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1957-1967

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Norman, Oklahoma

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AN ANALYSIS, CLASSIFICATION, AND SYNTHESIS OF RESEARCH
FINDINGS IN SHORTHAND AND TRANSCRIPTION
1957-1967

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AN ANALYSIS, CLASSIFICATION, AND SYNTHESIS OF RESEARCH
FINDINGS IN SHORTHAND AND TRANSCRIPTION
1957-1967

CHAPTER I

THE PROBLEM

The last few years have brought an increased interest in research in business education. A significant portion of this research has been devoted to problems pertaining to shorthand and transcription.

In 1963, the Diamond Jubilee revision of Gregg Shorthand was published. The new edition was accompanied by increased emphasis on updating and developing materials correlated with the new textbooks. Among the teaching aids were new Gregg tapes to be used in shorthand laboratories. As a natural outcome of changes in the Gregg Shorthand system and of expanding interest in electronic dictation equipment and programmed materials, research studies increased in number. Indicating the extent of interest in this field is the fact that over 220 masters' and doctoral theses have been completed in shorthand and transcription during the past eleven years.

With a few exceptions, the findings of these studies are available only through interlibrary loan. Most school administrators, business education supervisors, directors of research, researchers, and teachers have limited access to this service. Some doctoral studies are available only on microfilm, which makes review of research an expensive and sometimes an almost impossible process. Further difficulty in reviewing masters' and doctoral studies arises because many schools do not have microfilm machines. Even when facilities are available, lack of time to review research is a factor in preventing findings and conclusions in shorthand research reports from being used by those persons most concerned. Therefore, this study will be valuable to school administrators, business education supervisors, directors of research, researchers, and teachers in that it makes knowledge about shorthand and transcription more readily accessible to them.

Problem Statement

The problem of this study was to make more meaningful, manageable, and useful the mass of research findings and conclusions revealed in the formal research pertaining to shorthand and transcription that was accomplished between January 1, 1957 and December 31, 1967. The intent was to analyze, classify, synthesize, and summarize to the extent required to cause the implications in the total of that

research to take on significance greater than can be realized from isolated research units.

Delimitations

This study was concerned with the formal research studies pertaining to shorthand and transcription completed between January 1, 1957 and December 31, 1967. The opinions and statements expressed in the articles written in professional periodicals were not included.

Research reports that deal primarily with areas of business education other than shorthand and only secondarily with the problem were not included.

The intention of this study was to include all masters' and doctoral theses as well as reports of formal research in professional magazines, monographs, and year-books which were specifically concerned with shorthand and transcription.

Definitions

The following important words are defined to avoid possible misunderstandings:

Analysis is the general process of attaining clarity of thought by breaking down a complex whole into as many carefully distinguishable parts as possible.¹

¹Carter V. Good, Dictionary of Education (2d ed. rev.; New York: McGraw-Hill Book Company, Inc., 1959), p. 27.

Classification is the act of ordering phenomena into groups, families, or systems on the basis of designated characteristics.¹

Synthesis is the putting together, after comparison and evaluation, of several sets of findings or points of view to evolve a general point of view embracing what appear to be the sound elements of the several sets.²

Master's Thesis is a formal research paper required as partial fulfillment of the master's degree and listed in indexes as a master's thesis, which includes theses, research reports, project reports, reports of independent study, and dissertations.

Limitations of the Study

The reliability of an analysis and synthesis study depends to a large degree on the reliability of the research investigated. The reliability of the research can be affected by the adequacy of sampling, organization of the problem, the use of appropriate statistical devices, the sources of data, and the accuracy with which the final report is written.

Although comments were given frequently in the abstracts, the purpose of this study was not to evaluate the research studies analyzed.

¹Ibid., p. 98.

²Ibid., p. 545.

Purpose of the Study

The primary purpose of this study was to provide data which may be used as bases for improvements in the instruction and research in shorthand and transcription. The purpose also was to provide these data in one source in such form as to be useful to school administrators, business education supervisors, researchers, research directors, and teachers: a comprehensive bibliography of research studies in shorthand and transcription, an abstract of each research study included in this study, and a synthesis and classification of research findings pertaining to shorthand and transcription.

Related Literature

Several comprehensive analysis and synthesis studies have used methods of research similar to those used in this study. Some of these studies involved not only an analysis and synthesis of the findings of formal research but of the thought expressed in the professional literature as well. These research studies are divided into two classifications: shorthand and transcription and other research in business education.

Shorthand and Transcription

The first analysis and synthesis study of the research pertaining to shorthand and transcription was completed by

Anderson¹ in 1946. In her study masters' and doctoral theses completed before January 1, 1946, were analyzed and the findings were classified under eleven categories: the history and status of shorthand and transcription; analysis of instructional material in shorthand and transcription; methods of teaching in shorthand and transcription; reading and writing in shorthand; analysis of shorthand and transcription errors; comparisons of shorthand systems; personal-use shorthand; prognosis in shorthand; guidance, occupational information, and follow-up of shorthand students; and miscellaneous studies in shorthand and transcription.

In 1961, Frink² completed a second study in shorthand and transcription. The study involved an analysis and synthesis of the thought expressed in the professional literature as well as the findings of formal research. Her study contained abstracts of 117 research reports and notes from 258 articles, classified under five categories: determinants of success or failure in shorthand and transcription, instructional materials, analyses and comparisons in shorthand and transcription, the teaching of shorthand and transcription, and occupational information.

¹Ruth Irene Anderson, "An Analysis and Classification of Research in Shorthand and Transcription" (unpublished Ed.D. dissertation, Indiana University, 1946), p. 874.

²Inez Frink, "A Comprehensive Analysis and Synthesis of Research and Thought Pertaining to Shorthand and Transcription, 1946-1957" (unpublished Ed.D. dissertation, Indiana University, 1961), p. 596.

Both of these studies were major contributions to the literature in business education. However, since December 31, 1956, over 220 additional masters' and doctoral theses have been completed, indicating that further analysis and synthesis is needed.

Other Research in Business Education

Research reports that used techniques similar to those in this report have been completed in office practice, type-writing, accounting, business teacher education, guidance, the supervising teacher, the teaching of economics, and general business.

Herring¹ completed a study in 1950, which included the preparation of 242 abstracts pertaining to the teaching of bookkeeping and accounting, and his findings were classified under nine categories: historical background, objectives, course content, instructional materials, methods and procedures, analysis and measurement of achievement, analysis of the duties of bookkeepers and surveys of bookkeeping practices and procedures, prognosis in bookkeeping and accounting, and miscellaneous.

¹John Virgil Herring, "A Synthesis and Classification of Research in Teaching of Bookkeeping and Accounting" (unpublished Ed.D. dissertation, Indiana University, 1950), p. 725.

A similar study was completed by Devine¹ in 1962. Devine's thesis included abstracts of 85 research reports and notes from 478 articles pertaining to the teaching of bookkeeping and accounting. His findings were classified under seven broad categories, similar to those Herring used.

A synthesis study in office practice was completed in 1961, by Miller.² Her study covered the period from 1924-1951 and included the findings of both formal research and professional literature pertaining to office practice instruction. The study included 221 abstracts and notes from 301 articles, classified under four broad categories: history and status of office practice courses; subject matter taught in office practice courses; physical facilities, teaching materials, organization plans, aids, and evaluation; and vocational guidance as an integral part of office practice courses.

Prewitt³ in 1961, also completed an analysis and synthesis study in office practice. Her study covered the

¹John William Devine, "A Comprehensive Analysis, Classification, and Synthesis of Research Findings and Thought on the Teaching of Bookkeeping and Accounting, 1950-1960" (unpublished Ph.D. dissertation, Indiana University, 1962), p. 661.

²Gertrude Mary Miller, "A Synthesis of Research Findings and Thought Pertaining to Office Practice Instruction" (unpublished Ed.D. dissertation, Indiana University, 1961), p. 927.

³Lena Voncille Burrell Prewitt, "A Comprehensive Analysis, Classification, and Synthesis of Research Findings and Thought in the Area of Office Practice Instruction, 1951-1959" (unpublished Ed.D. dissertation, Indiana University, 1961), p. 461.

period from 1951-1959 and, like Miller's study, included both the findings of formal research and the thought expressed in professional literature. Prewitt's study included abstracts of 124 research reports and notes from 287 articles, classified under seven broad categories: the history of office practice instruction, general characteristics of the office practice program, course objectives and subject matter, class organizational plans and teaching methods and aids, classroom facilities and layout, student selection and evaluation, and mechanization and automation in the office.

In 1965, Sluder¹ completed an analysis and synthesis study of 302 research studies pertaining to general business. Abstracts were prepared and the findings were classified under four broad categories: history and status of general business, subject matter, instructional materials and aids, and teaching methods and evaluation.

Moriwaki² completed the only study on guidance in business education. His study was comprehensive in nature and included both formal research and writings in professional literature. His study contained 100 abstracts and notes from 141 articles. A synthesis of the findings was made under five

¹Lester Ivan Sluder, "An Analysis and Synthesis of Research Findings Pertaining to General Business" (unpublished Ed.D. dissertation, Indiana University, 1965), p. 932.

²Takeski Moriwaki, "An Analysis, Classification, and Synthesis of Research Findings and Thought on Guidance in Business Education" (unpublished Ph.D. dissertation, Indiana University, 1962), p. 429.

categories: the personnel of the guidance program, cumulative records, counseling in the guidance program, utilization of test results in the guidance process, and educational and vocational guidance.

Harven's¹ study completed in 1964, followed a pattern similar to the other analysis and synthesis studies. Her study included the thought expressed in the professional literature as well as the findings revealed in formal research. Her study contained abstracts of 216 research reports and notes from 211 articles pertaining to the supervising teacher and the findings were classified under three broad headings: the work of the supervising teacher, administrative factors affecting the supervising teacher, and environmental factors affecting the supervising teacher.

The only comprehensive synthesis study in the teaching of economics was completed in 1946, by Green.² His study covered the period from 1920-1962, and included the findings of both formal research and professional literature. The study included 125 abstracts and notes from 739 articles, classified under six categories: history and status; philosophy, objectives, and curriculum considerations; course

¹Jeraline Dorris Harven, "The Supervising Teacher: A Synthesis of Research Findings and Thought" (unpublished Ed.D. dissertation, Indiana University, 1964), p. 728.

²Gerald G. Green, "The Teaching of Economics: A Comprehensive Analysis and Synthesis of Research Findings and Thought" (unpublished Ed.D. dissertation, Indiana University, 1964), p. 679.

content; the teaching of economics; teaching personnel; and agencies promoting economic education.

Hogancamp¹ in 1957, completed the only synthesis study on business teacher education. Both formal research and writings in professional literature pertaining to business teacher education were included in the study. Hogancamp's study included 120 abstracts and notes from 318 articles. A synthesis was made and the findings were classified under five headings: the history and status of business teacher education; general education and business training in the business teacher education program; professional education in the business teacher education program; business experience, graduate training, and in-service training; and administration and supervision of business teacher education.

The first comprehensive study of the research in typewriting was completed by Rahe² in 1950. Rahe reviewed 444 research studies from which he prepared 416 abstracts. The findings of these studies were classified under 20 categories. Trends in the number of studies in typewriting, nature of problems, procedures used, and findings reported were also included in his report.

¹Thomas Boone Hogancamp, "A Comprehensive Analysis and Synthesis of Research Findings and Thought on Business Teacher Education" (unpublished Ed.D. dissertation, Indiana University, 1957), p. 502.

²Harves Christian Rahe, "Review of Research in Typewriting: A Classification and Summary of Studies Completed Prior to 1949" (unpublished Ed.D. dissertation, Indiana University, 1950), p. 1034.

Austin¹ completed a comprehensive study in sales personnel in 1954. This study included an analysis and synthesis of the findings presented in the formal research as well as those reported in the professional literature. His study contained 150 abstracts classified under seven categories: job analysis and the criteria, interviews, personal history data, intelligence measurement, interest measurement, personality measurement, and specific tests of sales ability.

Procedure

This study is an analysis, classification, and synthesis of research findings pertaining to shorthand and transcription between January 1, 1957 and December 31, 1967. The procedure involved the preparation of a bibliography, determining the characteristics of the research studies, collecting and classifying the data, analyzing and synthesizing the data, and organizing and writing the report.

Preparation of the Bibliography

A bibliography of research studies in shorthand and transcription was compiled after a thorough study of the professional literature, research reports, general references, indexes, and bibliographies of completed research. Only

¹Ronald L. Austin, "Selection of Sales Personnel: A Review of Research" (unpublished Ph.D. dissertation, Indiana University, 1954), p. 578.

formal studies pertaining to shorthand and transcription were included in the bibliography.

References which were consulted in compiling the bibliography were:

Dissertation Abstracts

Research Studies in Education, Phi Delta Kappa

National Business Education Quarterly

Business Education Index

Rahe--Shorthand-Secretarial Research Index

The bibliography was continually revised as the study progressed. Additional titles were added whenever they were discovered and incomplete, discontinued, or unavailable studies were deleted.

Collection and Organization of the Data

Securing the Research Studies. The 220 research studies were those submitted to various colleges and universities in partial fulfillment of the requirements for masters' and doctoral degrees. Formal research reported in professional magazines, not obtainable from any other source, were also included.

Copies of masters' theses and doctoral dissertations were obtained through interlibrary loan service from colleges and universities throughout the United States. Doctoral studies that could not be obtained through interlibrary loan were purchased on microfilm from University Microfilm Inc., Ann Arbor, Michigan. In a few cases, the research studies

were obtained from the chairmen of the business education departments of the institutions granting the degrees.

An exhaustive effort was made to secure a copy of each study to which any reference was found. However, a few studies listed in the bibliography were unattainable. Copies were reported lost, the studies were never completed, or they were not permitted to circulate.

Original copies of 216 masters' theses and doctoral dissertations were secured from university microfilm, department chairmen, and through interlibrary loan. Four additional studies, which were unattainable through interlibrary loan, were summarized from the Fall issues of the National Business Education Quarterly, making a total of 220 studies included in the synthesis.

Preparation of the Abstracts. Two hundred and twenty abstracts were prepared, one for each study included in the synthesis. As each thesis was received, it was carefully read and an abstract prepared. Each abstract included the following: complete bibliographic reference of the study, statement of the problem, procedure, findings, conclusions, recommendations, and/or abstractor's comments. Comments were included in the abstracts to help explain certain factors that might have a bearing on the understanding of the findings and, in some instances, to give implications for the study. The procedure, findings, conclusions, recommendations, and abstractor's comments for each study were

itemized. Those studies which failed to lend themselves to the abstract procedure were reported in summary form.

Determining the Characteristics of the Research Studies. Prior to making the analysis and synthesis of the research findings pertaining to shorthand and transcription, a preliminary study was made of the characteristics of the 220 research studies included in this investigation to determine the number of studies completed during a given year, the nature of the problems studied, and the procedures used in conducting the research. These data are given in Chapter II of this report.

Analysis and Synthesis of the Data

A careful study of the bibliography indicated that the data would tend to fall logically into the following tentative classifications: instructional materials and aids in shorthand and transcription, methods of teaching and standards in shorthand and transcription, achievement in shorthand and transcription, occupational information, analyses and comparisons in shorthand and transcription, and miscellaneous. Those studies listed in the miscellaneous classification were the few studies that did not fall logically into one of the other classifications.

The findings in the data were carefully studied and a synthesis written for each area. A chapter was devoted to each of the classifications, and each chapter contained an introduction, a synthesis of the research findings, and

implications. A further study of the data was made to determine if there was any relationship between the results of this study and the results of the Anderson and Frink studies with regard to trends, problems, and needed research in shorthand and transcription.

Organization of the Report

This report is divided into three parts and two volumes. Volume I contains Parts I, II, and abstracts A-G of Part III. Volume II contains abstracts H-Z of Part III and the general bibliography.

Part I contains nine chapters. Chapter I presents the problem statement, delimitations, definitions, limitations, purpose of the study, review of related literature, and procedures. Chapter II contains a summary of the nature of the research studies. Chapters III through IX contain the analysis and synthesis of the data pertaining to: instructional materials and aids in shorthand and transcription, methods of teaching and standards in shorthand and transcription, achievement in shorthand and transcription, analyses and comparisons in shorthand and transcription, occupational information, miscellaneous, and summary. Part II contains the Sources of Data. Part III contains the abstracts of the 220 research studies arranged in alphabetical order by author and the general bibliography.

CHAPTER II

CHARACTERISTICS OF 220 RESEARCH STUDIES

The characteristics of 220 research studies pertaining to shorthand and transcription are analyzed in this chapter. The analysis is divided into five parts: (1) distribution of studies by date completed, (2) nature of the problems studied, (3) methods of research used, (4) techniques for collecting data and sources used, and (5) general characteristics of the research studies.

Distribution of Studies by Date Completed

Of the 220 research studies included in this study, 149, or 68 percent, were masters' studies and 71, or 32 percent, were doctoral studies. Four of the 149 masters' studies included in this study were abstracted from Fall issues of the National Business Education Quarterly because they were unavailable through interlibrary loan. The other 145 masters' studies were borrowed through interlibrary loan. Of the 71 doctoral studies included in this report, 9 were received through interlibrary loan; 2 were borrowed from a department chairman; and 60 were purchased from University Microfilm, Ann Arbor, Michigan.

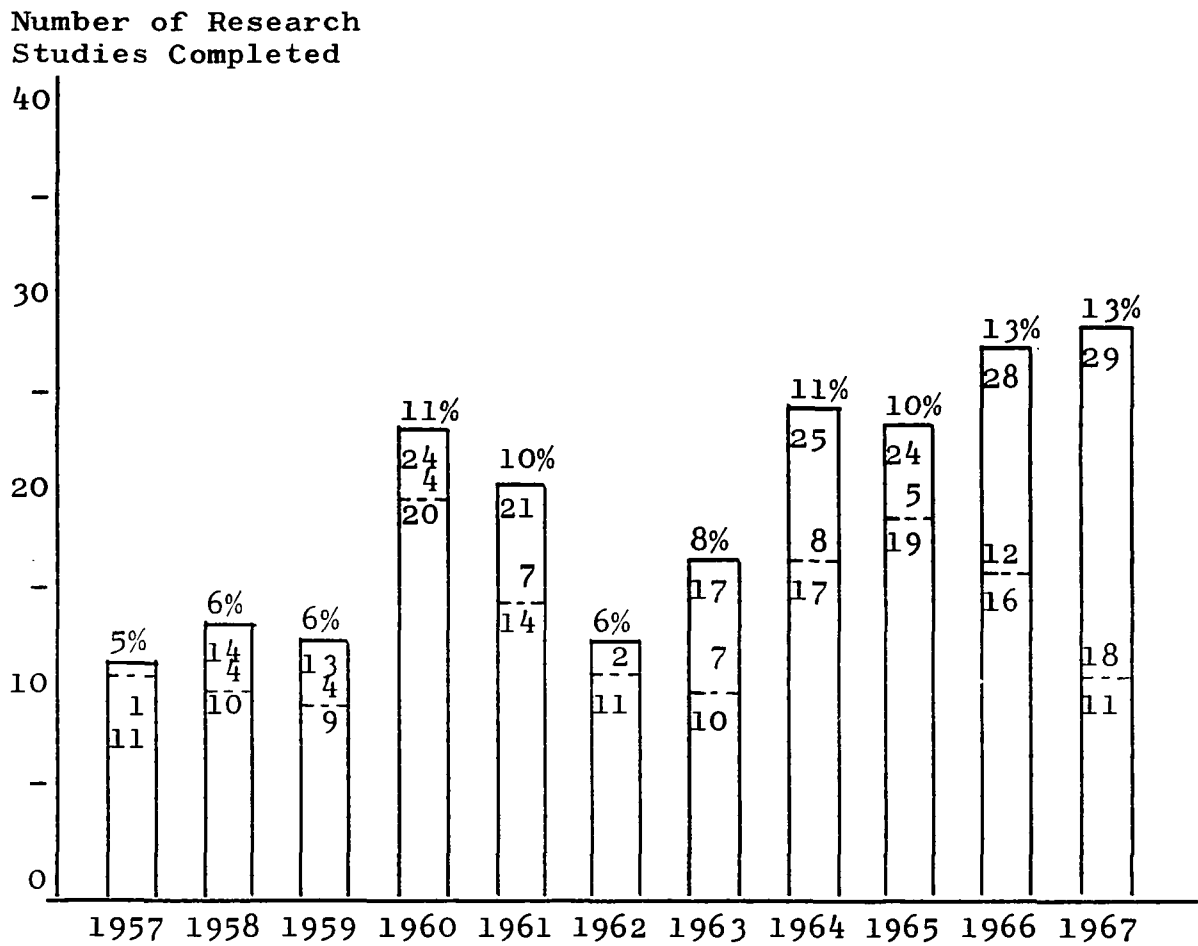


Figure 1.--Number and percent of the 220 research reports completed each year, 1957-1967. The number below the dotted line indicates the number of masters' studies and the number above the line indicates the number of doctoral studies.

Of the 149 masters' studies, the 20 completed in 1960 were the most in any one year. In 1957, 11 of the 12 studies completed were masters' studies. The number of masters' studies completed each year exceeded the number of doctoral studies completed except in 1967 (Figure 1).

Of the 71 doctoral dissertations, the 18 completed in 1967 were the most in any one year. With the exception of 1965, there has been a slight increase in doctoral dissertations since 1964. From 1958 through 1962, the number of doctoral dissertations remained relatively steady except for 1961.

Nature of the Problems Studied

A multitude of problems were investigated in the 220 research studies included in this report. Analysis of the research studies pertaining to shorthand and transcription indicated they dealt with six categories of content:

(a) instructional materials and aids in shorthand and transcription, (b) methods of teaching and standards in shorthand and transcription, (c) achievement in shorthand and transcription, (d) analyses and comparisons of shorthand and transcription, (e) occupational information, and (f) miscellaneous.

Forty-five, or 20.5 percent, of the studies were primarily related to instructional materials and aids in shorthand and transcription; 41, or 18.6 percent, to methods of teaching and standards in shorthand and transcription;

TABLE 1

PROBLEM AREAS IN RESEARCH IN SHORTHAND AND TRANSCRIPTION, 1957-1967

Year	Problem Areas						Number of Studies
	Materials and Aids	Methods and Standards	Achievement	Analysis and Comparisons	Occupational Information	Miscellaneous	
1957	2	2	3	2	2	1	12
1958	2	1	5	4	2	0	14
1959	0	0	5	5	3	0	13
1960	2	8	3	5	4	2	24
1961	5	4	5	4	1	2	21
1962	3	4	1	1	4	0	13
1963	7	1	6	2	1	0	17
1964	9	5	2	9	0	0	25
1965	6	4	6	5	1	2	24
1966	2	6	8	7	2	3	28
1967	7	6	4	7	1	4	29
Total	45	41	48	51	21	14	220
Percent	20.5	18.6	21.8	23.2	9.5	6.4	100.0

48, or 21.8 percent, to achievement in shorthand and transcription; 51, or 23.2 percent, to analyses and comparisons in shorthand and transcription; 21, or 9.5 percent, to occupational information; and 14, or 6.4 percent, to miscellaneous (Table 1).

The Methods of Research Used

The 220 research studies analyzed in this report used four major types of research methods: (a) normative or descriptive survey, (b) construction of tests and instructional materials, (c) historical, and (d) experimental (Table 2).

The normative method was employed in 143, or 65 percent, of the 220 research reports included in this study. This research method was used for a number of purposes such as: (a) to determine the status of the objectives, content of textbooks, instructional methods, and enrollment in shorthand and transcription; (b) to determine the qualifications of teachers, the educational background, and teaching experience; (c) to determine the duties performed by graduates on-the-job, the use made of their high school training in shorthand and transcription and notehand, and additional training received beyond high school; (d) to determine the emphasis placed on selected factors in textbooks and other materials related to shorthand and transcription and the readability of the textbooks used; (e) to determine standards required by businessmen and teachers; (f) to measure achievement in shorthand and transcription; and (g) to secure

TABLE 2
METHODS USED IN RESEARCH STUDIES IN
SHORTHAND AND TRANSCRIPTION
1957-1967

Year	Research Method				Total
	Normative	Construction of Tests/Materials	Historical	Experimental	
1957	9	1	1	1	12
1958	11	1	0	2	14
1959	12	1	0	0	13
1960	18	1	1	4	24
1961	13	1	2	5	21
1962	9	2	0	2	13
1963	8	3	2	4	17
1964	14	6	0	5	25
1965	14	0	0	10	24
1966	20	0	1	7	28
1967	15	4	1	9	29
Total	143	20	8	49	220
Percent	65.0	9.1	3.6	22.3	100.0

recommendations for improving teaching procedures and curricula offerings. These data were frequently gathered through the analysis of literature and textbooks, questionnaires or opinionnaires, check lists, interviews, and tests.

Only 20, or 9.1 percent, of the studies used the research method of construction of tests and materials in shorthand and transcription. This method of research was used for the following: (a) construction of supplementary materials for use in shorthand and transcription, (b) construction of textbooks, (c) construction of shorthand aptitude tests, (d) construction of objective shorthand achievement tests, and (e) construction of programmed materials.

Business educators in general agree that new materials and tests are valuable to any area, but there is less agreement among research authorities that studies involving the construction of materials should be called research. Test or instrument development is more favorably looked upon as research than is the construction of materials. If these materials are constructed and validated then this would constitute research.

The historical method was used the least, with 8, or 3.6 percent, of the researchers employing this method. These 8 studies were conducted in order to trace the development and trends pertaining to shorthand and transcription. Attention was focused on such factors as: (a) nature of the

opinions revealed in the professional literature and research, (b) the history of the male stenographer, and (c) prognosis and evolution in shorthand and transcription.

Of the 220 research studies, 49, or 22.3 percent, employed the experimental method. This method involved control groups and experimental groups and was used to determine: (a) the merits of different teaching methods and shorthand systems, (b) the effectiveness of shorthand and transcription courses, (c) the effectiveness of selected instructional materials and aids, and (d) the effectiveness of various curriculum teaching plans.

Although the normative research method was used frequently in each year, 1966 contained the largest number with 21. The fewest number of times this method was employed was 8 in 1963. The greatest emphasis was placed on construction of tests and materials in 1964 with 6. The research studies employing the historical method were scattered throughout the 11-year period.

Data Collection Techniques and Sources Employed

As is the case in this study, many of the studies employed more than one technique and/or source of data (Table 3).

Data were frequently collected by means of tests, which were employed in 132, or 44 percent, of the 300 uses. Other techniques and the percentage of the total uses were: analysis and review, 71, or 23.7 percent; questionnaire,

TABLE 3

SOURCES OF DATA AND COLLECTION TECHNIQUES IN 220
SHORTHAND AND TRANSCRIPTION RESEARCH REPORTS

Data Collection Technique	Sources of Data								Number of times Source was used	Percent
	Students	Graduates	Business Educators	Businessmen	School Personnel	Educational Records	Literature & Research	Textbooks		
Analysis or Review	..	..	..	..	..	25	20	24	71	23.7
Question- naire	29	10	18	13	2	..	..	..	72	24
Test In- strument	130	1	1	..	..	..	..	..	132	44
Check list	..	1	2	2	1	..	..	..	6	2
Interview	4	4	6	4	1	..	..	..	19	6.3
Total	163	16	27	19	4	25	20	24	300	100.0
Percent	54.3	5.3	9	6.3	1.3	8.3	6.7	8		100.0

72, or 24 percent; interview, 19, or 6.3 percent; and check list, 6, or 2 percent.

The major source of data was students, with 163, or 54.3 percent, of the 300 contacts. Other sources of data and frequency of uses were: literature and research, 20, or 6.7 percent; textbooks, 24, or 8 percent; school personnel, 4, or 1.3 percent; businessmen, 19, or 6.3 percent; test materials, 2, or .7 percent; graduates, 16, or 5.3 percent; business educators, 27, or 9 percent; and educational records, 25, or 8.3 percent. Those techniques and sources of data used for gathering background information were not recorded on Table 3.

General Characteristics of the Research Studies

The purpose of this study was not to evaluate the research that was abstracted. However, the general characteristics of the research studies were noted.

The problem statements were often weak in that they pointed up only the purposes of the studies rather than the specific problems. This was particularly true in the masters' theses. The problem statements did not always indicate the true nature of the studies and, in a few cases, no problem statement was given at all. Frequently, the problem statements were too broad in scope or they failed to cover all phases of the investigation.

The major weakness in the statements of procedures was that often all of the steps taken were not given. Many

times the statements of procedures were scattered throughout the reports and, in a few cases, procedures were indicated in the summary chapters that had not been given previously.

Other weaknesses in the procedures were: failure to control the variables, failure to list clearly all procedures, use of a selected sample rather than a randomly selected sample, use of a sample that was too small, failure to give criteria used for selecting the sources of data, failure to use statistical procedures, and failure to equate the groups being compared.

Although the findings were presented in various chapters dealing with the problem, they frequently were not summarized in the summary chapters or in separate chapters. The findings were frequently presented without making reference to the statistical data used in solving the problems and, in some cases, the findings were not supported by the data presented in the studies.

Many times the conclusions presented in the studies were based on opinions of the researchers rather than on the findings of the studies. Too, the researchers frequently failed to distinguish between the findings and conclusions. In some instances, conclusions and recommendations were excessive in number and content and were unrelated to the findings of the particular study.

Many weaknesses were revealed in the research studies pertaining to shorthand and transcription. But the studies

have made definite contributions to the field and many of the research studies, both masters' and doctors', were of high quality. It is hoped that this analysis and synthesis of the research reports will stimulate new research and, in some small way, help improve future teaching techniques in shorthand and transcription.

Summary

Of the 220 research studies, 29 were completed in 1967, which were the most for any one year included in the study. Furthermore, 1967 was the only year in which there were more doctoral studies completed than masters' studies. There were 149 masters' studies and 71 doctoral dissertations completed during the 11-year period, 1957-1967.

The studies dealt with in this study were classified under six categories. Those six categories and the number of studies in each area are: instructional materials and aids in shorthand and transcription, 45; methods of teaching and standards in shorthand and transcription, 41; achievement in shorthand and transcription, 48; analyses and comparisons in shorthand and transcription, 51; occupational information, 21; and miscellaneous, 14.

Of the 220 research studies, 143 were normative or descriptive surveys; 20, construction of tests and materials; 8, historical; and 49, experimental. Students were by far the most frequent source of data and the test instrument greatly exceeded the other techniques used for collecting data.

CHAPTER III

INSTRUCTIONAL MATERIALS AND AIDS IN SHORTHAND AND TRANSCRIPTION

Of the 220 research studies analyzed, 45, or 20.5 percent, were concerned with instructional materials and aids in shorthand and transcription. The majority of these 45 studies were completed from 1963 through 1967, with 9 being completed in 1964.

Throughout this chapter and the rest of the study the term "significant" is used in reference to a statistically significant difference between two variables.

The research findings are discussed here in terms of:
(a) instructional materials and (b) audio-visual aids.

Instructional Materials

Several studies were completed in which various kinds of materials were developed for use in shorthand (87, 106, 133, 134, 182, 195, 205).^{*} These studies are discussed here in terms of: (a) enrichment materials, (b) "dictaprint,"

^{*}Instead of using footnotes to denote references, a parenthetically-stated expression as (87) was used. This means that the work refers to number 87 in the Sources of Data.

(c) electronic dictation equipment, (d) programmed materials, and (e) tests.

Enrichment Materials

While Sullivan (195) and Moore (134) developed enrichment materials using brief forms and Sewell (182) developed materials applying principles, Kent (106) constructed enrichment materials using both brief forms and principles. The brief forms and principles were incorporated into the materials according to predetermined plans (106, 134, 182, 195). Most of the studies did not evaluate the effectiveness of the materials constructed (106, 182, 195), but Moore's study did (134). Minnick's study (133) was concerned not only with the development and evaluation of materials she constructed, but also the evaluation of the materials constructed by Sullivan (195).

While the students using the enrichment materials performed significantly better in one instance (133), those not using the enrichment materials performed better in another instance (134). Furthermore, Minnick (133) found that the students wrote significantly more accurate brief forms in dictation notes not only upon completion of the enrichment materials but also six weeks later. The students using the materials transcribed brief forms significantly more accurately than students not using the materials on the first test, but did not perform significantly more accurately six weeks later. With regard to accuracy of principles,

there were no significant differences between students having been subjected to the materials and the control group in either accuracy of dictation notes or accuracy of transcription (133).

Henninger (87) developed supplementary materials to be used for preparing Catholic students for future success as Christian workers in the business world. Desired Christian principles were incorporated into the 50 assignments prepared in her study. No attempt was made to test the materials.

Dictaprint

Gonyer's study (68) was done to determine whether "dictaprint" could be used effectively as a speed building device. Two procedures were used for speed building--"dictaprint" dictation practice and oral dictation practice.

"Dictaprint" is prepared with one line of typed material and one blank line. As the student reads the material he copies it into shorthand as rapidly as possible. When the students in Gonyer's study had speed building practice from "dictaprint," their mean improvement for three weeks out of four was significantly higher than when they practiced from oral dictation. When all four weeks were combined, the difference between "dictaprint" and oral dictation was not significant.

Electronic Dictation Equipment

Since 1961 a number of studies have been completed pertaining to the use of electronic dictation equipment in the instruction of shorthand (33, 46, 52, 146, 157, 203, 204). Phillips (157) surveyed colleges and universities of Illinois, Indiana, Michigan, and Wisconsin to determine the percentage of schools using electronic dictation equipment or planning to purchase this type of equipment in the near future. The study revealed that only about 12 percent of the schools surveyed had electronic dictation equipment. Another 25 percent were making plans to purchase the equipment in the near future. Those owning the equipment pointed out the necessity for careful planning with regard to objectives, uses, and funds before shopping for electronic equipment. Each situation is different and certain variables such as use, number of students, and channels will determine the number of tapes needed. Time is needed to develop good material and it is necessary to evaluate this material frequently. Most of the teachers want some commercially-prepared tapes and some teacher-prepared tapes. Those who have electronic dictation equipment do not believe that the equipment is merely a status symbol.

Treibold's study (204) was made with regard to adapting the language laboratory equipment to shorthand instruction. Although the student believed their achievement was satisfactory, they were dissatisfied with the equipment. The

instructor also observed several problems with the booths, headsets, and other equipment which were undesirable for shorthand instruction.

Five studies actually pertained to the use of electronic dictation equipment in experiments with control groups and experimental groups (33, 46, 52, 116, 146). In each study the experimental students used the electronic dictation equipment and the control students did not. In the study by Edwards (52), the students using the electronic dictation equipment achieved significantly better on the dictation tests than those students not using the equipment, and in Palmer's study (146) the experimental students achieved better but the difference was not significant. However, the studies by Dittes (46) and Coleman (33) most definitely indicated a significant difference between the control groups and the experimental groups on the scores on the dictation-transcription tests. The difference was in favor of the control groups or those not using electronic dictation equipment (46, 33). The gain on the theory tests and the gain on the dictation tests made by the control group was not significantly different from the gains made by the experimental group on the theory tests and the dictation tests (46). Lensing's study (116) indicated no significant difference between a group of students receiving "live" dictation and a group of students receiving dictation from taped material.

Despite the fact that in some instances (33, 46, 116) those students using the electronic dictation equipment did not achieve significantly better than those students not using the equipment, there are still certain advantages to the correct use of the equipment. Those teachers who have taught shorthand with the aid of the electronic equipment indicate the following advantages: (a) more time is available to assist individual students (42, 46, 203, 157), (b) specialized dictation can be given (157), and (c) provision can be made for individual differences (157, 52, 46, 203). Furthermore, the use of equipment was favored by the students (146, 46). The students were provided the opportunity to be tested anytime they believed they could pass a 3- or 5-minute dictation test (203).

Toner and Tucker's study (203) was concerned with student achievement, dictation practice speeds, self-set student goals, and analysis of errors. The practice speed used was generally 20 words above the most recently achieved dictation rate on a dictation test and transcribed with 95 percent accuracy. Toner and Tucker concluded that for best results a combination of practice speeds should be used. Of the 105 student goals set, 43, or 41 percent, were achieved. Furthermore, 40 percent of the 35 second-semester students involved in the study passed takes with 95 percent accuracy at 80 words a minute or higher. Only 6 of the 35 did not pass dictation tests at 60 words a minute or higher.

When omissions were excluded, incorrectly written outlines were the most frequent type of error; constituting over 50 percent of all transcription errors.

A majority of the studies involving the use of electronic dictation equipment indicated that electronic equipment should be used in experiments with various teaching methods and techniques in order to determine those which will yield the greater results (33, 46, 52, 146, 157, 204). The next most frequent recommendation was that some of the tapes used should be prepared by the shorthand teachers themselves (33, 46, 52, 157).

Programmed Materials

Since 1962 eleven masters' and doctoral studies have been completed involving the use of programmed materials. These studies have investigated the effectiveness of programmed materials in Notehand (149), adult classes (185), junior college classes (31), review of punctuation (138), homework (213), high school classes (143, 78, 89, 12), and college classes (198, 165). In those studies in which experimental and control groups were used, the experimental students were taught by means of programmed materials and the control students were taught by conventional procedures.

Water's study (213) compared the achievement of two groups of students when the experimental group did homework from programmed materials and the control group did homework the conventional way. Although in some instances the control

group used significantly more time in homework than the experimental group, the experimental group achieved significantly higher gains. A further analysis revealed that a greater difference between control students and experimental students was found in students with one year of high school shorthand training. Those students with two years of high school shorthand training achieved at about the same rate in both groups. The main advantages to programmed homework are: immediate feedback, new words can be presented in programmed material and studied at home, and programmed material helps meet individual differences.

Four studies have been completed using programmed materials in high school beginning shorthand classes (12, 89, 78, 143). While two of the studies did not compare the results of control groups and experimental groups (12, 78), the other two studies did compare groups of students (89, 143). The studies (12, 78) were not as comprehensive as they might have been and the sample was small in one study (12), with 9 students. Two of the studies used programmed materials prepared for publication (12, 78) and the other two studies employed teacher-prepared programmed materials (89, 143). The four studies revealed that shorthand theory can be learned by means of programmed materials (12, 78, 89, 143).

As a general rule, the experimental students achieved higher results on theory tests than the control students (89, 143). On dictation-transcription tests, O'Connell (143) found

that the control students achieved more, while Henson (89) found that the experimental students achieved more on dictation-transcription tests. When students are permitted to progress at their own rate, some will take too long (143) and others will cover more material faster (89). Academically weak students achieve considerable less when using programmed materials than when they use the conventional materials. The research indicates that they were unable to meet minimal standards and the dropout rate between first and second semester was high. Various comments were made on the student questionnaires used in research studies concerning beliefs held about programmed materials. Generally speaking, the comments were favorable to the programmed materials (12, 31, 89, 143, 149, 185, 213).

Clark (31) prepared programmed materials which he then tested at the junior college level. Although the students using his programmed materials performed better on theory tests than those not using his materials, the differences between the groups were not significant. However, the experimental group did perform significantly better than the control group on brief form tests. The experimental group also reached higher dictation rates. Two studies have been completed investigating the effectiveness of programmed materials at the four-year college level. Ricketts' study (165) did not compare two groups of students; whereas, the study by Taylor did (198). Ricketts' study (165) dealt

primarily with the construction and revision of programmed materials. These programmed materials were constructed by three groups of graduate students. Each time the materials were tested an error analysis was made of the results and a revision was made. The final evaluation of the programmed material revealed that students made higher scores on the tests over them than predicted by their teachers. Taylor (198) constructed programmed materials which she then tested at the college level with one control class and two experimental classes. When the two experimental classes were combined, there was no significant difference in final or intermediate shorthand achievement between the control group and the experimental group. However, experimental class two scored significantly higher than the control class on two of the three final achievement measures.

Programmed materials were also tested with adults (185). Dictation speeds at the end of one semester ranged from 40 to 60 words a minute. There was no significant relationship between scores on achievement tests and the amount of time used to cover the materials (185, 198). Shealor's study (185) also indicated that adult students scoring high on tests given the first semester are likely to score high on tests given the second semester.

Several research studies dealt with continued use of programmed materials. Two studies indicated that all shorthand theory could be taught by means of programmed material

(89, 165). The majority of the studies indicated that programmed materials are useful but that more research is needed before relying on them completely (12, 31, 143, 165, 185, 198).

Programmed materials were also investigated by Moyer (138) for their effectiveness in reviewing punctuation in transcription classes. Moyer found that using the programmed material is effective and that valuable class time is freed for other transcription exercises.

Patterson's study (149) was concerned with the teaching of the second half of Notehand theory by means of programmed materials. This allowed class time to be devoted to other worth-while activities. In all classes compared, the students using the programmed materials either learned as much or significantly more than those not using the materials.

Tests

Of the 220 research studies included in this investigation, 9 pertained to the construction of tests (170, 214, 79, 23, 157, 26, 4, 42, 168). Scates (170) constructed three- and five-minute shorthand speed tests to be used in testing selected punctuation rules and spelling words. The punctuation rules most commonly included were the introductory phrases, independent clauses joined by a comma, and parenthetical elements. Since these tests were not validated, it is not known how effective they will be.

Tests for the evaluation of mailable letters were constructed and tested by Watson (214). These materials included

seven rules for commas, one for dashes, two for capitalization, and six for expression of numbers. Both old rules (rules that were reviewed) and new rules (rules presented for the first time) were included. A pre-test and post-test was used to determine the increase in correct responses. Watson's study revealed that the percentage of correct responses increased from the pre-test to the post-test on 14 of the 20 new rules and 8 of the 15 old rules. Four of the rules decreased in correct responses from the pre-test to the post-test for both old and new rules.

Hammond's study (79) compared student achievement using oral and printed dictation. The printed dictation known as "dictaplate" was prepared in double spaced typed material with writing lines left between the typed lines. On three of four tests, those students using "dictaplate" made significantly higher scores than those students receiving oral dictation.

Box (23), Phillips (158), and Calder (26) all completed research studies pertaining to the use of objective tests for measuring student achievement in shorthand. The three studies revealed that student achievement in shorthand can be measured effectively by means of objective tests (23, 26, 158). However, there was no significant difference between the scores students made on the objective tests and the scores they made on the verbatim tests (23). Two studies reported that the objective tests take less teacher

and student time (26, 158), while the other study reported that the objective tests were too time consuming (23). The time factor may have been caused by the fact that one transcription test (26) omitted 20 percent of the transcription; whereas, the other transcription test (23) omitted approximately 60 percent of the transcription. A unique feature of the test constructed in the study by Phillips (158) was that the test included multiple-choice and alternate-response and was machine scorable.

In addition to the objective transcription test, the Calder study (26) constructed and evaluated objective tests for testing brief forms, theory, punctuation, and spelling. Calder (26) concluded that a student's shorthand ability in brief forms, theory, punctuation, and spelling can be measured effectively by means of these objective tests. A study by Dallman (42) indicated that, at least, part of the time shorthand achievement can be measured as effectively by three-minute tests as by five-minute tests.

Allyn (4) constructed and evaluated a test battery containing six subtests including phonetic spelling, reading shorthand, writing phonetics, writing shorthand, writing speed, and spelling. The findings of Allyn's study revealed that the test battery will measure the ability of high school students more effectively than junior college students. The test battery was also more effective at the high school level after one semester of shorthand instruction

than at the end of two semesters of instruction. The test battery may also be used in counseling with those students who are having difficulty in shorthand.

