached the Speeds of 40-, 50-, 60-, 70-,
80-, 90-, 100-, 110-, 120-, and Above 120
Words Per Minute After One Year
of Shorthand

Speed Levels	Estimated Percentage of Shorthand Students Who Reached Each Speed
40 words per minute	100.0%
50 words per minute	94.4
60 words per minute	87.1
70 words per minute	61.1
80 words per minute	48.6
90 words per minute	22.4
100 words per minute	14.8
110 words per minute	6.5
120 words per minute	4.4
Above 120 words per minute	1.6

(Percentages rounded to the nearest one-tenth of one percent)

Question fourteen asked: Estimate the same as in question 13 for second-year shorthand students.

60 words per minute	_____ %	70 words per minute	_____ %
80 words per minute	_____ %	90 words per minute	_____ %
100 words per minute	_____ %	110 words per minute	_____ %
120 words per minute	_____ %	130 words per minute	_____ %
140 words per minute	_____ %	150 words per minute	_____ %
Above			
150 words per minute	_____ %		

Of the 111 respondent schools, 40 of them answered this question. Thirty-eight of those 40 questionnaires were usable; two were not usable. The estimated percentage of shorthand students from the 38 schools who reached 60 words per minute after two years of shorthand was 99.7 percent; the estimated percentage of shorthand students who reached 70 words per minute was 98.6 percent; the estimated percentage of shorthand students who reached 80 words per minute was 97.6 percent; the estimated percentage of shorthand students who reached 90 words per minute was 81.8 percent; the estimated percentage of shorthand students who reached 100 words per minute was 66.9 percent; the estimated percentage of shorthand students who reached 110 words per minute was 29.6 percent; the estimated percentage of shorthand students who reached 120 words per minute was 21.2 percent; the estimated percentage of shorthand students who reached 130 words per minute was 8.3 percent; the estimated

percentage of shorthand students who reached 140 words per minute was 4.9 percent; the estimated percentage of shorthand students who reached 150 words per minute was 0.4 percent; and the estimated percentage of shorthand students who reached above 150 words per minute was 0.3 percent.

The estimated percentage of shorthand students who reached the different speed levels after two years of shorthand are shown in Table 16. Percentages are rounded to the nearest one-tenth of one percent.

Table 16

Estimated Percentage of Shorthand Students Who
 Reached the Speeds of 60-, 70-, 80-, 90-,
 100-, 110-, 120-, 130-, 140-, 150-,
 and Above 150 Words Per Minute
 After Two Years of Shorthand

Speed Levels	Estimated Percentage of Shorthand Students Who Reached Each Speed
60 words per minute	99.7%
70 words per minute	98.6
80 words per minute	97.6
90 words per minute	81.8
100 words per minute	66.9
110 words per minute	29.6
120 words per minute	21.2
130 words per minute	8.3
140 words per minute	4.9
150 words per minute	0.4
Above 150 words per minute	0.3

(Percentages rounded to the nearest one-tenth of one percent)

CHAPTER 5

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

The purpose of this study was to determine the number of and kinds of shorthand systems currently being offered in Montana during the 1977-1978 school year with implications for future offerings in the business and office education curriculum in Montana to meet the present and future needs of students and business.

To collect the necessary data for the study, a survey was conducted of the secondary schools, a career center, the community colleges, two private colleges, the vo-tech centers, and the units of the university system of Montana. A questionnaire was used to obtain the data from the chairpersons of these institutions. From the data received from these chairpersons, an effort was made to evaluate the findings.

The findings are summarized as follows:

1. Of the 111 schools responding to the survey out of 194 schools polled, 77, or 69.4 percent, indicated they were teaching a system of shorthand in the 1977-78 school year.