The standardized test developed by Ripka (168) was designed to measure the stenographic skills of students at the end of their high school senior year. The students were dictated six letters and asked to transcribe three letters that totaled 440 standard words. Items checked in scoring the transcripts were: spelling errors, punctuation, incorrectly transcribed words or omitted words, word divisions, poor erasures, poor letter placements, margins, neatness, and letter styles. The reliability coefficient of .82 indicated that the test may be used for measuring group accomplishment but should not be used for measuring individual achievement.

Audio-Visual Aids

Of the 220 research studies, 7 pertained primarily to audio-visual aids used by shorthand teachers (1, 56, 69, 101, 10, 142, 63). Four of these studies (1, 56, 69, 101) pertained to audio-visual aids in general and the other three studies pertained to a specific audio-visual aid. The research findings are discussed here in terms of: (a) tachistoscope, (b) Skill-BUILDER, (c) stenoscrypt filmstrips, and (d) general teaching aids.

Tachistoscope

The study completed by Barber (10) was concerned with the effectiveness of the tachistoscope in beginning college shorthand. The study indicated that although the group using the tachistoscope could read brief forms, phrases, and context materials more rapidly than those students not using the device, they also made significantly more errors on all tests. The transcription speed of the experimental students was significantly higher than the control students, but the control group was far superior in transcription accuracy. Barber (10) recommended that other studies be done to determine the effectiveness of the tachistoscope at all levels of shorthand learning and also its effectiveness when used with low or high ability students.

Skill-Builder

The effectiveness of the Skill-Builder in beginning shorthand was investigated by Nixdorf (142). In the early stages of this experiment the group not using the Skill-Builder performed better. As the material became increasingly more difficult, the students using the Skill-Builder showed more improvement than the students not using the equipment. By the end of the second semester, the group using the Skill-Builder scored 25 percent higher on the 5-minute dictation tests than the control group. If either the Controlled-Reader or the Skill-Builder is going to be

used in the shorthand classroom, they should be set up prior to class time and the teacher should be familiar with the operation of the machine.

Stenoscript Filmstrips

Filmstrips were developed by Freeman (63) for the use in Stenoscript Shorthand. Although these filmstrips were used in stenoscrypt classes and believed to be beneficial, they were not statistically tested in order to determine if significantly higher results could be achieved with these filmstrips. Further research is needed before the total effectiveness of these filmstrips can be determined.

General Teaching Aids

Abdullah (1), Fahler (56), Gregory (69), and Jones (101) completed studies to determine those audio-visual aids that can be used most effectively in the teaching of shorthand. The most common aids mentioned were the chalkboard and the bulletin board (56, 69, 19, 101, 1). Other aids suggested for use included the flannel board, posters, cartoons, and charts (69, 19, 56, 1); radio and television (101); and dictaprint (1). Records, tapes, opaque projectors, overhead projectors, and motion pictures can also be used effectively in the teaching of shorthand (69, 56, 19, 1, 101). The percentage of teachers using popular audio-visual aids such as the record player, tape recorder, wall chart, and voice writing machine increased considerably from 1953-1958 (121).

Although there are many good audio-visual aids that can add to the effectiveness of instruction, the teacher is still the most important factor in the shorthand classroom (1, 101). Four studies generally agreed that audio-visual aids must be selected to fit each individual situation and that these aids must be used with discretion. Furthermore, careful planning and preparation should precede the use of audio-visual aids (1, 56, 69, 101). Two studies further pointed out that these audio-visual aids are to be used as tools to make the shorthand class more meaningful and not to replace the teacher (56, 1).

Several recommendations were made in the research studies. The main idea behind the recommendations was that shorthand teachers should be aware of the advantages and disadvantages of audio-visual aids. Each classroom presentation using audio-visual materials should be evaluated by both the teacher and students (69). A good rule to remember for using audio-visual aids is to make use of the more simple ones before trying to use the more complex (1, 69).

Implications

Several research studies were completed in which enrichment materials were developed incorporating brief forms and principles according to predetermined plans. Some of these materials were tested for validity and some of the materials were not tested. The materials will need to be validated before their effectiveness will be known.

Research studies indicate that objective tests may be used effectively for measuring shorthand achievement. Generally, objective tests save both student and teacher time. The use of objective tests can provide the teacher with more time to prepare materials and assist individual students who are having difficulty.

Audio-visual aids may be used to vary the daily class routine and to improve the effectiveness of the shorthand instruction. However, audio-visual aids are tools to be used by the teacher and are not to replace the teacher. Careful selection, planning, and preparation of these materials should precede their use in the classroom.

Through the use of programmed materials and electronic dictation equipment, it may be possible for one teacher to supervise larger shorthand classes or perhaps more than one shorthand class at a time. Programmed material and electronic dictation equipment may also make it possible to meet individual differences of the students more effectively and for students to take shorthand who may not otherwise be able to take the course. Since the academically weak students do not seem to do as well when using programmed materials and electronic equipment, it may be necessary to do more testing and sectioning of students. Through the use of programmed materials, correspondence courses in beginning shorthand may be feasible. Programmed materials and electronic dictation equipment may also be used to provide for review and remedial work in shorthand.

Research reveals that specific aids such as the Skill-BUILDER, tach. stoscope, and filmstrips for Stenoscript can be used effectively in shorthand classes. Since these aids have not been tested at all shorthand learning levels, other studies are needed to determine the levels of shorthand learning at which the tachistoscope and Skill-BUILDER are most effective and the terminal achievement of students in classes where these aids have been used.

CHAPTER IV

METHODS OF TEACHING AND STANDARDS
IN SHORTHAND AND TRANSCRIPTION

During the 11-year period covered by this investigation, a considerable amount of research was devoted to the area of teaching methods and standards in shorthand and transcription. A total of 41, or 18.6 percent, of the 220 research studies included in this investigation pertained to methods and standards in shorthand and transcription. The largest number of studies completed in any one year was 8 in 1960. Over 50 percent of the studies in this problem area were completed during the last four years, 1964-1967.

The word "method" was used to denote (a) the organized or set procedures used in teaching shorthand (the manual method and the functional method), (b) the different practices and procedures used in teaching shorthand and transcription, such as those used in building dictation speed, (c) a given edition (Simplified or Diamond Jubilee of Gregg Shorthand), and (d) different techniques of scoring transcription papers. In this study, the word "method" was used to denote the overall process of teaching shorthand and transcription.

The research findings pertaining to methods of teaching and standards in shorthand and transcription are presented here in terms of: (a) general aspects, (b) practices and procedures, (c) specific techniques employed, and (d) standards.

General Aspects

Three of the 220 research studies pertained to general aspects in teaching shorthand and transcription (19, 44, 74). The findings of these three studies are presented under the following: (a) psychological principles, (b) motivation, and (c) teacher role.

Psychological Principles

The study by Dickinson (44) pertained to psychological views concerning practice and practice conditions in shorthand. Leslie's¹ 20 principles were divided into theoretically-based principles, functionally-based principles, and commentary principles and were compared to those psychological views expressed in psychological literature. Of Leslie's 20 principles, 10 were in substantial agreement with psychological views, 3 were in substantial disagreement with psychological views, and 7 had no basis in the psychological literature that Dickinson reviewed.

¹Louis A. Leslie, Methods of Teaching Gregg Shorthand (New York: Gregg Publishing Division, McGraw-Hill Book Company, Inc., 1953), pp. 417-423.

Motivation

The study by Bollinger (19) was the only study of the 220 research studies that pertained primarily to motivation. From the materials researched, he formulated 10 principles that pertain to motivation in shorthand. Those 10 principles are: (1) motivation should appeal to all the senses; (2) the student must be aware of the goals and objectives that are to be achieved; (3) positive motivation is more effective than negative motivation; (4) a motivation device should provide for individual differences of intelligence and maturation; (5) a variety of motivation devices should be employed; (6) the teacher is the key factor in making motivation work; (7) intrinsic motivation is more permanently effective than extrinsic motivation; (8) motivation should stimulate and provide for independent learning; (9) motivation is aided by the use of proper equipment, supplies, and teaching aids; and (10) motivation devices must be easy to administer.

Teacher Role

Gust (74) in his study pointed out the role of the teacher in shorthand speed development. Dictation should be given clearly, accurately, with confidence, and in thought units. The teacher must be enthusiastic but not show too much expression or emotion. Learning takes place best in a relaxed atmosphere.

Practices and Procedures

Nine studies were completed that contained practices and procedures used in the total shorthand learning process (28, 72, 74, 145, 173, 174, 176, 196, 179). The practices and procedures are discussed here in terms of: (a) writing, (b) presenting theory, (c) brief forms and phrases, (d) homework, (e) repetition, (f) dictation material, (g) previewing, (h) speed building plans, (i) testing, (j) transcription, (k) office-style dictation, and (l) miscellaneous.

Writing

When to introduce writing is discussed extensively, with little agreement on when writing should be introduced (196). Although shorthand teachers seem to disagree on whether to stress penmanship, a majority favor penmanship not being stressed (74, 196). The stressing of penmanship causes loss of speed. Once the writing style of a student is established, it should not be changed or altered. Fluency should be stressed instead of accuracy. Students should be taught to write something down for every word. Furthermore, the writing position and pen-pinching will hinder writing, but left handedness will not. Students should be forced to write at speeds beyond their normal writing rates (74).

Presenting Theory

While a majority of teachers favor the reading approach, some teachers believe that whole words should be

read rather than spelling and reading individual words. Furthermore, short sentences should be read rather than isolated words (196). Other teachers indicated that the spelling of unfamiliar words is beneficial (173). The chalkboard should be used extensively and words should be written on the board rapidly and fluently by the teacher (176, 196). A majority of the teachers favor "no rules" being taught (196). Other techniques employed were demonstrating ease of shorthand compared to longhand, importance of proportion, and the correct direction of strokes (176). Carlson (28) indicated that 86 percent of the teachers surveyed in her study review theory in Shorthand II.

Brief Forms and Phrases

While most authorities believe that brief forms should be automatized (28, 196), very few comments were made concerning phrases (74, 196). Some teachers believe that phrases are beneficial for speed development (74, 176). Brief forms are reviewed during Shorthand II by 95 percent of the teachers surveyed in Carlson's study (28).

Homework

Homework is essential to success in shorthand and should be done with complete concentration. Reading improves the quality of written outlines and the homework should be read at least once before writing the lesson (74, 196). If possible, each lesson may be read two or three times before

writing the lesson (196). Sixty-eight percent of the teachers responding to one survey required homework copied once and 56 percent required the homework read in class for a grade (28). Some teachers indicated that students should read extensively from their notes (173, 176). Other teachers indicated that this practice should be held to a minimum (74). Tapes and records should be used for practice outside-of-class (28, 196). There were 26 different variations reported in homework assignments (29).

Repetition

Gust's study (74) indicated that purposeful repetition will increase shorthand speed; however, excessive amounts of repetition can be harmful to shorthand speed. Students should know why the material is being repeated. Words and phrases can be automatized through repetition, and the material used for repetition should be short and easy (74). Repetition of brief forms should be rapid, random, unaided, and concerted (196).

Dictation Material

Four research studies indicated that some easy and some familiar material should be given for building speed (74, 145, 173, 176). Since long takes seldom result in a speed increase, speed building takes should be short, usually 1-3 minutes. Large quantities of dictation should be given and most or all of the dictation should be

previewed (74, 176). Five to ten word increases are better than twenty word increases for building speed. During each class period, some dictation should be given at speeds that will challenge all students and some dictation should be given at speeds that all students can achieve (74). Approximately 65 percent of the teachers surveyed by Mrachek (139) began dictation between the third and sixth weeks of school.

Previewing

Previewing is beneficial and should be continued throughout the speed building process. Fluency and accuracy are built by previewing (28, 74, 179). Each preview should consist of approximately ten words for each 100 words in the dictation material (17). The study by Mrachek (139) indicated that new-matter dictation was frequently previewed in both first- and second-semester shorthand.

Speed Building Plans

Common speed building plans include the Pyramid Plan (74, 173, 176), the One-Minute Plan (74, 121, 176), and the Minute-Step Plan (74). Shortcuts can be beneficial but must be automatized. Otherwise, shortcuts are a hinderance to shorthand speed. Automatization will result from meaningful repetition; however, too much repetition can be harmful to shorthand speed (74). Other techniques suggested included the use of tapes and records, taking notes for other classes,

taking notes from radio and television, and a postview of difficult words (176).

Abdullah's study (1) indicated that the following devices are necessary for building shorthand speed: desire of the student; good working habits; word carrying ability; automatization of brief forms, phrases, and high frequency words; ability to construct new words under pressure; and speed forcing drills. His study further indicated that grammar, spelling, and punctuation cause more difficulty than building speed in shorthand.

Testing

Most of the teachers surveyed in two studies believed that some type of tests should be given. Transcription tests generally were timed and written in longhand in first-year shorthand (28, 196). Typewriters were provided for second-year shorthand students in 91 percent of the schools (28). Harder's study (81) indicated that 74.3 percent of the students transcribe on the typewriter in first-year shorthand. Brief form and theory tests should be given, but the method of administering them was not agreed upon (28, 196). The study by Gust (74) indicated that dictation-transcription tests should be given over new-matter material.

Carlson's study (28) revealed that, of those teachers surveyed, 44 percent test over theory and brief forms each grading period. Almost 65 percent give weekly transcription tests and 61 percent give weekly dictation tests. Harder's

study (81) indicated that of the teachers surveyed, theory tests are given during the first semester by 67.1 percent and during the second semester by 52.7 percent. Brief form tests are given during the first semester by 98.6 percent of the teachers and during the second semester by over 65 percent.

Transcription

The main objective of transcription is to develop correct techniques, but few teachers agree on how this objective should be accomplished (145). The study by Sellers (179) indicated that transcription should be taught from the simple to the complex. A majority of the teachers taught proofreading by having the students check their work as the material is read by the teacher. Practice is given in spelling of difficult words, and punctuation rules are reviewed by having the students insert the punctuation as the students read from their dictation notes (173, 179). Transcription was begun as early as the first-fifth weeks of school in 5 schools; 15 schools, sixth-tenth weeks; 11 schools, eleventh-fifteenth weeks; and 21 schools postponed transcription until the second semester (139).

Office-Style Dictation

The value of office-style dictation is debated extensively. Some teachers believe that office-style dictation is beneficial and other teachers believe that it is not; no

consensus was reached (145). One study (28) indicated that office-style dictation is used by 94 percent of the teachers surveyed, while another study (121) indicated that office-style dictation is used by 68.1 percent of the teachers surveyed.

Miscellaneous

Calland's study (27) was concerned with those principles used in the teaching of shorthand and transcription that have been substantiated by research. His study found five principles proposed by methods textbooks which have been substantiated by research, two that are substantiated by research but not included in methods textbooks, and seven that are proposed in methods textbooks which research has not validated. Those principles proposed by methods textbooks which have been validated by research are: (a) read and write contextual material extensively, (b) read for several lessons prior to writing, (c) present words in context immediately after presenting them in word lists, (d) teach rules as generalizations rather than for memorization, and (e) emphasize many things in transcription other than rapid typewriting speed. Those principles substantiated by research which are not included in methods textbooks are: (a) increase reading rate and transcription speed with the tachistoscope, and (b) reading shorthand plates marked in thought units. Those principles proposed in methods textbooks which have not been validated by research are: (a) use of mnemonics in the early

shorthand days; (b) use of word lists for extensive writing; (c) use of wall charts, bulletin board displays, and brief form lists; (d) use of the preview and postview; (e) use of word carrying drills; (f) use of tapes, records, and multi-channel units; and (g) introduction of writing, new-matter dictation, and typewriter transcription at the recommended times.

Gunderson's study (73) was an analysis of ten different methods of teaching shorthand. Those methods investigated were: Traditional Method; Analytical Method; Barnhart's Direct Association Method; Sentence Method of Beers and Scott; Chart Method of Skene, Lomax, and Walsh; Direct Method of Brewington and Soutler; Sentence Method of Zinman, Sterlsin, and Weitz; Leslie's Functional Method; Direct Approach Method of Odell, Rowe, and Stuart; and Notehand. Although some of the methods are sound, such as Frick's Analytical Method, they are too difficult for teachers to learn to use effectively. Each method has inherent psychological advantages and disadvantages, and a combination of methods may best be used to fit each teaching situation. Little agreement concerning principles of learning shorthand was found among the methods studied.

Gryder's study (72) pertained to agreement and disagreement on 43 selected issues in typewritten transcription. His study involved a survey of 273 high school teachers, college methods teachers, business education supervisors,

and transcription textbook authors. Of the 43 issues studied, all four groups of individuals agreed on the following: (a) if only one year of shorthand is offered in the twelfth grade and (b) oral pretranscription training included in shorthand theory tests is justified in a two-year stenographic curriculum.

Specific Techniques Employed

Eighteen studies were completed that experimented with various teaching techniques for use in teaching shorthand (126, 92, 181, 174, 21, 135, 129, 9, 187, 70, 22, 202, 193, 38, 17, 94, 172, 153). The findings of these eighteen research studies are discussed here in terms of: (a) doubling of time to present theory, (b) thought units, (c) audio versus audio-visual stimuli, (d) closed-circuit television, (e) fast-to-slow dictation, (f) reading approach versus writing approach, (g) immediate versus delayed response, (h) integration of shorthand with other subjects, (i) early introduction of new-mater dictation, (j) micromolar theory, (k) comparison of three teaching methods, and (l) scoring methods.

Doubling of Time to Present Theory

The study by Manwaring (126) revealed that those students spending two days on each theory lesson did not achieve significantly higher results than those students spending only one day on each theory lesson. Her study further pointed

out that academically weak students are likely to have difficulty in shorthand taught by any method.

Thought Units

The study by Lipovac (178) indicated that students using textbooks marked off in thought units did show slightly more progress in reading, accuracy of writing individual vocabulary words, and transcription speed. However, transcription rates from textbook plates were slightly lower. Thought units were more beneficial for academically high students than for academically low students.

Audio Versus Audio-Visual Stimuli

In a study by Hanson (80), the control group did homework from the textbook only; and the experimental group used open textbooks and taped dictation for homework practice. His study did not conclude that either procedure of doing homework was superior to the other. However, after 45 hours of instruction, the experimental group was higher in achievement on transcription of new-matter dictation. The difference was not significant. Furthermore, the number of students passing 3-minute dictation tests with 95 percent accuracy favored the experimental group.

Closed-Circuit Television

Houtz (94) experimented with teaching an alphabetic system of shorthand by means of closed-circuit television. His study indicated that 70 words a minute can be achieved

in one week with no mistakes on the transcripts. Special aids should be used in teaching by television in order to add variety to the class. Detailed lesson plans are imperative in television teaching. Drilling on words written on the chalkboard was considered by the students as the best visual aid. The class was equally divided with regard to what they believed had been learned. The majority favored television instruction with a good instructor over classroom instruction with a poor instructor. The class was made up primarily of shorthand teachers and, therefore, broad generalizations should not be made about the findings of this study.

Fast-to-Slow Dictation

In a study by Pawelski (150), a group of control students who were given dictation practice from slow-to-fast were compared with the achievement of a group of experimental students who were given dictation practice from fast-to-slow. Although the differences between the groups were small, a slight difference favored those students receiving dictation from slow-to-fast. The procedure of giving dictation from fast-to-slow may be worth-while as a change of pace. The use of this technique needs to be studied over a longer period of time.

Reading Approach Versus Writing Approach

Studies pertaining to this topic were completed by Holderness (92), Settle (181), and Schloemer (174). While no significant difference was found between the two approaches for teaching shorthand in two studies (92, 174), one study (181) revealed a significant difference between the two groups at all dictation levels. The difference was in favor of the reading approach. Although the studies by Holderness (92) and Schloemer (174) revealed no significant differences between the two groups, those students taught by the writing approach wrote more accurate shorthand outlines. The students taught by the reading approach, however, made fewer transcription errors (174). Settle's study (181) further indicated that academically high students achieved better by means of the reading approach; whereas, the academically low students did equally as well using either approach. A study by MacRae (121) revealed an increase in the use of the writing approach.

Immediate Versus Delayed Response

In the study by Bose (21), students who were given immediate knowledge of correct response (experimental group) were compared with students who were given delayed knowledge of correct response (control group) concerning initial learning and retention of selected related learnings in college transcription classes. The difference between the means of the post-test scores was not significant. The group given

delayed knowledge of correct response was slightly higher in mean scores for the advanced transcription students. Elementary transcription classes showed no significant difference between the experimental and control classes on mean quiz scores; whereas, the advanced transcription classes did show a significant difference in favor of the group receiving delayed knowledge of correct response.

Integration of Shorthand with Other Subjects

A study by Mordy (135) was completed to determine the affect on transcription speed when typewriting is taught by means of shorthand outlines. Her study indicated that the group who learned typewriting from shorthand outlines was slightly faster in transcription than those students learning to typewrite by the traditional manner. There was very little difference between the accuracy of the two groups. The experimental group was also slightly better in accuracy of recording shorthand and typewriting speed. However, none of the differences between the two groups were significant.

Early Introduction of New-Matter Dictation

Studies by Persing (153), McKenna (129), and Baird (9) were completed to determine the affect of early introduction of new-matter dictation on shorthand achievement. The findings of each of the three studies revealed that early introduction of new-matter material does not result in an increased ability to take and accurately transcribe dictation

of new-matter material. The early introduction of new-matter material does not retard students' ability to successfully transcribe new-matter dictation. The study by Persing (153) revealed that there is no basis for delaying new-matter dictation.

Micromolar Theory

Studies were completed by Sloan (187), Grippe (70), and Boss (22) concerning the use of the micromolar theory in shorthand. Two of the studies indicated that the constant dictation speed of 100 words a minute is too high for the average student (22, 70). However, Boss (22) grouped the students according to high, medium, and low ability and found that the high ability student can achieve results in shorthand using either method. The medium and low ability students achieved significantly better through the conventional method of receiving dictation. Boss inferred from his study that had the experiment been carried out for a longer period of time the experimental group might have equaled or surpassed the control group. This inference was drawn because the experimental group continued to show gains, whereas the control group did not. Grippe's study (70) indicated that the conventional method achieved slightly higher points in transcription, but the micromolar method achieved slightly higher reading rates. Sloan (187) found the conventional method of giving dictation superior to the micromolar theory

on three of four interim tests. However, on the final tests neither dictation method was superior.

A common recommendation was that, if the micromolar theory is to be successful in shorthand, further research is needed to determine the prime speed at which dictation should be given (22, 70, 187). Also, research is needed to determine the optimum length of shorthand course needed when the micromolar theory is employed (70).

Comparisons of Three Teaching Methods

Tingey (202), Stoddard (193), and Crandall (38) completed studies in which three methods of teaching shorthand were compared. The three methods compared in the study by Tingey (202) were: (a) the traditional method, with "Dictaprint" used for homework; (b) a 30-minute core tape was used, with "Dictaprint" used for homework; and (c) the entire period was taped, no teacher instruction was given, and "Dictaprint" was used for homework. This study revealed that there was no significant differences in the progress of the students in regard to speed and errors. In other words, none of the methods were significantly superior to the other.

Stoddard (193) compared the following methods of teaching shorthand: (a) Dictation Group--"live" dictation was given and transcription was done in longhand; (b) Dictation-Transcription Group--dictation was "live" and transcription was done on the typewriter; and (c) Recorded-

Instruction Group--all instruction was given by means of pre-recorded tapes. Students with two years of high school shorthand training performed better in the Dictation Group and the Recorded-Instruction Group. The Dictation-Transcription Group method was equally as effective for all students. Although students with two years of high school training in shorthand performed significantly better than students with only one year of high school shorthand training, no significant differences were found in achievement of students among the three methods. The students' opinions were favorable to all three methods, but the students in the Dictation-Transcription Group believed that they did not receive adequate attention from their teacher. The teachers believed that the Dictation-Transcription method provided the best learning experience for the students.

Crandall's study (38) compared the following methods of teaching shorthand: (a) one class was taught as directed by the Teacher's Handbook which accompanies the text; (b) a second class was taught using two shorthand notebooks, as a medium for introducing new material, prepared by the instructor; (c) a third class was taught by means of magnetic tapes recorded during the second class; and (d) a fourth class was taught using the tapes and, after the tenth lesson, the teacher only attended the class on test days. His study revealed no significant differences in the transcription achievement of the four groups of students.

Scoring Methods

Three methods of scoring transcription tests were compared in the study by Blumhagen (17). The three methods compared were: (a) mailable-letter method described in the Gregg Test and Awards Booklet,¹ (b) the Thomas scoring method,² and (c) the corrected-copy scoring method.³ Of the 130 letters scored, 66 were unmailable when scored by the mailable-copy method and 18 were disqualified by the Thomas scoring method. In all of the above cases, the errors could have been corrected and, therefore, would have been scorable. Since the corrected-copy method provides a single score, this score can be converted into a letter grade more easily.

Standards

Several research studies were completed that were devoted primarily to shorthand standards and several other research studies contained information pertaining to standards in shorthand. The findings of these studies are

¹Florence Elaine Ulrich (ed.), Gregg Tests and Awards (Chicago: Gregg Publishing Division, McGraw-Hill Book Company, Inc.), p. 9.

²Archie Carithers Thomas, "The Development of a Criterion for the Measurement of Shorthand Transcription Production" (unpublished Doctor's dissertation, Oklahoma State University, 1951), p. 124.

³Katherine S. Humphrey, An Unpublished Study, conducted at Iowa State Teachers College, Cedar Falls, 1956.

discussed here in terms of: (a) theory, (b) brief forms, (c) reading rates, (d) dictation, (e) transcription, and (f) final grade.

Theory

The study by Taylor (199) was the only study to indicate a standard for theory and only a minimum standard was suggested. The minimum requirement in first-year shorthand suggested in her study was 75.

Brief Forms

The study by Bellucci (15) was the only study to indicate standards for brief form tests. Her study indicated that the scores made on brief form tests were determined by the mean number of errors. The mean number of errors on brief form tests may be expected to increase as the memory load for the students increases.

Reading Rates

The study by Ehley (53) was the only study to indicate requirements for reading shorthand plates. Textbook reading rates most frequently required ranged from 80 to 100 words a minute for first-year shorthand and from 140 to 200 words a minute for second-year shorthand.

Dictation

Dictation standards are still discussed extensively. MacRae's study (121) indicates that a definite grading

standard was not always used in shorthand. In situations where standards were required (15, 81, 121, 199), 60 words a minute on new-matter material was considered a minimum shorthand recording speed for first-year shorthand. Standards frequently required for second-year shorthand ranged from 80 to 120 words a minute, with 80 percent considering 100 words a minute or higher to be adequate (28, 121). Although 60 words a minute was a minimum requirement for first-year shorthand, this rate of recording shorthand dictation was not considered adequate for employment (81). MacRae's study (121) revealed that a minimum recording speed of 80 words a minute was considered necessary for employment, and the teachers responding to his survey believed that only 25 percent of the students would achieve this goal in one year of shorthand instruction. The same teachers believed that most of the second-year students would achieve 80 words a minute.

In Oklahoma, Kansas, Missouri, and Arkansas, first-year standards ranged from 60 to 80 words a minute with the large schools in Arkansas and Missouri requiring 80 to 100 words a minute. For an "A" grade in second-year shorthand, requirements were 80 to 100 words a minute on 5-minute takes except for Kansas. Three dictation takes must be passed for a given grade (29).

In some instances, dictation standards were stated on practiced material. The most frequently required standards

on practiced material were 60 to 100 words a minute in first-year shorthand and 80 to 120 words a minute in second-year shorthand (53).

The length of dictation seemed to range from 3-to 5-minutes for testing (29, 53, 81, 121, 179). Three-minute tests are gaining ground (121, 179), but 5-minute tests are still preferred for award certificates (179).

Transcription

Various transcription standards were discussed in the research studies investigated. Transcription requirements were stated in terms of length of time allowed for transcription (81), words a minute (121, 173), a recommended mean number of errors (15), and a fraction of typewriting speed (179). The accuracy percentage required for passing was usually 95 percent or higher (15, 53, 81, 179, 199). Harder's study (81) indicated that accuracy requirements in transcription ranged from 70 to 100 percent; whereas, Carpenter's study (29) revealed that small schools required from 86 to 100 percent and large schools required from 96 to 100 percent accuracy in transcription.

A desirable transcription rate in first-year shorthand ranged up to 25 words a minute in two studies (53, 121), while the majority of teachers surveyed in Schlegel's study (173) indicated 20 to 25 words a minute as a desirable transcription rate in first-year shorthand. Carlson's study (28) reported that nearly 70 percent of the teachers surveyed considered

15 to 25 words a minute to be an average transcription speed in first-year shorthand. Schools in Arkansas most frequently required 21 to 25 words a minute in first-year shorthand, whereas schools in Oklahoma, Kansas, and Missouri required 15 to 20 words a minute. Transcription requirements varied considerably for second-year shorthand. Second-year transcription requirements ranged from 20 to 50 words a minute (29). When the transcription rate was determined using the typewriting speed, the rate was $3/4$ or $2/3$ of the straight-copy typewriting rate (179). The mean number of errors approach indicated that as the memory load increases the mean number of errors made in transcription may also increase (15).

Mailable-copy in transcribing was required by more than 65 percent of those teachers responding to Harder's study (81). Since it is very difficult to define what is meant by the term "mailable," mailable-copy requirements vary considerably (179). In some cases, mailable-copy was required after three weeks of transcription (28).

Of those teachers responding to one survey (173), 72 percent require one carbon copy to be typed when transcribing. However, only 40 percent in another survey require a carbon copy (28). In some instances, two carbon copies were required (173). Envelopes were required by 43 percent in one survey (173), whereas another survey reported that only 22 percent required envelopes part of the time (28).

Final Grade

The study by Carpenter (29) was the only one to reveal information pertaining to final grades in shorthand. Her study indicated that the most common practice for schools in Oklahoma, Kansas, and Missouri is to base 50 percent of the final grade in Shorthand I on transcription. Only 25 percent of the final grade is based on transcription in Arkansas schools. For second-year shorthand, Oklahoma schools base 100 percent of the final grade on transcription, while Kansas and Missouri base only 50 percent of the final grade on transcription. Arkansas schools base 75 percent of the final grade in second-year shorthand on transcription. Carpenter's study revealed that 56 percent of the teachers she surveyed gave a "B" grade to students who did not meet minimum requirements.

Implications

Research indicates that only ten of Leslie's twenty principles are in agreement with psychological views found in the psychological literature. Perhaps these principles and other principles followed in the teaching of shorthand should be investigated further.

Various practices and procedures were discussed in some of the research investigated. However, inadequate information was available to indicate a trend or consensus concerning all practices and procedures discussed. The

following practices and procedures were indicated in two or more studies: stressing of penmanship causes loss of speed; when presenting theory, the teacher should write words on the chalkboard rapidly and fluently; brief forms should be automatized; phrases are beneficial for speed development; homework should be read at least once before writing the lesson; tapes and records should be used for outside-of-class practice; large quantities of dictation should be given; dictation should be previewed to build fluency and accuracy; the Pyramid Plan and One-Minute Plan are used most frequently for building speed; and punctuation should be reviewed by inserting the punctuation as the students read from their dictation notes.

Research reveals that of the practices and procedures proposed for use by methods textbooks, five are substantiated by research and seven are not. Authors of shorthand methods textbooks should perhaps consult research when revising shorthand methods textbooks.

Doubling the length of time spent on each theory lesson does not result in a significantly higher achievement in shorthand. Therefore, only one day should be spent on each theory lesson.

Shorthand textbooks marked in thought units improves reading, accuracy of writing vocabulary words, and transcription speed. High ability students benefit more from this practice than low ability students.

Research reveals advantages to both the reading and writing approaches for teaching shorthand. Each teacher may need to experiment in order to determine the approach that works best for him. There is an increase in the use of the writing approach.

The constant dictation speed of 100 words a minute in the micromolar theory seems to be too high for the average student. If the micromolar theory is to be successful in shorthand, the dictation rate will need to be lowered or students will need to be grouped according to ability.

There is very little difference in shorthand achievement of students regardless of the method used in teaching the class. Apparently, other factors are involved in shorthand achievement that are more important than the method used in teaching the course.

Standards in theory, brief forms, and reading are not frequently given. A minimum dictation speed of 60 words a minute is frequently required in first-year shorthand and 100 words a minute or higher is considered adequate for second-year shorthand. Although 5-minute tests are preferred for awards, the 3-minute tests are gaining ground for testing purposes. Transcription accuracy requirements range from 70 to 100 percent with 95 percent or higher being required most frequently.

CHAPTER V

ACHIEVEMENT IN SHORTHAND AND TRANSCRIPTION

Achievement in shorthand and transcription was the second most frequently studied problem area with 48, or 21.8 percent, of the 220 research studies. The largest number of research studies pertaining to achievement completed in any one year was 8 in 1966.

The 48 research studies included in this chapter are discussed here in terms of: (a) predictive measures, (b) factors influencing shorthand achievement, (c) student achievement, and (d) dropouts and failures.

Predictive Measures

Seventeen studies were completed pertaining to prognosis in shorthand. Four of these studies were concerned with a single predictive factor (7, 13, 51, 77), while thirteen were concerned with multiple predictive factors (14, 18, 30, 76, 85, 111, 115, 123, 190, 194, 197, 209, 216). The findings are discussed here in terms of: (a) English, (b) scholastic average, (c) intelligence quotient, (d) foreign language, (e) Byers' Shorthand Aptitude Test Battery, (f) Differential Aptitude Test, (g) Iowa Tests of Educational

Development, (h) American College Testing Program, (i) School and College Aptitude Test, (j) ERC Stenographic Test, (k) General Aptitude Test Battery, (l) Turse Shorthand Aptitude Test, (m) miscellaneous, (n) history of prognosis.

English

English has been investigated by several researchers to determine its value as a predictive measure of shorthand success. Maedka's study (123) indicated that a correlation coefficient within a range of .45 to .59 was considered satisfactory for use in a predictive team. English fell within this range or above in five studies (14, 30, 85, 123, 194) and below this range in two studies (197, 216). English grades correlated higher with overall shorthand grades than with theory, brief forms, and dictation (197). The study by Heemstra (85) reported that a student who made an "A" or "B" grade in high school English would have a 70 percent or better chance of making a "C" or better grade in shorthand. Dictation rates did not correlate as high with English grades as did overall shorthand grades (85). Transcription scores in first-year transcription correlated higher with English than did second-year transcription scores (123). Although several of the correlation coefficients between English and shorthand grades were within the satisfactory range for use in a predictive team, none were high enough to warrant their use as a single predictive measure.

Henson's study (89) revealed that language usage aptitude was significantly related to transcription ability in the control group but not in the experimental group. Furthermore, language usage aptitude was more significantly related to conventional instruction than programmed instruction.

Scholastic Average

Overall grade-point average correlated moderately high with success in shorthand in all five studies in which it was investigated (85, 115, 123, 194, 216). These correlations ranged from a low of .42 to a high of .66. Scholastic average was one of the more consistent predictive measures investigated and could be used very effectively as part of a predictive team for predicting success in shorthand.

Intelligence Quotient (IQ)

The relationship of intelligence to shorthand was also investigated in several studies. While some research studies indicated that IQ was not reliable in predicting success in shorthand (14, 115, 160, 216), other research studies revealed a positive and definite correlation between IQ and shorthand achievement (30, 194, 197, 209). Although IQ may be used as part of a predictive team, the correlations were not high enough to warrant its being used as a single predictive measure for success in shorthand.

Motivation combined with mental ability, as measured by Michigan M-Scales, significantly increased the accuracy of mental ability as a predictive instrument for first-semester shorthand but not for second-semester shorthand. The correlations between shorthand achievement and Michigan M-Scales sub-scores were not high enough to warrant the use of the M-Scales as a single predicting factor (210).

Foreign Language

Overall shorthand grades seemed to correlate higher with foreign language than theory, brief forms, and dictation (197). Maedka's study (123) revealed that foreign language correlated higher with intermediate and advanced shorthand than with beginning shorthand, while the reverse was indicated by Lang's study (111). Other studies in which foreign language was correlated with shorthand achievement determined that the two factors were moderately correlated (14) and that shorthand learning is aided by foreign language knowledge (115). The study by Whittle (216) revealed that high school foreign language has a very low or negligible correlation with beginning college shorthand. Although the correlation coefficients were not high enough to warrant foreign language grades being used as a single predictive measure, foreign language aptitude may be used as part of a predictive team for predicting success in shorthand.

Byers' Shorthand Aptitude Test Battery

A test battery for predicting success in beginning shorthand was developed by Edward Byers in 1958 (25). He determined that the test battery was more reliable for predicting group performance than for predicting individual performance. The test battery predicted shorthand success better at the college level than at the high school, junior college, and business college levels. The aptitude tests should be used with other factors for estimating individual aptitude. Studies by Spann (190) and Wright (219) revealed that Part 1, Phonetic Perception, and Part 3, Observation Aptitude, of the Byers' Test were significant factors in final achievement in first-quarter shorthand. The study by Takasugi (197) also indicated that the Byers' Test correlated significantly with first-year shorthand.

Differential Aptitude Test (DAT)

Two studies have been completed that investigated the correlation between beginning shorthand grades and DAT scores (30, 86). While the study by Henderickson (86) revealed correlations too low to be used as a predictive measure of success in shorthand, Carter's study (30) indicated that beginning shorthand grades correlate substantially with DAT scores.

Iowa Tests of Educational Development (ITED)

Four studies have been completed which investigated the reliability of ITED Subtests and the Composite score on

Tests 1-8 for predicting shorthand success (77, 14, 115, 209). Some disagreement was revealed in the findings of these four studies. In some instances, Test 3, Correctness of Expression, (77, 209) and Test 8, Vocabulary, (77) were found to correlate substantially with shorthand grades but the correlations were low or negligible in other studies (14, 115). Composite scores on Tests 1-8 also correlated substantially with shorthand grades in studies by Bednar (14) and VanKirk (209) but not in the study by Lee (115). Although the study by Hall (77) revealed definite correlations between Test 3 and 8 and shorthand grades, these correlations were not high enough for them to be used in eliminating students from the possibility of enrolling in shorthand.

American College Testing Program (ACT)

A study by Spann (190) investigated the correlation between ACT scores and achievement in shorthand. ACT English scores were found to be a significant factor in final achievement in first-quarter shorthand, and ACT Composite scores were significant for second- and third-quarter shorthand.

School and College Aptitude Test (SCAT)

Carter's study (30) revealed that SCAT scores correlate substantially with beginning shorthand. However, this correlation was the lowest of the five variables considered in her study.

ERC Stenographic Test

Although this predictive measure was investigated only once, significant correlations were revealed between the ERC Test scores and shorthand dictation. The correlations found in Heemstra's study (85) between the ERC Test scores and shorthand dictation were significant at the 1 percent level for the high school group and the 3 percent level for the college group. The study further indicated that the ERC Test was more successful for predicting shorthand success than the Turse Shorthand Aptitude Test. Both tests are better at the high school level than the college level.

General Aptitude Test Battery (GATB)

Of the 22 counselors interviewed by Baumgardner (13), only 50 percent knew how to use the scores made on the GATB Test. None of the 22 counselors used the test scores to determine enrollment in shorthand.

Turse Shorthand Aptitude Test

The effectiveness of the Turse Shorthand Aptitude Test for predicting shorthand success was investigated by eight researchers (7, 51, 76, 123, 85, 143, 194, 197). Although the Turse Test did not appear to correlate high with theory, brief forms, and dictation (197), correlations were high enough with overall shorthand grades to indicate that scores on the Turse Test could be used as part of a predicting team for predicting shorthand success (7, 51, 85, 76,

123, 143, 194, 197). The Turse Test was a better predictor at the high school level than at the college level and was better at the college level than at the business college level (85). There was a general agreement among the researchers that the Turse Shorthand Aptitude Test should not be used as a single predictive measure of shorthand success.

Miscellaneous

Varah's study (210) further indicated that grade-point average, ninth grade English score, tenth grade English score, and mental ability are the best predictors of success in first-semester shorthand. Grade in first-semester shorthand, grade-point average, tenth grade English score, and mental ability are the best predictors of success in second-semester shorthand. Generally speaking, the researchers recommended that multiple factors rather than single factors be used in counseling with students who are planning to enroll in beginning shorthand.

Other subjects investigated for determining their relationships to shorthand achievement were typewriting (123, 190), bookkeeping (123), and general business (123). In the study by Spann (190), typewriting was determined as the highest factor in achievement in second- and third-quarters shorthand. Maedka (123) also found typewriting to be satisfactorily correlated with shorthand achievement. Bookkeeping was found to correlate satisfactorily with first-year shorthand, and general business correlated satisfactorily with

second-year shorthand (123). Art showed very little, if any, relationship to shorthand achievement (14).

Grade indexes for English, social studies, bookkeeping, and shorthand were investigated by Anderson (5) for predicting success in college. "Indexes" were determined by averaging all grades received in all of the courses taken in a particular area. The most effective index investigated was social studies. The bookkeeping index was more effective for predicting success in business administration than the shorthand index. Grade averages in one year of shorthand or bookkeeping were equally as effective in predicting success for majors in business administration or in a college of arts and sciences. A student who failed to make a "B" or better grade in high school seldom achieved a "B" or better grade in college.

History of Prognosis

Tschider's study (206) pertaining to a history of shorthand prognosis covered the period from 1914 to 1960. Generally speaking, her study determined that several factors together are more reliable for predicting success in shorthand than a single factor. During the period 1930 to 1940, the Hoke Prognostic Test was the best single instrument for predicting shorthand success.

Factors Influencing Shorthand Achievement

Of 220 research studies abstracted, 12 contained information pertaining to factors affecting achievement in

shorthand. These research studies are discussed here in terms of: (a) grammatical and English composition factors, (b) test anxiety, (c) time of day, (d) class size, (e) business vocabulary, (f) symbol mastery, (g) listening ability, (h) reading ability, (i) reward and punishment, and (j) miscellaneous.

Grammatical and English Composition Factors

The study by Bolan (18) revealed that spelling, punctuation, capitalization, and grammar usage are significantly related to the ability to use those knowledges. Grammatical and English composition factors were used most effectively by the highest age level. The fact that a study possesses the knowledge does not mean that he possesses the ability to apply that knowledge. This indicates that the ability to apply the knowledge must be taught as well as the knowledge.

Test Anxiety

Test anxiety definitely has an affect on test performance as revealed by Eiken's study (54). A significantly greater number of errors were made by the students in the highest shorthand test-anxiety group than was made by the lowest shorthand test-anxiety group. Less test anxiety was shown in shorthand testing situations than in general testing situations. Research is definitely needed to determine those factors that cause low or high test anxiety.

Time of Day

The study by Morrell (136) investigated shorthand classes meeting at eight, twelve, and two o'clock in an attempt to determine the affect the time of day has on terminal achievement in shorthand. His study revealed that although the eight o'clock hours were preferred, the time of day did not affect the students' terminal achievement.

Class Size

Wherever there is education, class size has been discussed extensively. The findings of Hilleary's study (90) indicated that class size has little affect on shorthand achievement. Of the 12 tests for which differences were computed with regard to errors made on achievement tests, the large class for Experiment III was significantly superior to the small class. When differences in transcription speed were determined, one test in Experiment II was significantly in favor of the large class. No significant differences were found in attendance, homework, and results of the questionnaire when all three experiments were combined. Further research is needed to determine the use of selected audio-visual aids with large classes.

Business Vocabulary

The study by Marcus (127) revealed that memory words represent almost three times as many words in dictation as the alphabet words. Short sentences, therefore, should be

introduced gradually. High frequency letters and words should be introduced first.