2. The findings indicated that of the total 83 offerings of shorthand in the 77 schools, Gregg (Diamond Jubilee) represented 69, or 83.13 percent of the offerings; Gregg (Simplified) represented 1, or 1.20 percent, of the offerings; Century 21 represented 8, or 9.64 percent, of the offerings; Machine Shorthand represented 2, or 2.41 percent, of the offerings; Forkner represented 1, or 1.20 percent, of the offerings; ABC represented 1, or 1.20 percent, of the offerings; Landmark represented 0, or 0.00 percent, of the offerings; and other - (Zinmann) represented 1, or 1.20 percent, of the offerings.

3. The majority of the respondents, 64.9 percent, did not feel that the schools of Montana could better meet the needs of students and business if more than one system of shorthand were offered in their school system during the same instructional school term.

4. Forty, or 36.0 percent, of the respondents indicated that they or their staff have had the necessary educational instruction to make them competent (qualified) to teach more than one system of shorthand; 64, or 57.7 percent, of the respondents indicated that they or their staff have not had the necessary educational instruction to make them competent (qualified) to teach more than one

system of shorthand.

5. The findings indicated that the vast majority of respondents felt that the teacher education centers of the University system should offer workshops or similar instructional courses on a year-to-year basis in methodology of shorthand systems.

6. Of the respondent schools, 42.3 percent of them offer a second year of shorthand; 53.2 percent of them do not. The average percentage of shorthand one students who took a second year of shorthand was 39.2 percent.

7. Eighty-three and three-tenths percent of the respondent schools indicated that typewriters are available for student transcription use during first-year shorthand instruction.

8. Of the respondent schools offering a second year of shorthand, 83.0 percent indicated that they required all transcription for second-year shorthand students to be done on the typewriter.

9. The findings indicated that 57.7 percent of the respondent schools utilize dictation laboratory equipment in the instruction of shorthand. Reel-to-reel tape recorders, recorder players, and cassette tape recorders without earphones accounted for the majority of such

equipment.

10. Answers ranged from 0 to 75 percent for the dropout rate in shorthand in the respondent schools who answered. The average dropout rate in these schools was 22 percent.

11. The vast majority of shorthand dropouts occur sometime during or at the end of the first semester.

12. The majority of respondents who answered the question indicated that the length of dictation takes for grading transcription tests in their school system was three minutes.

13. The findings indicated that the estimated percentage of students who reached different speed levels after one year of shorthand for the respondents of the question were: 40 wpm, 100 percent; 50 wpm, 94.4 percent; 60 wpm, 87.1 percent; 70 wpm, 61.1 percent; 80 wpm, 48.6 percent; 90 wpm, 22.4 percent; 100 wpm, 14.8 percent; 110 wpm, 6.5 percent; 120 wpm, 4.4 percent; and above 120 wpm, 1.6 percent.

14. For schools who responded to the question, it was found that the estimated percentage of students who reached different speed levels after two years of shorthand were: 60 wpm, 99.7 percent; 70 wpm, 98.6 percent;

80 wpm, 97.6 percent; 90 wpm, 81.8 percent; 100 wpm, 66.9 percent; 110 wpm, 29.6 percent; 120 wpm, 21.2 percent; 130 wpm, 8.3 percent; 140 wpm, 4.9 percent; 150 wpm, 0.4 percent; and above 150 wpm, 0.3 percent.

Conclusions

Gregg (Diamond Jubilee) is the most popular and the most taught system of shorthand in Montana at the present time. Century 21 shorthand, in the short time it has been on the market, accounted for nearly 10 percent of the shorthand offerings in Montana during 1977-78 among the respondent schools.

The needs of students and business would not be better met at this time in Montana if more than one system of shorthand were offered in the schools teaching shorthand during the same instructional school term.

The majority of shorthand teachers in schools of Montana offering shorthand have not had the necessary educational instruction to make them competent (qualified) to teach more than one system of shorthand.

The vast majority of respondents feel that the teacher education centers of the University system of Montana should offer workshops or similar instructional

courses on a year-to-year basis in methodology of shorthand systems.