Symbol Mastery

Four studies were completed that dealt with the relationship between ability to write accurate shorthand outlines and shorthand dictation achievement (43, 84, 67, 160). All four studies revealed a significant relationship between accurate shorthand outlines and shorthand dictation achievement.

The study by Goetz (67) revealed that 67 percent of the shorthand dictation speed was affected by symbol mastery. As dictation speeds increase, the degree of symbol mastery decreases proportionately. Furthermore, the coefficient of word lists within each group was quite high. This indicates that a definite degree of symbol mastery must exist before dictation achievement can occur. Danielson's study (43) indicated further that as a student's vocabulary index increases, his rate of taking dictation also increases. While very little relationship was found between shorthand vocabulary index and English and grade-point average, a substantial relationship was found between shorthand dictation achievement and general scholastic achievement.

Studies by Hatcher (84) and Pullis (160) found that approximately 69 percent of shorthand dictation achievement was found to be associated to shorthand achievement. Furthermore, accuracy of shorthand notes was closely related to accuracy of transcripts (84, 160). One study indicated that

nearly 87 percent of transcription ability was associated to shorthand dictation accuracy, and nearly 65 percent of shorthand achievement was related to ability to transcribe isolated words (160). In some instances, the accuracy of shorthand outlines increased as the speed level increased. The most frequently non-shorthand errors were punctuation and spelling, and the most frequent shorthand errors were "not the word dictated" and "omitted words" (84).

Listening Ability

The study by Duncan (50) indicated that listening ability does not correlate very high with achievement in shorthand. His study also revealed that syllabication, ability to follow directions, and ability to recognize transitions have little, if any, relationship to shorthand achievement.

Reading Ability

Reading ability in shorthand was found to be closely related to ability to write accurate shorthand notes and accuracy of transcription. Furthermore, reading ability was related to ability to transcribe from cold notes. Shorthand reading increases the students' shorthand vocabulary and fills their minds with well-written shorthand outlines (218).

Reward and Punishment

Lee's study (114) revealed that students exposed to a positive atmosphere achieved significantly more than those

students exposed to a negative atmosphere. The teacher is responsible for setting the atmosphere of the shorthand classroom and this atmosphere affects student interest, learning, and progress.

Miscellaneous

A study completed by Haggblade (75) investigated the affect 11 selected factors would have on shorthand achievement. She found that shorthand achievement correlated moderately or above with such factors as: ability to write theoretically correct outlines, ability to write correctly words falling outside the high-frequency list, typewriting speed, transcription speed, dictation recording speed, reading ability, and phrasing ability. Those items showing low or negligible correlations with shorthand achievement were: penmanship, typewriting accuracy, and ability to write theoretically correct brief forms. Although typewriting speed is necessary for high shorthand achievement, a student's inability to read shorthand outlines correctly contributes more to low shorthand achievement than inaccurate typewriting.

Student Achievement

The research findings pertaining to student achievement are discussed here in terms of: (a) general factors, (b) similarities and differences, (c) intensive in-service training, (d) shorthand theory achievement, (e) dictation achievement, (f) mailable-letter achievement, (g) transcription

achievement, (h) accelerated programs, and (i) English versus Notehand.

General Factors

Three psychological factors were found in Hale's study (76) to be inherent in the shorthand-transcription process. These factors were: psychomotor speed, verbal ability to work with words, and non-verbal ability with spatial visualization--mechanical ability component. The verbal factor was the only independent factor in the shorthand-transcription process.

Similarities and Differences

The study by Moskovis (137) was an attempt to identify certain similarities and differences between successful and unsuccessful beginning shorthand and transcription students at the college level. Of the 31 variables tested with regard to beginning shorthand students, 20 were significantly different between successful and unsuccessful college students. A significant difference was found between successful and unsuccessful transcription college students in only 9 of the 34 variables studied. All of the variables are given in the abstract contained in this study.

Intensive In-Service Training

A study by Watto (215) revealed that the following factors distinguish between the upper third and lower third of his selected group: personality factors of neurotic

tendency, sociability, self-confidence, and introversion-extroversion; qualitative characteristics of ability to comprehend and retain shorthand, transcription, and related skills; character; attitude; and industry. The upper third was superior in their knowledge of shorthand theory, shorthand recording speed, accuracy of transcription, and straight-copy typewriting speed. The group was also average in their typewriting production speed and final transcription speed. The lower third was average in their knowledge of shorthand theory and shorthand recording speed; below average in accuracy of transcription; and deficient in their typewriting production speed and straight-copy typewriting speed. The lower third was average in their final transcription speed. The observation was made that although the group was average in most respects, superior growth was achieved on knowledge of theory and average growth was achieved in shorthand recording speed.

Shorthand Theory Achievement

Of those studies pertaining to shorthand standards and achievement, Taylor's study (199) was the only one to indicate achievement in shorthand theory. Her study indicated that only a small percent of the students tested had sufficient background in theory to meet a minimum standard of 75 percent. This indicates that more emphasis definitely should be placed on shorthand theory.

Dictation Achievement

Bellucci's study (15) revealed that in one year of shorthand instruction, 18 percent of 130 students successfully achieved 60 words a minute and 9 percent successfully achieved 80 words a minute on 3-minute tests. The 60 words a minute test for 5-minutes was passed by 14 percent of the students, while the test at 80 words a minute for 5-minutes was not passed by any students. MacRae's study (121) indicated that 75 percent of the students tested successfully achieved 60 words a minute; 33 percent, 80 words a minute; and 33 percent, 100 words a minute. Mrachek's study (139) revealed that out of 58 schools, 39 schools had students taking 60 words a minute; 26, 70 words a minute; 42, 80 words a minute; 22, 90 words a minute; 20, 100 words a minute; and 3, 110 words a minute. Generally, 95 percent or higher accuracy was considered successfully passed. The study by Taylor (199) revealed that on familiar material dictated at 50 and 60 words a minute, 72 students out of 200 had papers above the 90 percent accuracy level; whereas, only 27.7 percent of the 72 students had papers above the 97 percent accuracy level. On the second tests given, 131 of 400 papers were above 90 percent and 32.8 percent of the 131 students had papers above the 97 percent level. Her study indicated that a very small percent of the students' papers were above the 97 percent accuracy level.

Mailable Letter Achievement

Of 272 letters turned in as mailable, 85.3 percent were not mailable (199). This was only slightly lower than the 89 percent found by Anderson and Bright.¹ Incomplete transcripts were the most frequent reason for letters being unmailable. When only completed letters were considered, 43 percent (36) and 32.9 percent (11) of all possible letters were mailable. Three mailable letters were turned in by 21 students (36) and 13 students (11); two letters, 50 and 88 students respectively; one letter, 68 and 219 students respectively; and no mailable letters, 69 and 105 students respectively. The study by Barras (11) consisted of 324 students, while the study by Cook (36) consisted of 208 students. In types of errors made, substitutions ranked first and syllabication was last. English errors decreased from prior studies, while shorthand errors rose considerably (11, 36). The study by Barras (11) indicated that shorthand errors occurred nearly three times that of English and typewriting errors combined.

Transcription Achievement

Transcription speeds ranged from 6 to 38 words a minute in Cook's study (36), 7 to 28 words a minute in Barras'

¹Ruth I. Anderson and Martha D. Bright, "Let's Look at the One-Year Shorthand Program," Journal of Business Education, XXVII (November, 1951), 117-120.

study (11), and 5 to 25 words a minute in Mrachek's study (139). These speeds were all on mailable letters. The mean transcription rates for these studies were 14.3 (11), 15.9 (36), and the majority were between 15 to 19 words a minute in the later case (139). Two studies (11, 36) involved second-year students, whereas the other (139) involved first-year students. The teachers participating in the one-year study reported that one year of shorthand was not enough time to develop the transcription process.

Accelerated Programs

Mee (130) and Gawronski (66) both completed studies investigating the achievement of accelerated programs. The study by Mee (130) contained a survey as well as an experiment. Both studies indicated that students were able to achieve a shorthand writing speed of 80 words a minute in one year. Furthermore, the average transcription rates were 30 to 35 words a minute (130). Although 25.8 percent were unable to transcribe one mailable letter, 41.7 percent transcribed one and 29.2 percent transcribed two letters (66). Both of these percentages were higher than the comparable percentages in the Cook study (36). Furthermore, the transcription rate of 12.8 words a minute was only slightly below the rates listed in the studies involving two years of shorthand instruction. The mean mailable transcription speed was slightly higher than comparable studies (66). The

studies (66, 130) further indicated that above average students can achieve in an accelerated one-year shorthand program the same levels that average students achieve in a two-year shorthand program.

English Versus Notehand

Allen's study (3) was made to determine whether Notehand or non-Notehand students could copy and compose more rapidly. Her study revealed that the English students could not only copy material more rapidly but could also compose more quickly.

Dropouts and Failures

Four studies were completed between 1957 and 1967 which investigated dropouts and failures in shorthand (100, 132, 159, 180). The studies by Sells (180) and Powell (159) pertained to dropouts at the end of one year of shorthand instruction, Johnson's study (100) pertained to dropouts and failures after one semester of shorthand, and Miller's study (132) pertained to failures at the end of one semester.

The reasons given most frequently for dropping shorthand were: did not like shorthand (100, 180), change in vocational plans (100, 159, 180), could not keep up (100, 159, 180), unwillingness to work (100, 159), lack of ability (100). Students dropping shorthand were usually low in IQ (180), English (159, 180), scholastic average (180), typewriting (159, 180), and foreign language (159). A significant

difference was found at the 1 percent level between dropouts and those continuing shorthand in verbal meaning, sentence meaning, vocabulary, total reading score, and correctness in writing. Dropouts were also significantly different at the 5 percent level in word fluency, paragraph meaning, reading, and general vocabulary (159). Poor attendance and success in school did seem to be related to shorthand success (132, 159), but regular attendance did not guarantee success (132).

The three reasons given most frequently for enrolling in shorthand were: advised by a parent, counselor, or friend to take shorthand; vocational purposes; and the student wanted to see if he would like shorthand (180). One study (100) reported that enrollment in shorthand was determined by the counselor in 47 percent of the cases. However, failures were allowed to enroll in another class of beginning shorthand. When prognosis was used, the dropout rate was 8.98 percent (100) and 11 percent (173) as compared to 13.96 percent for schools not using prognosis (100). Furthermore, the dropout rate was lower in schools having the larger supply of teaching aids (100).

The study by Miller (132) reported the following causes for failure in shorthand: physical problems, poor attendance, lack of homework, low IQ, poor English background, and tendency to fail other courses in school. Furthermore, 47 of the 50 students included in the study had failed two or more courses previously and 80 percent had

below average grades in typewriting. The study by Johnson (100) indicated that of 279 students dropping shorthand, 118 were making passing grades and 161 were making failing grades in shorthand. Furthermore, 131 students passing did not enroll in second-semester shorthand and 216 failed first-semester shorthand. Students that failed beginning shorthand were allowed to enroll again in beginning shorthand.

Implications

From the findings of the studies discussed in this chapter, it seems evident that multiple factors should be used in predicting shorthand success. Some readily accessible factors that can be used effectively as part of a predictive team are: English grades, scholastic averages, foreign language grades, intelligence quotients, and typewriting grades. Aptitude tests that may be used include the Byers' Shorthand Aptitude Test, the ITED Test, and the ERC Stenographic Test.

Research reveals that class size does not significantly affect shorthand achievement. Thus, by means of modern teaching aids larger shorthand classes may be taught more effectively. Other factors that do not seem to be related to shorthand achievement are time of day shorthand is taught and listening ability.

Knowledge of shorthand theory, reading ability, and symbol mastery are significantly related to shorthand achievement. More emphasis should be given these factors.

Test anxiety and reward and punishment are significantly related to shorthand achievement. These findings tend to indicate that the teacher plays an important role in shorthand achievement.

Of those studies reporting dictation achievement, two indicate that a majority of first-year shorthand students recorded dictation at 60 words a minute and transcribed with 95 percent accuracy or higher and two studies indicate that only a small percent met these standards. However, it seems that 60 words a minute transcribed with 95 percent accuracy or higher should be a minimum standard for first-year shorthand.

A large percentage of the letters turned in as mailable are actually not mailable. The findings of recent research indicate a slight increase in the percentage of mailable letters. Since mailable letters are the ultimate goal in shorthand, perhaps more emphasis should be placed on mailability. Substitutions are first in types of transcription errors. Typographical errors and poor erasures and spelling rank second and third.

Since failure and dropout rates are reduced in schools using prognostic measures for shorthand enrollment, perhaps all schools should do some screening for enrollment in shorthand. Some of the better predicting factors are available to everyone and prognostic tests do not necessarily need to be given. Some of the reasons given

frequently for enrolling in shorthand are invalid; therefore, shorthand enrollment should be restricted to those who have a definite goal in mind. Shorthand failures and dropouts are frequently low in IQ, English, typewriting, foreign language, scholastic average, and poor attendance. In situations where prognosis is employed, failure and dropout rates are reduced approximately in half. Furthermore, schools having larger supplies of aids also have lower dropout rates.

A study pertaining to history of shorthand prognosis indicates that little has changed since earlier studies in prognosis. Several factors still seem to be more reliable than single factors for predicting shorthand success. So far, no one has designed a test that will measure desire, interest, and other intangibles that are related to shorthand success.

Students using Notehand are unable to take notes and compose more rapidly than non-Notehand students. This indicates that Notehand is not beneficial for copying and composition.

CHAPTER VI

ANALYSES AND COMPARISONS IN SHORTHAND AND TRANSCRIPTION

Of the 220 research studies investigated, 51, or 23.2 percent, pertained to analyses and comparisons in shorthand and transcription. The number of studies completed in any one year ranged from a low of 1 in 1962 to a high of 9 in 1964.

The 51 studies are discussed here in terms of:

(a) analysis of dictation notes, (b) analysis of transcription, (c) comparisons of shorthand systems, (d) shorthand and transcription textbooks, and (e) formulas for determining difficulty of dictation materials.

Analysis of Dictation Notes

Ten studies were completed during the 11-year period that pertained to an analysis of dictation notes. Eight of the studies were related to Simplified Shorthand and two were related to Diamond Jubilee Shorthand. The findings of these studies are discussed in terms of: (a) Simplified Shorthand and (b) Diamond Jubilee Shorthand.

Simplified Shorthand

Eight studies were completed pertaining to an analysis of dictation notes written in Simplified Shorthand (104, 120, 91, 189, 64, 88, 155, 99). The findings of these research studies are discussed in terms of: (a) brief forms and (b) principles.

Brief forms.--The study by Kalstrom (104) revealed that 149 brief forms were written correctly over 90 percent of the time. Also, the study by Lusk (120) indicated that only 15 percent of all brief forms were written incorrectly in Simplified. Nevertheless was found to have the highest error occurrence of all brief forms. This was probably caused by its low frequency. Among was written incorrectly 57 percent of the time (104). Although 51 percent of all words written were brief forms, they accounted for less than 1/7 of all errors (91).

Smith's study (189) pertained to 31 selected brief forms. Of the 31 brief forms, 26 are beyond the 1,00 most frequently used words. Eighteen of the 26 brief forms had an error rate of 50 percent or higher (189). At least 50 percent of the errors were caused by too many strokes (189, 64). Other brief forms were frequently interchanged. However, all 31 brief forms were transcribed correctly at least 60 percent of the time (189).

The study by Frye (64) not only analyzed error rates of brief forms but indicated which brief forms were revised

in the Diamond Jubilee Series. Error rates ranged from 2.8 to 88.5 percent, with throughout, among, recognize, and upon having error rates above 80 percent. While five brief forms having error rates above 50 percent (among, circle, experience, nevertheless, and prosecute) were changed in the Diamond Jubilee revision, four brief forms having error rates above 50 percent (acknowledge, recognize, throughout, and upon) were not changed. Other brief forms changed in the Diamond Jubilee Series were instant, usual, progress, and put (error rates ranging from 35-50 percent) and doctor and go (error rates below 20 percent). Brief forms ranging in error rates from 20 to 35 not being changed were desire, house, and enclose. Those brief forms below 20 percent remaining unchanged were could, morning, year, and yet (64). Although some error rates were quite high, transcription errors were all below 50 percent. For those brief forms recommended by research for changing, those changed had an error rate of 45.4 percent compared to 66.2 percent for those not changed. For those brief forms for which research indicated no change, those changed had an error rate of 23.6 percent compared to 13.1 percent for those not changed. All brief form derivatives except enclosed had higher error rates than the brief form root word. "Substitute of brief form root" constituted the most errors for 10 of the 21 derivatives investigated. The error rates for transcription of derivatives were generally lower than for recording them in shorthand. Furthermore,

those brief form derivatives changed, whether recommended by research or not, had a slightly lower percentage of error in Diamond Jubilee than those not changed (64).

Principles.--The most frequent errors in dictated material were omission of strokes (88, 155), addition of unnecessary strokes (155, 88, 99, 64), proportion (155, 88), and unrecognizable outlines (155). At least 50 percent of the errors were caused by too many strokes (155, 64). Furthermore, there were more correct responses when shorthand vowels were included than when shorthand vowels were omitted. The difference between mean scores of correct responses were not significant (88). Errors made in proportion and shorthand notes seemed to increase as the dictation speed increased (155). While some errors tended to show a definite pattern (99, 61), other errors did not (61). The frequency rank of the word appeared to have some relationship with the percent of correct responses (99).

Frye's study (64) revealed that error rates for 24 selected principles ranged from 11.8 percent to 84.7 percent and ulate, inclu, and super had error rates above 70 percent. Furthermore, 12 of the 24 principles had error rates above 50 percent. Six of the twelve principles were changed in the Diamond Jubilee revision and six were not changed. Those principles changed, which research recommended be changed, had an error rate of 64.4 percent compared to 56.4 percent for those principles not changed. For those

principles changed, although not recommended by research, the error rate was 35.6 percent compared to 33.1 percent for those principles not changed.

The study by Hillestad (91) revealed that as words became longer, errors tended to increase. The error percentage seemed to increase about 10 percent for each syllable in the word. Joining and blending past tenses caused over 26 percent of all shorthand errors. Error rates on past tenses of brief forms were one-half that on shorthand words. Of all blends, dev and tive had the highest error rates and ld had the lowest error rate. The sounds of oo and o accounted for about 10 percent of the errors and one-half of those were caused by substituting strokes. While joined prefixes accounted for a 12 percent error rate, disjoined prefixes accounted for an error rate over 17 percent.

Diamond Jubilee

Only two studies were completed that pertained to analysis of errors made in recording dictation in Diamond Jubilee Shorthand (48, 148). One of the studies pertained to errors made in recording selected brief forms (148), while both research studies involved errors made in using principles (48, 148). The findings of the two studies are discussed here in terms of: (a) brief forms and (b) principles.

Brief forms.--Patrick's study (148) revealed that the frequency of brief forms was negatively but significantly

correlated with shorthand error rates. Also, accuracy of brief forms and brief form derivatives were significantly correlated. Brief forms changed in the Diamond Jubilee revision that showed higher error rates than previous studies on Simplified were: desire, doctor, go, house, and usual.

Principles.--The study by Patrick (148) further revealed that the frequency of occurrence and the shorthand error rates were negatively but significantly correlated. Furthermore, the relationship between the number of different words containing the principle and the shorthand error rate was a significant negative correlation. Those principles changed in the Diamond Jubilee revision that showed higher error rates than in previous studies on Simplified Shorthand were: ally, illy, pro, and ship, short. Doerr's study (48) revealed that principles tended to be applied more frequently when writing familiar words than when writing new words. Students tend to use blends when writing familiar words but write out each stroke when constructing new words. The right "s" and the under "th" were used in writing familiar words, and the over "th" was used in writing unfamiliar words. On writing unfamiliar words, the left and right "s" were interchanged.

Analysis of Transcription

Fourteen research studies contained information pertaining to analysis of transcription (6, 55, 88, 59, 39, 148, 108, 155, 171, 154, 120, 131, 93, 98). The findings of these

research studies are discussed here in terms of: (a) transcripts of graduates, (b) spelling errors in transcripts, (c) a time study of the transcription process, (d) transcription from Simplified Shorthand, (e) transcription from Diamond Jubilee Shorthand, and (f) punctuation errors in shorthand and transcription.

Transcripts of Graduates

Scheve's study (171) analyzed carbon copies of materials typed by graduates of Seton High School, Baltimore, Maryland. Those papers analyzed revealed the following deficiencies: typewriting ability, English grammar, character traits, and miscellaneous techniques. The employers indicated that improvement was needed in erasing, spelling, telephone technique, and mathematics. Her study further indicated that the 1959 graduates were inferior to the 1956, 1957, and 1958 graduates who had received one semester of office practice and one semester of business English. The 1959 graduates had received limited training in Typewriting II and Shorthand II.

Spelling Errors in Transcripts

The study by Anderson (6) indicated that over 50 percent of the misspelled words were among the first 1,500 words of the Horn-Peterson List.¹ A moderate to high correlation

¹Ernest Horn and Thelma Peterson, The Basic Vocabulary of Business Letters (New York: The Gregg Publishing Company, 1943).

was found between spelling ability and number of spelling errors made in the transcripts. However, there was a low or negative correlation between spelling ability and intelligence quotient. The two types of errors made most frequently were homonyms and insertion and omission of silent letters.

A Time Study of the Transcription Process

Jester's study (98) indicated that typewriting activity consumed 38.1 percent of the transcription time, whereas non-typewriting activities consumed 61.9 percent of the transcription time. Of the total number of time intervals, 47 percent were devoted to typewriting activities and 53 percent to non-typewriting activities. Erasing and correcting errors ranked first in total time consumed by a non-typewriting activity, with 17 percent. A significant positive correlation was found between straight-copy typewriting speed and transcription speed.

Transcription from Simplified Shorthand

Although an increase in shorthand errors also tended to increase transcription errors, at no time did the inaccuracy in transcription equal the inaccuracy in shorthand outlines (154). The correlation found between shorthand outlines and incorrect transcription was significant at the 5 percent level. Furthermore, omissions in the shorthand notes tended to lessen the probability of accurate transcription.

On tests dictated at 60 and 80 words a minute, from 25 to 68 different words were written incorrectly by over 50 percent of the students in Group B. However, a large percent of these incorrectly written words were transcribed correctly (120). Meyer's study (131) indicated that nearly 75 percent of all incorrectly written outlines were transcribed correctly. Errors were not repeated as frequently by those students passing the tests as by those students who failed the tests.

The study by Fermenich (59) revealed that correct outlines and correct transcripts correlate very high, and incorrectly written outlines and incorrect transcription correlate moderately. Ellingson's study (55) also revealed a very high correlation, significant at the 1 percent level, between incorrectly written outlines and incorrect transcription. Words causing hesitations in transcription had an average syllabic intensity of 3.10 (55). Furthermore, a very high correlation was found between incorrect transcription and illegible shorthand. Nothing was found to indicate that one classification of rules is more difficult than the others (59). On material dictated at 60 words a minute, errors in transcription caused by omitted strokes were more than twice that caused by unnecessary strokes added. On material dictated at 80 words a minute, the same types of errors were two to one (155).

The study by Henry (88) indicated that a correlation, significant at the 1 percent level, was found between transcription rates and correct responses made to shorthand outlines written on flash cards. His study tends to indicate that ability to recognize shorthand outlines affects transcription speed.

Crewdson's study (39) indicated that context alone is not the major factor in transcription. Correctly written outlines seem to be as important as context. Furthermore, words containing oo and o hooks caused the most difficulty in transcription.

Transcription from Diamond Jubilee Shorthand

Research indicated that there was a significant correlation between accuracy of shorthand outlines and accuracy of transcription (148, 108). Furthermore, a significant correlation was found between accuracy of brief forms and accuracy of transcription (148). The study by Klaseus (108) revealed that a total of 485 incorrectly written outlines were transcribed correctly. Of the 485 incorrectly written outlines, 335 were the result of too many strokes. Other errors of high frequency which did not seem to affect transcription accuracy were: writing the major or minor vowel when the official outline omitted it, writing separate characters of a blend, and word beginnings and endings. A total of 2,630 incorrectly written outlines were transcribed incorrectly. High frequency errors that seemed to affect transcription were: omitting the

major vowel when the official outline included it and omitting the minor vowel when the official outline included it. Although 270 outlines contained substitutions, 228 were correctly transcribed. The most frequent substitution error was confusion of o and u hooks. The substitution of i for e and letters that did not appear to be based on sound or shorthand principles did cause difficulty in transcription.

Punctuation Errors in Shorthand Transcripts

Holst's study (93) investigated 24 selected punctuation principles. Of the 24 punctuation principles investigated, nine were missed by 50 percent or more of all students and five were missed by 75 percent or more. Difficulty with possessives came with lack of ability to know where to put the apostrophe. The dash produced the highest error percentage among internal punctuation marks, with an overall average of 77 percent. Only 1 percent error was made using the colon with the word following; whereas, only 47 percent used the colon properly when the word following was omitted. Semi-colons caused an error frequency of 49 percent. Errors concerning the comma were most frequently made in the following: parathetical clauses, introductory phrases, explanatory expressions, expressions out of natural order, intervening clauses, and appositives.

Comparisons of Shorthand Systems

The findings of the research studies pertaining to comparisons in shorthand and transcription are discussed

here in terms of: (a) comparison of Simplified and Diamond Jubilee; (b) comparison of Anniversary, Simplified, and Diamond Jubilee; (c) memory load of Simplified and Diamond Jubilee Shorthand; (d) learning difficulty of Forkner Shorthand and Gregg Diamond Jubilee Shorthand; (e) effectiveness of Carter Briefhand and Gregg Simplified Shorthand; (f) shorthand writing habits of students under pressure; (g) effect of choice-making in Gregg Shorthand and Pitman Shorthand; and (h) comparisons of vocabularies.

Comparison of Simplified and Diamond Jubilee

Four studies were completed which compared shorthand and transcription accuracy between Simplified writers and Diamond Jubilee writers (45, 192, 208, 95). The study by Iannizzi (95) also compared the performances of elementary and advanced high school shorthand students. At both levels of learning and in both shorthand systems, substituted words represented the highest percentage of transcription errors. The second largest category of total errors was omitted words. In all categories except elementary Diamond Jubilee, 20 percent of the words omitted from the transcripts appeared in the shorthand notes. The categories being affected the least by incorrect transcription of incorrect outlines were the right "s" and the left "s" and position of vowel with opposite curves. With relation to shorthand errors, contractions, past tenses, and plurals exceeded the category of substituted words. When all of the levels were combined, the

students writing Diamond Jubilee excelled over the students writing Simplified in transcribing perfect transcripts. The transcripts of the advanced students were more accurate than the transcripts of the elementary students; however, the increase in accuracy may not justify the extra time spent. Furthermore, the transcription mean of the students using Diamond Jubilee slightly exceeded the transcription mean of the students using Simplified. The percent of transcription errors were very similar for both the students using Simplified Shorthand and the students using Diamond Jubilee Shorthand. Fewer errors were made in recording brief forms and derivatives in Diamond Jubilee. However, a much higher percentage of the brief forms and derivatives were transcribed incorrectly from Diamond Jubilee Shorthand. The students using Simplified Shorthand were not only more accurate in recording shorthand but also were more successful in transcribing incorrectly written outlines. There appears, therefore, to be a direct relationship between shorthand errors and transcription errors (95).

Diedrick's study (45) was concerned with the accuracy of those principles, except brief forms, which were changed from Simplified to the Diamond Jubilee edition. Of the 40 principles studied, 22 were written significantly more accurately in Diamond Jubilee Shorthand, 10 were written significantly more accurately in Simplified Shorthand, and no significant difference was found with 8 of the principles.

When the accuracy of transcription was investigated, 4 principles were transcribed significantly more accurately from Simplified Shorthand; 2 were transcribed significantly more accurately from Diamond Jubilee Shorthand; and no difference was found with 3⁴ of the principles. Although the word beginning after- was written significantly more accurately in Diamond Jubilee, it was transcribed significantly more accurately from Simplified. The word beginning ship- was written significantly more accurately in Simplified but was transcribed significantly more accurately from Diamond Jubilee (45). The findings of two studies (45, 95) indicated that the Diamond Jubilee edition had no substantial effect, positive or negative, on final shorthand achievement. However, the study by Starbuck (192) indicated a positive effect on final shorthand achievement by the Diamond Jubilee edition.

The study by Starbuck (192) compared a group of Simplified Shorthand writers with a group of Diamond Jubilee Shorthand writers. The students writing Diamond Jubilee Shorthand were significantly lower in intelligence quotient, scholastic average, and English. When cumulative percentages were compared, the students writing Diamond Jubilee Shorthand were superior to the students writing Simplified Shorthand. However, the difference was only significant at the end of March. This tends to indicate that an inferior group using Diamond Jubilee can perform as well as a superior group using Simplified Shorthand.

Uthe's study (208) indicated that overall error percentages rose from 9.09 percent in Simplified to 20.16 percent in Diamond Jubilee. Although the frequency of brief forms decreased, the error percentage rose from 2.59 percent to 9.14 percent. The number of brief form derivatives remained relatively steady but the error percentage rose from 19.45 percent in Simplified to 27.23 percent in Diamond Jubilee. The error percentage of derivatives was almost equal that of 28.76 percent for constructed words. The error percentage for constructed words also rose from 15.61 percent in Simplified to 28.76 percent in Diamond Jubilee. On one-, two-, and three-syllable words, Diamond Jubilee writers made considerably more errors than Simplified writers. However, on four-, five-, and six-syllable words, errors in Simplified Shorthand tended to continue to rise but errors remained steady for Diamond Jubilee Shorthand. Joined endings accounted for more errors in Diamond Jubilee, but disjoined endings accounted for more errors in Simplified. Although errors in past tenses dropped from Simplified to Diamond Jubilee, plural errors tripled from Simplified to Diamond Jubilee. The findings of her study tended to indicate a negative results of the Diamond Jubilee Series.

Comparison of Anniversary, Simplified, and Diamond Jubilee

The study by Rydalch (169) indicated that the greatest number of outline changes in the first 1,500 high-frequency

words and stroke increase came from the Anniversary edition to the Simplified edition. However, the three most frequently written characters remained the same in all three editions. The 16 rule variations from the Anniversary to the Simplified editions resulted in 504 outline changes and a stroke increase of 713. The 12 rule changes from the Simplified to the Diamond Jubilee editions resulted in 279 outline changes and a stroke increase of 349. The writing weight per stroke increased more from the Simplified edition to the Diamond Jubilee edition.

Memory Load of Simplified and Diamond Jubilee Shorthand

Of the 4,949 most frequently used words, brief forms were reduced 32.8 percent and derivatives were reduced 35.3 percent, as indicated by Dry's study (49). Further reductions included: abbreviated forms, 46.2 percent; exceptions, 75 percent; and prefix and suffix forms decreased from 55 to 60 percent in Simplified to 50 and 45 percent in Diamond Jubilee. Although the strokes necessary to write words increased in the Diamond Jubilee edition, the memory load was reduced for writing the 4,949 most frequently used words.

Learning Difficulty of Forkner Shorthand and Gregg Diamond Jubilee Shorthand

A study by Smith (188) revealed that neither Forkner Shorthand nor Gregg Diamond Jubilee Shorthand was able to meet the minimum vocational requirement of 80 words a minute

in one year. However, the Forkner Shorthand students achieved significantly higher levels than the Gregg Shorthand students. Furthermore, the Forkner System was better adapted to all three levels of achievers--Above Average, Average, and Below Average. As a one-year shorthand course, Forkner Shorthand was superior to Gregg Shorthand.

Effectiveness of Carter Briefhand and Gregg Simplified Shorthand

Harper's study (82) revealed that at all speed levels from 50 through 90, Briefhand students performed better than Gregg I (first-semester) students. There was a significant difference in achievement at speeds 50, 60, and 70 words a minute, in favor of Briefhand. When Briefhand was compared to Gregg II (second-semester) students, the differences between the two groups were significant at the 1 percent level for all speeds except 50 words a minute, in favor of the Gregg II students.

Shorthand Writing Habits of Students Under Pressure

The study by Palmer (147) was an investigation of the writing habits of students writing 80 words a minute compared to students writing 120 words a minute. Although error percentages on dictation notes and transcripts were almost identical for both groups, errors tended to increase on familiar words at higher speeds. Those students writing at 120 words a minute frequently wrote the opposite character,

e.g., p for f. There was a significant decrease in hesitation time in writing unfamiliar and unpreviewed words of students writing 120 words a minute. Shortcuts did not significantly reduce hesitation time. Hesitations were frequently caused by a familiar word following a difficult word. Fatigue did not appear to affect the writing time for those students who had achieved a given writing speed.

Effect of Choice-Making in Gregg Shorthand and Pitman Shorthand

The findings of the study by Young (220) indicated that a large percent of hesitancy is caused by decision making elements that precede the writing of a shorthand outline. Therefore, hesitations may be reduced by reducing decision making situations. The findings also tended to indicate that a larger number of words in Pitman Shorthand caused a greater pause than was caused by the same words in Gregg Shorthand. Furthermore, the average writing speed of the Gregg writers exceeded that of the Pitman writers.

Comparison of Vocabularies

The study by O'Conner (144) was completed to determine whether or not the text Modern Business Dictation meets the vocabulary requirement of the New York State Transcription Regents Test. Her study revealed that only 2.6 percent of the words on the test do not appear in the text. This

tends to indicate that the text does meet the vocabulary requirements of the test.

Shorthand and Transcription Textbooks

Of the 220 research studies, 15 pertained to shorthand and transcription textbooks. The findings of these 15 research studies are discussed here in terms of: (a) history of shorthand and transcription textbooks, (b) development and construction of shorthand textbooks, (c) Simplified Shorthand textbooks, (d) Diamond Jubilee Shorthand textbooks, (e) other textbooks, and (f) changes in Gregg Shorthand textbooks.

History of Shorthand and Transcription Textbooks

Three research studies were completed that were concerned with the development of Gregg Shorthand and Transcription textbooks. Two pertained to shorthand textbooks (151, 35) and the other study pertained to transcription textbooks (161).

The Gregg Shorthand System included ideas from several other shorthand systems. The Gregg System is based on the following principles: slope of longhand, curvilinear motion, natural blending of lines, joined vowels, one thickness, one position, and lineality. The first editions were the most compact. Each edition seemed to get larger and the 1949 edition was the largest of the basic manuals. From 1901 through 1916, each edition contained more rules and

shorter outlines. The main purpose of the 1949 edition was to provide for simplification.

The study by Pearce (151) analyzed 213 textbooks published in the United States from 1792 through 1955. Her study revealed that during the period 1792 to 1863 shorthand was used primarily for personal use. Early textbooks were small and lacked evidence of a definite pattern to accomplish the objectives. A few of the textbooks gave pointers for learning shorthand, and accuracy was more important than speed. During the period 1864 to 1899, typewriting became a sister skill to shorthand and emphasis was placed on the vocational aspect. Names of the textbooks began to include the name of the author and the textbooks became larger in number of pages. More information was given on transcription and how to teach shorthand. Accuracy was still important but fluency of movement became important. The years 1900 to 1955 saw new titles to reflect the new, the practical, the complete, and the simplicity of learning shorthand. Although some advertising was still included, it was a lot less than in earlier editions. The writing approach was still favored, and fluency and speed along with transcription skill became recognized as important factors in shorthand. The later textbooks also placed more emphasis on teacher and student aids. Common elements which appeared in all textbooks were: capitalization, punctuation, abbreviating, phrasing, stroke size, and position writing.

Abbreviations tended to diminish and most textbooks considered phrasing important. However, authors did not agree on how phrasing should be taught.

Rankin's study (161) revealed that the first textbooks for teaching transcription were written in 1930 and 1936. Gregg did not publish a full-length transcription textbook until 1937. Furthermore, pretranscription materials were not incorporated into a shorthand theory textbook until Gregg Simplified was published in 1949. Although transcription methods have been greatly influenced by Wanous and Whitmore since 1940, the first full-length methods book devoted entirely to transcription was not published until 1949. The term "mailable letter" was introduced in the 1920's, but did not become recognized as a standard in transcription until the 1930's. The only widely used standardized test in transcription was introduced by Gregg in 1924. There has been a trend away from the speed test as a sole instrument for measuring skill in advanced shorthand since 1950. Stenographic training was forced into the curriculum in the early 1900's by students' parents. Transcription has been taught as a separate course since the early 1950's. Four semesters of shorthand instruction have been the typical offering since 1910.

Development and Construction of Shorthand Textbooks

Cleary's study (32) was the development and construction of a textbook-workbook in transcription English, style,

and procedures to be used in transcription or pretranscription classes. His study also included teaching devices to be employed in using the textbook-workbook.

A beginning shorthand textbook developed and constructed by Brown (24) applied the psychological principles selected by Morrison.¹ Her textbook included 70 lessons organized into a one-semester shorthand course. The first two lessons contained two parts each and the remaining lessons each contained three parts. Each lesson was a complete cycle of reading, writing, transcribing, and proof-reading.

Simplified Shorthand Textbooks

Four studies were completed that pertained to analysis of Simplified Shorthand textbooks (207, 60, 211, 122). One study (207) pertained to job competency, one (60) to frequency of principles and abbreviating devices, and two (211, 122) to readability index of textbooks. These studies are discussed here in terms of: (a) job competency, (b) frequency of principles and abbreviating devices, and (c) readability of Simplified textbooks.

Job competency.--Tubbs (207) selected words having a business or economic meaning from four basic shorthand

¹Roland Leger Morrison, "An Examination of the Psychological Bases for Selected Methods of Teaching Gregg Shorthand" (unpublished Doctor's dissertation, Teachers College, Columbia University, 1953).

textbooks. In one class, no special emphasis was placed on the selected general business concepts, whereas the concepts were emphasized in the other class. The group in which the concepts were stressed improved in transcription accuracy by 23.1 percent.

Frequency of principles and abbreviating devices.--

Finney's study (60) made a comparison of the frequency use of 132 principles in Gregg Advanced Dictation Simplified and Gregg Transcription Simplified. Her study revealed that the number of applications by principle ranged from 0 to 1,201 and 0 to 1,062 respectively. One-fourth of the principles were applied 30 or fewer times in Gregg Advanced Dictation Simplified, while nearly one-third of the principles were applied 30 or fewer times in Gregg Transcription Simplified. One principle was not applied in either textbook. A comparison of multiple-principle words indicated 230 for Gregg Advanced Dictation Simplified and 144 for Gregg Transcription Simplified. This revealed considerable more multiple-principle words in Gregg Advanced Dictation Simplified. On the basis of the findings presented in this study, Gregg Advanced Dictation Simplified seems to have a higher frequency of principles and abbreviating devices than are found in the textbook Gregg Transcription Simplified.

Readability of Simplified Textbooks.--The studies

by Madrid (122) and Wallace (211) pertained to the

readability of Gregg Simplified textbooks. Madrid's study (122) was concerned with the readability index of shorthand textbooks when reading from the transcripts of the textbooks. Wallace's study (211) was concerned with the readability index of shorthand textbooks when reading textbooks from shorthand plates. The Gunning Fog Index formula and the Flesch "Reading Ease" formula were used for determining the readability levels of the shorthand textbooks in both studies (122, 211). Ten textbooks were included in the study by Madrid and eight were included in the study by Wallace. The following seven textbooks were included in both studies:

Gregg Shorthand Manual Simplified

Gregg Dictation Simplified

Gregg Speed Building Simplified

Gregg Transcription Simplified

Gregg Shorthand Simplified for Colleges, Volume I

Gregg Shorthand Simplified for Colleges, Volume II

Gregg Speed Building for Colleges in Simplified

In most instances, both formulas placed the textbooks on the level for which designated. The readability of the textbooks was rated slightly higher by the Gunning formula when reading from the textbooks transcripts of the textbooks and by the Flesch formula when reading from the shorthand plates of the textbooks. The textbook Gregg Shorthand Simplified for Colleges, Volume I was rated low in readability difficulty in both studies. Otherwise, the college textbooks were the most difficult to read.

Diamond Jubilee Shorthand Textbooks

Two studies have been completed pertaining to Diamond Jubilee Shorthand textbooks. One study (83) investigated the entry and frequency of phrases and the other study (96) reported the opinions of shorthand teachers concerning Diamond Jubilee Shorthand.

Frequency of phrases in Diamond Jubilee Shorthand textbooks.--The findings of Hartman's study (83) revealed that the majority of phrases and derivatives are presented in chapters 2, 3, 4, 5, 6, and 10. Although chapter 10 presented 144 phrases, they were seldom reviewed because of their late introduction. The frequency of the review of phrases ranged from 0 to 135 times. Furthermore, phrases were most frequently introduced and reviewed in contextual material and seldom by rules. Of the 848 phrases introduced, 360 were never reviewed and another 315 were reviewed 5 times or less. Therefore, only 173 phrases were reviewed more than 5 times.

Teacher opinions regarding the Diamond Jubilee textbook.--Generally speaking, the teachers surveyed in Jaeger's study (96) believed that Diamond Jubilee textbooks results in easier learning for the students. Furthermore, Diamond Jubilee textbooks provide for better transcription skills compared to Simplified Shorthand textbooks.

Other Textbooks

Richard's study (164) was an analysis of 13 shorthand textbooks to determine how many of the first 1,000 words presented in each textbook appears on the 1,000 high-frequency list prepared by Silverthorn.¹ Those textbooks analyzed were: Carter Briefhand; Forkner Alphabetic Shorthand; Gregg Shorthand, Diamond Jubilee; Hy-Speed Longhand; Pitman Shorthand; Quickhand; Rapid Writing; Shortrite; Speedwriting; Stenograph ABC Shorthand; Stenospeed ABC Shorthand; Stenotype; and Thomas Natural Shorthand. His study revealed that Rapid Writing ranked first, with 59 percent of the 500 words presented included in the 1,000 high-frequency words. Quickhand was the lowest with 30.4 percent. Furthermore, only 44.9 percent of the first 1,000 words presented in Rapid Writing were on the 1,000 high-frequency list. This means that 55.1 percent of the first 1,000 words learned by the students will not be used in 80 percent of all dictation. The other shorthand systems had a lower percent of words included in the first 1,000 high-frequency words. From 144 to 372 of the first 1,000 words presented in each of the 13 systems are not found in the total 4,949 high-frequency list, which contains 95 percent of all running words in business communication.

¹James E. Silverthorn, Word Division Manual, (Cincinnati: South-Western Publishing Company, 1961).

Changes in Gregg Shorthand Textbooks

Studies by Curtin (40), Gross (71), Connelly (35), and Aldridge (2) pertained to changes in Gregg Shorthand textbooks. Two of the studies (2, 71) involved changes in principles and abbreviating devices, one study (40) was concerned with changes in brief forms, and one study (35) pertained to changes in general.

Changes in principles and abbreviating devices.--

The study by Gross (71) was concerned with changes in the 1916, 1929, 1949, and 1963 editions and the study by Aldridge (2) was concerned only with the changes in the 1963 edition. The 1929 edition eliminated 23 principles and abbreviating devices; from 1929 to 1949, 53 were eliminated (71); and from 1949 to 1963, 25 were eliminated (2, 71). All four editions contained 101 principles and abbreviating devices. Of these 101 principles and abbreviating devices, 22 appeared only in the 1916 edition, 5 in the 1929 edition, 5 in the 1949 edition, and none in the 1963 edition. Eighteen which appeared in the 1916, 1929, and 1949 editions were eliminated in the 1963 edition. Word beginnings, disjoined decreased from 48 in 1916 to 11 in 1963. This principle decreased more than any of the others. Thus, the trend appears to be to fewer disjoined outlines. Although the 1963 edition showed a reduction in the number of principles, the greatest number was eliminated between the 1929 and 1949 editions. Also, the percentage of

increase in strokes needed to write contextual material was greater in 1949 than in 1963. Of the strokes added in 1949 and 1963, 38.8 percent and 19.9 percent, respectively, were caused by revision of principles and abbreviating devices. Of those words revised, 37.4 percent in 1949 and 34.8 percent in 1963 were caused by changes in principles and abbreviating devices. Only 8 of the 37 principles and abbreviating devices recommended for elimination in the 1963 edition were actually eliminated, 2 were altered, and 27 were retained (71).