Of the respondent schools teaching shorthand in 1977-78, the majority of them do not offer a second year of shorthand. In the schools offering a second year of shorthand, less than half of the students completing one year of shorthand take a second year.

A large majority of schools offering first-year shorthand had typewriters available for student transcription.

The vast majority of schools offering a second year of shorthand required all transcription for second-year shorthand students to be done on the typewriter.

Dictation laboratory equipment in the instruction of shorthand was utilized by the majority of schools.

Of respondent schools who taught shorthand, the dropout rate was 22 percent.

Three-minute dictation tapes for grading transcription tests were used by the majority of responding schools who taught shorthand.

The majority of students of responding schools who completed one year of shorthand instruction reached a speed of 70 words per minute; slightly less than half of those

students reached a speed of 80 words per minute. Less than one-sixth of those students reached the speed of 100 words per minute; less than one-twentieth of them reached the speed of 120 words per minute.

For respondent schools, the vast majority of students, after two years of shorthand, reach the speed of 90 words per minute; a simple majority reach the speed of 100 words per minute, and less than 1 percent of those same students reach the speed of 150 words per minute and above.

Recommendations

1. All teachers of shorthand obtain the necessary educational instruction (self-study course or otherwise) to make them competent (qualified) to teach more than one system of shorthand.
2. The teacher education centers of the University system of Montana offer workshops or similar instructional courses on a year-to-year basis in methodology of shorthand systems—especially M.S.U. and the U. of M.
3. Further comparative studies of Gregg and Century 21 shorthand systems be completed five years or more from now, after Century 21 has become an established system nationwide, when and if it does.

4. Further research of speed attainment levels for grading transcription tests be limited to three and five-minute takes, unpreviewed, and mailable.

BIBLIOGRAPHY

BIBLIOGRAPHY

- Christensen, Edward L., "Individual Defference: Classrooms with Mixed Shorthand Systems," The Balance Sheet, Volume LVIII, No. 2, October, 1976, pp. 52-53.
- Christensen, Edward L. and R. DerMont Bell, Century 21 Shorthand, South-Western Publishing Co., Cincinnati, 1974, pp. ("Preface" and "To the Student"; front of text)
- Conley, Robert J., "Shorthand: A Manual Skill that Flourishes in an Automated Age," Business Education World, Volume 53, November-December, 1972, pp. 20-22.
- Conover, Hobart H. and Willard R. Daggett, "Business Education—The Changing Tide," The Balance Sheet, Volume LVIII, No. 1, September, 1976, pp. 17, 41.
- Cousin, Eugene, "The Future of Shorthand," International Review for Business Education, Volume 77, April, 1971, pp. 20-23.
- Hadfield, Arthur, "A Comparison of the Learning Achievement in Gregg (DJ) Symbol Shorthand and Selected Abbreviated Longhand Systems," Business Education Forum, October, 1976, p. 47. (Summary or Abstract of Ed.D. Thesis)
- Hertz, Daniel G., "A Study in Shorthand," (unpublished master's Professional Paper), University of Wyoming, Laramie, June, 1966, pp. 3-8, 21-22.
- Holcomb, Billie D., "The Cultural Impact of Shorthand," The Journal of Business Education, Volume 47, No. 7, April, 1972, (Abstract of Ed.D. Thesis, 1971, University of Oklahoma, Norman), p. 296.
- Hornstein, Brenda, "Is Stenography Still Relevant in the Business Office," Business Education Forum, Volume 27, April, 1973, pp. 47-48.
- Lemaster, A. J., "The Present and Future Outlook for Shorthand," Business Education World, Volume 52, No. 3, January-February, 1972, pp. 20-21.

McLean, Gary N., "The Status and Implications of Research in Shorthand Methodology," Business Education World, Volume 55, No. 3, January-February, 1975, pp. 24-25.