The study by Aldridge (2) revealed that the 25 principles eliminated in the 1963 edition affect 2,741 words. Of the 2,741 words affected, 2,050 were spelled out and 691 were transferred to other principles. Furthermore, 9 principles were altered and 4 of the principles affected 51 words. Three other principles were altered that did not cause a change in the number of words. Although the altered or eliminated principles did not affect 87 of the 96 remaining principles, the words representing these principles increased from 14,760 to 19,750 in the 1963 edition. Nine principles were completely unchanged; however, the number of words were affected by transfers from eliminated principles and new words.

Changes in brief forms.—Curtin's study (40) revealed that 592 brief forms were eliminated from the 1916 edition to the 1963 edition. The most brief forms eliminated in any

revision was 392 in the 1949 edition. Furthermore, 119 brief forms were eliminated in the 1929 edition and 81 brief forms were eliminated in the 1963 edition. In each edition, the total number of brief forms decreased and the number of changed outlines for brief forms increased. A total of 122 brief forms retained the same outline in all four editions. The largest increase in required strokes to write business word context was 536 in 1949. There was an increase of 321 strokes in 1963. Furthermore, 61.9 percent and 65.3 percent, respectively, were the result of changes in brief forms. In 1949 the number of revised outlines was 409 compared to 282 in 1963, with 60.5 percent and 80.1 percent, respectively, a result of changes in brief forms. Of the 36 brief forms recommended for change, 19 were actually eliminated in the 1963 edition, 16 remained unchanged, and the outline was changed for 1.

Formulas for Determining Difficulty
of Dictation Materials

Eight studies were completed that pertained to the difficulty of dictation materials. Five of these research studies (91, 41, 57, 156, 8) were related to Simplified Shorthand, two research studies (131, 208) to Diamond Jubilee, and one research study (57) pertained to Pitman Shorthand.

Simplified Shorthand

Curtin's study (41) pertained to the use of the cloze score procedure for determining difficulty of dictation material. The predictive scores for the cloze procedure consisted of vocabulary level index, syllabic intensity, and number of different words in the material. None of the three predictive measures correlated high enough with shorthand errors to be used as a measure of the difficulty of dictation material. The vocabulary level index had the highest correlation with shorthand errors with .50. Cloze score and vocabulary level index correlated the highest with .78. The relationships between shorthand errors and syllabic intensity and shorthand errors and number of different words were only slight.

Hillestad's study (91) was an attempt to develop a multiple regression equation that would predict the number of errors students are likely to make when recording a shorthand dictation test. Her study revealed that six variables were significant in predicting the number of errors a student is likely to make in recording a shorthand dictation test: syllabic intensity, vocabulary level, oo sounds, o sounds, terminal t's, and word beginnings. Furthermore, syllabic intensity and vocabulary level index contribute over 73 percent of the criterion variance. Since the number of words beyond the 1,500 most frequently used words were highly correlated with vocabulary level index, the number of words beyond

the 1,500 most frequently used words was substituted in the formula. The results was an $R^2 = .78$. Thus, the number of words beyond the 1,500 most frequently used words were used in the formula with syllabic intensity.

The validity and reliability of the formula developed by Mildred Hillestad (91) were investigated by Peterson (156) and Baggett (8). While Peterson constructed the letters used in his study, Baggett selected six letters from those Hillestad constructed. By gradually increasing the syllabic intensity and the number of words not in the first 1,500 words, Peterson (156) constructed eight letters of varying difficulty. He concluded from the findings of his study that the formula developed by Hillestad could not be used for consistently predicting the difficulty of dictation material. From the 100 letters constructed by Hillestad, Baggett (8) selected six letters. Letter 1 was considered the least difficult and Letter 6, the most difficult. Using a table of random numbers, 50 papers were selected from 600. The mean number of errors per letter ranged from 2.31 to 8.65. The order of difficulty was revealed 2, 3, 4, 1, 6, and 5, rather than 1 through 6 as predicted. Furthermore, the students found different letters difficult. These findings, therefore, indicate that the formula was not valid in predicting the order of difficulty for this group of students.

Diamond Jubilee Shorthand

Using the 100 letters constructed by Hillestad (91), Uthe (208) developed a multiple regression that would predict errors a student would likely make in recording a shorthand dictation test in Diamond Jubilee Shorthand. Her study involved 35 variables compared to 16 in Hillestad's study. Uthe's study revealed that brief forms, words beyond the 1,500 most frequently used words, and endings would best predict errors made by fourth-semester high school students recording dictation at 80 words a minute. The only variable appearing in both formulas was words beyond the 1,500 most frequently used words.

On the basis of Uthe's formula (208), Meyer (131) selected 12 letters from the 100 used in Uthe's study. Meyer's study (131) was to test the reliability and validity of the formula developed by Uthe. The findings of her study revealed that the formula may identify the extremely easy or difficult material but did not make a distinct division between other levels of difficulty. Other than for Letter 9, the correlations did not seem to follow any definite pattern as far as total errors or letter difficulty was concerned.

Pitman Shorthand

Farmer's study (57) revealed that the formula developed by Hillestad (91) could be used successfully in

establishing two levels of difficulty when using Pitman materials. The medium and difficult letters were significantly different, while the easy and medium letters were not significantly different. Furthermore, the easy and difficult letters were significantly different. No significant interaction was found among the levels of difficulty with the six shorthand classes studied, as was revealed by Baggett's study (8).

Implications

Research indicates that although brief forms account for 51 percent of all words written, they account for approximately 15 percent of all errors made in shorthand dictation notes. Furthermore, many incorrectly written brief forms are transcribed correctly.

Since some brief forms and principles that were changed from Simplified to Diamond Jubilee had lower error rates than some that were not changed, there did not appear to be a systematic basis for determining those brief forms and principles to be changed. In some instances, those brief forms and principles changed caused more errors than those not changed, even though the changes were recommended by research.

Accuracy of writing brief forms and brief form derivatives are significantly correlated. All brief form derivatives except enclosed have higher error rates than

the brief form root words. Thus, it appears that more emphasis needs to be placed on writing brief form derivatives.

Some of the more frequent principle errors made in recording dictation material are omission of strokes, addition of unnecessary strokes, and proportion. At least 50 percent of the errors are caused by too many strokes; however, there are more correct responses when there are too many strokes than when there are too few strokes. These findings tend to indicate that shorthand outlines should be written in full. Since errors in proportion and shorthand notes tend to increase as dictation speed increases, proportion and control should be stressed throughout the entire shorthand learning process.

Principles tend to be applied more frequently when writing familiar words than when writing unfamiliar words. Students tend to write blends for familiar words but write out each stroke when constructing new words. Perhaps more practice should be given in constructing unfamiliar words.

In both Simplified and Diamond Jubilee, substituted words represent the highest percentage of transcription errors. Omitted words are the second largest category. Furthermore, 20 percent of the omitted words in the transcripts appear in the shorthand transcripts of all students observed except elementary Diamond Jubilee students. These findings tend to indicate that reading ability is closely

related to transcription accuracy and perhaps should be stressed more.

Although students using Diamond Jubilee write more accurate brief forms and brief form derivatives, a much higher percent are transcribed incorrectly from Diamond Jubilee than from Simplified. The students using Simplified Shorthand are more accurate in recording shorthand outlines and in transcription of incorrectly written words. These findings tend to indicate a negative on achievement of students using Diamond Jubilee Shorthand.

Although the memory load was decreased from Simplified to Diamond Jubilee, overall error percentages have risen. This does not indicate a close relationship between memory load and shorthand achievement.

Although neither Forkner Shorthand nor Gregg Diamond Jubilee Shorthand can meet a minimum vocational requirement of 80 words a minute in one year, the Forkner students achieve significantly higher levels than the Gregg students. As a one-semester course, Briefhand also appears to be superior to Gregg Shorthand. These findings seem to indicate that other alphabetic systems may be superior to Gregg for students taking shorthand for non-vocational purposes.

Non-typewriting activities consume almost twice as much of the total transcription time as typewriting activities. Erasing and correcting errors rank first in total time consumed by a non-typewriting activity. Therefore,

non-typewriting activities should be stressed in the transcription class.

Accuracy of shorthand outlines is significantly correlated with accuracy of transcription, and frequency rank of the word appears to have some relationship to correct response. As the words become longer, error rates tend to increase. Errors that do not seem to affect the accuracy of transcription are: writing the major or minor vowel when the official outline omits it, writing separate characters for a blend, and word beginnings and endings. Errors that do affect transcription accuracy are omitting the major or minor vowel when the official outline includes it.

The readability of Gregg Shorthand textbooks was determined for textbook transcripts and also from textbook shorthand plates. With the exception of Gregg Shorthand Simplified for Colleges, Volume I, the textbooks are used on the level for which designated. The college text appears to be too easy for the level on which it is used. In revising the college text Gregg Shorthand Simplified for Colleges, Volume I, textbook authors should consider the readability index.

Many phrases are presented too late in shorthand textbooks for reviewing. Therefore if phrasing is important in building shorthand speed, phrases should be presented earlier in the textbook to allow for adequate review.

Thirteen shorthand textbooks were investigated and revealed that a large percentage of the first 1,000 words presented in them are not in the first 1,000 most frequently used words. This means that many of the first 1,000 words are not included in 80 percent of all dictation. From 144 to 372 of the first 1,000 words presented in the 13 textbooks are not found in the total 4,949 high-frequency list. The high-frequency list contains 95 percent of all running words in business communication. These findings indicate that students are being required to learn too many words that are not used in recording dictation.

Although many changes have been made from the 1916 edition to the 1963 edition, more changes took place in the 1949 edition than in any other revision. This revision included the elimination of the largest number of principles and the largest percentage of increase in strokes needed to write contextual material. The largest number of brief forms was eliminated in the 1916 edition.

Research was completed in which formulas were developed for predicting the difficulty of dictation materials. The only common predictor in the two formulas was the words beyond the 1,500 most frequently used words. Both formulas were found to distinguish between easy and difficult material but not easy, medium, and difficult material. These formulas may be used to provide materials of the same level of difficulty for practice and testing.

CHAPTER VII

OCCUPATIONAL INFORMATION

The research studies discussed in this chapter are those dealing primarily with problems related to office occupations. Of the 220 research studies included in this investigation, 21, or 9.5 percent, were in this category.

Although this type of research can be very beneficial, it seems to be decreasing rather than increasing in amount. Sixteen of the twenty-one studies were completed from 1957 through 1962. Only five studies have been completed in this problem area since 1962. The 21 research studies pertaining to occupational information are discussed here in terms of: (a) general information, (b) opinions of graduates, (c) opinions of employers, (d) problems beginning secretaries experience, (e) use of shorthand in employment, (f) pen shorthand and machine shorthand, (g) dictation practices and procedures, (h) transcription practices and procedures, (i) court reporters, (j) shorthand integrated with business machines and filing, (k) geology, (l) deviations from Gregg Shorthand Simplified, (m) history of the male stenographer, and (n) National Business Entrance Test.

General Information

The study by Silvoy (186) revealed that 91 percent of the employers give pre-employment tests and that dictation-transcription tests were given most frequently. Furthermore, no orientation periods were provided for new employees (186).

During the period 1957-1967, only one study was completed which pertained to types of stationery, letter styles, styles of punctuation, et cetera. The study by Joseph (102) indicated that over 97 percent of all stationery used by business firms was 8½ x 11, and the depth of printing letterheads ranged from ½" to 3". The most common depth of printing letterheads was 1" to 2". Over 90 percent of the firms use the #10 envelope and over 60 percent use the block letter style. Furthermore, over 80 percent of the firms use only one letter style and over 60 percent single space all letters. Mixed punctuation was favored by over 80 percent of the firms. When the attention line was used, over 70 percent typed it on the left margin. There was more uncertainty with regard to the subject line. The addresses' name, page number, and date were used in the second page heading of a letter by over 60 percent of the firms. The four most frequently used complimentary closes were: Very truly yours, Yours very truly, Sincerely, and Sincerely yours. Furthermore, a majority of the firms use the initials of both the dictator and stenographer and require a carbon copy of outgoing letters.

Interoffice memos were usually 8½ x 11 and single spaced. A complimentary close was never used on memos by 55 percent of the firms. The items most frequently included in the heading of a memo were: "Date," "To," "Subject," and "From" (102).

Opinions of Graduates

In several instances, the graduates believed that their high school shorthand training was adequate (152, 37, 191, 103). Although many of the graduates considered their shorthand training adequate, they believed more emphasis should be placed on typewriting accuracy, spelling, punctuation, proofreading, syllabication, transcription speed, and office-style dictation. The survey by Pederson (152) indicated that academic credit was not received for shorthand. Several graduates indicated they would have taken more shorthand courses if credit had been given. Letters of application, friends, and private employment agencies were the best sources of employment. Most of the graduates in Pederson's survey (152) were satisfied with their jobs. The study by Cottongim (37) indicated that the following fundamentals were rated "most important" or "very important" in shorthand instruction: ability to transcribe notes accurately, desirable business personality traits, grooming for interviews, ability to take dictation, finding a job, office grooming, correct telephone usage, and alphabetical filing.

Opinions of Employers

Of the employers surveyed, 51.6 percent were satisfied with their employees and 33.7 percent were very satisfied with their employees (191). Employers ranked personality and appearance first and second, and test results were ranked third (103). Deficiencies most frequently reported were: a tendency to waste time (103), spelling ability (103, 186, 191), punctuation (103, 186, 191), failure to check their work (186), and incorrect grammar and composition (186). Other areas of weaknesses included personality (175, 186), lack of initiative (186, 175), failure to use common sense (186), a sense of humor (175), self-confidence, and self-discipline (175). Incompetencies reported by the businessmen include business language, ability to read cold notes, editing dictation, typewriter dictation, use of reference books, telephone dictation, and sustained dictation (186). Furthermore, significant reasons for dismissal were reported as follows: poor office conduct, lack of skill, neatness in work, honesty, and lack of accuracy (175). Thirteen of 17 employers recommended improvement in spelling and punctuation, vocabulary, and better attitude toward their work (103, 191).

Problems Beginning Secretaries Experience

Frazier's study (62) investigated 23 problems beginning secretaries experience in office dictation. Suggestions were made in the study as solutions for these problems. Her

study indicated that secretaries have certain obligations to their employers and in return can expect cooperation until they work out solutions to their problems. Many problems of the secretaries arise during transcription and are related closely to office environment, habits of the dictator, general and technical competencies of the secretary, and personality of the secretary. In the final analysis, each secretary must work out the solutions for most of her problems.

Use of Shorthand in Employment

Colvin's study (34) revealed that 20, or 64.5 percent, of 31 firms have employees who use shorthand on-the-job. Furthermore, 18 of the 20 have employees who make frequent use of shorthand, with law firms using shorthand the most. Thirty-eight percent of the industrial firms and 100 percent of the insurance companies use transcribing machines in lieu of shorthand. Of all the requests for employees received by employment agencies, 45.2 percent were for office workers with shorthand training, and only 57.9 percent of these requests were filled.

In many instances, shorthand was the difference between having a job and not having a job (191, 34, 152). Shorthand was considered important in getting a job by 50 percent responding to one survey (191) and 58.8 percent in another survey (34). Those individuals having the most

shorthand training made the most vocational use of their skill (103, 175). Of the graduates responding to various surveys, the percent using shorthand on-the-job ranged from 47.1 percent to 70 percent (34, 113, 119, 191). Furthermore, 20.6 percent (34) and 52 percent (103) frequently use their shorthand skill for personal use. Lawrence's study (113) indicated that 61.4 percent of those having two years and 78.1 percent of those having over two years of shorthand training made some use of shorthand on-the-job. Of those who made A's in shorthand, 75.3 percent used their skill frequently. Furthermore, nearly 78 percent of those making A's in English used their shorthand skill frequently. There also seemed to some relationship between the size of the school and the quality of shorthand training received by the students (113). A high school education was sufficient for most stenographic and secretarial jobs. A larger percentage of those receiving their training in a business college made considerable more use of shorthand vocationally, those who received their shorthand training in high school. Those who used shorthand more on-the-job also used it more for personal use (175). The most frequently given reasons for not using shorthand on-the-job were: lack of efficiency, dislike for shorthand, lack of confidence, and change in vocation (191). One survey indicated that 43 percent of the firms reported that women with shorthand have a better chance for promotion and men have a better chance for promotion in

13 percent of the firms (119). In some instances, those employees having shorthand drew higher salaries (119, 113); however, in recent years those employees having shorthand actually received lower salaries (113).

Typewriting was the only skill used more on-the-job than shorthand (103). Furthermore, typewriting, filing, and calculating machines were used more frequently on-the-job than shorthand by over 50 percent of the employees (113). Shorthand was required by over 50 percent of the machine transcribers (103). High school training had been received on transcribing machines by 73.5 percent of the respondents to Colvin's survey (34) and 29.4 percent used transcribing machines frequently on-the-job.

Pen Shorthand and Machine Shorthand

The study by Manos (125) indicated that shorthand skill is used on-the-job regardless of the system. Since the machine operators are employed in legal offices, they frequently draw higher salaries; however, legal secretaries automatically command higher salaries. Employees entering the general business field are paid the same regardless of the shorthand system. The pen writer, however, still rules the general business area. Although many uses have been found for machine shorthand, many businessmen believe that the machine will never replace pen shorthand. Of the businessmen who favor machine shorthand, 73 percent or

more are not willing to purchase the machine. There is more to a good secretary than the system of shorthand used (125).

Dictation Practices and Procedures

The study by Lewis (117) revealed that 9 out of 17 businessmen dictate punctuation and paragraphs, while 5 dictate only paragraphs. The name of the individual to whom the correspondence was going was spelled out by 10 of the 17 businessmen (117). Dictation requirements were seldom given. However, the most frequently reported dictation requirements were 70 to 80 words a minute. The highest requirement reported was 130 words a minute, the lowest was 50 words a minute (186).

Transcription Practices and Procedures

The study by McCord (128) revealed that businessmen do classify errors according to the seriousness of the error. A majority of high school business teachers surveyed by McCord, agreed on 79 percent of the error classifications made by the businessmen. The errors were classified as major, minor, and insignificant. Major errors were those that might lead to falsification, any error that reflected discredit to the sender, an error that occurred frequently within the same copy, extreme placement of style, and an error that could only be corrected by retyping. Minor errors were those that could be easily corrected, any discredit to the sender would be slight, a strikeover letter, and errors half erased.

Insignificant errors included extra spacing between words, irregular stroking not to exceed one per line, insertions that did not change the meaning, and letter placement errors. Furthermore, approximately one-third of the businessmen would make a pen correction on correspondence of average importance (128). Other businessmen indicated that pen corrections were permitted with reservations (117).

Court Reporters

The study by Shankel (183) pertained to court reporters in Kansas, while the study by Reese (162) pertained to court reporters in Illinois. Reese's study (162) further indicated that 80 percent of the reporters use Gregg Shorthand; whereas, Gregg Anniversary was used by 65 percent of the pen writers in the study by Shankel (183). The average speed for pen writers was 150 words a minute compared to 200 words a minute for the machine writers. Most of the recorders transcribe their own notes (183). Generally, the younger reporters were machine writers and the older reporters were pen writers. Of 13 reporters, with 5 years or less experience, 11 were machine writers. Some had changed to machines because they were less tiring, more accurate, easier to read the notes, higher speeds, and interesting though less flexible (183).

A broad general background is essential to enable a court reporter to record and transcribe his notes (162, 183). Business colleges are the most common source for this

special training in court reporting. Personal qualities necessary to become a court reporter are: honesty, loyalty, impartiality, endurance, integrity, dexterity, perserverance, and amiability. Furthermore, job competencies include shorthand writing speed, extensive vocabulary, typewriting speed and accuracy, English background, complete mastery of a shorthand system, and desire to improve (183). Working hours are long and pay is \$6,500 or \$6,000 depending on the size of the city, and tenure is not provided (162).

Shorthand Integrated with Business Machines and Filing

Of those graduates who had completed the integrated course, 84.8 percent held jobs classified as office clerk typist, bookkeeper, and secretary. Furthermore, 79.5 percent have held the same job since graduation. The most common skill used by these graduates was the manual typewriter. Although 70 percent of the instruction time was devoted to shorthand, only 37.6 percent of the graduates used shorthand on-the-job; whereas, 84.8 percent performed filing duties on-the-job (107).

Geology

A study by Laughlin (112) was completed to determine shorthand terms used most frequently in Geology. More competent secretaries are needed in the area of geology in order to save valuable time of the geologist.

Deviations from Gregg Shorthand On-the-Job

The study by Gaffga (65) was to determine the deviations employees make from standard Gregg Simplified Shorthand after being employed. Of the 15 rules she investigated, variations were high enough in only 4 of the 15 rules to indicate that the rule should be critically examined. Three of these 4 rules were changed in the Diamond Jubilee revision. Those rules changed in the Diamond Jubilee edition were: (a) past tense "-ded," (b) past tense "-ed," and (c) treatment of amounts and quantities. Other than these 4 rules, Simplified Shorthand seemed to be meeting the vocational needs of shorthand writers.

History of the Male Stenographer

The history of the male stenographer was investigated by Rider (167). He discovered that the male stenographer evolved primarily from necessity during the Industrial Revolution. The development of the typewriter and a changing attitude had a great deal to do with women stenographers replacing male stenographers. Newspapers were among the first to hire male stenographers, which brought about the use of shorthand in courts, legislatures, and conferences. Some businesses still prefer male stenographers, but women far outnumber men in this field. There still appears to be opportunities for the young male stenographer.

National Business Entrance Test

Natale's study (140) was to determine the reliability and validity of the stenographic test and the typewriting test of the NBET for predicting stenographic success on-the-job. Natale concluded that based on job analysis, careful examination of literature, and judgement of business educators, the stenographic test does possess high content validity. The validity coefficient computed indicated that the stenographic test was not valid. However, the reliability coefficient indicated that the test measures consistently.

Implications

The graduates surveyed considered their high school shorthand training adequate. Yet, many of them were not using their shorthand skill because of lack of efficiency, dislike of shorthand, lack of confidence. Furthermore, research reveals that the more shorthand training the individual possesses the more shorthand will be used vocationally and for personal use. Therefore, each student should endeavor to build a high degree of skill.

A very high percent of the firms surveyed are uniform in stationery size, envelope size, letter style, punctuation, placement of attention line, complimentary close, and basic format of the letter. Thus, more time may be available in shorthand and transcription to teach other factors involved in the overall transcription process.

Employees with skills in shorthand are in great demand regardless of the system. Only a little more than one-half of the requests for office workers with shorthand are filled. Although some companies prefer machine shorthand writers, a high percent of the managers will not purchase the machine for the operator. These findings indicate a need for more office workers with shorthand skill.

Employers consider personality and appearance before skill when hiring employees. The reasons given most frequently for dismissal of employees are: poor office conduct, lack of skill, neatness in work, honesty, and lack of accuracy. These findings indicate a need for more information to be taught in the stenographic curriculum.

Businessmen and business educators generally agree on the seriousness of errors as major, minor, and insignificant. Thus, business educators should be able to train employees that will be acceptable to businessmen.

Of a small number of businessmen surveyed, approximately 50 percent give punctuation and paragraphs when dictating. Names are spelled out by nearly 60 percent of the businessmen. Furthermore, the dictation speeds most frequently range from 70 to 80 words a minute.

The most valuable asset of a court reporter is a broad general background. Although there are both machine and pen court reporters, the trend in recent years is to machine writers. The machines are capable of higher speeds

and are less tiring. Machine shorthand is more interesting, more accurate, and easier to read.

Research reveals that only 4 of the 15 rules in Simplified Shorthand are deviated from frequently enough to cause critical evaluation of them. Of these 4 rules, 3 were changed in the Diamond Jubilee revision. These findings tend to indicate that the rules studied in Simplified are adequate for vocational use.

Although the male stenographer once outnumbered the female stenographer and was in great demand, this situation has changed. Male stenographers are preferred by some companies but are far outnumbered by female stenographers.

CHAPTER VIII

MISCELLANEOUS

Those studies that did not fall logically under one of the specific categories are presented in this chapter. Of the 220 research studies in this report, 14, or 6.4 percent were classified as miscellaneous. All of these studies were completed in 1957, 1960, 1961, 1965, 1966, and 1967.

The 14 studies are discussed here in terms of:

(a) evolution of shorthand, (b) characteristics of shorthand teachers, (c) the status of shorthand, (d) the value of a note-taking device, and (e) the effect of shorthand on other subjects.

Evolution of Shorthand

One of the studies (163) completed in 1967 was concerned with the evolution of shorthand. Shorthand was first used by people who were scholarly, prominent, and wealthy. During this time, shorthand was self taught. Shorthand did not become part of the high school curriculum until the Industrial Revolution. Shorthand was first recognized for personal use. Later shorthand became recognized for vocational use; however, during the depression, the survival

of shorthand depended on its being recognized for personal use once again. The trend of the present-day Gregg Shorthand system is to simplicity rather than brevity (165).

Characteristics of Shorthand Teachers

Although studies pertaining to shorthand frequently included a chapter pertaining to characteristics of shorthand teachers, studies by Schutte (177) and Nelson (141) were devoted entirely to characteristics of business teachers. The study by Nelson (141) was restricted to a random sample of shorthand teachers in Tennessee. All of the 75 teachers held bachelors' degrees and 18 percent held masters' degrees. About one-half of the teachers, however, had not taken a course within the last five years and one-fourth took their last course more than ten years ago. The study further indicated that the average number of hours in shorthand instruction was about 12 quarter hours, but some of the shorthand teachers had no formal shorthand instruction. Furthermore, about one-fourth had not done student teaching in any business subject. Approximately 8 percent of the shorthand teachers responding to the survey were uncertified to teach shorthand (141). In Arkansas and Missouri a majority of shorthand teachers hold bachelors' degrees, while in Kansas and Oklahoma a majority hold masters' degrees (29). A study of Iowa teachers revealed that all teachers of shorthand held bachelors' degrees and about one-fourth of them held masters' degrees (121).

Although many of the teachers regularly read professional magazines, very few of them wrote articles for these magazines. Many belonged to state and local organizations, but less than 20 percent were members of the national organizations. Although nearly two-thirds had attended a local teachers meeting, less than one-half had attended a state meeting, and only three had been to a national meeting within the last four years. Of the 75 teachers responding, 34 percent had taught Anniversary; 98 percent, Simplified; and 13 percent, Diamond Jubilee. Only about 18 percent had taken a workshop or course for teaching Diamond Jubilee Shorthand. The amount of work experience possessed by these 75 teachers varied a great deal and a large part of the experience was several years old. However, only 1 of the 75 teachers had no work experience other than teaching and 82 percent had visited an office within the last four years (141). Over 80 percent of the Iowa teachers surveyed by MacRae (121) have some business or office experience.

The study by Schutte (177) was restricted to a sample of 189 typewriting and shorthand teachers in the suburban area of Chicago. This study was quite different from the study by Nelson (141). Schutte's study (177) indicated that there were more women than men teaching typewriting and shorthand. However, the men possessed more teaching experience and a larger percent were married. Of the men teachers surveyed, 80 percent did not teach shorthand and taught

typewriting only, as compared to 43 percent of the women who did not teach shorthand and 39 percent taught typewriting only. Those teachers ranked first by their department chairman are older and have more experience. Of those characteristics studied by Schutte, teachers having bachelors' degrees were rated higher than those having masters' degrees on exhibition, change, masculinity-femininity, and hypomania and they were lower on religious values, deference, order, endurance, and social introversion. Men teachers rated significantly higher than women teachers on economic values, political values, achievement, autonomy, dominance, aggression, and ego strength. The men rated significantly lower than the women on aesthetic values, affiliation, succorance, change, depression, masculinity-femininity, low back pain, dependency, and Edwards Personal Preference Schedule score.

Karaim's study (105) reported that 54 percent of the shorthand teachers had not had any shorthand training in high school. Two of the respondents had as little as one semester of shorthand instruction and three had completed more than four semesters of shorthand training. Thirty-three of the teachers had not taken a shorthand methods course.

The Status of Shorthand

In some instances, a majority of schools reported that two years of shorthand instruction were offered (29, 121); whereas, another study indicated that only one year of shorthand was offered by a majority of schools (139).

There seemed to be a disagreement on whether shorthand enrollment is increasing or not. Two studies indicated a definite increase in shorthand enrollment (107, 121), while another study (139) reported a decrease in shorthand enrollment. Baumgardner's study (13) revealed that shorthand enrollment has increased in 49 percent of the schools in the Toledo area, decreased in 32 percent of the schools, and remained unchanged in 14 percent of the schools. MacRae's study (121) indicated an increase in mean class size for Shorthand I in Iowa from 14.5 in 1954 to 16.1 in 1959. Johnson's study (100) indicated a majority of Shorthand I classes ranged in size from 25 to 30 students. The average class size remained relatively steady for Shorthand II (121). Although some boys did take shorthand (29, 121), the ratio of girls to boys rose from 1954 to 1959 (121). Kansas reported the largest number of boys taking shorthand (29). Another study (53) revealed that 3 percent of the enrollment in Shorthand I was boys.

Various comments were received from shorthand teachers and administrators concerning one-year shorthand programs. Most teachers believed there was not sufficient time to develop the entire transcription process (139). Furthermore, a large majority of teachers and administrators believed that shorthand should remain in the curriculum as a two-year course (105, 121, 145, 173), and transcription should be taught during the second year (145, 173). Still other

teachers believed that transcription should be introduced during the second semester of the first year of shorthand (28). Care should be exercised to avoid transcription being introduced too early (179). The reasons given most frequently for offering two years of shorthand were: (a) two years are necessary for employment, (b) sufficient transcription training can not be developed in one year, and (c) one year does not provide enough experience to master the skill (105). Transcription has been incorporated into the curriculum in various ways. Five different arrangements are: (a) last few weeks of first-year shorthand; (b) secretarial practice class; (c) during the third and fourth semesters, alternating shorthand and transcription; (d) double period; and (e) fourth semester of shorthand instruction (145). One study (81) indicated that 91.4 percent of the schools did not have a separate period for transcription. No matter how transcription is taught, it should move from the simple to the complex (179).

A very small percent of administrators and teachers believed that the voice writer will replace shorthand. Ehley's study (53) further revealed that 95 percent of the administrators and 96 percent of the teachers believed shorthand should remain in the high schools as a two-year program. Shorthand was favored as being offered in the eleventh and twelfth grades (53, 29, 13). Generally speaking, shorthand class periods ranged from 50 to 60 minutes in length (29, 53).

Ninety percent of the teachers believed that their students were average or above average in ability. No indication was given as to what was considered average or above average (105).

The Value of A Note-Taking Device

Bollum's study (20) revealed that 59 percent of the students who took the vocational shorthand course used brief forms for note-taking. Furthermore, 35.7 percent used the course for summer work. A t-test revealed no significant difference in college achievement between those students who had taken shorthand and those who had not.

Studies by Malone (124), Feitelson (58), and Wallen (212) were completed in order to determine the value of Notehand as a note-taking device. Wallen's study (212) revealed that Notehand was used by 50 percent of those students surveyed. Another 23.1 percent indicated that the course was of little or no value. Notehand was used frequently for note-taking in history, English, and science. When typewriting and Notehand were offered together, 87 percent of the students believed the time spent on Notehand was adequate. Furthermore, 58.3 percent were in favor of the two courses being integrated. All of the students responding to his survey believed that Notehand should be offered only to average and above average students. Ninth grade was favored by 58.8 percent as the most appropriate grade

for offering Notehand. Feitelson's study (58) revealed that 66 percent of the schools she surveyed offer Notehand for one semester. Many of the students believed that the course was too short. When asked whether Notehand improved their study habits, 3 replied a "great deal," 27 replied "somewhat," and 12 replied "none at all". Seventy percent of the students believed that Notehand had improved their ability to organize and 75 percent indicated that Notehand made them more attentive listeners. Malone (124) found that college students with skill in Notehand used Notehand most frequently for lectures, personal notes, reference work, and rough drafts. Notehand was never used for correspondence, shopping lists, reports and club minutes. Those graduates employed use Notehand most frequently for telephone conversations, vocational purposes, personal notes, and shopping lists. Notehand was never used for correspondence, outlines, rough drafts, club minutes, and speed work. Notehand was rated of average or above average value by 97.4 percent of the graduates responding to Malone's survey. The graduates believed that more time should be devoted to transcription from longhand to Notehand, personal appearance of speakers, reading and writing exercises, and preparing for examinations.

The Effect of the Study of Shorthand
on Other Subjects

The studies by Benda (16), Jenson (97), and Kolpack (109) were completed as attempts to determine whether other

subjects are effected by the study of shorthand. Another study by Sharp (184) was to investigate the effect of shorthand on English. The three studies (16, 97, 109) revealed that shorthand did not affect spelling ability. Furthermore, Benda's study (16) indicated that the group was statistically significantly higher in spelling ability after one semester of shorthand training. Kolpack (109) found that the shorthand groups were more accurate spellers. The study by Sharp (184) indicated that shorthand students made higher English scores on a pre-test and a post-test than English students not enrolled in shorthand. However, the English students showed a higher gain in English ability.

Implications

Research indicates that some shorthand teachers have not had formal shorthand instruction. Furthermore, some business teachers have not had a shorthand methods course or student teaching in any business subjects. If the quality of student instruction is to improve, shorthand teachers will have to be better trained.

Since over 80 percent of all teachers responding to various surveys have some type of office work experience, the majority of shorthand teachers should be aware of what occurs in the business office. Therefore, the teachers with office experience should be able to better prepare shorthand students for office work.

Despite the rumor that enrollment in shorthand is decreasing, the research indicates a slight increase in enrollment in shorthand. There appears, however, to be a decrease in the number of boys enrolling in shorthand.

Teachers teaching one-year shorthand courses indicate that one year does not allow sufficient time to develop the whole shorthand-transcription process. Other teachers and administrators surveyed indicate that shorthand should remain in the curriculum as a two-year course; they favor shorthand being offered in the eleventh and twelfth grades.

Of those teachers concerning the quality of students enrolling in shorthand, 90 percent believe their students are average or above average. If this is true, shorthand teachers should have a higher percentage of students that meet minimum requirements.

Research indicates that college-bound students do make use of Notehand and other note-taking devices. A majority of the students surveyed indicate that they are in favor of Notehand and personal typewriting being combined as a one-year pattern. Furthermore, they favor the courses being offered in the ninth grade. Research also indicates that 70 percent of the students surveyed believe that Notehand improves their ability to organize, and 75 percent reported that Notehand improves their ability to listen. Thus, it seems that Notehand may be a valuable course for college-bound students.

CHAPTER IX

SUMMARY

This study was an attempt to accumulate and present information to be used in the improvement of instruction in shorthand and transcription. This report consists of a comprehensive bibliography of research studies in shorthand and transcription, an abstract of each research study included in the study, and a synthesis and classification of research findings pertaining to shorthand and transcription.

Restatement of the Problem

The problem of this study was to make more meaningful, manageable, and useful the mass of research findings and conclusions revealed in the formal research pertaining to shorthand and transcription that was accomplished between January 1, 1957 and December 31, 1967. The intent was to analyze, classify, and synthesize, and summarize to the extent required to cause the implications in the total of that research to take on significance greater than can be realized from isolated research units.

The procedure employed in this study consisted of the following: (a) preparation of the bibliography,

(b) collection and organization of the abstracts, (c) analysis and synthesis of the data, and (d) preparation of the report.

The 220 research studies included in this investigation were divided into six problem areas: instructional materials and aids in shorthand and transcription, methods of teaching and standards in shorthand and transcription, achievement in shorthand and transcription, analyses and comparisons in shorthand and transcription, occupational information, and miscellaneous. The data pertaining to each problem area were carefully studied and a synthesis was made of the major findings in each area. The data were further studied to determine some of the trends, problems, and needed research in shorthand and transcription.

Characteristics of 220 Research Studies

Of the 220 research studies included in this study, 149, or 68 percent, were masters' theses and 71, or 32 percent, were doctoral dissertations. The largest number of masters' studies were completed in 1960 with 20. The largest number of doctoral studies were completed in 1967 with 18. During the period from 1958 through 1962, the number of doctoral studies remained relatively stable.

The 220 research studies were divided into six categories. Those categories and number of abstracts included in each are: instructional materials and aids in shorthand and transcription, 45, or 20.5 percent; methods of teaching and standards in shorthand and transcription, 41, or 18.6

percent; achievement in shorthand and transcription, 48, or 21.8 percent; analyses and comparisons in shorthand and transcription, 51, or 23.2 percent; occupational information, 21, or 9.5 percent; and miscellaneous, 14, or 6.4 percent.

The four methods employed and number of times each was used are: normative or descriptive survey, 143, or 65 percent; construction of tests and materials, 20, or 9.1 percent; historical, 8, or 3.6 percent; and experimental, 49, or 22.3 percent.

The sources of data included students, graduates, business educators, businessmen, school personnel, educational records, literature and research, textbooks, and test materials. Students were by far the most frequent source of data with 163, or 54.3 percent, of the 300 contacts. None of the other sources was near this frequency in use.

The data were collected from these sources by means of tests, analyses and reviews, questionnaires, interviews, and check lists. Tests ranked first in frequency of use with 132, or 44 percent, of the 300 contacts. The questionnaire and analysis and review ranked second and third with 72 and 71 uses respectively.

Among weaknesses noted in the 220 research studies investigated, the major weaknesses were: (a) The problem statements were frequently stated in terms of purposes of the studies rather than the specific problems. (b) Some procedures were not given in the procedures sections,

procedures were not described clearly, and sampling procedures were inadequate. (c) The findings were not summarized and findings were not supported by the data in the study. (d) In some instances, conclusions and recommendations were excessive in number and the contents were unrelated to the findings of the particular studies.

Selected Findings

The findings of the 220 research studies are briefly summarized in the following statements:

Materials and Aids

1. Students subjected to dictation from materials enriched with brief forms and principles content do not perform significantly better than those students not subjected to such materials.

2. Students receiving shorthand instruction from electronic dictation equipment achieved significantly higher results in some instances and significantly lower results in other instances. However, student reaction to the use of electronic dictation equipment was favorable. Definite advantages of the equipment are: (a) provides time for the teacher to assist individual students and (b) provides for individual differences.

3. In 1964, only about 12 percent of the colleges and universities surveyed in four states have electronic dictation equipment. Another 25 percent are planning to purchase the equipment.

4. Programmed materials can be used effectively for teaching shorthand theory and Notehand theory, for reviewing punctuation in transcription, and for homework practice. Student reaction is favorable to programmed materials.

5. Student achievement in shorthand can be measured effectively by means of objective tests. Objective tests take less teacher and student time.

6. Audio-visual aids such as the tachistoscope and Skill-Builder can be used effectively in building speed in shorthand. Other popular and effective audio-visual aids include: chalkboard, bulletin board, records, tapes, and projectors. The use of audio-visual aids is increasing.

Practices, Procedures, and Techniques

1. Only one-half of Leslie's 20 principles for the teaching of shorthand are substantiated in psychological literature pertaining to practice and practice conditions. Seven of the methods proposed in various methods textbooks are not substantiated by research, whereas five of the methods proposed in methods textbooks are substantiated by research.

2. Those practices and procedures indicated by two or more studies as being useful in teaching shorthand are: the stressing of penmanship causes loss of shorthand speed; when presenting theory, shorthand outlines should be written on the chalkboard rapidly and fluently by the teacher; brief forms should be automatized; phrasing is

stressed in speed development; each homework assignment should be read at least once before the lesson is written; students should read extensively from their dictation notes; tapes and records should be used for outside-of-class practice; some easy and familiar material should be given for building speed; large quantities of previewed dictation should be given; dictation should be previewed to build fluency and accuracy; and the Pyramid Plan and the One-Minute Plan are used most frequently for building speed in shorthand.

3. Spending two days on each theory lesson does not achieve significantly higher results. Low ability students receive no particular benefit from this procedure.

4. Students using textbooks marked off in thought units show slightly more progress in reading, accuracy of writing vocabulary words, and transcription speed.

5. High ability students achieve better results by means of the reading approach, while low ability students achieve equally as well by either the reading or writing approach. There is a slight increase in the use of the writing approach.

6. Ability of students to record and accurately transcribe new-matter material is not affected by either early or delayed introduction of new-matter dictation.

7. The micromolar theory of dictation practice is only effective with high ability students. When used with

medium and low ability students, the constant rate needs to be lower than 100 words a minute.

8. Shorthand achievement does not differ significantly when different methods of teaching shorthand are used.

Standards

1. Most frequent dictation requirements are 60 words a minute for first-year shorthand and 100 words a minute or higher for second-year shorthand. These requirements are for 3- to 5-minute dictation tests. The use of 3-minute tests is increasing.

2. Most frequent transcription requirements are 15 to 25 words a minute for first-year shorthand. Requirements for second-year shorthand vary considerably. Requirements reported for second-year shorthand range from 20 to 50 words a minute. Although some accuracy requirements in transcription are as low as 70 percent, most frequent requirements are 95 percent or higher accuracy.

Achievement in Shorthand and Transcription

1. Multiple factors are more effective in predicting student achievement in shorthand than single factors. Factors that correlate high enough with shorthand achievement to warrant using them as parts of a predictive team are: English grades, scholastic averages, foreign language grades, and intelligence quotients. Aptitude tests that correlate high

enough with shorthand achievement to warrant their being used as part of a predictive team are: Byers' Shorthand Aptitude Test Battery, Iowa Tests of Educational Development, American College Testing Program, and ERC Stenographic Test. Grades in typewriting also correlate substantially with second- and third-quarters shorthand grades.

2. Factors that do not affect shorthand achievement are: time of day, class size, listening ability, penmanship, typewriting accuracy, and ability to write theoretically correct brief forms.

3. Factors that affect shorthand achievement are: grammar and English composition, test anxiety, symbol mastery, reading ability, classroom atmosphere, typewriting and transcription speed, dictation recording ability, and phrasing ability.

4. A majority of one-year shorthand students are unable to achieve the minimum employable standard of 80 words a minute.

5. The mean transcription rates achieved by shorthand students range from 14.3 to 15.9 words a minute. Transcription rates on mailable letters are approximately one-third that of straight transcription rates.

6. Students in one-year accelerated shorthand programs achieve a mean transcription rate of 12.8 words a minute.

Dropouts and Failures

1. Students who drop shorthand are usually low in intelligence quotient, English ability, scholastic ability, typewriting ability, and foreign language. Dropouts are significantly lower than successful shorthand students in word fluency, paragraph meaning, reading, and general vocabulary. Schools using prognostic measures have decreased the percentage of dropouts by 3 to 5 percent. Of 279 shorthand dropouts, 118 were making passing grades.

2. Failures in shorthand are caused by physical problems, poor attendance, lack of homework, low intelligence quotient, poor English background, and tendency to fail other courses. Furthermore, 80 percent of the people who fail shorthand make below average grades in typewriting.

Analysis of Shorthand and Transcription Errors

1. Although brief forms account for 51 percent of all words written in shorthand, brief forms account for 15 percent or less of all errors made. Errors frequently made in recording brief forms are caused by too many strokes. Incorrectly written brief forms are frequently transcribed correctly.

2. Errors made pertaining to the use of principles are omission of strokes, too many strokes, proportion, and unrecognizable outlines. Over 50 percent of all errors are

caused by too many strokes and these are more frequently transcribed correctly than when strokes are omitted.

3. Frequency rank and length of words are related to correct responses. The error percentage in Simplified increases about 10 percent for each syllable in the word.

4. The brief forms desire, doctor, go, house, and usual have higher error rates in Diamond Jubilee than in Simplified. The principles for -ally, -illy, pro-, and ship, short result in higher error rates in Diamond Jubilee than in previous studies on Simplified Shorthand. Principles are applied more frequently in writing familiar words than in constructing new words.

5. Gregg Shorthand textbook authors do not indicate a systematic basis for determining which brief forms and principles were changed. This is substantiated by the fact that some of the brief forms and principles changed have lower Simplified error rates than some that were not changed.

6. Principles changed, whether recommended by research or not, caused higher error rates in Diamond Jubilee than in Simplified.

7. Brief forms changed which research indicated should not be changed have higher error rates in Diamond Jubilee than in Simplified. Those changed brief forms that research indicated be changed have lower error rates in Diamond Jubilee than in Simplified.

8. Overall error percentages rose from 9.09 percent in Simplified to 20.16 percent in Diamond Jubilee. Although brief form occurrences decreased in Diamond Jubilee, the error percentage rose from 2.59 to 9.14 percent. Error percentages are lower for Diamond Jubilee than Simplified for four-, five-, and six-syllable words; disjoined endings; and past tenses. Error percentages are higher for Diamond Jubilee than Simplified for brief form derivatives; constructed words; one-, two-, and three-syllable words; joined endings; and plurals.

9. Non-typewriting activities consume 61.9 percent of the total transcription time. Erasing and correcting errors rank first in total time consumed by a non-typewriting activity with 17 percent.

10. Errors that do not affect transcription are: writing the major or minor vowel when the official outline omitted it, writing separate characters of a blend, and word beginnings and endings. However, omitting the major or minor vowel when the official outline included it does affect the accuracy of transcription.

11. Diamond Jubilee writers write brief forms and brief form derivatives more accurately than Simplified writers; however, the Diamond Jubilee writers have a much higher rate of incorrectly transcribed brief forms and brief form derivatives. The Simplified students write more

accurate shorthand outlines and transcribe a higher percent of incorrectly written outlines.

12. Syllabic intensity, words beyond the 1,500 most frequently used words, brief forms, and endings are the best predictors of the difficulty of dictation material. Multiple regression equations, using these criteria, can be used to distinguish easy and difficult material but not to distinguish between three levels of difficulty--easy, medium, and difficult.

Analysis of Shorthand Textbooks

1. The readability index of seven Gregg Shorthand textbooks is higher on shorthand textbook plates than textbook transcripts. All seven textbooks except Gregg Shorthand Simplified for Colleges, Volume I are used on the level for which designated.

2. At least 55.1 percent of the first 1,000 words presented in 13 shorthand textbooks are not contained in 80 percent of all dictation. From 144 to 372 of the first 1,000 words presented in these same textbooks are not found in 95 percent of all running words in business communication.

3. Of the 1916, 1929, 1949, and 1963 editions, the greatest number of revisions took place between the 1929 and 1949 editions. More principles and brief forms were eliminated and the percentage of increase in strokes needed to write contextual material is greater in the 1949 edition.

In each edition, the total number of brief forms decrease and the number of changed outlines for brief forms increase. A total of 122 brief forms are the same in all four editions.

4. Although the strokes necessary to write shorthand outlines increase in the Diamond Jubilee edition, shorthand memory load is less.

5. The text Gregg Advanced Dictation Simplified has a higher frequency of principles and abbreviating devices than the text Gregg Transcription Simplified.

6. Other shorthand systems such as Forkner Shorthand and Carter Briefhand are superior to Gregg Shorthand as a one-semester course. Forkner Shorthand is superior to Gregg Shorthand as a one-year shorthand course.

Occupational Information

1. Shorthand is not used on-the-job by many graduates. The reasons given most frequently for not using shorthand on-the-job are: lack of efficiency, dislike for shorthand, lack of confidence, and change of vocation.

2. There is a close relationship between amount of shorthand training and the use made of shorthand on-the-job. Approximately 75 percent of those making A's in shorthand and English use shorthand on-the-job. Those who use shorthand more frequently on-the-job also use shorthand more for personal use.

3. Of all requests received by employment agencies, 42.5 percent are for office workers who have shorthand

training. Only 57.9 percent of these requests are filled. Although some companies prefer machine shorthand writers, 73 percent of the employers are not willing to purchase the machines.

4. Employers rank personality and appearance first and second and test results third when hiring new employees. Deficiencies reported by employers most frequently are: tendency to waste time, spelling ability, punctuation ability, failure to check work, and incorrect grammar and composition.

Characteristics of Shorthand Teachers

1. Almost 100 percent of all shorthand teachers have bachelors' degrees and 25 percent or more have masters' degrees. In one instance, approximately 8 percent of the shorthand teachers are uncertified. Over 80 percent of the shorthand teachers possess some office work experience.

2. A majority of shorthand teachers belong to local and state business teacher organizations but less than 20 percent belong to a national organization. Although many of the shorthand teachers read professional magazines, very few write articles for these magazines.

Status of Shorthand and Transcription

1. Shorthand I enrollment is increasing in some instances and decreasing in others. The enrollment in Shorthand II is remaining relatively stable.

2. A majority of business education teachers believe shorthand should remain in the curriculum as a two-year course. Shorthand students are unable to achieve minimum employment standards in one year of shorthand instruction.

3. The number of years of shorthand instruction offered determines when transcription is taught. If two years of shorthand instruction are offered, transcription is usually taught during the second year. Transcription should not be introduced too early.

Miscellaneous

1. Notehand is a beneficial course for college-bound students. Notehand is favored being offered as a one-semester course.

2. Shorthand training is not detrimental to spelling and English ability.

Relationship of This and Other Similar Studies in Shorthand and Transcription

One intent of this study was to determine the relationship of current findings to those of previous studies pertaining to research in shorthand and transcription. Since the study by Frink contained the thought expressed in professional literature as well as the findings of formal research, it was difficult to compare the findings of her study with the findings of this study.

Insofar as the investigator could determine, the findings of the previous studies were very similar, if not

identical, to the findings presented in this report. However, some innovations such as the use of electronic dictation equipment and programmed materials have brought about research in shorthand and transcription unlike any included in the previous analysis and synthesis studies. Overall the research completed in shorthand and transcription has been similar since the early 1900's.

The following are some of the similarities and differences revealed in the findings of the studies:

1. A combination of factors are better for predicting shorthand success than any single factor. English grades, scholastic averages, and foreign language grades are among the better predicting factors. If tests are going to be used, a battery of tests is preferred over a single test.

2. The use students make of their shorthand skill is very closely related to the amount of shorthand training received.

3. Dropout and failure rates are less in those schools that engage in prognosis in shorthand.

4. There is apparently a need for greater emphasis on shorthand theory and related learnings--spelling, punctuation, and grammar.

5. There does appear to be a need for nonsymbol shorthand for college-bound students for note-taking purposes. Nonsymbol shorthand is not meant to replace shorthand but would be a supplement for certain types of use.

6. Neither the reading method nor the writing method of teaching shorthand has proven to be superior.

7. The time to introduce transcription depends to a large degree on how much shorthand instruction is offered.

8. Anderson's study revealed a trend toward two years of shorthand instruction. Frink's study revealed a trend toward one year of shorthand instruction. This study indicates a trend again toward two-year programs.

9. Dictation standards required most frequently are: a minimum of 60 words a minute in first-year shorthand and 80 to 100 words a minute in second-year shorthand. Transcription rates required range from 10 to 20 words a minute for first-year shorthand and 25 to 30 words a minute for second-year shorthand.

10. The percent of dropouts in beginning shorthand has decreased since Frink's study. This may be attributable to shorthand prognosis and enrollment of more students of average and above average ability.

11. Frink's study indicated that syllabic intensity was one of the better predictive measures of the difficulty of dictation material, whereas this study reveals that the number of words beyond the first 1,500 high-frequency list is one of the better predictive measures.

12. The number of students in second-year shorthand who are able to transcribe mailable letters from their shorthand notes is still below 50 percent.

Revealed Major Concern

During the reviewing of 220 research studies in shorthand and transcription, some items of major concern were revealed to the investigator.

Several new procedures for dictation practice were discussed earlier in the study. Although many of these new techniques do not result in a significantly higher achievement, they are effective as conventional techniques and may be used to add variety to instructional practice. Furthermore, objective tests, electronic dictation equipment, and programmed materials may be used to provide shorthand teachers with more free time to assist individual students who are having difficulty. Even with these new techniques and technologies to use in shorthand instruction, shorthand teachers have not been able to improve the quality of those shorthand students seeking employment.

Since the early studies in shorthand, research has indicated that multiple factors are more reliable in predicting success in shorthand than single factors. With few exceptions, factors such as English grades, scholastic averages, foreign language grades, grades in typewriting, and intelligence quotients tend to be among the best predictors. Yet other research indicates that few schools use any criteria for selecting students enrolling in shorthand, and some schools even allow dropouts and failures to enroll

in beginning shorthand a second time. Therefore, all shorthand teachers should make use of research findings in shorthand prognosis and inform counselors and administrators of these findings.

Research reveals that in at least one state 8 percent of the shorthand teachers surveyed are not certified for teaching shorthand. In other words, these teachers have not had any formal training in shorthand; and in some cases, they have not done any student teaching in shorthand. Other research indicated that some teachers have not had a shorthand methods course. It would appear that in order to have better qualified employees we must begin with qualified teachers.

Research reveals that from 144 to 372 words presented in the first 1,000 words of 13 textbooks are not found in 95 percent of all business communication. Furthermore, over 50 percent of the first 1,000 words presented in the same 13 textbooks are not found in 80 percent of all shorthand dictation. These findings indicate that students learn a lot of words they may never use. It would seem that instructional material should include a larger percentage of high-frequency words.

Some areas in shorthand appear to be over researched and other areas have been given little attention. For example, the investigator was unable to find any research involving the use of video tape in shorthand instruction. Furthermore, very little research was available pertaining

to the use of closed-circuit television in teaching shorthand. Although several studies involved electronic dictation equipment, very little research was devoted to determining the teaching practices and techniques that will yield better results with electronic dictation equipment. Additional research also is needed to determine the full potentialities of programmed materials.

PART II

SOURCES OF DATA

SOURCES OF DATA

The data which served as a basis for the analysis and synthesis of findings in Part I were obtained from 220 research studies pertaining to shorthand and transcription at the high school and college levels. These studies were completed over an 11-year period from January 1, 1957 to December 31, 1967.

Of the 220 research studies contained in the analysis and synthesis, 12 were completed in 1957; 14 in 1958; 13 in 1959; 24 in 1960; 21 in 1961; 13 in 1962; 17 in 1963; 25 in 1964; 24 in 1965; 28 in 1966; and 29 in 1967.

The present study contains abstracts of 71 doctoral dissertations and 149 master's theses. These formal research studies were classified under the following six headings: instructional materials and aids in shorthand and transcription, 45; methods of teaching and standards in shorthand and transcription, 41; achievement in shorthand and transcription, 48; analyses and comparisons in shorthand and transcription, 51; occupational information, 21; and miscellaneous, 14.

The list of sources of data is a numbered list of 220 research studies arranged in alphabetical order by author. Multiple research studies written by the same author are arranged in order by date, with the more recent study listed

first. The reference numbers preceding the references were used in Part I of the dissertation to identify the particular studies used in the analysis and synthesis of the findings.

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PART III

**ABSTRACTS OF RESEARCH STUDIES PERTAINING
TO SHORTHAND AND TRANSCRIPTION
(Abstracts A-G)**

ABSTRACTS OF 220 RESEARCH STUDIES

Part III contains the abstracts of 220 research studies pertaining to shorthand and transcription--149 masters' theses and 71 doctoral dissertations. The abstracts are arranged in alphabetical order by name of the author. When two studies were completed by the same author, the studies are arranged in order by date with the more recent date first.

The nature of the information included in an abstract depends largely upon the research procedure and format used in the original study. However, most of the abstracts include the following information: (a) complete biographical reference of the study, (b) statement of the problem, (c) procedure, (d) findings, (e) conclusions, (f) recommendations, and/or (g) abstractor's comments. The abstractor's comments pertain to such factors as the adequacy or representativeness of the sample; accuracy in interpreting data; consistency of findings, conclusions, and recommendations with the material presented in the research study; and implications for the research. Although abstractor's comments were frequently made, no attempt was made to analyze the research studies.

Abstract 1

Khalid Amin Abdullah, "A General Survey of Shorthand Teaching Devices" (unpublished Master's thesis, Texas Technological College, 1966), p. 74.

Problem:

The problem of this study was to determine the teaching devices that shorthand teachers can use to make them better and more successful teachers.

Procedure:

1. The procedure used in this report was historical in nature. It involved the review of masters' theses, professional magazine articles, and books pertaining to the subject. The literature surveyed was limited to the years 1950-1965.

2. The areas covered in the study included dictation devices, devices for motivation and stimulation of interest, standards and grading methods, speed building devices, methods for predicting success in shorthand, guidance procedures, and audio-visual aids.

Findings:

1. Dictation devices that can prove beneficial to shorthand teachers and students are: local dictation material ranked at the top of the list followed by records, dictaprints, radio speeches, newspaper clippings, magazine articles, businessman's visits, and many others. Special dictation methods which will help in getting the subject across to the student include warm-up drills, previews, teacher's voice, easy dictation at the beginning and end of the period, encouragement of using shorthand for personal use, colored chalk, writing with a fountain pen, have students dictate in class, and phrasing.

2. Typical among the motivational devices mentioned in the research and professional articles were bulletin boards, chalkboards, displays, field trips, films, filmstrips, motion pictures, projectors, praise, musical devices, games, tape recorders, Gregg awards, contests, personal appeal, encouragement, dictation material, contest materials, and progress charts. These devices should help

relieve the monotony of daily routine and dictation. Teacher's enthusiasm ranked first in all studies done on motivation.

3. Standards and grading devices received a great deal of attention in these and articles written on shorthand. Many have indicated that the school and local community should cooperate in setting standards. Standards differ from one community to another and even from one school to the other. It is the teacher who has the final say in setting, establishing, and maintaining standards.

4. Many speed building devices have been developed and advocated for use in shorthand. Some of these include taking the top off the fountain pen, organized arrangement of notebook and material, repetition, correct and easy posture, practicing new words and phrases, writing in the left-hand column only, dictation on the pyramid plan, dictating in short spurts, coordination of the efforts of shorthand teachers and teachers of English language, automatization of brief forms, etc.

5. The following factors are of vital importance to shorthand success: intelligence, proficiency in English, general scholastic performance, and scores on special shorthand aptitude tests. It is questionable whether these tests can indicate future performance in shorthand, but they can help in determining strengths and weaknesses in prospective shorthand students.

6. There are many audio-visual aids which can enhance shorthand learning. Some of the more popular include the chalkboard, charts, cartoons, tapes, records, films and filmstrips, projectors, bulletin boards, and slides.

Conclusions:

Dictation Practices and Devices

1. Local dictation material will create within the students an interest in professional fields and it opens to them a wider range of vocational choices.

2. Records, tapes, and dictaprints are assuming a major role in shorthand dictation.

3. Most of the research done on dictation devices stresses the use of warm-up drills, previews, phrasing, substitution of radio speeches for textbook material,

getting students to practice in the principal's office, securing work in the local community, and having a businessman dictate to the class.

Devices for Motivation and Stimulation of Interest

1. The teacher sets the climate of the classroom. The interest, learning, and progress of the students can be affected by this climate. The teacher who makes wise use of motivational devices is in a better position to create interest within the students.

2. Careful planning should be done before using the device in the classroom.

Standards and Grading Devices

1. Minimum dictation rates for first-year shorthand range from 60-80 words a minute and from 80-100 words a minute for second-year shorthand.

2. Business teachers are aware of the fact that they should be preparing their students to meet business standards.

3. The businessman places more emphasis on adaptability, work habits, and getting along with others than on words a minute.

4. The best grading systems include numerical, alphabetical, numerical-alphabetical, and dollars-and-cents. These will meet the needs of the students, parents, teachers, employers, and administrators.

Speed Building Devices

1. Students speed can be increased with motivational materials as well as audio-visual materials.

2. Spelling, grammar, and punctuation cause more trouble than building shorthand skill.

3. Speed building can be improved through the following factors:

- a. Create a desire within the students to increase shorthand speed.
- b. Improvement of writing habits.
- c. Automatization of brief forms, high frequency words, and phrases.
- d. Development of word-carrying ability.
- e. Development of ability to construct new words under pressure.

- f. Progressive forcing of speed in short spurts of dictation gradually increasing the length until sustained dictation power is reached at the higher rates of speed.

Methods of Predicting Success in Shorthand

1. There does seem to be some relationship between general intelligence and shorthand success; however, this does not mean that someone with high intelligence is assured success in shorthand, nor does it mean that someone with a low intelligence will not succeed.

2. Students with an IQ below 90 have only a slight chance of success in shorthand.

3. The Turse Aptitude Test, the Otis Self-Administering Test of Mental Ability, and the Iowa Silent Reading Test all offer possibilities for selecting students for beginning shorthand in order to reduce the number of failures.

4. English background, IQ, general scholastic average, and student's interest and ability are among the factors that determine the students success in shorthand.

5. Better selection of students who take shorthand will lead to better guidance and greater economical savings for the student, school, and the community.

Audio-Visual Materials

1. "Effective use of audio-visual materials such as films, filmstrips, records, projectors, and field trips requires careful planning and preparation."

2. It is important that both the teacher and students be prepared for the materials, and they should be aware of the objectives that are to be accomplished through the use of the materials.

3. Shorthand teachers do not need to deny themselves the use of audio-visual materials. The two most important, the chalkboard and bulletin board, are readily accessible to them. Many other audio-visual materials are free, others may be rented or purchased, and still others may be prepared by the teacher and/or students at a very low cost.

4. Shorthand teachers must exercise discretion in the use of both commercially prepared and teacher prepared audio-visual materials.

5. Audio-visual materials are both projected and non-projected.

Recommendations:

1. Teachers should make use of recording equipment, records, the dictaprint and similar teaching aids for dictation.

2. Shorthand teachers should use those motivational devices which are in accordance with the guidance principles established in this report.

3. Further research needs to be done in the area of motivation and its relationship to shorthand.

4. Personality, appearance, and attitude should be stressed along with words per minute.

5. On-the-job training should be provided throughout the vocational business training program.

6. Many grading systems used by the shorthand teacher should meet the following criteria: administrative, motivational, informational, and guidance criteria.

7. Both motivational and audio-visual materials should be used in building speed.

8. A definite plan, such as the pyramid plan, should be employed for building speed in shorthand.

9. All available predictive measures for success in shorthand should be used in counseling students enrolling in shorthand. A student with an IQ of 90 or below should be informed that their chances are only slight for achievement in shorthand.

10. Each school needs a well-organized guidance program method of selection within the business education department. Only those students who show a promise of meeting office standards should remain in the shorthand program for any length of time.

11. Teachers should use the simple audio-visual materials before attempting to use the more complex materials.

12. The teacher should be well acquainted with the materials before trying to use them in the classroom. Audio-visual materials are to be used as tools and should be used only for short periods of time.

Abstractor's Comments:

1. This study has potential for use in an undergraduate shorthand method course.

2. The abstractor believes that some of the conclusions are stated as findings rather than conclusions.

3. There seemed to be an overlapping among some of the recommendations; therefore, they were summarized in this abstract and do not appear as they did in the study.

Abstract 2

Wanda Scott Aldridge, "A Classification of Gregg Shorthand Dictionary, Diamond Jubilee Series, According to Principles and Abbreviating Devices" (unpublished Master's thesis, The University of Tennessee, 1967), p. 305.

Problem:

The problem of this study was to classify, according to principles and abbreviating devices, the words in the Gregg Shorthand Dictionary, Diamond Jubilee Series.

Procedure:

1. A check was made of IBM cards, previously prepared, which contained the words in the Gregg Shorthand Dictionary, Diamond Jubilee Series. An actual page-by-page count revealed 33,035 words in the dictionary rather than 34,055 words as indicated by the authors of the dictionary.

2. A coding system was devised for classifying the words according to the earliest lesson in which each word was introduced. The coding system was constructed to include 105 of the 113 principles and abbreviating devices

outlined by Gross (32b)* and 127 brief forms in the order presented in the text Gregg Shorthand for Colleges, Diamond Jubilee Series.

3. A check was made of the IBM cards previously prepared which contained the words of the Gregg Shorthand Dictionary Simplified. An actual page-by-page count revealed 26,022 words rather than 26,098 as stated by the authors of the dictionary.

4. The cards were collated into four stacks: (a) words in the Simplified dictionary, (b) words dropped in the Diamond Jubilee dictionary, (c) words added in the Diamond Jubilee dictionary, and (d) matching words appearing in both dictionaries.

5. The transfer of the codes from Wagoner's (78b) classification to the Diamond Jubilee coding system was accomplished with a computer program. Then the words in the two dictionaries were matched.

Summary:

1. Principles Eliminated. A total of 2,741 words was affected by the elimination of 25 principles. Furthermore, 2,050 words were spelled out in the Diamond Jubilee dictionary and 691 were transferred to other principles.

2. Principles Altered. From the Simplified edition to the Diamond Jubilee edition, nine principles were altered and four of these affected 51 words which were retained in the Diamond Jubilee dictionary. Three principles were altered but did not cause a change in the number of words for those principles.

3. Principles Unchanged. The eliminated or altered principles did not affect 87 of the 96 remaining principles. However, the words representing these principles increased from 14,760 in the Simplified dictionary to 19,750 in the Diamond Jubilee dictionary. Although the remaining nine principles were completely unchanged, the number of words was affected because of being transferred from an eliminated principle to an existing principle. These nine principles and changes were as follows: principle i, y (vowel), 15 words dropped, 58 new words,

*Instead of using footnotes to denote references, a parenthetically-stated expression as (32b) was used. This means that the work refers to number 32 in the Bibliography that follows the abstracts.

and 14 transferred; principle u, 11 words dropped, 106 new words, and 38 transferred; principle ow, 9 dropped, 205 new words, and 187 transferred; principle nt, nd, 43 dropped, 500 new words, and 198 transferred; principle ted, ded, 16 dropped, 536 new words, and 124 transferred; principle -ly, 49 dropped, 389 new words, and 132 transferred; principle (e)n, (i)n, 5 dropped, 145 new words, and 12 transferred; principle -ing, 15 dropped, 74 new words, and 17 transferred; and principle ng, 9 words dropped, 111 new words, and 17 words transferred.

Recommendation:

Dictation material should be developed with a planned review of theory.

Abstract 3

Willie Carolyn Allen, "A Study to Determine the Proficiency of High School Students in Terms of Selected Objectives in Gregg Notehand" (unpublished Master's thesis, The University of Tennessee, 1966), p. 118.

Problem:

The problem of the study was to determine the proficiency of secondary students in terms of selected objectives in Gregg Notehand.

Hypotheses:

1. "There is no significant difference in the ability of Notehand students and non-Notehand students to copy notes quickly."

2. "There is no significant difference in the ability of Notehand students and non-Notehand students to compose quickly."

Procedure:

1. This study involved 21 English classes and 16 Notehand classes from the states of Tennessee and Florida. The English classes were either English III or IV and only those Notehand classes that concentrated on Notehand for one full semester were included.

2. Copying tests and composition tests were constructed and reliability tested before they were used in the experiment. The materials for the copying tests were selected from an encyclopedia on the topics of "Comets" and "Impeachments". The syllabic intensity ranged from 1.64 to 1.67 and the two tests were called Test E and F and had a reliability coefficient of .792. Several composition tests were tried before four satisfactory topics were found.

3. On February 17, 1966, one-half of each group was mailed Topics A and B and Copying Test E. The other one-half of each group was mailed Topics C and D and Copying Test F. These tests were to be administered within five days after they were received.

4. On April 4, 1966, a letter was mailed to all participating teachers gathering information concerning Student's IQ scores, English grades for the past semester, and the date of the last day of class the second semester. The IQ scores and English grades were used to determine whether the students were from the same population.

5. On April 29, 1966, the tests were reversed and the teachers were sent tests opposite those received earlier. The tests were administered the same as before, except the Notehand students were instructed to write as much of their second test as possible in Notehand.

6. After papers for certain classes and students had been eliminated for various reasons, 117 complete sets of Notehand papers and 163 complete sets of English papers were used in the final analysis.

7. The number of syllables in each word was counted to determine the number of words written per minute, and the analysis of variance was applied to these scores to determine the significant difference, if any.

Findings:

1. There was a significant difference in English grades within both groups and within combined groups.

2. Although no significant difference existed in copying ability within the two groups, the difference within combined groups was significant at the 5 percent level.

3. There is positive relationship between IQ scores and English grades of the students in the English classes.

4. Neither the IQ scores nor the English grades showed a relationship to the composition and copying test scores of the English students.

5. The students in the Notehand classes showed a positive relationship between IQ scores and English grades; however, they showed no relationship between IQ scores and the composition and copying tests scores.

6. The papers of the Notehand students showed an improvement from initial test to final test of 7 percent as compared to 24 percent for the English students' papers.

7. The mean of the copying speed on the initial test for the Notehand students was 27.94 as compared to a mean of 27.47 for the English students. On the final test, the Notehand students had a mean of 23.32 and the English students had a mean of 30.45. Thus, a significant difference existed between the initial and final tests scores for both groups.

8. The mean of the composition speed on the initial tests was 42.83 for the Notehand students and 44.38 for the English students. On the final tests, the mean was 37.34 for the Notehand students as compared to 42.5 for the English students. Although both group means decreased, only those of the Notehand students was significantly different. There was a significant difference between groups in favor of the English students.

Conclusions:

1. On the basis of the findings of this study, the hypothesis that no significant difference would exist in the ability of Notehand and non-Notehand students to copy notes quickly, was rejected. The English students could copy quicker without Notehand than students using Notehand.

2. On the basis of the findings based on composition speed, the hypothesis that there is no difference in the ability of Notehand and non-Notehand students to compose quickly, was rejected. The English students were able to compose quicker without Notehand than students using Notehand.

Recommendations:

1. That research similar to this study be made involving a larger geographic area.

2. That further research be done concerning other Notehand objectives.

3. That a similar study is needed involving teachers specifically trained to teach Notehand.

4. That research be done to determine the achievement of personal-use shorthand students who were placed in regular first-year shorthand classes with vocational students.

Abstract 4

Charles Vance Allyn, "The Development of A Shorthand Aptitude Test Using Recognized Shorthand Strokes in its Construction" (unpublished Ed.D. dissertation, Boston University, 1960), p. 292.

Problem:

This study was conducted in an effort to construct tests that will measure a student's ability to learn shorthand after one and two semesters of study. The writer was not concerned with the transcription phase of shorthand study.

Procedure:

1. A list was prepared of probable factors involved in learning a shorthand system.

2. Six subtests were constructed that might measure a student's ability to learn shorthand; including phonetic spelling, reading shorthand, writing phonetics, writing shorthand, writing speed, and spelling.

3. In 1957-58 two student populations participated in the experiment--two junior colleges and four high schools involving approximately 686 students. The tests were administered by the individual classroom teachers of the six schools.

4. Two achievement tests were constructed--one for use at the end of each semester in the first year of shorthand study. These tests included knowledge of shorthand ability, ability to take shorthand dictation at varying rates, and ability to transcribe shorthand notes into longhand. In order to identify the two tests, they were called Achievement Test I and Achievement Test II.

5. The results obtained from the Allyn Shorthand Aptitude Test were compared with the results obtained from the Turse Shorthand Aptitude Test and with the Byers Shorthand Aptitude Battery.

6. Means, medians, standard deviations, reliability coefficients, percentiles, and intercorrelations were computed for the 1957-58 student population. Single and multiple correlations were computed for the following:

a. Aptitude test scores were correlated with the 1957-58 shorthand achievement test for 110 high school students, after one semester of study.

b. Aptitude test scores were correlated with the 1957-58 shorthand achievement test for 94 junior college students, after one semester of study.

c. Aptitude test scores were correlated with the 1957-58 shorthand achievement test for 129 junior college students, after one semester of study.

d. Aptitude test scores were correlated with the 1957-58 shorthand achievement test for 108 high school students, after one semester of study.

Findings:

1. When using the scores of the 110 high school students, the correlation coefficients between the six subtests and the first semester dictation-transcription test were: Phonetic Spelling, .341; Reading Shorthand, .305; Writing Phonetics, .010; Writing Shorthand, .283; Writing Speed, .248; Spelling, .329; and .407 for the total score. The correlation coefficients for the 94 junior college student scores were: .317, -.039, .051, -.071, .116, .362, and .177 for the total score.

2. When the scores were considered for the 108 high school students, the correlation coefficients between the six subtests and the second-semester dictation-transcription test were: .388, .246, -.0008, .182, .222, .367, and .339 for the total score. The correlation coefficients for the 129 junior college student scores were: .213, .010, .169, -.019, .130, .350, and .227 for the total score.

3. Multiple correlations did not indicate a high predictive value.

4. Each subtest of the Allyn Shorthand Aptitude Test was evaluated individually.

a. Phonetic Spelling: The reliability coefficient ranged from .876 to .886, which was slightly below the desired mean.

b. Reading Shorthand: The reliability coefficient ranged from .919 to .945, which is slightly above the mean requirement.

c. Writing Phonetics: The reliability coefficient ranged from .942 to .966, which is slightly above the mean requirement.

d. Writing Shorthand: The reliability coefficient ranged from .958 to .972, which exceeds the mean requirement.

e. Writing Speed: The reliability coefficient was .957, which exceeds the mean requirement.

f. Spelling: The reliability coefficient ranged from .605 to .674, which falls far short of the desired mean.

g. Total Score: The reliability coefficient ranged from .942 to .98, which exceeds the desired mean.

5. The Allyn Shorthand Aptitude Test seems to predict success of high school students more effectively than junior college students. The battery seems to predict success of high school students more successfully at the end of the first semester than at the end of the second semester.

6. The Turse Shorthand Aptitude Test seems to predict success or failure in shorthand study more effectively than either the Allyn Aptitude Test or the Byers Aptitude Test.

Recommendation:

More research needs to be done in the area of aptitude testing in shorthand.

Abstractor's Comments:

1. The percent of failures and dropouts could be reduced through the use of aptitude testing in shorthand.

This type of test could be used very effectively by shorthand teachers and guidance counselors.

2. The fact that the Allyn Shorthand Aptitude Test predicts more successfully at the end of the first semester is valuable. This would enable those students unable to succeed in shorthand to be counseled out.

Abstract 5

Ester Elizabeth Anderson, "The Effectiveness of High School Bookkeeping and Shorthand Grades as Indicators of College Success" (unpublished Ph.D. dissertation, New York University, 1961), p. 313.

Problem:

The problem of this study was to determine the value of achievement in selected business education courses for predicting college success.

Hypothesis:

"There are no significant differences in the effectiveness of grades in certain high school subject matter areas to indicate subsequent scholastic performance at the college level."

Procedure:

1. The high school and college scholastic records were examined of selected graduates from the College of Business Administration and the College of Arts and Sciences of the University of Toledo, Toledo, Ohio. The investigation covered the period from 1950 through 1959.

2. Ten incidental samples were formed from 358 graduates--five from each college. The five samples were formed on the following criteria:

- a. At least one year of high school bookkeeping.
- b. At least one year of high school shorthand.
- c. At least two years of high school bookkeeping.
- d. At least two years of high school shorthand.
- e. At least one year of high school bookkeeping and one year of high school shorthand.

3. The high school records were used to glean the following data: (a) the high school third in which the graduate had placed, (b) the name of the high school and location, (c) the number of units and grades received in English, social studies, bookkeeping, and/or shorthand.

4. The incidental samples were divided into two subsamples: those graduates from 1950-1954 and those graduates from 1955-1959. These two subsamples were compared to test the significance of the differences between two independent samples. The three tests used for testing the reliability were: (a) the Kilmogorov-Smirnov two-sample, two-tailed, test; (b) the X^2 test for two independent samples; and (c) the Fisher Exact Probability Test.

5. Correlation coefficients were calculated between six high school achievement scores and the overall college achievement scores. The six high school scores used were:

- a. The English Index
- b. The Social Studies Index
- c. The Bookkeeping Index
- d. The Bookkeeping Average
- e. The Shorthand Index
- f. The Shorthand Average

The word "index" referred to the average of all grades received in all courses taken in that area, and the word "average" referred to the average of grades received in the first year.

6. Non-parametric statistics were used in the study. Correlations were determined by the Kendall Tau rank correlation method, and, where applicable, Contingency Coefficients were calculated and the Fisher Exact Probability Test was used.

Conclusions:

1. Of the high school indexes studied in this research report, none could be used as a sole comprehensive predictor of college success. The data showed that differences did exist in the predictive effectiveness of the indexes; therefore, the research hypothesis cannot be accepted without qualifications.

2. The most effective index studied, as a predictor of college achievement, was social studies.

3. For students majoring in Business Administration, the Shorthand Index was less effective in predicting college achievement than was the Bookkeeping Index.

4. Average grades in one year of shorthand or one year of bookkeeping were equally as effective in predicting college achievement, for those students majoring in the College of Business Administration.

5. For those majoring in areas in the College of Arts and Sciences, the Shorthand Average was less effective as a predictor than was the Bookkeeping Average.

6. Factors which are uncontrollable affect the relationships between high school achievement scores and college achievement scores.

7. From the findings of this study, the conclusion may be drawn that high school grades of B or better were of no value in identifying the college student with a B or better grade. Furthermore, a student who failed to achieve at least a B at the high school seldom achieved a B or better at college.

Recommendations:

1. A similar study was recommended including such factors as special abilities and interests in the final analysis.

2. Additional research is needed to supplement the findings of this study.

3. A study is needed to determine the similarities and differences of the dominant determinants of student achievement at both the high school and college levels.

4. A study is needed for comparing bookkeeping and shorthand achievement, for one and two years.

Abstractor's Comments:

1. Because of the nature of the study, a summary of findings was not given.

2. The findings of this study should be made known to all business teachers, counselors, and administrators.

3. A special note should be made that shorthand achievement does not seem to be a very good predictor of college achievement.

Abstract 6

Frances S. Anderson, "An Analysis of Spelling Errors Found in Transcription in Advanced Shorthand Classes" (unpublished Master's thesis, Mankato State College, 1961), p. 51.

Problem:

The problem of this study was to make an analysis of the spelling errors made by college students in transcription classes.

Procedure:

1. The student's grade in transcription depends on the number of letters transcribed, the speed at which the letters were dictated, and the accuracy of the transcripts. Usually the letters are marked mailable, mailable with corrections, or not mailable unless retyped. A letter cannot be mailable with a misspelled word.

2. Students for the study were those from the advanced shorthand classes at Mankato State College. There were three of these classes during the spring quarter of the 1960 school year, and each class met for four hours each week for 12 weeks. Most of the students were majors in business education.

3. The classes were lettered A, B, and C; and the students were arranged alphabetically and assigned numbers such as A-1, A-2, B-1, B-2, C-1, C-2, etc. The transcription papers from each class were examined carefully and records were kept of the words that were misspelled by each student.

4. None of the classes were taught by the same teacher. Although the general objectives of the three classes were the same, each teacher was allowed to use her own techniques, methods, and materials.

5. A standard spelling test was given to all of the students at the end of the quarter to determine their spelling ability. The students were told to make the best choice they could, even if they were not sure of the correct spelling.

6. The list for classifying the errors in this study included insertion or omissions of silent letters, homonyms, reversed letters, confusion of vowel sounds, failure to double letters, or doubling of wrong letters, inaccurate formation of derivatives, confusion of consonant sounds, confusion of "ie" and "ei", compound words, and other miscellaneous errors.

Findings:

1. The 45 students involved in this study misspelled a total of 376 different words on the transcription they turned in during the spring quarter of 1960. Many students misspelled the same word more than 1 time, making a total of 633 spelling errors.

2. Over 50 percent of the different words misspelled were among the 1,500 most commonly used in business correspondence as classified by the Horn-Peterson List (40b).

3. Using the Pearson Product-Moment correlation coefficient, the correlation between spelling errors made on the standardized test and errors made on the transcription was .79. A correlation this high is not likely to occur by chance alone; therefore, we can assume that a high correlation does exist between spelling ability as measured by the standardized test and the number of spelling errors made on the transcription.

4. The correlation coefficient between spelling ability and intelligence or grade average was $-.38$. According to this correlation, the relationship between spelling ability and grade average is not very high.

5. ; The study revealed that errors of all classifications were made by students with high, medium, and low grade averages. However, the students with the lower grade averages tended to make the most spelling errors on their transcripts. The two most common spelling errors were homonyms, to for too, 21.9 percent; and insertion and omission of silent letters, anser for answer, 19.6 percent. The study also revealed that 44 percent of the spelling errors were undetectable by correct pronunciation.

Recommendations:

1. That further research be done to establish the spelling errors that are caused by mere carelessness.

Perhaps this could be done by dictating to the student a list of words they had previously misspelled on transcription.

2. That more emphasis be placed on proof-reading, as students persist in skipping over misspelled words which they are able to spell on a spelling test.

3. That because many of the students in advanced shorthand classes are planning to become shorthand teachers, further study might be concerned with the extent to which students are handicapping Counselors in teaching by their poor spelling ability. More use of the dictionary should be stressed.

4. That further research be conducted to determine why these college students do not spell correctly.

5. That some research needs to be done for determining the efficiency of various methods of teaching spelling in shorthand classes

Abstractor's Comments:

1. As the writer indicated in her study, further research is needed using a random sample. Broad generalizations cannot be made on the basis of the findings of this study.

2. The summary of findings and conclusions were stated together in this study; therefore, no conclusions were given in this abstract.

3. Teachers should stress upon students the importance of being more spelling conscious. If there is one thing that businessmen are not willing to accept, it is poor spelling.

4. As this study points out, nearly one-half of the most frequently misspelled words cannot be spelled by correct pronunciation alone. Therefore, students must be made aware of basic spelling rules and how to apply them.

Abstract 7

Lloyd Armstrong, "An Analysis of the Various Parts of the Turse Aptitude Test and Their Reliability in Predicting Success in the First Semester of Shorthand" (unpublished Master's thesis, Mankato State College, 1963), p. 21.

Problem:

The problem of this study was to determine the correlation, if any, between the seven parts of the Turse Shorthand Aptitude Test and grades achieved in first semester shorthand in the Public School of Truman, Minnesota.

Procedure:

1. Since 1957 at Truman High School, Truman, Minnesota, the Turse test battery had been given to all students interested in taking shorthand. The shorthand teacher and the counselor administered the tests.

2. A random sample of fifty students was selected from a total of 122 students. Correlations were made using the shorthand grades for first semester.

Summary:

1. The correlation coefficients between the seven parts of the Turse test and first-semester shorthand grades were: stroking, .25; spelling, .39; phonetic association, .40; symbol transcription, .11; word sense, .24; dictation, .05; word discrimination, .53; and total test scores, .33. A correlation of .288 was needed in order to be significant at the 5 percent level.

2. Spelling, phonetic association, and discrimination were the most significant. The remaining four parts stroking, symbol transcription, word sense, and distation were insignificant.

Recommendations:

1. A study is needed involving the Turse test using a random sample.

2. Further research is needed using other aptitude tests to determine whether first-semester or first-year shorthand can be predicted with more reliability.

Abstract 8

Harry William Baggett, Jr., "The Validity of a Measure of the Difficulty of Gregg Shorthand Dictation Materials" (unpublished Ph.D. dissertation, University of Minnesota, 1964), p. 91.

Problem:

The problem of this study was to validate for transcription of Gregg shorthand the formula developed by Mildred C. Hillestad (38b) in 1960.

Procedure:

1. Six letters were selected from the 100 constructed by Hillestad. They were chosen at various levels of difficulty and were assigned numbers 1 through 6, with Letter 1 being the least difficult and Letter 6 being the most difficult.

2. The six letters were dictated to seven advanced shorthand classes in the Richmond Union High School District. The six letters were assigned to each class by means of a table of random numbers.

3. All of the letters were dictated to all the classes and the transcripts returned to the investigator. Only the transcripts of students who took all six tests and who had a minimum C grade were used. Since 100 students fit this category, 600 usable letters were received.

4. In checking the papers, only deviations from the verbatim dictation were scored. The student's notes were not checked and errors such as spelling, punctuation, and paragraphing were not checked.

5. Using a table of random numbers, 50 papers were selected from the 600. On scoring errors between scores, the correlation coefficient was .9982.

6. The data gathered from the 50 letters were subjected to statistical calculations to determine if any significant differences existed in mean number of errors

per letter for all students, the mean number of errors per class over all letters, and whether there was any interaction of class and letter means.

Findings:

1. The mean number of errors per letter ranged from 2.31 to 8.65. The letters were not in order of predicted difficulty 1 through 6, instead, the order was 2, 3, 4, 1, 6, and 5.

2. Since the F-value of 25.0 exceeds the appropriate critical value of 2.23, the hypothesis that there is no difference in the mean number of transcription errors on the six letters was rejected.

3. An F-value of 4.6 was received when comparing the errors per class. This caused rejection of the hypothesis that there is no difference in the mean number of transcription errors for the seven classes. The mean error scores on all letters ranged from 0.61 to 15.24.

4. When Class I and Class II at the same school were compared, a significant difference was found at El Cerrito and Richmond. There was no significant difference found at Ellis, where both classes were taught by the same teacher.

5. Since all students at different schools did not find the same letters difficult, it may be said that there was interaction of class and letter means.

Conclusions:

1. The Hillestad formula was not valid in predicting the order of difficulty of the six letters for this group of students.

2. A significant interaction was found to exist between the error means of the class and letter and the school and letter. In other words, the students found different letters difficult.

Recommendations:

1. Research is needed to study the possibility of a curvilinear relationship between syllabic intensity and difficulty of material.

2. Other studies are needed in an attempt to validate the Hillestad formula for error prediction.

3. Research is needed to develop a regression equation for predicting transcription errors.

4. Research is needed to investigate if difficulty is effected by length of sentence, series of words, order of words, and vocabulary level.

Abstract 9

Stanley Jack Baird, "The Effectiveness of Introducing Regular Dictation of Unpracticed Material Before the Completion of Gregg Shorthand Theory" (unpublished Ed.D. dissertation, Oregon State University, 1967), p. 72.

Problem:

The problem of this study was to determine the effectiveness of introducing unpracticed material prior to completing shorthand theory in high school classes in beginning shorthand.

Hypothesis:

"The introduction of regular and frequent dictation of unpracticed material beginning with the 25th lesson in a beginning high school class in Gregg Shorthand will result in reaching a dictation speed of 60 words a minute with at least 95 percent accuracy in less time than if dictation of unpracticed material is delayed until all 53 theory lessons have been presented."