Pullis, Joe M., "Analyzing Shorthand Systems Can Reduce Confusion in Learning," The Balance Sheet, Volume LVII, No. 5, February, 1976, pp. 204-206, 208, 231.

Russon, Allien R., "History of Shorthand," Methods of Teaching Shorthand, Monograph 119, South-Western Publishing Co., Cincinnati, April, 1968, pp. 1-3.

Scammon, Samuel M., "An Analysis of the Need for and Use of Shorthand by Secretaries, Managers, and Personnel Directors," Business Education Forum, Volume 30, No. 1, October, 1975, p. 50. (Summary or Abstract)

Schwartz, Dorothy H., "Shorthand Is Relevant," Business Education World, Volume 53, No. 3, January-February, 1973, p. 30.

Smith, E. Ray, "Student Achievement in Forkner and Gregg Shorthand," Business Education Forum, February, 1971, pp. 44-46.

APPENDIX A

APPENDIX "A"

SHORTHAND SURVEY
 (Status of Shorthand in Montana Schools)
 Melvin L. Dilbeck
 828 Burlington Ave.
 Billings, Montana 59102

DIRECTIONS: Please answer as accurately as possible the following questions by placing a check mark in the appropriate box of the yes, no, or undecided columns.

Data Questions

1. Is your school teaching a system of shorthand this 1977-1978 school year?
2. If the answer to question one is yes, which of the following systems of shorthand are being taught in your system? Please check one or more.

 Gregg (simplified) _____ Forkner _____
 Gregg (Diamond Jubilee) _____ ABC _____
 Century 21 _____ Landmark _____
 Machine Shorthand _____ Other (specify) _____

3. Do you feel that the schools of Montana could better meet the needs of students and business if more than one system of shorthand were offered in your school system during the same instructional school term?
4. Have you or your teaching staff had the necessary educational instruction to make you competent (qualified) to teach more than one system of shorthand?
5. Should the teacher education centers of the University system offer workshops or similar instructional courses on a year-to-year basis in methodology of shorthand systems?

YES	NO	UNDECIDED

6. Do you offer a second year of shorthand instruction? If so, state the percentage of first-year shorthand students taking a second year of shorthand. _____percentage
7. Are typewriters available for student transcription use during first-year shorthand instruction?
8. Do you require all transcription for second-year shorthand students to be done on the typewriter?
9. Does your school utilize dictation laboratory equipment in the instruction of shorthand? Please specify types of laboratory equipment used in the following space.

YES	NO	UNDECIDED

Other Pertinent Data Questions

10. What is the estimated percentage dropout rate in the specific shorthand system or systems your school teaches? _____percentage
11. At what time of the instructional year do most of your dropouts occur? First week____, Second week____, One month____, Nine weeks____, First semester____, During the second semester_____.
12. What is the length of dictation takes for grading transcription tests in your school system? Three minute____, Five minute____, Other (specify)____, _____.
13. What is the estimated percentage of shorthand students who reach the following speeds in your school system after one year of shorthand?

40 words per minute____%
 60 words per minute____%
 80 words per minute____%
 100 words per minute____%
 120 words per minute____%

50 words per minute____%
 70 words per minute____%
 90 words per minute____%
 110 words per minute____%
 Above 120 words per minute____%

14. Estimate the same as in question 13 for second-year shorthand students.

60 words per minute	_____ %	70 words per minute	_____ %
80 words per minute	_____ %	90 words per minute	_____ %
100 words per minute	_____ %	110 words per minute	_____ %
120 words per minute	_____ %	130 words per minute	_____ %
140 words per minute	_____ %	150 words per minute	_____ %
Above 150 words per minute	_____ %		

Code No. _____
(For follow-up purposes only)

APPENDIX B

May 10, 1978

Dear Chairperson:

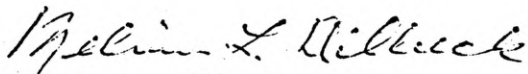
Would you please take a few minutes out of your busy schedule to fill out the enclosed questionnaire. This research is being conducted as a partial fulfillment of the requirements of my Master of Science in Business Education at Montana State University.