Procedure:

1. This study involved four teachers in four California public high schools. Each teacher taught a control class and an experimental class of beginning shorthand. No attempt was made to select the students for a particular class; however, an effort was made to keep the classes approximately the same size. Hereafter the schools will be referred to as Schools A, B, C, and D.

2. The control classes received no new-matter dictation until all theory had been presented. However, the experimental classes began receiving new-matter dictation beginning with the 25th lesson.

3. At the end of the experiment in the spring of 1963, 129 students had been involved in the study. Of the 129 students, 73 were in control classes and 55 in the experimental classes. The enrollment per school was as follows: School A, 23; School B, 35; School C, 42; and School D, 28.

4. All four teachers participating in the study met with the writer in order to work out any problems that could be anticipated. Some things discussed included a set of rules for scoring the student transcripts and a plan of instruction.

5. Records were kept which showed the date on which each student first successfully transcribed a take dictated at 60 words a minute with 95 percent accuracy. Using this chart, the writer could determine the number of class periods needed by each student to successfully transcribe a take at 60 words a minute.

6. The mean number of periods of instruction needed to successfully transcribe a 60 word a minute take was computed for the control group and the experimental group.

7. At this point it became evident that an outside factor had entered the experiment. Therefore, t-scores were computed using over-all high school grade-point to determine if any significant difference existed between the two groups. The grade-point average was considered the uncontrolled factor.

Findings:

1. School D was the only school that produced a t-value between the mean number of periods needed to pass a 60 word a minute take which was significant at the 5 percent level.

2. Since the t-score increased with analysis of covariance for School B, this explained the reversal effect. When grade point average was considered for School D, the t-score increased rather than decreased as expected.

3. Three of the schools produced t-scores that fell far short of a significant difference and, therefore, the hypothesis was rejected.

4. The only real explanation for the reaction of School D, if there is any, would appear to be the interaction between the teacher and the experimental method.

Conclusions:

1. The findings of this study do not indicate that early introduction of new-matter dictation will reduce the time necessary to successfully transcribe an unpracticed take dictated at 60 words a minute.
2. No evidence was found to indicate that early introduction of new-matter material will adversely effect the student's ability to successfully transcribe an unpracticed take dictated at 60 words a minute for three minutes.
3. No evidence was found in this study that will justify the introduction of new-matter dictation before all theory has been presented.

Recommendations:

1. A similar study is needed involving students enrolled in Diamond Jubilee Shorthand.
2. As a result of comments made by the participating teachers, research is recommended in which later dates are experimented with concerning introduction of new-matter material.
3. A similar study is needed involving beginning shorthand students at the college level.
4. A similar study seems to be desirable using the more capable students.

Abstractor's Comments:

1. The investigator stated in one place that two teachers favored the control procedure and two favored the experimental procedure. Since one of the experimental classes achieving superior results to the control class was taught by a teacher who favored the control procedure, this teacher may have over adjusted trying not to show favoritism. The uncontrolled factor may have been the teacher variable.
2. The findings of this study may be used effectively in an undergraduate and graduate methods course.

Abstract 10

Shirley Barber, "An Experimental Study in Teaching Shorthand Using the Tachistoscope" (unpublished Ed.D. dissertation, Colorado State College, 1961), p. 102.

Problem:

"The problem of this study was to determine by experimental means the effectiveness of tachistoscope training in an elementary college shorthand course."

Hypothesis:

"There is no difference between the achievement of two groups when one is given tachistoscope training in elementary college shorthand and one is not."

Procedure:

1. The experiment was conducted at Oregon State College for each of the school years 1957-58, 1958-59, and 1959-60. In 1957-58, 31 students were enrolled in the control class and 33 students enrolled in the experimental class; in 1958-59, the control class had 21 students and the experimental class 33; and in 1959-60, there were 17 students enrolled in the control class and 20 students were enrolled in the experimental class. There were a total of 145 enrolled in the elementary shorthand classes for the three years, but only 79 completed the entire year's program. The students were selected at random and the classes were not equated. Those students enrolling in the classes at the beginning of the year were required to enroll in the same classes for the entire year. No new students were admitted to the groups.

2. Even though the groups were not equated certain important data were collected. The two groups were not significantly different in the areas of mental ratings, English grades, Turse scores, reading rates, and writing rates.

3. The textbooks used were Gregg Shorthand Simplified for Colleges, Volume I and II and the Student's Transcript which accompanies the text. Dictation material was taken from Gregg Dictation Simplified and the Gregg publication Business Teacher. All materials used were the same in both classes and were published by Gregg.

4. The two classes were the same in regard to classroom, teacher, teaching procedure, textbook and materials, and supplementary aids. The only difference between the two classes was that the control group received chalk-board drill, whereas, the experimental group received drill on the tachistoscope.

5. An effort was made to measure only one factor in each test. Therefore, 4 tests were given to measure reading ability, 2 tests measured transcription speed, 7 tests were given to measure student's knowledge of theory dictated out of context, 3 tests measured knowledge of theory dictated in context, 15 tests measured speed of transcription with dictation rates ranging from 40 to 120 words a minute, and 15 tests measured accuracy of transcription with dictation rates ranging from 40 to 120 words a minute. There were 20 three-minute transcription tests given and 10 five-minute transcription tests given.

6. The data were subjected to statistical measures in order to determine the significant difference between the two means.

Findings:

1. In the reading test over brief forms, phrases, and context material, the control group had a mean of 82.78 words per minute and the experimental group had a mean of 89.45 words per minute or a difference of 6.67. This difference was significant at the 5 percent level of confidence.

2. On all tests given during the fall, winter, and spring terms, the control group had fewer gross errors than the experimental group. During the fall quarter the mean of gross errors was 39.50 for the control group and 88.10 for the experimental group; winter quarter the mean of gross errors was 49.34 for the control class and 78.93 for the experimental class; and spring quarter the control had a mean of 55.03 gross errors, while the experimental group had a mean of 87.02 gross errors. All of these showed a real significant difference in favor of the control class.

3. In all three quarters the experimental group had higher transcription rates on all the transcription tests taken. For the fall term, the control group had a mean of 21.85 correct words and the experimental group had a mean of 26.33 correct words; winter quarter the means of correct words was 23.71 for the control class and 27.16

for the experimental class; and the means of correct words for the spring term were 23.42 for the control group and 27.07 for the experimental group. All of these showed a significant difference in favor of the experimental group.

Conclusions:

1. The experimental groups had significantly higher reading on all types of material. Therefore, there is a significant difference in reading rates on all types of material when one group receives tachistoscope training and the other group does not.

2. The experimental groups had significantly higher transcription rates than the control groups. Therefore, there is a significant difference in transcription rates of text material and dictated material from written notes when one group receives tachistoscope training and the other group does not.

3. The experimental group had significantly more errors than the control group. Therefore, there is a significant difference in the number of errors made on word list tests and word list material dictated in context when one group receives tachistoscope training and the other group does not.

4. The experimental group made significantly more errors than the control group on all transcription tests. Therefore, there is a significant difference in the accuracy of transcribing dictated material from shorthand written notes, regardless of dictation speed or length of test when one group receives tachistoscope training and one does not.

5. The experimental groups were far superior to the control groups on all measures involving the reading of shorthand outlines.

6. The control groups were far superior to the experimental groups on all measures involving accuracy of transcription.

Implications of the Study:

1. The accuracy of the students' shorthand writing can be increased more through the use of the chalkboard in drilling than tachistoscope training.

2. Shorthand tends to be written more accurately when presented in context rather than in isolated fashion.

3. The tachistoscope can be used effectively to automatize learning of brief forms and phrases.

4. The tachistoscope can be an effective motivational device.

5. The tachistoscope can be used effectively in review work.

6. The tachistoscope can be an effective device in eliminating learning plateaus.

7. Transcription speeds can be increased on all types of material through the use of the tachistoscope.

8. The tachistoscope is most effective as a device for increasing reading speed.

9. The tachistoscope is not effective in increasing accuracy in recording dictation or in transcribing shorthand notes. Therefore, its use is not recommended as a year-long program.

10. The tachistoscope is a teaching tool and is more effective when used to supplement regular teaching procedures than when used as a year-long program.

Recommendations:

The following recommendations were made on the basis of the findings in this study:

1. What would be the results of tachistoscope training in a high school shorthand program?

2. What results would be obtained with the tachistoscope in a two-year college program?

3. What would the changes be if a similar study were made using slides containing more contextual material?

4. Transcription errors should be analyzed to determine number of errors made in writing shorthand outlines and number of errors made in transcribing shorthand outlines.

5. Research is needed to determine achievement rates of tachistoscope training on low- or high-ability students.

6. Students' abilities should be compared on word lists tests and dictation and transcription tests.

Abstractor's Comments:

1. There seems to be an inconsistency between conclusion number nine and recommendation number two.

2. I would like to point out that the tachistoscope is a teaching aid and can only be effective if used properly. Some of these uses are very well illustrated in the implications of the report.

Abstract 11

Sister Mary Joanna Barras, O.S.F., "Transcription Achievement of Fourth-Semester Shorthand Students in Selected Catholic High Schools in the Midwest" (unpublished Master's thesis, University of Wisconsin, 1961), p. 94.

Problem:

The problem of this study was to determine the transcription achievement of fourth-semester shorthand students in selected Catholic high schools in the Midwest.

Procedure:

1. A list was compiled of Catholic high schools in the states of Iowa, Minnesota, and Wisconsin. The following information was placed on each card: name of the school, the address, the total enrollment, and the religious congregation in charge of the school. The cards were then arranged in five enrollment classifications and one school was randomly selected from each group making a total of 15 schools. There was a total of 324 fourth-semester shorthand students participating in the study from the 18 schools.

2. A letter was mailed to the head of the business education department in each of the schools selected. The nature of the study was explained and their cooperation was solicited in administering a dictation-transcription test to one of their fourth-semester shorthand classes. An inquiry sheet was enclosed with the letter and they were encouraged to complete and return the form, if they were willing to take part in the project.

Since some did not respond and others did not qualify, letters and inquiry sheets were mailed to schools randomly selected until 18 affirmative responses had been received --six schools from each state.

3. Three letters were constructed to represent letters sent out by the credit department of a modern business. Each letter was progressively longer in length --80, 120, 200 words, respectively. The letters were to be dictated at 80 words a minute and 45 minutes were to be allowed for the dictation and transcription of the three letters.

4. Detailed instructions were prepared for the students and cooperating teachers, so that uniformity and subsequent validity could be maintained. These instructions included specific directions for the teachers to follow.

5. When all of the transcripts had been received by the investigator, the papers were coded. A letter of the alphabet was assigned to each school and a number was assigned to each student in that school taking the test.

6. Transcription rates were determined by taking the total dictated and nondictated words and dividing by the number of minutes used in transcribing. Only mailable letters, according to predetermined criteria, were acceptable. Two months lapsed from the first rating of the letters to the second. If there were doubtful cases, they were discussed with faculty members.

7. After the letters had been scored, they were analyzed to determine frequency of occurrence of the various types of transcription errors. The errors were classified under ten classifications: letter mechanics, typographical errors, poor erasers, omissions, substitutions, additions, spelling, syllabication, punctuation, and English usage.

Summary of Findings:

1. The average transcription rate was 14.3 words a minute and 52 percent of the 324 students either reached or surpassed this rate. The scores ranged from 6.6 to 27.8 words a minute, with a majority of the students transcribing between 13-17 words a minute.

2. A cumulative analysis revealed that 758, or 78 percent, of a total of 972 letters were completed by

the students in the allotted time; 166, or 17.1 percent, were perfect copies; and 320, or 32.9 percent, were considered mailable.

3. A total of 133, or 41 percent, of the students transcribed one or more letters verbatim; however, 59 percent were unable to transcribe even one letter verbatim.

4. When an analysis was made of individual scores to determine mailability achievement, 13 students, or 4 percent, transcribed all three letters in mailable form; 88 students, or 27.2 percent, transcribed two or more mailable letters; and a total of 219, or 67.6 percent, transcribed one or more mailable letters. There were 105 students, or 32.5 percent, who did not transcribe one mailable letter.

5. There were a total of 4,650 errors made by all 324 students, with substitutions being the highest with 1,720, or 37 percent, of the total errors. Omissions were second in order of frequency, with 1,038 errors, or 22.3 percent. Typographical errors were responsible for 8.1 percent; poor erasures and spelling, 7.2 percent; additions, 6.8 percent; and punctuation, 6.3 percent. English usage, letter mechanics, and syllabication were responsible for less than 3 percent of the errors.

6. When these errors were grouped according to shorthand, typewriting, and English, the following was revealed: shorthand was responsible for 3,076 of the total errors made; English, 796; and typewriting, 778.

7. When taken as a whole, accuracy achievement in relation to the amount of material transcribed indicates that all of the students transcribed their notes with 96.6 percent accuracy. Although this does not signify mailability, it does show that, as a whole, the schools come within the 95 percent accuracy requirement for the Gregg Speed Awards. There were four schools which fell below the 95 percent accuracy requirement.

8. When the two studies were compared on the basis of transcription errors, the Wanous (79b) study showed more errors in the area of English, and the present study showed the bulk of errors in the shorthand area. This would tend to indicate that students coming into shorthand have a better background in English mechanics now than a few years ago. Now it is up to shorthand teachers to improve transcription through application of better teaching procedures, audio-visual aids, and the setting of definite standards in both quantity and quality.

Conclusions:

1. The degree in shorthand transcription is low and criticism received from personnel officers and business in general is deserved.

2. Transcription for mailable copy seems to be neglected in most business education programs. Since the average percent of accuracy for all of the schools was 96.6 percent, it would seem that raising this standard to that of mailability would not be an impossible task.

3. The generally accepted minimum standard transcription rate of 20 words a minute was reached by only a few students. It would seem, therefore, that this is a desired goal rather than an existing standard.

4. English errors have been reduced considerably in the past few years. Marginal reminders in the recent editions of Gregg shorthand textbooks could be partially responsible for this.

Recommendations:

1. After the students have attained a fair degree of mastery in typewriting, shorthand, and English, more time should be spent in transcription. Practice should be provided in the use of good quality letterheads, carbon paper, second sheets, and envelopes.

2. Students should be given practice that will develop ability to use time and transcription tools efficiently.

3. Realistic standards in both quantity and quality of work both in short and long term goals should be set and their attainment insisted upon.

4. Self-rating sheets or check lists should be used in order that students can appraise their own work and become more aware of their weaknesses and strive to correct them.

5. Additional research is needed to determine the effectiveness of procedures advocated for the improvement of the transcription skill.

Abstractor's Comments:

1. This study was conducted in Catholic schools in four Midwestern states and the studies it was compared with were conducted in public high schools. This could mean that the Catholic schools are doing a better job of teaching English and the public schools are doing a better job teaching shorthand.

2. This study tends to indicate that more emphasis needs to be placed on shorthand theory.

3. The abstractor believes that it is worth noting that only 2 of the 18 schools achieved a mailability percentage above 50 percent. Since only 4 of the 18 schools fell below the 95 percent accuracy requirement on all transcription done, it would appear that the standard of 95 percent accuracy is too low.

Abstract 12

Darwin Brooks Bashaw, "The Utilization of Programmed Instruction in Teaching Beginning Gregg Shorthand" (unpublished Master's thesis, Virginia Polytechnic Institute, 1965), p. 83.

Problem:

This study was conducted in order to determine some of the results from the use of an experimental edition of programmed Gregg shorthand, Diamond Jubilee Series, in a regularly scheduled class of beginning shorthand.

Procedure:

1. The programmed instruction used in this experiment, Programmed Gregg Shorthand, Experimental Edition, consisted of 40 lessons and a total of 1,067 frames. No new characters are presented in Lessons 6, 12, 18, 24, 30, 36, and 42. Lessons 5 and 6, 11 and 12, 17 and 18, 23 and 24, 29 and 30, 35, and 36, 41 and 42 were combined.

2. There were a total of nine students registered for the experiment for the Winter Quarter, 1965--seven male and two female. There was no evidence that any of them had previous instruction in shorthand; however, all but one were familiar with programmed instruction.

3. Seven 50-minute periods were available each week, and these periods were devoted to working on lessons without any formal help from the instructor. No daily assignments were made.

4. A test consisting of thirty-five words was taken upon completion of each lesson. The tests were returned to the students showing a percentage grade. The instructor wrote the correct outline beside any incorrect outlines. A 100-word theory test taken from the September-October, 1964, Business Teacher was administered at the end of the course.

5. A final test was given upon completion of the text, which included the following: (a) a 150-word theory test in longhand; (b) a 75-word dictated theory test; (c) a 152-word brief form test in longhand to be written in shorthand; and (d) a one-minute dictation test on connected material given at speeds of 40, 50, 60, 70, and 80 words a minute. Students were allowed ten minutes to transcribe in longhand.

6. Each of the students took the Otis Quick-Scoring Mental Test and these scores were compared with: (a) the individual's average theory grade, (b) time necessary to complete 1,067 frames, (c) percent of errors on theory recall, (d) percent of error on new theory, (e) percent of errors in writing new words, (f) percent of errors in writing brief forms, (g) and percent of errors in writing phrases and special words.

7. The students were given an opinionnaire after they had taken the final examination.

Findings:

1. From 83 to 189 minutes were needed to complete each lesson, with the mean being 126 minutes and the median 123 minutes. This included classroom time, outside study, and testing time.

2. All students could take 40 words a minute at the end of the course; three could take 50 words a minute; two could take 60 words a minute; and one could take 70 words a minute.

3. For the 150-word theory test at the end of the course, 32 to 93 percent of the words were written correctly, with the average being 69 percent; for the 152-word brief form test, words written correctly ranged from 86 to 99 percent, with the average being 95 percent; and for

the 75-word dictated theory test, words written correctly ranged from 27 to 91 percent, with the average being 71 percent.

4. Most of the questions that students would usually take to the instructor were answered in the program. In most cases no further explanation was needed.

5. The students' reactions to the programmed materials were favorable. Some of the students indicated they would prefer the teacher to take an active part in the instruction.

Recommendations:

1. Since the time devoted to each lesson becomes less as the students progress, the program should be revised to distribute the content of the lessons evenly throughout the program.

2. Further experimentation is needed using the program used in this study.

3. Those students having difficulty should be given more individual help.

4. The students must be held to a schedule to ensure that all students finish the program.

5. Short quizzes made by the instructor should be given at the end of every five lessons.

6. Students should be checked periodically to determine shorthand reading ability.

Abstractor's Comments:

1. Since only nine students were used in this study, no conclusions were drawn on the basis of this study.

2. Research is needed using an experimental group and a control group to find out whether or not students can learn more rapidly through the use of the programmed materials used in this study.

Abstract 13

Sister Mary Barnabas Baumgardner, R.S.M., "A Comparison of the Vocational Shorthand Prognostic Techniques Used by Guidance Counselors in the Secondary Schools of Toledo, Ohio, With Those Suggested by Business Education Leaders" (unpublished Master's thesis, The Catholic University of America, 1965), p. 103.

Problem:

The problem of this study was to determine the extent tests and other devices are used by guidance counselors for selecting students for enrollment into the stenographic curriculum of the high schools in Toledo, Ohio.

Procedure:

1. After obtaining permission from 12 superintendents, the principals of 25 high schools were contacted. Appointments were made with each principal for interviewing one counselor and one business teacher in each school.

2. Three of the schools did not offer shorthand and transcription; therefore, interviews were arranged in 22 high schools. An interview check list was employed for interviewing purposes.

3. In some instances the interviewees requested to return the check list at a later time. This was permitted and, therefore, one check list was never returned by one teacher. Therefore, there was a total of 43 respondents--22 counselors and 21 business teachers.

Findings:

1. More than one-half of the group reported that all students were tested prior to scheduling. Those tests used most frequently were: High School Placement Test, Iowa Test for Educational Development, Turse Shorthand Aptitude Test, Differential Aptitude Test, and School and College Ability Test.

2. Courses in shorthand and transcription are not usually offered below the 11th and/or 12th grade.

3. A prerequisite was stipulated in many instances for enrolling in Shorthand I and in 88 percent of the high schools that was Typewriting I.

4. Most of the schools required a "C" average in English for enrollment in shorthand and 23 percent required a "B" average in English. Furthermore, 82 percent of the high schools used a "C" grade in Typewriting I as a criterion for selection into shorthand.

5. A majority of those interviewed believed that English grade was unreliable as a single predictive measure.

6. Keen interest on the part of the student was an important factor in selecting students for shorthand.

7. Most of the criterion factors used in selecting students were set by the business education department of the high schools.

8. The General Aptitude Test Battery, Turse Shorthand Aptitude Test, and Differential Aptitude Test were the tests most frequently used by guidance counselors.

9. Shorthand enrollment was found to have increased in 49 percent of the high schools in the Toledo Area. Shorthand has decreased in 32 percent of the schools and remained steady in 14 percent of them.

10. Most of the shorthand dropouts come from failures and loss of interest. Furthermore, dropouts do not normally use the little skill they have.

11. A small percent of the students realize what is involved in transcription before they elect the course.

Conclusions:

1. The criteria commonly associated with shorthand prognosis in the Toledo area include: (a) general learning ability, (b) verbal aptitude, and (c) evidence of interest.

2. The slow, lazy, or disinterested student should not be placed in shorthand classes.

3. Those prognostic techniques used in this study are similar to those suggested by leaders in business education.

Recommendations:

1. The large percent of dropouts between first and second-semester courses in the area investigated warrants further research to help determine the cause or causes.
2. The use of the GATB Test as a predictive measure of shorthand success should be investigated in more depth.

Abstractor's Comments:

1. In the first chapter the writer indicated that 27 high schools were contacted, but in a later chapter she indicated 25.
2. Some of the conclusions were repeats of the findings statements and, therefore, are not included in the abstract.

Abstract 14

Mildred Marie Bedner, "An Investigation of Selected Measures for Predicting Achievement of Students in First-Year Shorthand" (unpublished Master's thesis, San Diego State College, 1963), p. 95.

Problem:

The problem of this study was to investigate certain factors which may be used for predicting achievement of first-year shorthand students.

Hypotheses:

1. "A significant correlation exists between scores on the Hennon-Nelson Tests of Mental Ability and achievement in first-year shorthand."
2. "A significant correlation exists between tenth-year English grades and achievement in first-year shorthand."
3. "A significant correlation exists between scores on selected tests of the Iowa Tests of Educational Development and achievement in first-year shorthand."

4. "A significant correlation exists between foreign language grades and achievement in first-year shorthand."

5. "A significant correlation exists between art grades and achievement in first-year shorthand."

6. "One, or a combination, of these factors provide a predictive device to help counselors guide students interested in the study of shorthand."

Procedure:

1. This study involved 120 students who had completed one year of shorthand instruction from September of 1957 to June of 1960, at Mission Bay High School, San Diego, California, for whom adequate records were available. Dropouts, transfers, and those not having adequate records available were eliminated from the study.

2. The final shorthand grade was used as the criterion of achievement.

3. After a thorough review was made of the literature, the following variables were chosen as the most likely to predict shorthand success:

- a. IQ.
- b. Tenth-grade English score.
- c. ITED scores on the following:
 - Test 3, Correctness and appropriateness of Expression.
 - Test 5, Ability to Interpret Reading Materials in Social Studies.
 - Test 6, Ability to Interpret Reading Materials in the Natural Sciences.
 - Test 7, Ability to Interpret Literary Materials.
 - Test 8, General vocabulary.
 - Tests 1-8, Composite score.
 - Test 9, Use of Sources of Information.
- d. Foreign language grade.
- e. Art grade.

4. Correlation coefficients were determined between the criterion measure and the variables by means of the Pearson product-moment method. Furthermore, multiple correlations were calculated to determine the best possible combination of variables for predicting success in shorthand.

Findings:

1. Iowa Test 3, Correctness and Appropriateness of Expression, correlated highest with shorthand achievement with a correlation coefficient of .483. This was considered a moderate correlation. Other variables which correlated moderately with shorthand achievement were: tenth-grade English scores, .469; foreign language, .467; and Iowa Tests 1-8 composite score, .462.

2. The other variables showed with a low or negligible correlation with shorthand achievement.

3. The following correlation coefficients were revealed through the use of multiple "R's": tenth-grade English score and Iowa Test 3, .557; tenth-grade English score and Iowa Tests 1-8 composite scores, .533; and Iowa Test 3 and composite scores on Tests 1-8, .511.

Findings Related to Hypotheses:

1. A moderate correlation of .469 was found to exist between tenth-year English grades and first-year shorthand achievement.

2. The Iowa Test 3 and shorthand achievement showed a moderate correlation of .483. Also, Iowa Tests 1-8 composite scores and shorthand achievement showed a moderate correlation of .462.

3. Foreign language grades and shorthand achievement produced a moderate correlation of .467.

4. When these factors are combined, a predictive device is made available to counselors for use in guiding interested students into shorthand.

Other stipulations in the original hypotheses were not supported by the findings of this study.

Conclusions:

1. The shorthand prerequisite that passing grades in English are required before enrolling in shorthand in the San Diego City Schools is substantiated by the findings of this study.

2. Although not adequate as sole predictors, other factors which were determined that could be used successfully by counselors and teachers for guiding

students into shorthand. These factors include the Iowa Test 3 scores, Iowa Tests 1-8 composite scores, and grades in foreign language.

3. No predictive significance was found for IQ scores, Iowa Tests 5, 6, 7, 8, and 9 scores, and grades in art.

4. Tenth-year English grades combined with either Iowa Test 3 or Iowa Tests 1-8 composite scores could provide valid predictive measures for first-year shorthand prognosis.

Recommendations:

1. That the counselors at Mission Bay High School be informed of the findings of this study and that students enrolling in first-year shorthand be selected on the basis of these findings.

2. That a follow-up study be made to determine whether the predicting devices suggested for use have actually decreased dropout and failure rates in first-year shorthand.

Abstractor's Comment:

Shorthand achievement still tends to correlate as high, if not higher, with tenth-grade English scores as with any other variables tested. Although it should perhaps not be used as a sole predictor, English grades to be used as an aid in counseling with students seeking enrollment in first-year shorthand.

Abstract 15

Carole Bellucci, "A Study To Determine First-Semester Standards In Diamond Jubilee Shorthand For Hunter College Students" (unpublished Master's thesis, Hunter College, New York, 1964), p. 138.

Problem:

The problem of this study was to report the achievement in six classes of Diamond Jubilee Shorthand of first-semester students at Hunter College as a basis for developing suitable standards for subsequent classes.

Procedure:

1. A meeting was held involving Dr. Estelle Popham, Chairman of the Department of Business Education, Hunter College; Howard Newhouse, Professional Service Specialist, Gregg Publishing Company; the five teachers involved in the study; and the writer. The reasons for having this meeting was to secure the cooperation of the teachers, to discuss this study, to determine its purpose, and to determine specific target dates to be used.

2. A second meeting was held later involving Dr. Popham, Howard Newhouse, and the writer to review what was set up and to refine further the instrument that was originally planned.

3. Each teacher was allowed to use the method of teaching he was accustomed to. Three patterns were used: (a) Reading and Writing Approach to Teaching Shorthand, (b) Reading Approach to Teaching Shorthand, and (c) A Variation of the Reading and Writing Approach.

4. The evening classes followed the same schedule as the day classes. The evening classes only met twice each week and the day classes met four times each week, so the evening classes took two lessons each evening. The recall lessons were not covered by the evening classes, but were covered by the day classes.

General Information

1. Student transcripts were used by all the teachers in their classes.

2. The background of students was gathered by all the teachers regarding the following:

- a. Did the student have shorthand prior to this course?
- b. If the student did have shorthand prior to this course, where, how long ago, and how many semesters?
- c. Is the student of foreign birth?

3. Tests

- a. The writer prepared five transcription tests and three brief form tests and gave to each teacher to administer.
- b. All the above tests were taken from the textbook and were standard for all classes.

- c. All tests were graded by the individual teacher and then by the writer to obtain uniformity. To avoid confusion, the papers were not returned to the students.
 - d. All tests given to the writer contained the following information:
 - 1. Name of student and teacher and class.
 - 2. Date of the test.
 - 3. Number of the transcription or brief form test.
 - 4. An indication whether the test was a regular scheduled test or a make-up.
 - 5. Attendance to date--number of times the student was absent--an accumulative count.
4. The final evaluation was based on an accumulative record of the results of new matter dictation tests with previews.
5. It was decided to use the "mean" in comparing the brief form tests and the "median" in comparing the transcription tests.

Summary and Conclusions of the Related Literature:

On the basis of the review of related literature it may be concluded that the following are generally considered to be acceptable standards for either first-semester college shorthand or first-year high school shorthand:

- a. Completion of the theory of shorthand.
- b. Ability to take dictation of new material at 60 WPM.
- c. Ability to take previewed dictation at 70 WPM and possibly at 80 WPM.
- d. The rates of transcription range from 10 WPM, 13 WPM, 15 WPM, and 35-40 WPM.

Conclusions:

On the basis of the data collected for this study, the following conclusions were drawn:

- 1. For first-semester college or first-year high school shorthand students the acceptable transcription rates on previewed, dictated, or not dictated material are:

<u>Week of Instruction</u>	<u>Transcription Rate</u>	<u>Material Transcribed</u>
4	23	From Textbook
6	26	"
9	25	"
13	20	Dictation at 70 WPM
14	23	Dictation at 80 WPM

2. The acceptable dictation rates on previewed material are:

<u>Week of Instruction</u>	<u>Rate of Dictation</u>
4-12	Note dictated but transcribed from textbook
13	70 WPM with textbook open
14	80 WPM with textbook open

3. A recommended length of dictation for transcription is: Week 4-14 of instruction--approximately 100 to 130 words.

4. The median score of words per minute transcribed for day classes was higher than for evening classes.

5. The median score of words per minute transcribed for evening classes was lower than the aggregate group median score on all tests.

6. A recommended mean number of errors for transcription tests are:

<u>Week of Instruction</u>	<u>Mean Number of Errors</u>	<u>Number of Lessons Covered in Textbook (Memory Load)</u>
4	Errors were not considered on first test	10
6	2.18	20
9	2.55	36
13	3.40	48
14	3.51	58

7. As is illustrated in (6) above, the mean number of errors increases as the memory load for the student increases.

8. An aggregate group mean of 2.91 number of errors was given for all transcription tests given in this study.

9. General Conclusion: Number of Errors in Transcription. The day classes showed a gradual decrease in errors for each test, but the evening classes showed a gradual increase in errors for each test.

10. The mean number of errors for the brief form tests was lowest for the day classes.

11. The mean number of errors for the brief form test was lower for the day classes than for the aggregate group.

12. Recommended mean number of errors for brief form tests are:

<u>Week of Instruction</u>	<u>Mean Number of Errors</u>	<u>Number of Lessons Covered in Textbook (Memory Load)</u>
5	1.40	14
8	1.96	28
12	2.32	40

13.. As illustrated in (12), as the memory load increases for the student, the mean number of errors will also increase.

14. The aggregate mean number of 1.89 was recorded for the group for all brief form tests given.

15. General Conclusion: Number of Errors in Brief Form Tests. A gradual increase in errors with each additional test given may be expected.

16. One day class out of a possible two classes, or 50 percent, met the final evaluation standard.

17. Two evening classes out of a possible four classes, or 50 percent met the final evaluation standard.

18. General Conclusion: Final Evaluation. The percentage of classes as a whole that will meet the final evaluation standard set up for this study will not be affected by whether it is an evening class or day class.

19. Teacher A had the highest mean number of absences, however, he also had the highest number of students who met the final evaluation standard.

20. Foreign birth has no affect on students ability to succeed in shorthand.

21. A student's success in shorthand is affected by his having prior shorthand knowledge.

22. Forty-five papers from 23 students out of a possible 130 students, or 18 percent, passed the three-minute dictation test at 60 WPM in the final evaluation.

23. Eighteen students out of a possible 130, or 14 percent, passed the five-minute dictation test at 60 WPM in the final evaluation.

24. Twelve students out of a possible 130, or 9 percent passed the three-minute dictation test at 80 WPM in the final examination.

25. No students met the final evaluation standard of a five-minute dictation test at 80 WPM.

26. General Conclusion: Final Evaluation. The final evaluation standards, as set up in this study, were too high for first-semester college or first-year high school shorthand students.

27. The writer concluded that the standards arrived at in this study are similar to those currently used at Hunter College.

28. The teachers participating in this study agreed that the target dates set up for this study were realistic.

29. There was a definite difference in the results obtained between day and evening classes. The spacing between the evening classes has an affect on the achievement of the students.

30. Raise the selection of the evening class students so that the evening classes can meet the achievement standards set up for the day classes.

Recommendations:

1. Additional research should be undertaken in order to provide further realistic standards for first-semester college or first-year high school shorthand students.

2. That standards be set for different stages of the first-semester college or first-year high school shorthand course.

Abstractor's Comments:

1. Included in the appendix, which the abstractor found very interesting, are comments from experienced teachers giving their impression of Gregg Shorthand Diamond Jubilee. Also, given in the appendix was a short description of the teaching method used by each teacher taking part in this study.

2. One important point was pointed out here and that is that the teaching method is not important as long as it gets results. We must realize that all teachers cannot get the desired results from the same teaching method; therefore, each teacher must find the method that produces the desired results.

Abstract 16

Mark Benda, "The Relationship Between Beginning Shorthand and Spelling Ability" (unpublished Master's thesis, Mankato State College, 1966), p. 21.

Problem:

The problem of this study was to determine whether shorthand instruction at the secondary school level impairs spelling ability.

Procedure:

1. This study involved 62 students in three selected high schools in Minnesota and in three high schools in Iowa. No attempt was made to select the students involved in the study.

2. The words on the spelling test were selected from the 1,400 frequency group of the Silverthorn list manual (64b). The same words were used for the pretest and post-test. The number of errors made on each test was selected as the criterion.

3. The difference between the two scores was statistically computed to determine the significance of difference.

Findings:

1. A 100-word test was given before and after the study of one semester of shorthand. The pretest had a

range of errors from 0 to 39, with a mean of 7.10; and the post-test had a range of errors from 0 to 35, with a mean of 5.82.

2. A t-value of 3.13 was computed and was significant at the 1 percent level, since a t-value of only 2.57 was needed to be significant.

Conclusions:

1. There was no indication that shorthand instruction decreases spelling ability.

2. Although the post-test showed significant improvement in spelling, it cannot be concluded that shorthand instruction improves spelling ability without more comprehensive study.

Recommendations:

1. That a similar study be made in which more of the variables are controlled.

2. That a similar study be made using random sampling and a standardized spelling test.

3. That a longitudinal study be made checking spelling ability at different stages of shorthand instruction.

Abstractor's Comment:

Even though it cannot be concluded that the study of shorthand improves spelling ability, the findings did tend to indicate that spelling ability does not decrease.

Abstract 17

M. Elaine Blumhagen, "A Study To Determine the Feasibility of Using a Time-Penalty Scoring Procedure for Shorthand Dictation and Transcription Tests" (unpublished Master's thesis, Iowa State Teachers College, 1960), p. 81.

Problem:

The problem of this study was an attempt to determine whether a time-penalty scoring procedure might provide a better evaluation of the student than present procedures.

Procedure:

1. A testing program was set up at Ames, Boone, Cedar Falls, and Fort Dodge, Iowa, which involved 67 Shorthand II students. They were given both a dictation test and a transcription test. Each test contained two letters of 90 words each and was dictated at 60 words a minute. The dictation test was transcribed in straight copy form and the transcription test was set up in correct letter form. No carbon copies or envelopes were prepared.

2. The dictation tests were scored by the scoring procedure mentioned in the Gregg Tests and Awards Booklet and the corrected-copy method. The transcription tests were scored in the following three ways: (a) mailable-letter method described in the Gregg Tests and Awards Booklet (77b), (b) the Thomas (73b) scoring method, and (c) the corrected-copy scoring method (41b).

3. Schools close to the researcher were selected for this study so that conferences could be held with the participating teachers. Only those schools offering two years of shorthand instruction were selected.

4. Each participating teacher was interviewed early in October, 1956. A few changes were made as a result of the interviews. The testing materials and instructions were mailed to the co-operating teachers on January 10, 1957.

Findings:

1. Only 24 of the 67 students ranked in the same grouping by both scoring methods on the dictation tests. Furthermore, the correlation between the two scores was .63, which was not high enough to indicate that the two methods scored the same factors.

2. When the transcription tests were scored by all three methods, the corrected-copy method gave a more realistic score. Of the 130 letters transcribed, 64 were classified mailable and 66 unmailable by the mailable-copy method. The Thomas scoring method classified errors fatal or simple and only 18 letters contained three fatal errors, enough to disqualify them. In all cases, the errors which disqualified the letters in either of the above methods could have been corrected.

3. A correlation coefficient of .65 was computed between the Thomas scoring method and the corrected-copy

method, which was not high enough to indicate that they scored the same factors.

4. When considering the seriousness of the error, as the corrected-copy method does, approximately 33 percent of the scores were changed from what they were using to the Gregg Tests and Awards Booklet method.

5. A single score, as obtained by using the corrected-copy method, can be converted into a letter grade more easily than can two or more grades obtained by the traditional methods.

Recommendations:

1. That a further study be made to determine whether the time-penalty used is accurate on all experience levels.

2. That further study be made using the findings of recent studies on seriousness of errors to refine the criteria for scoring transcription and typewriting tests.

3. That more comprehensive studies be made to establish norms of achievement using the scoring procedure over a period of time, one semester or one year, and including the use of carbons.

Abstractor's Comments:

1. There seems to be a discrepancy in the figures of the researcher or the abstractor is missing a point. My calculations show that $180 \times .028 = 5.040$ and not 4.860, as indicated by the writer.

2. Nothing was said about how the table was devised that was used for determining the error penalty used in the corrected-copy method.

3. Presentation of the tables giving the interpretations of the data within the report itself would have been more meaningful. Also, the writer kept referring back to a particular page, which made reading the study difficult.

4. Speed of dictation, accuracy of transcription, and speed of transcription are all essential elements in accurate measurement of shorthand proficiency. No matter what scoring method is used, these factors should be

included in the final score. To get all three scores into one is indeed helpful when converting scores to letter grades.

5. This study does have merit for use in a shorthand methods and an improvement of shorthand instruction course, even though some errors did creep in here and there.

Abstract 18

Hazel Ross Bolan, "The Application of Knowledge of Selected Grammatical and English Composition Factors in the Transcription of Shorthand Dictation" (unpublished Ed.D. dissertation, Indiana University, 1967), p. 534.

Problem:

The problem of this study was to make a study of the relationship between the students' knowledge of selected grammatical and English composition factors and their ability to transcribe dictated shorthand notes by applying that knowledge.

Procedure:

1. The data for this study were gathered from the counselor's office of the schools involved and the 192 students enrolled in second year shorthand classes of the Public Schools in Louisville, Kentucky and Clarksville, Indiana. Information gleaned from the counselor's office included age, reading comprehension, vocabulary, IQ, English grade average, typewriting grade average, business subjects grade average, years of formal typewriting, and curriculum pursued. Data gathered from the 192 students included knowledge in selected English factors and ability to apply those factors in transcribing from shorthand notes.

2. An analysis was made of research studies in order to determine those English errors most frequently made in shorthand transcription. This analysis revealed that those English errors were punctuation, spelling, grammatical usage, syllabication, and capitalization.

3. After examining 215 papers of 43 students and studying English composition handbooks and standardized English tests, the following English composition factors were selected for use in this study: spelling, punctuation, capitalization, grammatical usage, syllabication,

writing of numerals, and sentence structure and paragraph sense.

4. Various standardized tests were administered to gather data for this study. Those tests used included The 1960 Cooperative English Test, Reading Comprehension, Form 2A, Part I and II; The Greene-Stapp Language Abilities Test, Form AM, Subtests 1, 2, and 4; The Test of English Usage, Form A, Subtests I, II, and III; The Barrett-Ryan-Schrammel English Test, Form DM, Subtests 1, 2, 3, 4, and 5.

5. A multiple-choice test containing 40 items was constructed to measure students' ability to write numerals in shorthand dictation. The reliability coefficient of this test was calculated and it was deemed sufficient for use to evaluate group accomplishment.

6. The shorthand-dictation test battery consisted of six tests, each comprised of five subtests at 60, 70, 80, 90, and 100 words a minute. The tests selected for use in this study were taken from the Danielson tests (15b). In some cases the materials were used as they were and in other cases they were altered slightly to meet certain criteria.

7. The various tests used in this study and detailed instructions were made available to the participating teachers approximately one week before they were to be given. The tests were administered by the teachers in charge of the participating classes and returned to the school office upon completion.

8. The standardized English tests used were machine scored and the Writing of Numerals Test was scored by hand. The shorthand-dictation tests were divided according to speed levels and graded by a coded procedure. This coded procedure was explained in detail in the study. The data collected from these tests were subjected to various statistical measures, which included correlation coefficient, chi-square, and analysis of variance.

Findings:

1. The students' knowledge of spelling, punctuation, capitalization, and grammatical usage and their ability to use those knowledges were significantly related.

2. The students' knowledge of syllabication, writing numerals, sentence structure, and paragraphing and

their ability to use those knowledges were not significantly related.

3. A significant relationship was found to exist between students' knowledge of the seven selected English factors and their ability to apply those factors in transcribing from shorthand dictation notes.

4. Although the personal characteristics do not influence the success with which the students apply their knowledge of the selected English factors in transcribing, they are significantly related to the students' knowledge of the selected factors.

a. Students with the highest age level applied their knowledge of selected grammatical and English composition factors the most effectively.

b. The lower IQ students applied their knowledge of grammatical usage and syllabication factors significantly more effectively than students with higher IQ's.

c. Knowledge of grammatical usage, syllabication, sentence structure, paragraphing, and total English was applied significantly more effectively by students with lower vocabulary levels.

d. Knowledge of grammatical usage, syllabication, sentence structure, and paragraphing was applied significantly more effectively by students with second lowest reading comprehension level.

e. Grammatical usage was applied more competently by students with the second lowest total reading ability than the students with the highest and lowest total reading abilities.

5. Although knowledge of the selected grammatical and English composition factors does not influence the applying of this knowledge in transcribing, it is definitely related to the academic achievement of the students.

a. Knowledge of writing numerals was applied more accurately by students with lower English grade average than students with higher English grade averages.

b. Knowledge of writing numerals and sentence structure and paragraphing was applied significantly more accurately by students with lower scholastic grade averages than students with highest scholastic grade averages.

c. There was not a significant difference in application of student knowledge of the selected grammatical and English composition factors by students with different shorthand grades.

d. Knowledge of the selected English composition factors was applied equally well by all levels of business subject grade averages.

6. Although the shorthand-dictation rate and curriculum pursued do not influence the applying of students' knowledge of the selected grammatical usage and English composition factors in transcription, they are significantly related to students' knowledge of the selected factors.

a. Grammatical usage was applied significantly more successfully by students taking 70 and 80 words a minute dictation than by students taking 90 and 100 words a minute.

b. Students pursuing the business and college prep curriculum applied their knowledge with about the same degree of accuracy as other students.

7. The students' knowledge or application of selected grammatical and English composition factors is not significantly related to typewriting instruction.

Conclusions:

1. The findings of this study agree with the findings of psychology of learning that there is no automatic transfer of knowledge.

2. The findings of this study indicate that knowledge of the English factors does not assure one of the ability to apply the knowledge in a practical situation.

3. Since students with the highest academic averages and highest mean knowledge of the selected English factors did not show competency in using their knowledge, it seems evident that students were unable to use their skill in new situations.

4. Students with the highest IQ scores, English vocabularies, level of reading ability, total reading abilities, knowledge of grammatical usage, and English composition factors were unable to apply their knowledge in new situations.

Abstractor's Comments:

1. Statements indicating that students with lower levels of knowledge achieved significantly more competently than students with higher levels of knowledge. As the writer indicated, this does not mean that the lower ability students achieved higher goals on the dictation-transcription tests than the higher ability students, but that they achieved more than was expected of them.

2. As the writer suggested, ability to use knowledge of grammar and English composition in new situations should be developed the same as the acquiring of the knowledge.

Abstract 19

Edgar Bollinger, "The Establishment and Implementation of Guiding Principles for Motivation in Teaching Shorthand" (unpublished Master's thesis, University of North Dakota, 1960), p. 81.

Problem:

The problem of this study was to establish and implement sound guiding principles to be used as motivational devices in teaching shorthand.

Procedure:

1. All of the periodicals listed in the Business Education Index from 1949-1958, available from the Business Education Department Library and the Main Library of the University of North Dakota were examined.

2. Of the 153 articles and books researched, 70 articles and books contained information pertaining to motivation in the teaching of shorthand.

3. From these articles and books, 3 x 5 index cards were prepared containing the author, title of article, source of title, and page numbers of the located materials. The cards were then filed in a numerical file.

4. From the materials researched, 10 principles were formulated as follows:

a. Motivation should appear to all the senses.

- b. The student must be aware of the goals and objectives that are to be achieved.
- c. Positive motivation is more effective than negative motivation.
- d. A motivation device should provide for individual differences of intelligence and maturation.
- e. A variety of motivation devices should be employed.
- f. The teacher is the key factor in making motivation work.
- g. Intrinsic motivation is more permanently effective than extrinsic motivation.
- h. Motivation should stimulate and provide for independent learning.
- i. Motivation is aided by the use of proper equipment, supplies, and teaching aids.
- j. Motivation devices must be easy to administer.

5. The materials were re-examined and a decimal point was added to the previous indexing system. The cards contained the devices necessary to support the principles. Each device was placed on a separate card. The cards were then filed behind the card containing the source and other information obtained from the first survey.

6. A consecutive decimal numbering system was continued until all devices were numbered. The decimal number on the last card would indicate the number of devices found in a particular reference. Example: A number such as 45.100 would indicate that 100 devices were found in that reference.

7. Each device was examined and related individually to the ten principles in order to avoid omitting a possible supporting device.

8. The number of the card and the name of the device were listed under each principle to avoid repetition.

9. The devices were explained only once even though they may have appeared under several principles. They were explained under the principle where the device first appears.

Findings:

1. The following devices were found which support Principle I: Attention catcher, Bulletin board, Chalkboard, Demonstrations, Displays, Encouragement, field

trips, individual charts, motion picture and film strips, musical devices, opaque projector, personal appeal, pictures and aids, posters, praise, previewing, previous practice, problem material, progress charts, reading scoreboard, record player and records, relaxation, shorthand flash cards, shorthand reading, textbook, theory and control, tracing, voice, window-shade chart, wire and tape recorder.

2. Devices found and explained which support Principle II are as follows: Attaining goals, confidence in teacher, convince students, establishing goals, feeling of security, follow-up, goal, grades, group evaluation, homework, knowledge of progress, new-matter dictation, practice habits, pretest and postview, reading scoreboard, skill goals, typewriting for transcription, understanding the objectives.

Those which were explained under number 1 which apply to number 2 are: demonstrations, encouragement, progress charts.

3. Devices supporting Principle III are as follows: assignments, certificates, classroom atmosphere, competition, dictation material, experts in shorthand, Gregg awards, homework, learning units, participation, praise, previews, pride in achievement, progress charts, recording devices, reinforcement, relaxation, repetition, self-confidence student, student assistance, student inventory, teacher, teaching assistance tests, useful acts.

Those devices explained under another principle that also support this principle are: grades, knowledge of progress, bulletin boards, chalkboard, demonstrations, encouragement, individual charts, motion pictures and film strips.

4. Those devices supporting Principle IV are the following: compensating for individual differences, grand bob sled race, high ability students, individual differences, individual progress charts, intra-school contests, learning period, motorboat race, open books during dictation, practice, preview, pyramidal speeds, records and tape, repetitive work, shorthand baseball, teacher help, team competition, use of key, variation, vary dictation speeds, wire recorder.

Devices explained under another principle that also support this principle are: chalkboard, encouragement, praise, previewing, progress charts, reading scoreboard, record player and records, wire and tape recorder, certificates, competition, previewing, progress charts, repetition, student assistance, teacher assistance, tests.

5. Devices supporting Principle V are: basketball game, Christmas tree game, conversation piece, cross-country motorcade, demonstrations by shorthand experts, football game, honor roll, memory game, miniature race track, picture game, praise student, shorthand pen pals, spelling bee, tape recorder, variety of motivation.

Those explained under another principle that also apply to this principle are: attention catcher, bulletin board, demonstrations, individual charts, reading scoreboard, record player and records, shorthand flash cards, textbook, theory record chart, tracing voice, wire and tape recorder, Gregg awards, grand bobsled race, records and tapes, shorthand baseball.

6. Devices found that support Principle VI are: character building, enthusiastic teacher, literature, human element, pretranscription, relaxation, student accomplishment, subject matter, teacher attributes, teacher encouragement, teacher guidance and supervision, teacher responsibility, two-way communication, voice infliction, want ads.

Devices already explained that also support Principle VI are: attention catcher, demonstrations, encouragement, praise, preview, attaining goals, confidence in teacher, convince students, follow-up, teacher assistance, testing, practice, teacher help, variation.

7. Those devices which were found to support Principle VII are: basketball game, bulletin board, class competition, competition, former class members, honor rolls, intrinsic motivation, live dictation, personal attention, student interest, success, vocational aspect.

Other supporting devices already explained are: encouragement, individual charts, praise, progress charts, knowledge of progress, typewriting for transcription, competition, pride in achievement, self-confidence, student, enthusiastic teacher.

8. Devices found to support Principle VIII are: brief form chart, dictation records, encouragement, group homework, homework, meaningful homework, notebooks, rapid sight reading, right kind of dictation, student success, student's transcript.

Other supporting devices which have already been explained are: individual charts, reading scoreboard, record player and records, theory recall chart, follow-up, grades, homework, student assistants, tests, individual difference, previewing, records and tapes, wire recorder.

9. Supporting devices found for Principle IX are: Bulletin board, chalk board space, class atmosphere, class organization, equipment and supplies, lesson plans, notebooks, other items, supplementary aids, workbooks.

Other supporting devices already explained are: bulletin board chalkboard, demonstrations, motion pictures and film strips, musical devices, opaque projector, posters, progress charts, record player and records, textbooks, theory records, and tape, wire recorder.

10. Devices explained under Principle X that support it are: Bonus credit for quickies, describe, draw, encouragement, letter repetition, oral transcription, penmanship and vocabulary building, reading and writing practice sequence and organization of theory presentation, speed building, warmup.

Those supporting devices explained under another principle which also support Principle X are: bulletin board, demonstrations, individual charts, praise, previewing, progress charts, textbooks, competition, Gregg awards, repetition, tests, basketball game, Christmas tree game, cross-country motorcade, football game memory game miniature race track, picture game, spelling bee.

11. The ten principles used in this study were supported and exemplified by 379 devices.

Recommendation:

Further study be done in relation to motivation and the affect it has on the learning of shorthand and other skills.

Abstractor's Comments:

1. The writer points out that all of the devices contained in this study are not in agreement with his teaching practices.

2. The findings of this study may be used effectively in a shorthand method course and in a course for improvement of shorthand instruction.

Abstract 20

Lyle Gordon Bollum, "A Study of Benefits to Mankato State College Freshmen from Typewriting and Shorthand Skills Acquired in High School" (unpublished Master's thesis, Mankato State College, 1965), p. 40.

Problem:

The problem of this study was to determine the value of high school typewriting and shorthand to freshmen at Mankato State College, Mankato, Minnesota.

Procedure:

1. A telephone interview was held with 200 randomly selected freshmen at Mankato State College in 1962. The students were classified into four categories: (a) those who had not taken shorthand or typewriting, (b) those who had taken both shorthand and typewriting, (c) those who had taken only typewriting, and (d) those who had taken only shorthand. A set of questions was constructed for each category of students. The study involved a total of 181 students or a 90.5 percent return of the total 181, 88 were females and 93 were males.

2. The personnel office files of Mankato State College in order to obtain high school standing, final grade in typewriting and/or shorthand, American Council on Educational Psychological Examination scores, and second-quarter college grade ratios.

3. The data received were then used to determine whether or not there was any significant difference in over-all college achievement between students who had high school training in shorthand and/or typewriting and students who had not.

Findings:

1. Shorthand was taken in high school by only 28, or 15.4 percent, of the 181 respondents. This amounted to 38.8 percent of all female students. They had all taken the vocational course in shorthand.

2. Four semesters and a skill of at least 60 to 80 words per minute were needed by most students before

use was made of shorthand for note-taking. Brief forms were used by 59 percent of the students for note-taking, and 35.7 percent of the students used shorthand for summer work.

3. Of those responding, 57 percent of those who had taken shorthand and 43 percent of those who had not would advise high school students to take shorthand for note-taking in college. A one-year course designed for note-taking was believed to be better than a vocational course by 60 percent of those who had taken shorthand in high school.

4. The t-test showed that there was no significant difference in college achievement between students who had high school training in shorthand and students who had not.

Conclusions:

1. A shorthand vocational course in high school was not used by many of the respondents for note-taking in college.

2. If shorthand was taught which stressed listening, summarizing, organizing, and outlining, a high percent of the students believes shorthand would be a beneficial course for use in college.

3. Although the study of shorthand did not seem to improve achievement in college, shorthand did not appear to be detrimental to college achievement either.

4. The findings tended to indicate that the higher the degree of skill the more use that was made of shorthand for note-taking in college.

Recommendation:

Studies are needed to determine the value of note-hand and briefhand to college-bound students.

Abstractor's Comment:

The findings of this report seem to indicate a need for a course being offered in notehand for college-bound students. Surveys have shown that notehand and personal-use typewriting can be beneficial to college students.

Abstract 21

Arnola Colson Bose, "An Experiment to Determine the Effects of Immediate Versus Delayed Knowledge of Results On Initial Learning and Retention of Selected Related Learnings in Transcription Classes" (unpublished Ed.D. dissertation, Oklahoma State University, 1966), p. 191.

Problem:

The problem of this study was to determine if, in transcription classes, students who receive immediate knowledge of correct response on related-learnings teaching materials initially learn and retain significantly more of selected related learnings than those students who receive delayed knowledge of correct response on related-learnings teaching materials.

Procedure:

1. Two tests of equal form were constructed. One test was used as the pre-test and post-test, and the other test was divided into parts and used as quizzes following the presentation of each set of teaching materials. Each of the two tests contained 100 items.

2. The two tests were submitted to a panel for suggestions. The tests were revised according to the suggestions made by the panel, resubmitted, and revised again. The tests were then given to an office management transcription class, and an items analysis was made from these data. Most of those items having a discrimination index below 10 and a difficulty index above 90 were discarded.

3. The reliability of each test was determined by the split-half technique. The reliability of test 1 was .87 and the reliability for test 2 was .99.

4. The writer of this study also developed the teaching materials used in the study. She was aided by the same panel who helped in developing the tests. The materials developed included the same distribution of related-learnings areas as the tests. The writer prepared the materials, submitted them to the panel for suggestions, and then revised the materials according to the suggestions received.

5. The items included in the teaching materials were the same for both groups. The materials for the experimental group were designed so the students were given immediate knowledge of correct response, and the materials for the control group were designed for a delayed knowledge of correct response.

6. Four transcription classes taught at Oklahoma State University during the spring semester of 1966 were involved in the study. There were two sections of Office Management 302 and two sections of Office Management 322. These classes provided for a control group and an experimental group at each level of transcription. Data for 138 students were tabulated in the final analysis.

7. Each set of materials contained 20 items and two sets were given each week for a period of 12 weeks making a total of 480 items.

8. An analysis of covariance was used to determine the significant difference in the group mean quiz scores and the group mean post-test scores for the two groups in Office Management 302 and the two groups in Office Management 322. This method was used because the investigator was unable to equate the control and experimental groups at the beginning of the experiment.

Findings:

1. A correlation of coefficient of .98 was found between the two tests; therefore, the two tests were considered equal in form.

2. When comparing the mean quiz scores between the two classes of Office Management 302, no significant difference was found.

3. The difference between the two groups of Office Management 322 was highly significant, in favor of the experimental group.

4. When comparing the group mean of the post-test scores of Office Management 302, the experimental group was slightly higher; but there was no real significant difference.

5. There was no significant difference between the group means of the post-test scores in Office Management 322; however, the control group had a slightly higher mean.

Conclusions:

1. On the basis of the findings of this study, the null hypothesis that there is no significant difference in initial learning between students who receive immediate knowledge of correct response on related-learnings teaching materials and students who receive delayed knowledge of correct response on related-learnings teaching materials can neither be accepted or rejected.

2. The null hypothesis that there is no significant difference in retention between students who receive immediate knowledge of correct response on related-learnings teaching materials and students who receive delayed knowledge of correct response on related-learnings teaching materials is accepted on the basis of the findings of this study.

Recommendations:

1. Before conclusive statements can be drawn concerning the effects of immediate versus delayed knowledge of results in the classroom, a great deal more research needs to be made. These experiments must be conducted in practical learning situations, if the findings are to have value.

2. A similar study needs to be done using students in one class but dividing the class into two groups to avoid variables affecting one group but not the other.

3. A similar experiment needs to be done in other classes in which some of the related-learnings used in this study are taught.

4. A similar experiment needs to be done in Office Management 213, Advanced Shorthand, using only the very basic related-learnings, to determine immediate versus delayed knowledge of correct response at that level.

5. Educators should continually search for improved techniques and methods of teaching and should conduct small-scale research in their classes to determine these more effective means of teaching.

Abstractor's Comments:

1. Research involving a longer delayed knowledge of correct response might prove beneficial. In this study the delayed time was really too short to be significant.

The period of time allowed for the exercises was 10 minutes for both groups and, thus, the time delayed was too short to prove whether immediate or delayed response is better.

2. All classes should have been taught by the same teacher in order to get consistency throughout the experiment, and even this is not always successful in elevating teacher variables.

Abstract 22

Marion LeRoy Boss, "A Micromolar Behavioristic Approach to Dictation Skill Building in Beginning Shorthand" (unpublished Ed.D. dissertation, Colorado State College, 1967), p. 125.

Problem:

"The main problem of this study was to determine the relative effectiveness of a traditional method of dictation skill building in beginning shorthand and a method based on the micromolar behavior theory of learning."

Hypotheses:

1. "There is no significant difference in the achievement of the control group and the experimental group in each school on each terminal test."
2. "There is no significant difference in the achievement of the control group and the experimental group on terminal tests according to ability levels."

Procedure:

1. The following criteria were used in selecting the colleges who participated in this study:
 - a. A shorthand classroom containing some type of taped dictation equipment.
 - b. A beginning class or classes in Gregg shorthand using Gregg Shorthand for Colleges, Diamond Jubilee Series, Volume I, as the text.
 - c. Classes met five days a week for periods at least 50-minutes in length.
 - d. Be able to provide over-all ability scores for the students.

Seven colleges had one or more classes meeting these criteria. There were 265 students enrolled in these classes. Of these 265, 84 withdrew for various reasons leaving 181--86 in the control group and 95 in the experimental group.

2. Emphasis was placed on reading in all classes. All dictation was selected from the basic text used, prepared by the investigator, and supplied to the teachers participating in the study. This was done in order to provide approximately the same amount of dictation in all classes.

3. Dictation for the control group was selected from the text and was prepared using modifications of the Pyramid Plan for speed building. The material was planned so that both groups would be practicing sustained dictation at 100 words a minute by the end of the experiment.

4. The dictation for the experimental group was taken from the same part of the daily lesson as that provided for the control group. All dictation was recorded at 100 words a minute for the experimental group. The passages were only one-fourth minute long in the beginning and were gradually lengthened. The last week of school, both the experimental group and control group were practicing on material dictated at 100 words a minute for 3 minutes.

5. Shorthand writing plates were provided for the experimental students in writing at 100 words a minute. The students wrote right on the plates as they listened to the dictation. It was hoped that the plates would reduce hesitations and speed up writing.

6. A complete lesson was presented and assigned on each day except test days. No writing was required the first five days. Writing assignments were made beginning with the sixth day; therefore, the writing assignment was always six lessons behind the reading lesson.

7. Tests were given approximately every two weeks throughout the experiment. The test dictation tapes were always the same in length and speed as the goal for the daily lesson on which practice was just completed. The test given after lesson 11 would contain two passages, one-half minute in length, dictated at 100 words per minute for the experimental group and two 3-minute passages dictated at 70 words per minute for the control group. Dictation tests were transcribed on the typewriter or in longhand.

8. Terminal tests were given on new-matter dictation in order to compare the achievement of the two groups at the end of the course. These tests consisted of two 3-minute takes for five days. The two takes were given at speeds of 70, 80, 90, 100, and 110 words a minute. The first day all dictation was given at 100 words a minute, since all of the practice dictation for the experimental group had been given at that speed. The order of these two passages was reversed in three of the seven schools in order to avoid any advantages or disadvantages of having all the students taking dictation in the same order. From this point on, the order of the other tests was determined by a table of random numbers. All the interim and final tests were comprised of only words in the first 1,500 words on the Silverthorn list (64b).

9. The papers were scored on the basis of words recorded and transcribed correctly. Each word dictated and not transcribed was an error and words in the wrong order were counted as errors; however, no error was charged for an alternate word for a given outline (in for not or read for red). The papers were scored by the teacher in charge and the investigator.

10. Various statistical analyses were used in making comparisons in this study. Those used included analysis of variance, F-value, and Schoffe's test of multiple comparisons.

Findings:

1. The experimental group scored 10 percentage points higher on interim Test 1 and was slightly higher on Test 2, whereas the control group was higher on Test 3, 4, and 5. The experimental group continued to show progress throughout the experiment, whereas the control group showed no gain from Test 4 to Test 5.

2. Students tend to do better on the tests dictated at 90 words per minute except for the low ability students.

3. Except for School 3, no significant difference was found between the achievement of the control group and the experimental group.

4. When the students were grouped according to high, medium, and low overall ability, the two methods did not result in a significant difference for the high ability students; however, with the exception of low ability students on Test 4, significant differences were

found on all tests for medium and low ability students, all in favor of the control group.

5. The final test scores that fell above the general mean indicated that a constant rate of 100 words a minute is acceptable for students of high and medium ability.

6. The number of words transcribed by each student on the final tests tended to be nearly the same regardless of the dictation speed being given.

Conclusions:

1. The fact that students in School 3 were not randomly assigned to control and experimental groups may explain in part the differences in achievement of medium and low ability students. Other than for School 3, no significant differences existed between the control and experimental groups.

2. A constant rate of 80 or 90 words a minute may be more suitable for low ability students; however, 100 words a minute seems to be feasible for students of high and medium ability.

3. The investigator concluded that the 10 percentage point margin on Test 1 by the experimental group can be attributed to memory by writing short passages.

4. The inference was drawn by the investigator, that had the experiment been carried out until students reached their optimum achievement, the experimental group may have equaled or surpassed the control group. This inference was drawn because the experimental group continued to show gains, whereas the control group showed no gains between Tests 4 and 5.

Recommendations:

1. That unfamiliar but comparable dictation be given frequently in the daily dictation practice of building shorthand speed.

2. That short practiced passages be given early during the semester, at perhaps speeds up to 100 words a minute.

3. That the study be repeated with the following changes:

- a. All activities be confined to the classroom or laboratory.
- b. Interim tests should also contain unfamiliar material.
- c. Writing materials really aren't needed.
- d. Experiment should cover a longer period of time.

4. That research is needed using constant dictation comparing the achievements of two groups, with one group tracing the outlines as the material is dictated and one group writing in shorthand notebooks.

5. That further research is needed applying the micromolar behavior theory in other business subjects.

Abstractor's Comments:

1. Even though explicit instructions were sent to the teachers involved in this study, it was impossible to control teacher variables.

2. One of the major objectives in shorthand is to get students to write shorthand rapidly and without hesitation. Therefore, this method of fast dictation from the beginning may have possibility.

3. This study also points out the need for practice on unfamiliar material as well as practiced material.

Abstract 23

Dean Sullivan Box, "An Objective Method Versus The Word-for-Word Method of Scoring Three-Minute Dictation Tests in Gregg Shorthand Classes" (unpublished Ed.D. dissertation, Colorado State College, 1967), p. 277.

Problem:

The problem of this study was to determine the feasibility of using an objective format for scoring three-minute dictation tests in Gregg shorthand classes.

Procedure:

1. Dictation materials were constructed in which both the syllabic intensity and vocabulary level were

controlled. The syllabic intensity was held between 1.4 and 1.5, and the vocabulary level was controlled by allowing not more than 10 percent of the words used to fall beyond the first 1,500 words of the Silverthorn list (64b).

2. Transcripts partially completed were constructed to be used as test forms. Approximately 60 percent of the words were omitted on these transcripts. This number was chosen because it approximates the 58.3 percent used on the Civil Service test for stenographers. The number of blanks left was divided by the number of minutes covered by the test so that the blanks would be evenly distributed.

3. The study involved 17 teachers and their students, the investigator and her students. This provided for 465 sets of papers from 227 junior college students. The papers were scored by both the verbatim and objective methods and 95 percent or higher accuracy was passing.

4. The three days prior to test days were practice days to familiarize the students with procedures and voice of the dictator. All practice takes and test takes were recorded on magnetic tapes to assure consistency. The six days following the three days of practice were test days.

5. There were three test tapes consisting of three 3-minute tests dictated at 100, 80, and 60 words a minute. Each test was preceded by a 1-minute warm-up 10 words a minute faster than the test. The first three test days the tests were transcribed by either the verbatim or objective method, and the last three test days the tests were transcribed by the opposite method. The same tapes were used for the last three days as were used for the first three days. No days were allowed within the nine days (three practice and six test) for extra speed dictation practice.

6. The Pearson product-moment correlation coefficient was used to determine relationship between scores received on both methods and to determine an estimate of the reliabilities of the two kinds of tests.

7. A student questionnaire was used to obtain their opinions concerning the use of the objective method.

Findings:

1. The correlation coefficients for the 60 words a minute tests ranged from .37 to .68. The average

correlation was .56. These correlations were significant at the 1 percent level.

2. For the 80 words a minute tests, correlation coefficients ranged from .34 to .56. The average correlation was .45 and they were significant at the 1 percent level.

3. The correlation coefficients for the 100 words a minute tests ranged from .81 to .89. These correlations were highly significant at the .1 (.001) percent level. These correlations were considerably higher than those for the 60 and 80 words a minute tests.

4. There were 29 students attaining 95 percent accuracy or higher on the 100 words a minute tests as compared to 39 on the 60 words a minute tests and 36 on the 80 words a minute tests.

5. The time spent in transcription was almost 2 to 1 in favor of the verbatim method. However, this time did decrease for the experimental method on the third test at 100 words a minute.

6. The experimental method was highly favored by teacher time spent in scoring the papers. The verbatim method took nearly 3 times as long to grade.

7. The 130 critique sheets which were returned with all questions answered were tabulated for reporting the results. This was considerably less than the total number taking the tests.

8. Almost one-half of the students believed that the objective tests were more difficult than the verbatim tests.

9. A majority of the students felt pressured when transcribing by the objective method, which the group was almost split evenly in their feeling of being pressured on the verbatim method.

10. The students were divided about 50-50 when asked if they believed the objective method increased their transcription speeds. Over one-half believed that a beginning student could learn to transcribe as rapidly by the objective method.

11. A majority believed that they wrote more careful notes after their first experience with the objective method. They also indicated that they enjoyed the experience.

12. The majority of the students believed that the only real reason for using the objective method was to save teacher time.

Conclusions:

1. The null hypothesis that there would be no significant difference in the scores students would make on three minute dictation tests transcribed verbatim and those scores made on objective type tests was accepted.

2. The length of time used by the students to transcribe the objective tests must be decreased if this method of testing is to be feasible.

3. Since the scores of the 60 and 80 words a minute tests indicate a negative skewness, it may be concluded that they did not transcribe the dictation at their highest speed.

Recommendations:

1. Further research is needed concerning objective transcription tests.

2. Further research similar to this study is needed in which all the students take all the tests and the same set of notes should be used for both methods of transcription.

3. Further research is needed to determine the effect of fewer or more insertions.

4. Further research was recommended in which two groups are involved and that one group use the verbatim method and another group use the objective method of transcription and at mid-semester they switch methods. A comparison of the two groups would be made at the end of the semester.

5. Objective tests should be prepared and made available to shorthand teachers to be used as alternate testing measures and for preparing students for Civil Service examinations.

6. Objective tests should be used in beginning shorthand to enable the teacher to spot troublesome areas with a minimum of time and effort.

7. The objective tests should be used alternately with the verbatim method to allow teachers more time for research and class preparation.

Abstractor's Comments:

1. On page 69 of the summary section, the first sentence of the last paragraph should be tests at 60 words a minute instead of 80 words a minute.

2. The findings tended to indicate that the length of time the students used for transcribing the objective tests could be decreased with practice. Since teacher time is reduced greatly in grading by objective tests and they do provide an accurate basis for grading, it seems that objective tests should be considered for greater use.

Abstract 24

Mary Diamond Brown, "A Beginning Textbook for Simplified Shorthand" (unpublished Ed.D. dissertation, Teachers College, Columbia University, 1959), p. 247.

This study was conducted as an attempt to eliminate or, at least, decrease failures in shorthand by applying generally accepted psychological principles to shorthand instruction and to apply the principles to teaching the total shorthand learning process from the beginning. The principles selected by Morrison (54b) were listed and applied in an attempt to develop materials that follow his principles. Materials were prepared that introduce the total shorthand process from the first lesson--theory, reading, writing, transcription, and proofreading.

The first two lessons were divided into two parts and the remaining lessons were divided into three parts. The textbook material prepared included 70 lessons organized into a one-semester course. The shorthand principles, excluding proper names, were presented in the first 45 lessons. There were 184 brief forms representing 231 words and 123 writing principles identified. These materials were limited to the 5,000 most frequently used words in business correspondence. Proper names and titles not found in these 5,000 most-used words were added. A complete cycle of reading, writing, transcribing, and proofreading was presented in each lesson. Gregg shorthand outlines were used in preparing these materials.

These materials were duplicated after construction and used by four college classes of beginning shorthand, one each during the school years 1954-55, 1955-56, and two classes in the school year 1956-57. The classes met for 50 minutes a day, five days a week. All transcription in these classes was from their own notes.

Transcription speeds ranged from 18-50 gross words a minute for the 13 students in the 1954-55 class. At the end of the quarter, or 52 sessions, net speeds ranged from 20-51 net words a minute.

The 1955-56 class showed a similar pattern. The ten students in the 1955-56 class had a mean score at the end of the third quarter of 35 net words a minute on dictation and unpracticed material dictated at speeds of 60-80 words a minute for 5-minutes or longer.

The two groups in 1956-57 had completed only two quarters of shorthand at the time this report was written. Their gross transcription rates for five minutes or longer ranged from 20-80 words per minute.

The night school group had transcription rates which ranged from 18-57 words per minute on five minute writings or longer. These students had met for ten weeks for 2½ hours twice a week.

Recommendations:

The author of this study believes that while the text written in this study may not be the answer to all the problems of teaching shorthand, it is an improvement. With this in mind, the following recommendations were made:

1. That studies be conducted on both the high school and college levels to evaluate the method and materials constructed in this study. The evaluation might also be made through an opinionnaire sent to shorthand experts, using a predetermined list of criteria.

2. That research is needed to determine whether or not symbol shorthand has a place in a direct-method presentation or any other method when word building is being taught.

3. That further study is needed to simplify the writing principles in Gregg shorthand in order to reduce memory load.

4. That a study be made of the most frequently used words in business communications. The present list needs to be brought up to date to include words dealing with the electronic age in which students are working.

Abstractor's Comments:

1. It is not indicated whether the speed for the nightclass was gross or net.

2. Shorthand may be made more meaningful from the first day with materials of the nature presented in this study.

3. If these materials can be used effectively in teaching shorthand, transcription may not necessarily need to be a separate course.

4. Since this study did not follow the general pattern, the format of the abstract was changed.

Abstract 25

Edward Elmer Byers, "Construction of Tests Predictive of Success in First-Year Shorthand" (unpublished Ed.D. dissertation, Boston University, 1958), p. 272.

Problem:

"The problem of this study was to construct aptitude tests that would predict success in first-year shorthand."

Procedure:

1. An extensive survey was made of professional literature and research related to shorthand prognosis, interviews were held with students and experienced teachers, and shorthand aptitude tests were reviewed before a list was compiled of 32 functional factors.

2. The functional factors were then telescoped and delimited to a group of nine. These nine functional factors were: (a) proportion readiness, (b) phonetic perception, (c) hand dexterity, (d) observation attitude, (e) retention ability, (f) pattern from parts, (g) mechanics of English, (h) academic aptitude, and (i) motivation and interest.

3. Test items were carefully constructed for each of the probable functional factors. The procedures followed included:

- a. Application of personal knowledge of tests and testing techniques.
- b. Analysis of related testing instruments.
- c. Construction of sample test items.
- d. Constructive criticism by advisors, associates, and seminar groups.
- e. Experimental use of test items.
- f. Selection of most promising test items.
- g. Organizing and carrying out a pilot study.
- h. Calculating correlation coefficients between test scores and shorthand achievement, math aptitude, and scholastic aptitude.
- i. Establishment of adequate time controls for each test.
- j. Validation and refinement of each test item.
- k. Determining the final test format.

4. Administrators from 15 schools were contacted and asked to participate in administering the shorthand aptitude test battery. Of the 15, there were 6 colleges and 5 high schools. A favorable response was received from 10 of the schools.

5. The tests were administered in two 35-minute sessions before any shorthand instruction had been given. The tests were administered to a total of 569 students: 149, college students; 225, junior college and business college students; and 195, high school students.

6. The scoring on all tests was done by the investigator without assistance.

7. The criterion measure of first-semester shorthand for the population was the Semester Shorthand Accomplishment Test (17b). The test was constructed after visiting several elementary shorthand teachers. Seven letters were included in the test and each was 2½ minutes in dictation length. A reliability coefficient of .98 was computed for the test.

8. The only published test purporting to measure first-year shorthand was the Turse-Durost Shorthand Achievement Test (76b). Two forms of the test had been constructed and each contained five letters. A validity coefficient of .73 was obtained for the test.

9. For numerous reasons, the original sample was reduced approximately 29 percent. A large percent of this reduction was due to absences during some phase of the testing program. The largest number of dropouts came from the junior college and business college group, while the college group had the fewest dropouts.

Findings and Conclusions:

1. The correlation coefficient between the scores of the proposed aptitude test and the Semester Shorthand Accomplishment Test was .76, with a standard error estimate of ± 49.42 . This indicates a significant relationship between the two factors.

2. The index of reliability for the multiple correlation coefficient for the college sample was .87. Since a range of .85 to .97 indicates reliability for estimating individual aptitude, this correlation coefficient of .87 could be used with other factors to estimate an individual's possible success in shorthand.

3. Of the college students tested, 87 percent of the actual scores made in shorthand did not deviate more than one standard deviation from the predicted scores. Furthermore, 53 percent did not show more than one-half standard deviation.

4. A positive relationship of .57, with a standard error of ± 49.42 score points, was found between scores on the proposed shorthand aptitude tests and the scores on the Semester Shorthand Accomplishment Test. The reliability index of .76 was not high enough to be used for estimating individual aptitudes. This does not, however, eliminate the use of the tests for predicting group performance.

5. A positive correlation of .62, with a standard error of estimate of ± 54.68 score points, was also found between scores on the proposed shorthand aptitude tests and the scores on the Semester Shorthand Accomplishment Test. The index reliability of .79 was also short of the desired range for predicting individual performance. However, this does not eliminate the use of the tests for forecasting group performance.

6. For 98 percent of the high school students, the actual scores made in shorthand did not deviate more than one standard deviation from the predicted score. Furthermore, 42 percent did not deviate more than one-half standard deviation.

7. The relative importance of each subtest of the proposed shorthand aptitude test was tested. It was found that the Pattern From Parts Test could probably be eliminated without affecting the overall performance of the tests.

8. A correlation coefficient between the Pattern From Parts Test and the Phonetic Perception of .54 for the college group, .51 for the junior college and business college group, and .58 for the high school group indicates that these two subtests measure some of the same functional factors.

9. Low intercorrelations between the Hand Dexterity Test, Phonetic Perception Test, Retention Ability Test, and Observation Aptitude Test indicates that these subtests measure different functional factors.

10. On the basis of the findings in this study, it may be concluded that the proposed shorthand aptitude tests seem a better predicting device of shorthand achievement at the college level than for either of the other two groups studied.

11. The proposed shorthand aptitude tests, together with other data, could be used by business teachers, counselors, and administrators as follows:

- a. Test scores could be used to group shorthand students.
- b. Early identification of unqualified students for enrollment in shorthand could save the school considerable time and money.
- c. Test scores could be used as aids in establishing course objectives.
- d. Test scores could be used to help teachers identify certain student problems, such as motor co-ordination, contextual relationships, spatial relations, and transliteration.

Recommendations:

1. Research is needed for developing and constructing an aptitude test for predicting transcription aptitude.

2. This study seems to indicate that sufficient differences exist in pupil maturity and teaching techniques to merit further research in shorthand prognosis.

3. Research is needed to develop valid and reliable measures of shorthand accomplishment at all levels.

Abstract 26

Edith Anne Calder, "A Study of the Extent to Which Objective Tests May Be Used to Measure Shorthand Skills" (unpublished Master's thesis, University of Washington, 1958), p. 87.

Problem:

The problem of this study was to determine if objective tests will measure shorthand skills and how effective.

Procedure:

1. Five kinds of teacher-made tests were constructed, administered, and evaluated in this study. The tests included were: two brief form tests, a theory word test, a punctuation test, a spelling test, and three fill-in transcription tests. This group of tests was called Test X, and the different parts were called subtests.

2. Text X was administered after 130--fifty-five minute class periods to 409 Shorthand II students in 9 high schools in the Seattle Public High Schools. The results on the subtests and complete test were all tabulated.

3. The first measure of validity was to compare each student's rank on Test X with the rank on a test already recognized as an accurate instrument for measuring shorthand performance. This test was a five-minute test chosen from the Business Teacher with a 5 percent error allowed in transcription. This test was called Test Y. Two consecutive class periods were used for administering Test X, the teacher made test, and Test Y.

4. The second measure of validity of Test X was the student's grade for the first half of Shorthand II. This grade was called grade Z and this grade was compared to the student's grade on Test Y.

5. The two methods used to determine reliability were: (a) A correlation of odd- and even-numbered items

on Test X, and (b) the test, retest method. Test X was given twice to 120 students one week apart. The scores on the first test were correlated with the scores on the second test.

6. Test X was constructed mainly from tests given during the previous year to shorthand students at two Seattle High Schools. Test X was divided into three parts: vocabulary, dictation, and English skills. Part I contained tests for brief form construction, brief form transcription, and theory word construction. Part II was made up of three 2-minute dictation tests: 60 words a minute, 80 words a minute, and 100 words a minute. Part III contained tests related to punctuation and spelling.

7. There were two brief form tests and each contained 50 brief forms. These tests were compiled from two brief form tests which were given to 161 students in seven beginning shorthand classes in Seattle High Schools. The tests covered the 184 brief forms listed in Gregg Shorthand Manual Simplified. The first test covered the first 21 chapters and the second test covered the remaining chapters. The 100 most-missed brief forms were selected from this tabulation. The list was then divided in half making two brief form tests. These two tests were called Part IA and Part IB of Test X. These two tests were then administered to 57 students in two advanced shorthand classes. Ninety of the students finished Part IA within three minutes and Part IB within four and one-half minutes, so these time limits were used.

8. The theory tests consisted of 154 words selected from Word List of Gregg Shorthand Simplified, Most-Used Words and Phrases, and Gregg Shorthand Manual Simplified. The 50 words selected ranged in difficulty from those which were answered by almost 100 percent to those answered by just above 0 percent of the students. The time allowance for the three tests was the length of time it took 90 percent of the 57 students to finish the test, which was 7 minutes.

9. The dictation test consisted of a 1½ minute warm-up dictated at 60 words a minute and three 2-minute tests dictated at 60, 70, and 100 words a minute. This material was carefully written so that it would be of average difficulty. The syllabic intensity was 1.3.

10. The transcription was the fill-in type with 20 percent of the transcription omitted. The dictation tests were given to two advanced shorthand classes at

increased speeds of 20 words a minute. They were asked to make complete transcripts of the material. The most-missed words were selected as the ones to fill-in for Test X. The time allowed for transcription was 20 minutes.

11. Part IIIA consisted of ten sentences containing 24 corrections to be made. Punctuation in the sentences included commas used with parenthetical expressions, appositions, series, conjunction; and introductory words, phrases, and clauses. Other types of punctuation included were semicolon with or without a conjunction, the apostrophe used to show possession, and the hyphen used with a compound adjective before a noun. Type styles, dates, and amounts were included also.

12. Part IIIB consisted of 50 spelling words. The first 30 chapters of Gregg Dictation Simplified and Basic Vocabulary of Business Letters were checked to determine the 50 most-used words. The words were dictated at 5 second intervals; therefore, 6 minutes were allowed for this sub-test.

13. Test Y was taken from the Business Teacher, December, 1956. This issue was chosen because it was of average difficulty. The test was dictated at 60 words a minute and 30 minutes were allowed for transcription.

14. Teachers representing 21 shorthand classes from 9 Seattle High Schools agreed to participate in the study. Papers from 409 students were used and students absent either day were eliminated from the study. A group of 120 students in 6 classes were selected to take the retest one week later. The scores on the two tests were then correlated to determine reliability of Test X.

15. Two sets of directions were written for Part II of Test X. This was done to determine the extent that a student's memory rather than his ability to read shorthand notes would affect his transcription. The students were divided so that approximately one-half of the students transcribed immediately after the dictation and one-half transcribed after an interval of 25 minutes. During the interval they took three other sections of the test. On Test Y the students were allowed to transcribe either in long-hand or on the typewriter.

Findings:

1. The methods used to establish reliability proved that the test was very high in reliability. The test, retest method revealed a correlation coefficient of

.93. The reliability of the entire test was estimated to be .98 after applying the Spearman-Brown formula. The percent for the split half correlation coefficient was not given. This method indicated that Test X was indeed highly reliable.

2. Except for variable 8, all validity coefficients were positive. Since this test represented total errors, variable 8 should have been negative.

3. The validity coefficient showed that a high correlation was present. Only two of the 91 correlations run showed a less than marked relationship. These correlations proved Test X and each of its separate parts to be markedly valid.

4. Teachers may definitely use a brief form constructed test as one measure of a student's ability in shorthand.

5. A brief form transcription test can also be used, since its validity is the same as subtest 1.

6. Construction of shorthand characters is definitely a measure of a student's shorthand ability.

7. Subtest 4, dictation at 60 words a minute, is also an excellent method of testing students' shorthand ability.

8. Subtest 5, dictation at 80 words a minute, is also a valid test of a student's shorthand ability. Subtest 6, dictation at 100 words a minute, will also measure shorthand ability.

9. Each of the dictation tests is valid, but the most valid measure of a student's shorthand ability is the combination of all three tests. The correlation of these dictation tests and the entire Test X was .93, which indicates that they give the same picture of the student's performance as the entire test.

10. The punctuation test had low correlation with the other variables; however, this was expected. It was reasonably valid and would seem to measure the student's ability to punctuate.

11. The same results could be expected from half of Test X as were obtained on the entire test.

12. Teachers in the Seattle High Schools are

basing their grades on factors other than pure shorthand skill measured by Test X.

Conclusions:

1. The objective tests constructed for use in this study will measure effectively a student's shorthand ability.
2. In view of the teacher and students' time saved, there should be much greater use of objective tests for measuring shorthand ability.
3. Test X could be shortened and be valid.

Recommendations:

1. Further research is needed to determine if such tests given in Shorthand I correlate positively with shorthand skill in Shorthand II or Shorthand III.
2. Further research is needed to determine if fill-in transcripts with even fewer words omitted than 20 percent are valid.
3. Further research is needed to determine what basic factors should be considered in arriving at the shorthand grade other than pure shorthand skill.

Abstractor's Comments:

Several variables were considered in this study and all were correlated. All factors indicated that the tests constructed for use in the study were valid for measuring a student's shorthand ability. This study proved that objective tests can be used to measure pure shorthand skill. Since they save a great deal of the teachers' time and are valid, you would think that more objective tests would be used by shorthand teachers.

Abstract 27

John Phillip Calland, "The Extent to Which Currently Proposed Shorthand Methods Have Been Substantiated by Research" (unpublished Master's thesis, The Ohio State University, 1964), p. 165.

Problem:

The problem of this study was to discover the extent to which currently proposed shorthand methods have been substantiated by research.

Procedure:

1. Nine methodology textbooks and teacher's handbooks published between 1958 to 1963 were examined in an attempt to determine suggested methods for teaching the various phases of shorthand and transcription. The writer believed that those nine selected represented a cross-section to viewpoints currently being expressed.

2. Research studies pertinent to this study were secured through interlibrary loan or on microfilm, and abstracts were prepared for inclusion in this study. These were confined to experimental studies.

Conclusions:

1. Only 5, or 22.22 percent, of the 18 methods proposed for teaching basic theory have been substantiated by research. Four, or 20 percent, of the 22 proposed for teaching writing skill have been substantiated by research; and 1, or 14.28 percent, of the 7 proposed for teaching transcription has been substantiated by research.

2. Among those methods proposed by methods textbooks which have been validated by research are the following:

- a. read and write contextual material extensively
- b. reading for several lessons prior to writing
- c. present words in context immediately after presenting them in word lists
- d. teach rules as generalizations rather than for memorization
- e. emphasize many things in transcription other than rapid typing speed

3. Methods substantiated by research but not listed in those methods books surveyed include:

- a. increase reading rate and transcription speed with the tachistoscope
- b. reading shorthand plates marked in thought units

4. Many methods frequently proposed in methods textbooks which still need to be validated by research include:

- a. use of mneomonics in the early shorthand days
- b. using word lists for extensive writing
- c. use of wall charts, bulletin board displays, and brief form lists
- d. use of the preview and postview
- e. use of word carrying drills
- f. use of tapes, records, and multi-channel units
- g. introduction of writing, new-matter dictation, and typewriter transcription at the recommended times

Recommendations:

1. That experimental studies are needed to validate proposed teaching methods in shorthand and transcription.

2. That teachers use discretion in accepting and using teaching methods that are unsubstantiated by research.

Abstractor's Comments:

1. Findings were presented in three areas--teaching basic theory, teaching writing skill, and teaching transcription. Some of the findings had been substantiated by research, but a majority of them have not. Furthermore, methods were found which have been supported by research not found in the methods books surveyed. Because of the number of findings, they were not presented in this abstract.

2. All methods teachers should be aware of this study and the findings presented herein.

3. The abstractor believes that more research is needed to validate many methods proposed in methodology textbooks; however, a method does not necessarily have to

be tested by research to be good. Furthermore, shorthand teachers test many methods in classroom situations and no report is made of whether the method worked or not. Students, teachers, and situations are different and, thus, a method which works in one situation may not be effective in another. Shorthand teachers should become aware of many different methods and pick those which give them the desired results.