I am conducting research in the area of shorthand to determine the status of shorthand in Montana. All information will be kept confidential.

A self-addressed stamped envelope is enclosed for your convenience. Please return the questionnaire by May 27, 1978.

Thank you for your help and cooperation.

Sincerely yours,



Melvin L. Dilbeck
Business Education Teacher
Park City High School
Park City, MT 59063

Enclosures

APPENDIX C

Dear Chairperson:

If you have not already completed the questionnaire that was sent to you earlier regarding the status of shorthand in Montana, would you please take a few minutes and do so now.

The specific information from your school is of great importance if my reporting is to be meaningful.

For your convenience, another questionnaire and self-addressed stamped envelope is enclosed. May I expect your reply by May 31, 1978. Your cooperation is greatly appreciated.

Sincerely yours,

Melvin L. Dilbeck
Business Education Teacher
Park City High School
Park City, MT 59063

Enclosures

APPENDIX D

RESEARCH SUMMARY
OF
COMPARATIVE STUDIES
CENTURY 21 SHORTHAND
AND OTHER SHORTHAND SYSTEMS

Compiled by
Jane Phelan
South-Western Publishing Company

STODDARD'S VALIDATION STUDY

During the 1974-75 school year, Dr. Ted D. Stoddard of Brigham Young University conducted a comparative study of CENTURY 21 and Gregg Shorthand. The purpose of the study was to determine the relative strengths of the two shorthand systems and the supporting sets of learning materials for secondary school students.

The study involved three high schools in Utah and included six equated groups of students, a Gregg group and a CENTURY 21 group in each of the three schools. A total of 79 Gregg students and a total of 76 CENTURY 21 students participated in the study. Three teachers taught six classes, each teaching a Gregg class and a CENTURY 21 class. All teachers were experienced teachers of Gregg shorthand; none had had formal instruction in CENTURY 21.

The three Gregg classes learned from Gregg Shorthand, D.J.S., Second Edition, first-year course. The three CENTURY 21 classes learned from CENTURY 21 SHORTHAND, using the two volumes of the first-year program. Supplementary teaching aids were comparable in the Gregg and the CENTURY 21 classes.

For purposes of this study, students were tested twice during the school year: once at the end of the first semester and once at the end of the year. The first two tables (attached) report Gregg and CENTURY 21 group performance scores at the end of one year of instruction: first, on the recording and transcribing of shorthand theory words (including Speedforms and brief forms); second, on notetaking/transcribing tests dictated at 60, 70, 80, and 90 words a minute. The third table compares the dropout rates in the Gregg group and in the CENTURY 21 group.

In reading the tables, note that a + in the Difference column indicates a difference in favor of the CENTURY 21 group; a - in the Difference column indicates a difference in favor of the Gregg group.

Tests for significance of differences between groups were those suggested as appropriate by members of the statistics staff at Brigham Young University.

Table 1

PERCENT OF SHORTHAND OUTLINES CORRECTLY WRITTEN
AND TRANSCRIBED AFTER ONE YEAR OF INSTRUCTION

<u>Test</u>	<u>Gregg Shorthand</u>	<u>CENTURY 21 Shorthand</u>	<u>Difference</u>
English test (to equate groups)	48.0%	50.3%	+ 2.3%
Speedform/brief form outlines written	98.7%	97.5%	- 1.2%
Speedform/brief form outlines transcribed	97.7%	97.6%	- 0.1%
Frequently used word outlines written	87.9%	93.9%	+ 6.0%
Frequently used word outlines transcribed	94.3%	97.0%	+ 2.7%
Unfamiliar difficult theory words test	33.9%	59.5%	+25.6%

Table 2

NUMBER AND PERCENTAGE OF STUDENTS
PASSING VARIOUS SPEEDS
(95% Accuracy for Passing 3-Minute Tests)

<u>Speed</u>	<u>Gregg Shorthand</u>	<u>CENTURY 21 Shorthand</u>	<u>Difference</u>
60	31 (39.2%)	40 (52.6%)	9 (+13.4%)
70	21 (26.6%)	39 (51.3%)	18 (+24.7%)
80	16 (20.3%)	27 (35.3%)	11 (+15.0%)
90	7 (08.9%)	25 (32.9%)	18 (+24.0%)

Table 3

DROPOUT RATE IN FIRST-YEAR SHORTHAND

<u>Group</u>	<u>Initial Enrollment</u>	<u>Number Retained</u>	<u>Dropped Out</u>	<u>Percent Dropped</u>
Gregg	79	44	35	44.3%
CENTURY 21	76	63	13	17.1%
			Difference	+27.2%

COMPARATIVE STUDY OF CENTURY 21 SHORTHAND AND GREGG SHORTHAND, Dr. Devern Perry
Brigham Young University, Provo, UT January, 1975

This represents the end-of-year results in three high schools. The teachers each taught a class of Century 21 and of Gregg. The teachers had not prior knowledge of Century 21 before teaching it.

The complete study compared the following:

- Transcription 3' test @ 60, 70, 80, 90 wpm, constant level
- Correctly written outlines
- Transcription 5' test @ 50/100 wpm, progressive dictation
- 200 Item Theory Test
- 300 Item Test on 3,000 most frequently used words
- Speedform/Brief Form Test.

Century 21 students generally exceeded performance in all of the above categories.

END-OF-YEAR DROPOUT RATE

Shorthand System	Initial Enrollment	Ending Enrollment	Percent of Drop
Century 21	103	75	27.2%
Gregg	73	46	37. %

STUDENTS PASSING 3-MINUTE
UNPREVIEWED, 95% ACCURACY

Speed	Percent of Century 21 Students	Percent of Gregg Students
60	74%	72%
70	63%	22%
80	34%	17%
90	30%	17%

COMPARISON OF CENTURY 21 AND GREGG--BALL STATE

STUDY 3

During the 1975-76 school year, Ball State University in Muncie, Indiana, offered CENTURY 21 on an experimental basis to one class of secretarial students who had no previous shorthand. The grades earned by beginners in CENTURY 21 and Gregg are compared below.

COMPARISON OF GRADES OF 107 STUDENTS IN BEGINNING
SHORTHAND I, CENTURY 21 AND GREGG, 1975-76

Century 21			Gregg	
Total	Percent	Grade	Total	Percent
8	20.5	A	6	8.8
9	23.1	B	10	14.7
9	23.1	C	20	29.4
4	10.3	D	13	19.1
3	7.6	F	4	5.9
6	15.4	Withdrew	14	20.6
39		Total Beginners	68	
30	76.9	Able to Go On	50	73.5

If grades are indicative of students' learning, CENTURY 21 students were the more successful. Note the high percentage of Century 21 students earning A or B. A larger percentage of the Gregg students earned a grade of D or F. Students withdrawing or dropping out comprised 15.4 percent of the CENTURY 21 students and 20.6 percent of the Gregg students.

SECOND QUARTER, SHORTHAND II
CENTURY 21 AND GREGG, 1975-76

Century 21			Gregg	
Total	Percent	Grade	Total	Percent
4	16.7	A	6	18.8
4	16.7	B	7	21.9
6	25.	C	3	9.4
1	4.2	D	3	9.4
1	4.2	F	3	9.4
8	33.3	Withdrew	10	31.3
30		Able to take class	50	
24	80.0	Enrolled in 2nd quarter	32	64.0
15	62.5	Able to continue to 3rd qu.	19	59.4
15	38.5	Beginners Remaining	19	27.9

COMPARISON OF CENTURY 21 AND GREGG -- BALL STATE UNIVERSITY cont.

All CENTURY 21 students were successful in their third quarter of shorthand; fourteen of the sixteen Gregg students (87.5%) were eligible to take the second year. Thirteen of the thirty-nine Century 21 students (33.3%) who began their shorthand at Ball State had successfully completed one year of shorthand. Fourteen of the sixty-eight Gregg students (20.6) who began their shorthand successfully completed one year. These results tend to indicate that students who took Century 21 were more likely to complete a year of shorthand successfully than the students enrolled in Gregg.

DICTATION SPEED RESULTS.

Best Three 3-Minute Dictation Test Takes
with 97 Percent Accuracy of Century Students at the End of
Two and Three Quarters of Shorthand, 1975-1976

Student	Two Quarters	Three Quarters
1	90-90-90	100-100-100
2	90-90-80	100-100- 90
3	90-90-90	100-100- 90
4	90-90-80	100-100- 90
5	80-80-80	100- 80- 80
6	70-60-60	90- 80- 80
7	70-70-60	80- 80- 80
8	60-60-60	80- 80- 80
9	70-70-60	80- 80- 70
10	70-60-60	80- 80- 70
11	70-60-60	80- 80- 70
12	70-60-60	80- 70- 70
13	60-60-60	80- 70- 70
14	80-80-70	not enrolled
15	60-60-60	"

A complete copy of this study may be obtained from J. Lee Dye of Ball State University, Muncie, Indiana or from South-Western Publishing Company, 855 California Avenue, Palo Alto, CA 94304

STUDY 7

A COMPARISON OF CENTURY 21 AND GREGG DIAMOND JUBILEE SHORTHAND SYSTEMS, conducted
at Oklahoma State University, 1975-76 School Year.

Dropout Rate
Semester 1

Shorthand System	Initial Enrollment	Ending Enrollment	Percent of Drop	Percent to Continue to 2nd Semester
Century 21	47	37	21%	70%
Gregg	48	32	33%	47%

COMMENTS: Reasons for dropping included: transferred schools, selected shorthand as a one semester elective, changed majors, and moved. Three Gregg students received an I or F and one considered it too difficult.

Semester 2

Shorthand System	Percent of Students Cont. to 2nd Semester	No. of Students Enrolled	Ending Enrollment
Century 21	70%	26	22
Gregg	47%	15	14

Comparison made by Dr. Arnola Ownby, University of Oklahoma, Stillwater, May 1976.

COMMENTS: Dr. Ownby concluded that:

1. Students seemed to stay with C21. The dropout rate was substantially lower than the dropout rate in the Gregg group. Dropout rate in the first semester was 33% in Gregg and 21% in Century 21.
2. A larger percentage of Gregg students performed poorly than Century 21 when observing scores on SF/BF tests, highest dictation tests passed and word tests in both the fall and spring semester.
3. Even though Century 21 has 175 speedforms compared to 129 briefforms, Century 21 students had greater mastery of speedforms.
4. Investigator experienced relatively little difficulty in mastering Century 21.

A COMPARISON OF CENTURY 21 AND GREGG DIAMOND JUBILEE SHORTHAND SYSTEM, Cont.

Dr. Ownbey completed an analysis at the end of the second year with the second-year students. Her conclusions and observations are summarized below:

1. Gregg students entered the course with 10 wam greater dictation speed and one semester more shorthand study than did Century 21 students on the average.
2. Century 21 students made 20 wam greater gains (40 wam vs. 20 wam) in dictation speed than did Gregg students on the average.
3. Century 21 students averaged more points on mailable letters than did Gregg students. (25 vs. 21)
4. Century 21 students entered the course and finished the course with greater knowledge than Gregg students of the 1,500 most frequently used words.
5. Gregg students made a greater gain than did Century 21 students in scores on the 1,500 most frequently used words; however, their knowledge of these words was still less than Century 21 students at the end of the semester.
6. Century 21 students entered the course writing 10 wam slower than Gregg students and finished the course writing 10 wam faster than Gregg students on the average.
7. From my two years' experience with Century 21 Shorthand, I believe the combination of the system and learning materials is superior to the Gregg system and learning materials. This statment is based on experience and not research as the numbers involved were too samall and the controls used were not strict enough to make such a statement based on research. The problem is that all too often good classroom teaching and strictly controlled research are not compatible.
8. All Century 21 students who finished the course wrote 80 wam on 3 minutes of new material.
9. All Gregg students who finished the course wrote 70 wam on 3 minutes of new material.

Hazelwood School District, St. Louis, Missouri, 1976-1978.

Three high schools participated in a year-long study of Gregg Shorthand classes (148) and CENTURY 21 (142) in 1976-77 school year. The result of the study for the two groups is as follows:

First Semester

For the first semester 56% of the Gregg students received an S or E in comparison to 77% of the CENTURY 21 students. CENTURY 21 students did consistently better on theory tests throughout the first semester whereas the difference was not so great on brief/speed form tests. Twenty percent of the Gregg students passed 70 wpm or above, compared to 25% of the CENTURY 21 students. On selected dictation, 5% of the Gregg students passed 70 or above in comparison to 3% of the CENTURY 21 students.

Second Semester

For the second semester, 44% of the Gregg students received an S or an E grade in comparison to 46% of the CENTURY 21 students. There was no significant difference in performance on complete theory tests during second semester. However, it should be noted that Gregg materials were used as the source for these tests.

On dictation, 42% of the Gregg students passed 80 wpm or above in comparison to 45% of the CENTURY 21 students. On selected dictation, 13% of the Gregg students passed 80 wpm or above compared to 16% of the CENTURY 21 students. Gregg had 7% of the students fail for the semester, whereas CENTURY 21 had 12%.

TERMINAL WRITING SPEED ACHIEVED BY FIRST-YEAR SHORTHAND STUDENTS IN SELECTED UTAH HIGH SCHOOLS, Barbara Cowley, Brigham Young University, July 1976

Cowley assessed the terminal writing speeds of 409 first-year students on three minute constant level dictation tests at 60, 70, 80, and 90 wpm. In general, Century 21 students achieve higher levels of writing competency than Gregg students and urban students achieved higher than rural students.

COMPARISON OF DICTATION RATES

Shorthand System	Test	Number of Students	Students Passing	Percent of Total
Century 21	60 wpm	183	96	52.4%
Gregg	60 wpm	211	92	43.6%
Century 21	70 wpm	179	74	41.3%
Gregg	70 wpm	200	47	23.5%
Century 21	80 wpm	162	20	12.4%
Gregg	80 wpm	181	12	6.6%
Century 21	90 wpm	136	10	7.4%
Gregg	90 wpm	107	7	6.5%

SUMMARY OF HIGH SCHOOL

ACHIEVEMENT LEVEL OF BEGINNING SHORTHAND STUDENTS

New Material -- 3 Minutes -- 95% Accuracy

School Year	No. of Schools	No. of Students	40	50	60	70	80	90	100	110	120	130
1976-77	62	1,130	29	123	212	254	229	203	61	7	7	6
1975-76	32	733		64	164	138	172	105	48	11	5	

The above is a summary compiled from the feedback reports returned at the end of each of the school years. This does not represent all of the teachers who taught Century 21 Shorthand, only those who returned the feedback reports.

NOTE: In 1976-77, 47% (513 students) were at 80 wam or above;

68% (767 students) were at 70 wam or above.

In 1975-76, 45% (341 students) were at 80 wam or above;

64% (479 students) were at 70 wam or above.

Compiled by Jane Phelan, South-Western Publishing Company.
These are the results as reported by the users themselves.