Abstract 28

Mayme J. Carlson, "A Survey of Methods Used in the Teaching of Second-Year Shorthand in the Public High Schools of Minnesota with Enrollment of 200 or More in Grades 10, 11, and 12" (unpublished Master's thesis, University of North Dakota, 1962), p. 140.

Problem:

This study was conducted to determine the methods used at the present time in teaching Shorthand II in the public high schools of Minnesota.

Procedure:

1. During November, 1961, questionnaires and personally typed letters of transmittal were mailed to 150 business teachers randomly selected from the 1960-1961 Minnesota Directory of Business Teachers. A total of 108 questionnaires, or 72 percent, were returned.

2. A form was constructed for tabulating the results from each page of the questionnaire. The complete tabulation was then placed on a blank questionnaire. From these tabulations, percentages were computed and data were organized for presenting the findings.

Findings:

1. Of the total respondents, 37 percent indicated from 11 to 20 students were enrolled in Shorthand II classes.

2. Ninety-six percent of the respondents indicated that four semesters of shorthand were offered in their school.

3. The same teacher taught 75 percent of both the beginning and advanced classes, whereas 21 percent indicated these classes were taught by different people.

4. Of those schools having a selection process, 19 percent used English and typewriting grades as criteria and 17 percent used aptitude test scores in addition to the other two.

5. Over 50 percent of those responding said that 3-minute dictation on new matter at 60 words a minute was required to enroll in advanced shorthand, and about 70 percent indicated that this requirement was met by 75 percent of their students.

6. The speed most often required was 80 words a minute on 3-minute dictations on new matter material at the end of the fourth semester. This speed was required by 46 percent at the end of the third semester.

7. Fifty-six percent of the respondents gave a "B" grade to Shorthand II students failing to meet the requirements.

8. The machine most frequently taught in Shorthand II classes was the Ditto. The time spent on these office machines most generally ranged from 1 to 3 hours per machine.

9. Of those responding, 25 percent had from 1 to 4 years of shorthand teaching experience, while 13 percent had taught shorthand for over 22 years.

10. Approximately 19 percent of the teachers had over 24 months of practical office experience and 15 percent had from 7 to 12 months practical office experience.

11. Typewriter transcription was introduced near the end of the second semester by 41 percent of those responding.

12. Approximately 21 percent of the teachers timed transcription on new matter dictation, and 32 percent required mailable transcripts for credit after three weeks of transcription practice.

13. Letters with carbons were introduced at the end of the first semester of Shorthand II by nearly 40 percent of the teachers, and nearly 80 percent said typing multiple carbons was required.

14. There was a variety of answers to the question concerning the typing of envelopes. Twenty-two percent required envelopes typed occasionally, once in a while, very seldom, or not very often.

15. Electric typewriters were provided for Shorthand II students in 91 percent of the schools surveyed. Sixty-seven percent indicated that this was accomplished by the rotation plan. The length of time provided varied considerably.

16. Previews are given on new matter dictation by 86 percent of the teachers. The students were required to reread the preview after the first dictation by approximately 58 percent of those responding.

17. Sixty-eight percent of the teachers required the homework to be copied once and 56 percent had the assignment read in class for a grade.

18. Dictation records were provided for extra practice by 63 percent of the schools, and 25 percent gave extra practice after school.

19. Brief forms were reviewed in Shorthand II by almost 95 percent of the teachers and 86 percent of the teachers reviewed theory.

20. The Gregg Awards Program was participated in by approximately 46 percent of the teachers.

21. Letters were typed for other faculty members by 85 percent of the schools.

22. Commercially prepared tapes were used by 33 percent of the teachers and another 43 percent prepared their own tapes.

23. Office-style dictation was provided by 94 percent of the teachers and other office type projects were required by approximately 58 percent of the teachers.

24. A regular weekly teaching schedule was followed by approximately 73 percent of those responding.

25. Almost 44 percent tested in theory and brief forms each grading period.

26. A weekly transcription test was given by almost 65 percent of the teachers and 61 percent give a weekly dictation test.

27. The average dictation speed required at the end of the Shorthand II course was 80 words a minute by nearly 30 percent of the teachers.

28. Almost 70 percent of the teachers considered from 15 to 25 words a minute to be the average transcription speed.

Recommendations:

1. Students enrolling in shorthand should be selected carefully. Factors to be considered include typewriting ability, English grade, IQ scores, and Shorthand Aptitude Test scores, plus student interest.

2. Shorthand teachers should work closely with guidance counselors and make their philosophy known to administrators and counselors. In this manner, perhaps the above average student will be permitted to take shorthand even though that student plans to enter college.

3. Shorthand students failing to meet requirements in Shorthand I should not be permitted to enroll in Shorthand II. If this is done, the Advanced Shorthand teacher will not have to ponder whether to give a student a "D" or an "F" at the end of the course.

4. Shorthand teachers should consult the businessmen in their area to determine the requirements for a secretary.

5. Business educators should establish definite speed and transcription requirements for shorthand.

6. Commonly-used machines in the community should be introduced to future secretaries and the student should be given ample time to acquire an acquaintanceship skill.

7. Careful consideration should be given to the matter of correct time to introduce typewriter transcription in Shorthand II.

8. Students should be given training in typing carbon pack transcriptions and envelopes.

Abstractor's Comment:

No conclusions were given in the study.

Abstract 29

June Smith Carpenter, "The Status of Shorthand Instruction in a Selected Group of Public High Schools in Arkansas, Kansas, Missouri, and Oklahoma" (unpublished Master's thesis, Kansas State College of Pittsburg, 1961), p. 112.

Problem:

The problem of this study was to determine the status of shorthand instruction in the public high schools in the state of Arkansas, Kansas, Missouri, and Oklahoma.

Procedure:

1. After pre-testing and revising the check-list, it and a cover letter were mailed to 200 schools. Of these 200, 124, or 63.59 percent, were returned and were used in this study. Five were returned which could not be used in the study, because four did not offer shorthand and one school had been discontinued.

2. Schools were selected from three divisions of enrollment: small schools, 50 through 450 students; medium schools, 451 through 1,500 students; and large schools, those having enrollments over 1,500 students. Returns were received from 68 small schools, 46 medium schools, and 10 large schools in the four state area; with 32 being from Arkansas, 37 from Kansas, 30 from Missouri, and 25 from Oklahoma.

Findings:

Shorthand Instruction

1. One year of shorthand was offered by 50 of the schools responding and 61 offer two years of shorthand.

2. Kansas schools ranked first in the number of boys taking shorthand.

3. The grade placement of beginning shorthand appears to be at the 11th grade as indicated by 102 of the 124 schools responding.

4. The time of the introduction of dictation and transcription seems to rely on whether one or two years

of shorthand are offered, but most of the transcription was done in longhand.

5. The most prevalent dictation speeds for grade A or B in first-year shorthand were 61-80 words a minute; however, the large schools in Arkansas and Missouri required 81-100 words a minute.

6. Oklahoma schools require 5-minute takes; however, 3-minute takes are more common in the other three states. Most of the schools required that three takes must be passed at a given speed for a particular grade.

7. Transcription speed in first-year shorthand for Arkansas schools was 21-25 words a minute, but for the other states 15-20 words a minute seems to be most common.

8. The accuracy most frequently required by the schools in all four states was 86-95 percent.

9. The requirement of dictation takes for second year students was 81-100 words a minute for "A" grade. Kansas used 3- and 5-minute takes, while the other three states used primarily 5-minute takes. Most of the schools required three takes to be passed for a given grade.

10. The transcription speeds for second year varied within all four states as follows: 40-50 words a minute for Arkansas, 20-25 words a minute for Kansas, 35-40 words a minute for Missouri, and 15-40 words a minute for Oklahoma. The most frequent accuracy percentage required was 86-95 percent for the small schools and 96-100 percent for the medium and large schools. The exception to this was that the Missouri and Oklahoma schools in the small category required 96-100 percent accuracy.

11. For first-year shorthand, the most common practice was to base 50 percent of the final grade on transcription except Arkansas which based only 25 percent of the final grade on transcription.

12. For second-year shorthand, the percentage transcription ability was of the final grade ranged from 100 percent for Oklahoma to 50 percent for Kansas and Missouri. The most common practice in Arkansas was to base 75 percent of the final grade on transcription ability.

13. Out of class practice was provided by 18.75 percent of the schools responding from Arkansas, 48.65 percent of the schools from Kansas, 26.6 percent of the

schools from Missouri, and 12 percent of the schools from Oklahoma.

14. The audio-visual aids used most frequently included: chalkboards, bulletin board displays, records, office-style dictation, certificates and awards, and brief form charts. These were listed in their order of occurrence.

15. There were 26 different variations listed as practices for homework assignments.

Teachers

1. In Arkansas and Missouri the majority of teachers hold the B.S. degree; however, a majority of the teachers in Kansas and Oklahoma have Master's degrees.

2. Typewriting and office practice were the other courses taught most frequently by the shorthand teachers included in this study.

3. In Missouri and Kansas most of the teachers have at least one free period, but in Oklahoma and Arkansas it is divided evenly between those teachers having a free period and those who do not.

4. The most common practice for those schools responding was for 55-minute class periods.

5. In Arkansas and Kansas the shorthand teachers had been teaching an average of 0-5 years, but the teachers in Oklahoma and Missouri the most common number of years of experience was 21 or more.

Guidance Practices

1. In most of the schools in Missouri, Arkansas, and Kansas the principals do the counseling for enrollment. In Oklahoma it is divided evenly between the principal and the counselor.

2. Prognostic testing was not used by 113 of the 124 schools.

3. A trend of making counseling services available to students of shorthnad is practiced by 17 of the 32 schools in Arkansas, 32 of the 33 schools in Kansas, 22 of the 30 in Missouri, and 19 of the 25 schools in Oklahoma.

Recommendations:

1. Those schools now offering only one year of shorthand should consider offering an additional $\frac{1}{2}$ year for additional practice in dictation and transcription.
2. Occupational possibility for male students should be investigated.
3. Since shorthand skill is perishable, beginning shorthand should not be offered in the sophomore year for $1\frac{1}{2}$ or 2 years of shorthand instruction.
4. Standards for evaluating shorthand in each school should be the same as employment standards for that particular community. The grading scale for the last $\frac{1}{2}$ year should be mailable transcripts.
5. Outside of class practice should be made available to all shorthand students.
6. All schools should observe the practice of providing at least one free period each day for all teachers.
7. Shorthand teachers should be required to have work experience so that they could better instruct on realistic practices in business.
8. Shorthand teachers should be asked to help in enrolling students in shorthand classes.
9. All schools should do follow-up studies on their shorthand students.

Abstractor's Comments:

1. Nothing was said in the study about increase or decrease in enrollment in shorthand classes. This would seem to be significant information.
2. Standards were indicated, but it was not indicated whether these standards were on new or familiar material.
3. Evidence is not shown in this study to back up the recommendation that all shorthand teachers should be required to have work experience to teach shorthand. Thus, this is evidently a personal opinion of the writer.

4. Many of the conclusions were merely restatements of the findings and, therefore, were not given in this abstract.

5. A return larger than 63.59 percent would have been desirable in the study.

Abstract 30

Mary Lou Carter, "The Possibility of Using Tenth-Grade English Grades, School and College Ability Verbal Test Scores, Differential Aptitude Verbal Test Scores, and IQ Ratings as Predictors of Success or Failure in Beginning Shorthand" (unpublished Master's thesis, Southern Illinois University, 1965), p. 35.

Problem:

The problem of this study was determine whether tenth-grade English grades, Differential Aptitude Verbal Test scores, School and College Ability Test scores, and IQ ratings can be used as predictors of beginning shorthand success or failure.

Hypothesis:

"This study is based on the hypothesis that a student's success or failure in beginning shorthand can be predicted, at least partially, by one or more of the methods analyzed in this paper."

Procedure:

1. The permanent record files at the Pattonville Senior High School, St. Ann, Missouri, were used to gather the desired information for 103 students enrolled in beginning shorthand during the 1963-64 school year. The information gathered included scores made on the Differential Aptitude Verbal Test, the School and College Ability Verbal Test, IQ rating, tenth-grade English grade, and the final grade in beginning shorthand.

2. From the data gathered, tables were prepared comparing the shorthand grade to each of the other variables. The tables also showed correlations of the test scores, English grades, and IQ ratings with the shorthand grade.

Findings:

The correlation coefficients of shorthand with the other four variables were as follows: (a) English, .720; (b) DAT, .585; (c) SCAT, .531; and (d) IQ, .627.

Conclusion:

Since beginning shorthand success or failure can partially be predicted by tenth-grade English grades and IQ ratings, the hypothesis was accepted.

Recommendation:

That counselors and administrators use tenth-grade English grades and IQ ratings discreetly in counseling with students who wish to enroll in beginning shorthand.

Abstractor's Comment:

This study adds validity to English grades and IQ being used as part of a prognostic measure for predicting success or failure in shorthand.

Abstract 31

Orolyn Ruenz Clark, "Development and Evaluation of Programmed Materials for a Beginning Junior College Course in Gregg Shorthand, Diamond Jubilee Series" (unpublished Ed.D. dissertation, University of California, 1967), p. 243.

Problem:

The problem of this study was to develop and evaluate a programmed sequence of shorthand theory for use by junior college students.

Procedure:

1. After the program was developed, accuracy, content, and writing style were checked by a group of experts. On the basis of their suggestions, the program was revised.

2. The program was then tested in a beginning shorthand class and additional revisions were made.

3. Two classes at Los Angeles Pierce College taught by the investigator were used in testing the program and making comparisons. The two classes were checked for significant difference on high school grade-point average, entrance examination scores, and IQ. The major variable was the use of the program in the experimental class for teaching theory.

4. Achievement of the students was measured by 100-word theory tests, brief form tests, and 2-minute dictation takes. The scores made on these tests were compared using the analysis of variance and Chi-square statistical computations.

5. Three 100-word tests were given; one upon completion of the theory, one about three weeks later, and one at the end of the course.

6. Two brief form tests were given; one at the end of the theory presentation and the other at the end of the course. The minimum for passing on both tests was 95 percent accuracy.

7. There were two types of dictation tests given. One was called a transcription test and the other a dictation-transcription test. The dictation-transcription test scores were used in comparing the two classes.

8. Final achievement in the course was determined as follows: theory, 40 percent; brief form knowledge, 10 percent; dictation-transcription scores, 40 percent; and homework, 10 percent.

Findings:

1. On the first 100-word theory test, the mean of the control group was 59.76 as compared to 62.89 for the experimental group. The difference was not significant. A further analysis showed that one-half of the experimental students made a passing score of 70, while only one-third of the control students did as well.

2. On the second 100-word test, the mean of the control group was 73.30 as compared to 81.63 for the experimental group. The difference in means was not significant. Furthermore, 80 percent of the experimental students made a score of 75 or higher, while only 70 percent of the control students did as well.

3. On the third 100-word test, the mean of the control group was 77.83, while for the experimental group it was 86.43. The difference was not significant. Furthermore, 80 percent of the experimental students scored at least 80 or higher as compared to approximately 67 percent of the control students meeting the minimum standard.

4. On the first brief form test, 33 percent of the experimental students scored 95 percent or higher, while 25 percent of the control students did as well. However, the mean score of the control group was 3.61 points higher. This difference was insignificant.

5. On the second brief form test, approximately 67 percent of the control students met the minimum standard as compared to 85 percent of the experimental students meeting the minimum standard.

6. Approximately 70 percent of the students in both classes achieved the minimum standard of 60 words a minute. Furthermore, nearly 40 percent of the control class and 60 percent of the experimental class achieved 70 words a minute or higher.

7. The two groups were also compared on the time required to prepare homework. While the control students spent from 55 to 229 minutes, the experimental group spent from 53 to 145 minutes. The average mean number of minutes spent was 85 minutes for the control group and 88 minutes for the experimental group.

8. When the number of dropouts was studied, it was determined that 14 students dropped out of the control class and 11 students dropped out of the experimental group.

9. The programmed materials were rated very good and all of those using the materials seemed to like them. The only negative comment was that some of the students believed that some of the lessons were too long.

Conclusions:

1. Junior college students do learn theory as well from a program as through the traditional method.

2. Program learning was significantly better for learning brief forms than the traditional method.

3. Students using the programmed material were able to record dictation at higher rates at the end of the semester.

4. Programmed instruction did not seem to affect the amount of time needed for homework or the dropout rate.

5. The students enjoyed this method of instruction and learned as well as students taught by the traditional method.

Recommendations:

1. That programmed material be explored for teaching the beginning shorthand course at the junior college level.

2. That the materials be revised and tested using a larger sample in order to see if the test results that were significant at the 5 percent level may be significant at the 1 percent level.

3. That the use of the materials with a teaching machine should be explored.

4. That similar materials be developed and tested using the branching program method.

5. That similar research be done using high school classes, adult classes, and four-year college classes.

6. That studies be made to determine the effectiveness of programmed instruction for review and remedial work.

7. That research be done using programmed dictation practice to determine if student achievement can be speeded up.

Abstractor's Comments:

1. Since programmed instruction seems to be effective in shorthand instruction and related areas, some instruction in developing these materials should be included in both graduate and undergraduate shorthand methods courses.

2. Although some research has been done in the areas of recommendations 5, 6, and 7, additional research that may validate what has been done would be beneficial.

3. The findings of this study and similar studies should be of interest to all shorthand teachers.

Abstract 32

Joseph B. Cleary, "The Development and Construction of a Textbook-Workbook in Transcription English, Style, and Procedures" (unpublished Ed.D. dissertation, New York University, 1962), p. 648.

Problem:

The problem of this study was to develop and construct a Textbook-Workbook in Transcription English, Style, and Procedures.

Procedure:

Data to be used in determining the subject content of the Textbook-Workbook were collected from the following sources:

1. A list was compiled of duties directly related to taking dictation and transcribing on the basis of their appearance in three out of five studies of stenographic duties.
2. An examination was made of seven books on principles and methods of teaching transcription and twenty syllabi, handbooks, and courses of study in transcription published by state departments of education. From this examination, 98 competencies used in taking dictation and transcribing were collected.
3. A jury of five experts rated 75 pertinent competencies as to the relative effectiveness of a Textbook-Workbook for teaching those 98 competencies.
4. A comparative analysis was made of 16 studies to determine the relative frequency of types of transcription errors, for the purpose of emphasizing instruction on these transcription weaknesses and planning the sequence of topics in the Textbook-Workbook.
5. An analysis was made of three transcription textbooks and two workbooks to help in determining specific

rules and information to be taught and the degree of emphasis to be given to each.

6. A transcription style manual was used in compiling additional rules.

7. Criteria for determining mailability, as reported in two studies, were also considered.

8. A questionnaire containing questionable rules and information and a tentative plan of subject matter were submitted to a jury. The jury was to rate the material as to the amount of instructional attention to be given each item in the Textbook-Workbook. The plan was revised according to suggestions made by the jurors.

Teaching devices to be used were determined from the following sources:

1. General and specific devices were compiled from two transcription workbooks and nine business English workbooks. These were then listed in order of their frequency of use in these eleven books.

2. A comparison was made of five studies dealing with workbooks on the basis of stated advantages, disadvantages, values, and functions of the materials.

3. Another questionnaire was used to obtain the jurors' opinions concerning the devices selected.

4. The final Textbook-Workbook was submitted to each juror for evaluation. Adjustments were made in terms of the criticisms made by the jurors.

Abstractor's Comments:

1. The materials prepared in this study should be used in an experimental situation in order to determine the effectiveness of these materials.

2. Since the materials were not experimented with, no findings or conclusions were given.

Abstract 33

Brendan Gerald Coleman, "The Effects of a Tape-Laboratory Instructional Approach Upon Achievement in Beginning Collegiate Shorthand Classes" (unpublished Ph.D. dissertation, Michigan State University, 1964), p. 230.

Hypotheses:

Three hypotheses were stated in this study as follows:

1. That no significant difference would be found between the group using the tape-laboratory approach and the group using the conventional approach when judged by the departmental performance standards.
2. That there would be no correlation between achievement in beginning shorthand and student performance on certain subtests of the Entrance Test Battery of the University, within the control and experimental group and between the two groups.
3. That such factors as the differences in members' ages, number of college credits carried by the student, the number of absences of each student, and the differences in study habits of the students of each group would not affect their performance in beginning shorthand.

Procedure:

1. This study was made at Michigan State University during the winter term 1963-64. Two classes were used in the study. Both were afternoon classes meeting Monday, Tuesday, Thursday, and Friday. Section 2 met at 1 p.m. and Section 3 met at 3 p.m. Both classes were taught by the same instructor and met for a total of forty 50-minute class periods.
2. The two groups were compared using "f" test for variance and "t" test for difference between mean scores on the Entrance Battery Test. No statistically significant difference was found between the two groups. Class size was controlled so that an appreciable difference would not occur.
3. The theory first was covered in the thirty lessons and lessons 49-53 were reviewed in Gregg Shorthand,

Diamond Jubilee. All class activities were identical in both classes, except for the blocks of time devoted to "taped instruction" in the experimental group.

4. Dictation tests and new-matter skill building material were dictated "live" to both the experimental and control groups. All transcription was done in long-hand by both groups.

5. Tapes used during the time devoted to "taped instruction" were both commercially and teacher prepared. The amount of time devoted to "taped instruction" was approximately one-half of the class period.

6. Pre-tests were given on the first day of class to determine amount of prior shorthand training of each student. Only students with no prior training were included in the statistical analysis of this study. This included 19 students in the experimental group and 21 in the control group. Three of the experimental group were males.

7. A post-test was given to both groups on the last day of class. This test served as both the criterion test and measurement difference in group performance.

8. Multiple-correlations were run on the CDC-3600 Computer to determine if any correlation existed between grades made in beginning shorthand and Entrance Test Battery of the University.

9. The two groups were compared using Chi-square statistical analysis to determine if any significant difference existed between the two groups.

10. Anecdotal records were kept in each group to help in comparing instructional procedures and in observing the results. Information was also collected on student study habits from a questionnaire given prior to mid-term and again before the end of the term.

Findings:

1. The "f" test for variance on subtest scores within and between groups and the "t" test of the difference in means of the subtest scores of both groups supported the assumption that no significant difference existed as to their aptitude for college-level course work.

2. The results of the pre-test supported the students' statements that they had not had any experience

in shorthand. Personnel records of the students substantiated their statements.

3. The "f" test and "t" test revealed a significant difference between the experimental group and control group on the post-test. The control group was higher on both analyses. The fact that the control group performed significantly better on the transcription part of the post-test, supports the findings of the study that the control section achieved better in terms of terminal performance than did the experimental group.

4. The terminal performance of the two classes differed significantly, with a chi-square of $X^2=8.386$. Therefore, the null hypothesis that no significant difference would be found between the two groups was rejected.

5. The multiple-correlation showed no significant correlation between achievement in beginning shorthand and the Entrance Test Battery. Therefore, the null hypothesis that no significant difference would be found was accepted.

6. Several "f" and "t" tests were made comparing student scores on subtests of the Entrance Test Battery. For these comparisons, like grades from both classes were grouped into four categories. This comparison revealed that there was a significant difference in student performance on the English subtest between students receiving a terminal grade in shorthand of "A" or "B". These same two groups also differed significantly as to their performance on the Informational subtest. Students receiving terminal shorthand grades of "A" and "C" differed significantly on the English subtest. Students receiving "B" and "C" terminal shorthand grades differed significantly on the College Qualification Portion, which was the total score of the Verbal, Informational, and Numerical subtests. These comparisons were made with the use of the "f" test.

7. The "t" test revealed that students receiving terminal shorthand grades of "A" and "D" differed significantly on the English test and the College Qualification Portion of the test. All other combinations showed no significant difference.

8. The hypothesis that there would be no observable trend of relationship between student achievement in beginning shorthand and such factors as: (a) major fields of study, (b) average number of college credits carried by each student in each class, (c) number of absences acquired by students in each class, and (d) study habits of students of each group was accepted.

Conclusions:

1. That the use of tape-laboratory equipment does not guarantee an increased ability to students to take and transcribe accurately new-matter material, as measured by the department at Michigan State University.

2. That the Entrance Test Battery of the University does not provide an accurate basis for predicting individual success in shorthand at Michigan State University. Such subtests, as the English subtest, will differentiate between minimal and maximum performances as measured by terminal grades. The College Qualification Portion of the test will also differentiate between minimal and maximum performance as measured by terminal shorthand grades.

3. That the mean scores attained on the Entrance Test Battery by all members of the various grade levels within beginning shorthand were not indicative of the terminal grade received. Students with high academic aptitude did not fare as well grade-wise when taught shorthand by the taped-laboratory approach. Students with low academic aptitude also fared better in the traditional approach.

4. That grades earned in courses taken by the student while enrolled in beginning shorthand are not indicative of terminal grade in shorthand.

5. That the major course of study of the student is not indicative of success in shorthand.

6. The number of absences is not valuable as a predictor of success in shorthand.

7. Possible success in beginning shorthand cannot be predicted by the number of hours spent practicing.

8. Achievement in shorthand is not related directly to method of study.

9. There is no observable relationship between student's having a class immediately before shorthand and his performance in shorthand or vice versa.

Recommendations:

1. Further research is needed to determine the most efficient method or methods of using taped or recorded presentations.

2. Beginning shorthand students should be allowed to use tape-laboratory equipment at all levels of instruction.

3. Commercially and teacher prepared tapes are recommended for speed building.

4. Further research needs to be conducted to include a combination-of-factors approach and attitudinal scales, for predicting success in beginning shorthand.

5. Use of tape-laboratory equipment to supplement "live" dictation, but not replace it in the early stages of shorthand instruction.

6. An experiment should be made to determine, if possible, the implications of presenting beginning shorthand through programmed materials and taped instruction, without the direct supervision of the teacher.

Abstractor's Comments:

1. No problem statement was given in this study.

2. The text used was referred to on several occasions as Gregg Shorthand Simplified, Diamond Jubilee Series, which is impossible. The text is either Gregg Shorthand Simplified, or Gregg Shorthand, Diamond Jubilee.

3. Apparently, there is a misstatement in Conclusion number three.

4. A study very similar to the one in Recommendation Six was done at Brigham Young University by Max Waters in 1963, except that a supervisor was available.

Abstract 34

Ray Colvin, "The Needs and Use of Shorthand Skill in Steele County, Minnesota" (unpublished Master's thesis, Mankato State College, 1965), p. 64.

Problem:

The problem of this study was to determine the needs and use of shorthand skill in Steele County, Minnesota.

Procedure:

1. Thirty-seven businesses were randomly selected from 75 in Owantonna for use in this study. Of the 37 firms contacted by letter during the month of January 1965, 31, or 84 percent, agreed to participate.

2. Companies selected to participate were classified as follows: major industries, 22; insurance agencies, 2; doctors and dentists, 3; law offices, 3; banks and savings and loan, 3; and other types, 4.

3. Permission was received to conduct the study from the administrators of the four public high schools in the county. From the school records, 336 graduates were located from 1959 through 1964 who had two years of high school shorthand.

4. Names of the graduates were randomly selected until 30 were selected from each school. A double postal card was mailed to each one asking their willingness to participate. When the card was returned, they were mailed a cover letter and a questionnaire. Of those mailed out, 34 were returned.

Findings:

1. Of the 31 firms responding to the questionnaire, 20, or 64.5 percent, have employees who use shorthand on the job. Furthermore, 18 of the 20 firms make frequent use of shorthand, with 100 percent of the law firms using shorthand frequently.

2. A further analysis revealed that transcribing machines are used instead of shorthand by 38 percent of the industry firms and 100 percent of the insurance companies. The dentists and doctors indicated no need for shorthand.

3. The questionnaire returned by the 34 graduates revealed that 28, or 82.4 percent, took shorthand for vocational use; whereas, 8.8 percent took shorthand because of parent's request and 26.5 percent for personal use.

4. The questionnaire showed that 47.1 percent made frequent use of shorthand on the job; 20.6 percent, seldom use; and 32.4 percent, no use at all. Personal use made of shorthand was frequent for 20.6 percent; seldom, 47.1 percent; and 32.4 percent, not at all.

5. Of the 11 who had never used shorthand on the job, 7, or 63.6 percent said the course was of value and 4, or 36.4 percent, said shorthand was of no value.

6. Of the 34 total respondents, 58.8 percent believed shorthand was important in securing a position, while 41.2 percent said it was not.

7. Thirty-one, or 91.2 percent, of the graduates believed their shorthand training in high school was sufficient. Twenty-eight took no additional shorthand training beyond high school, whereas six did.

8. When asked if they would take shorthand again, 82.4 percent said yes and 17.6 percent said no. A further analysis indicated that 85.3 percent would recommend shorthand to a friend, while 14.7 percent would not.

9. Of those responding, 73.5 percent had high school training on transcribing machines. Transcribing machines were used frequently by 29.4 percent; seldom, 11.8 percent; and not at all, 58.8 percent.

10. Of the nine graduates who had no training on transcribing machines in high school, six, or 66.7 percent believed the training would aid in getting a job, whereas 3, or 33.3 percent believed it would not.

Conclusions:

1. On the basis of the findings of this study, shorthand classes should remain in the high school curriculum for vocational purposes.

2. A majority of those taking shorthand in high school took the course for vocational use.

3. The data presented in this study tends to indicate a need for machine transcription training in high school.

4. Most of the graduates believed that their high school training in shorthand was sufficient. Furthermore, the findings indicated that shorthand training beyond high school did not seem necessary.

5. A large percent of those taking shorthand in high school indicated, if in high school again, they would repeat shorthand. Also, they would recommend shorthand to a friend.

Recommendations:

1. There is a need for a similar study including a larger geographic area and a larger sample of office workers.
2. Similar studies may be beneficial to other high schools to determine needs and use of shorthand within each employment area.
3. There is a need for a study to determine the trends in the rise of transcribing machines in business offices of today.

Abstractor's Comments:

1. The findings of this study were further limited by only 34 questionnaires being returned out of a sample of 120 graduates.
2. No information was given in the procedures concerning the development of the questionnaire.

Abstract 35

Marjorie Morse Connelly, "Changes in Gregg Shorthand" (unpublished Ph.D. dissertation, New York University, 1961), p. 199.

Problem:

The problem of this study was to make an investigation of the changes in Gregg shorthand as presented in the major editions of the system.

Procedure:

1. Literature available was reviewed in order to gather data to answer the following questions:
 - a. What principles were included in the first edition of Gregg shorthand and why those particular principles?
 - b. What changes have been made in revisions of Gregg shorthand and why?
 - c. What changes have been proposed and why?

2. Professional literature was reviewed to obtain personal opinions concerning possible changes in Gregg shorthand and abstracts were prepared of these materials.

3. All the data gathered were analyzed in order to draw conclusions from the data.

Summary and Conclusions:

1. The Gregg system includes several ideas taken from other shorthand systems. Fluency of writing, no shading, and position of writing came from the English systems of Taylor and Odell. Insertion of vowels and use of circles and hooks were received from the French system of Duploye. Utilization of the natural longhand slope and symbols written like longhand characters came from the German systems of Grabelsberger and Stolze. The Gregg system contains similarities to the Malone system even though Gregg did not consider Malone as a source.

Conclusion: Gregg was able to see the weaknesses and strengths of the other systems studied and the strong points permeate the Gregg system. Since Gregg worked closely with Malone prior to 1888, his system has many similarities to the Malone system.

2. The Gregg system is based basically on the following seven principles: slope of longhand, curvilinear motion, natural blending of lines, joined vowels, one thickness, one position, and lineality.

Conclusion: These seven principles which appeared in the first edition have also appeared in the later editions up to and including 1949.

3. The original set-up of symbols to represent sounds is based on the English alphabet of a through z plus the sounds ch, sh, th, nk, ny, and zh. Also, for diphthongs as follows: i, oi, u, and ow.

Conclusion: As a general rule, changes within the system do not occur in the use of symbols to represent sounds. The following have been changed or eliminated: h, z, ng, nk, th, and zh.

4. Writing letters thick and thin, in position, and inserting vowels after writing the word all seemed unnatural to Gregg.

Conclusion: Naturalness in writing was emphasized in the original edition by eliminating shading, eliminating

position writing, inserting vowels as they occur, and providing for beauty of form and ease of writing that characterizes longhand. Later editions did not adhere to the rules as rigidly as the original edition.

5. The primary purpose of the Gregg system was to provide a system for general use rather than commercial use. He hoped to develop a system which would provide rapid writing, legibility, automation, and to adhere to the natural ways of writing.

Conclusion: Rapid writing was provided in the first two editions by eliminating word lists for memory. Later editions began to pull away from the original purposes and aims.

6. Beginning with the 1901 edition, major changes were made in quantity of pages and organization of the material.

Conclusion: The first two editions were the most compact of all. Each edition seemed to get larger and the 1949 edition was the largest edition of the basic manual.

7. Only two rules appeared in the 1888 edition, but other rules were added in later editions.

Conclusion: Beginning with 1901, editions included briefer outlines which called for more rules. The 1916 edition contains more brief outlines and, therefore, more rules. From the 1916 edition on, each edition included outlines calling for rules and some eliminating rules.

8. The 1888 edition contained only 42 brief forms. Prior to the 1949 edition the peak was reached for quantity of brief forms. Although more words are written in full in the 1949 edition, there were not as many as in the 1888 and 1893 editions.

Conclusion: The purpose of the 1949 revision was to provide more simplification. Other than the 1888 and 1893 editions, it contained fewer brief forms.

9. The elimination of zh and changes in h, z, th, ng, and nk occurred in the 1893 edition and have remained throughout. The way they were used in various outlines has changed some since.

Conclusion: The trend throughout the years has been to eliminate exceptions and bring about consistency of outlines.

10. Gregg shorthand was first focused on the individual learner and later on training teachers. However, he had to prove shorthand could meet the demand for speed before shorthand became vocational accepted.

Conclusion: Gregg kept the system simple to make it known and then attempted to meet the speed challenge. When the speed challenge was met, he attempted to reduce the memory load and make it simpler again. If the system can carry the load of office dictation, it may be simplified still further.

11. The literature does not indicate a decrease in the demand for stenographers with shorthand ability because recording machines have been introduced.

Conclusion: Machines and shorthand tend to be supplementary rather than competitive. However, more machines are used today than in the early 1900's. Machines are used more in high-speed areas.

12. More emphasis is presently being placed on shorthand for personal use. This may bring about further changes in the Gregg system.

Conclusion: There seems to be an indication toward reducing the time necessary for teaching shorthand. If this occurs, the methods most likely will change, too.

13. Although the current literature shows an increased interest in longhand systems, no evidence seems to indicate a trend for these systems to replace symbol shorthand.

Conclusion: Gregg Notehand is just being introduced and it is too early to make definitive statements at this time.

14. Some interest has been shown in developing a universal system; however, there is no indication that this need will be made by altering the Gregg system.

Conclusion: If this need develops and Gregg shorthand is to meet this need, Gregg shorthand must be changed.

Recommendations:

1. Research is needed comparing Gregg shorthand to abbreviated longhand systems.

2. Research is needed in order to determine the purpose for teaching shorthand. Is it vocational, personal, or both?

3. Research is needed to determine the effectiveness of Gregg Notehand for vocational use.

Abstractor's Comment:

Since this study was made, a further revision has been made of the Gregg system known as Diamond Jubilee.

Abstract 36

Romayne Reed Cook, "Transcription Achievement of Eight Shorthand Classes in Milwaukee, Wisconsin" (unpublished Master's thesis, University of Wisconsin, 1966), p. 69.

Problem:

The problem of this study was to determine how well high school students are able to take dictation and transcribe that dictation into acceptable, typewritten form.

Procedure:

1. Seven schools were randomly selected from the Milwaukee School System, plus the one experimental second-semester accelerated class which was being conducted at the same time.

2. A "trial run" was conducted in April, 1963, using the same procedures as would be followed in the actual test. The actual tests were given by Mr. James Hodge, Supervisor of Business Education in Milwaukee.

3. The actual test was given between May 27, and June 4, 1963, to 208 students. The three letters were dictated at 80 words a minute and 30 minutes were allowed for transcription. As students completed the test, the actual transcription time was recorded on their papers. The three letters used in this study were composed by the writer.

4. The results of this study were compared to the results of the study by S. J. Wanous in 1940 (80b),

Malinda Hilbert in 1952 (36b), and Sister Mary Joanna Barras in 1960 (7b).

Findings:

1. A total of 93,576 words were transcribed in 5,880 minutes by 208 students. This revealed a mean transcription rate of 15.9 words a minute.

2. Transcription speeds ranged from 6 to 38 words a minute, with 47 percent below 17 words a minute. However, 62.6 percent transcribed at the mean rate of 15.9 or higher. Only 12.6 percent reached speeds of 20 words a minute or above.

3. A total of 231 mailable letters containing 32,909 words were transcribed by the 208 students in 5,880 minutes. This produced a mean rate of 5.6 words a minute on mailable transcripts.

4. The 208 students transcribed 231 mailable letters out of a possible 624 or an average of 1.1 mailable letters per student. A further analysis revealed that 63 percent of all possible letters were unmailable and 37 percent were mailable. When only completed letters were considered, the percentage of mailable letters rose from 37 percent to 43 percent.

5. A total of 69 students transcribed no mailable letters, 68 had one mailable letter, 50 had two mailable letters, and 21 had three mailable letters.

6. Substitutions comprised the largest percent of all errors, with 28.7 percent. Typographical errors were second, with 15.7 percent of all errors, and poor erasers were third, with 14.7 percent.

7. Shorthand was first in percent of total errors, with 40.3 percent; typewriting was second, with 39.5 percent; and English was third, with 24 percent.

8. The present study showed a 2.5 increase in the median score of gross transcription rate over the Barras study, an increase of 3.9 over the Wanous study, and a 5.6 increase over the Hilbert study.

9. The Hilbert, Barras, and present study are very similar in percentages of mailable letter achievement. A difference of only 4 percent was found in possible mailable letters, and 6 percent difference in percentages of completed letters that were mailable.

10. Although substitutions ranked first for both the Barras study and the present study in types of errors made, they decreased in the present study. Syllabication ranked last in both studies.

11. Errors in English decreased from 55.16 percent in the Wanous study to 17.1 percent in the Barras study and 24.0 percent in the present study. Shorthand errors ranked first in both the present study and the Barras study.

Conclusions:

1. This study shows that the gross transcription rate, mailable transcription rate, and mailable letter achievement are all low in measuring competency in shorthand.

2. Gross and mailable transcription rates were very similar in all studies. However, there seems to be a slight improvement.

3. Although the present study showed a slight increase in transcription speed over that of the Barras study, the typewriting error percentage was more than double.

4. This study seems to indicate that more emphasis should be placed on teaching transcription techniques in all shorthand classes.

5. Since a large percent of the typewriting errors were caused by proofreading and error correcting techniques, more emphasis should be placed on these skills in the typewriting classes.

6. The many errors made by low-ability students can not be completely overcome by transcription training. Therefore, better guidance programs are needed to select students that enroll in shorthand.

Recommendations:

1. That further studies be done to determine the most effective methods for teaching the entire transcription process.

2. That more studies be made involving high-ability students and particularly the college-bound student.

3. That similar studies be made in the future to determine if progress is being made in those areas of deficiency.

Abstractor's Comments:

1. Findings were not presented in this study in support of conclusion six; therefore, this must be a personal judgement of the writer.

2. Conclusions 5 and 6 of the abstract appear to contain a conclusion and recommendation and were not repeated in the recommendation section of the abstract. Also, conclusion 4 of the study was a personal belief and not included in the abstract.

3. The writer made the statement that he believed the decrease in the number of English errors was caused by marginal reminders in shorthand textbooks. No doubt these have helped. However, there is also the possibility that English teachers are doing a better job, or shorthand teachers are spending too much time teaching English rather than shorthand.

Abstract 37

Donna Cottongim, "An Opinion Survey of a Group of 1952-1958 Business Education Graduates of Oswego High School to Determine the Importance of Fundamentals Taught in Bookkeeping, Typewriting, and Shorthand" (unpublished Master's thesis, Kansas State Teacher's College of Pittsburg, 1959), p. 45.

Problem:

The problem of this study was to determine the importance of fundamentals taught in bookkeeping, typewriting, and shorthand classes to the business graduates of Oswego High School, Oswego, Kansas.

Procedure:

1. Four check lists were prepared--one for typewriting I, typewriting II, bookkeeping, and shorthand. The items were indicated by did not answer, most important, very important, important, little importance, no importance.

2. With the help of the business education seminar, summer, 1958, a check list was constructed containing the fundamentals taught in bookkeeping, type-writing, and shorthand. These fundamentals were gleaned from the textbooks used in the business courses in the Oswego High School and from the author's lessons plans.

3. Sample copies of the check lists were given to a few of the graduates of the Oswego High School for pretesting purposes. Using their responses, the check lists were revised and prepared for general distribution.

4. Early in 1958, the check lists were mailed to 71 business graduates of Oswego High School. At the end of two weeks, a duplicate copy was sent with a follow-up letter to all those who had not returned the check lists. Fifty-one check lists, or 73 percent, of all those sent out were returned. Of those received, 46 were usable in this study.

5. The results of the check lists were tabulated and analyzed, presented in table form, and discussed in the remaining chapters of the study.

Findings:

1. More than one-half, or 52.5 percent, of the graduates had taken five business courses in high school. The courses most frequently studied were typewriting I and II, shorthand I and II, and bookkeeping.

2. Only one of the 46 graduates believed that the training she received in high school was insufficient for her needs.

3. Of the respondents, 44, or 95.7 percent, had taken two years of typewriting and 32, or 70 percent, had two years of shorthand training in high school.

4. Thirty-four believed that their shorthand training in high school was sufficient; however, seven believed that it was not. Of the seven who believed that their shorthand training was insufficient, two had taken only one year.

5. Thirty-one, or 67.3 percent, of those responding did not take additional work beyond high school.

6. Those fundamentals in shorthand rated most important or very important were: ability to transcribe notes accurately, desirable business personality traits,

grooming for interviews, ability to take notes in shorthand, finding a job, office grooming, correct telephone usage, and alphabetical filing. The only fundamental rated down was special postal services.

Conclusion:

For the most part, the graduates were satisfied with the shorthand training they received at Oswego High School.

Recommendation:

That the findings of this study be studied by the administrators of the Oswego High School.

Abstractor's Comments:

1. The author indicates in one place that none of the fundamentals received a sufficient number of ratings of little or no importance to indicate them to be unimportant; however, one fundamental was rated of little importance by over 40 percent of the respondents. Some individuals may consider this a sufficient number.

2. The thesis would have been more meaningful if the findings had been presented in a summary chapter along with the conclusions and recommendations. Thus, pulling all of these items together.

3. Those findings, conclusions, and recommendations regarding typewriting and bookkeeping were not included in the abstract.

Abstract 38

Lars G. Crandall, "An Experimental Study in Teaching Shorthand Using Tapes, Text, and Special Notebooks" (unpublished Ed.D. dissertation, Colorado State College, 1960), p. 185.

Problem:

"The problem of this study was to determine whether a shorthand notebook could be constructed and used in conjunction with the text and magnetic tape recordings to aid in the learning of shorthand."

Procedure:

1. This experiment was conducted at Brigham Young University during the 1958-59 school year and involved all students enrolled in Beginning Shorthand for the fall, winter, and spring quarters. No attempt was made to assign students to specific classes. All classes used were taught in the same room, by the same teacher, and were known as Business Education and Office Management 111, Beginning Shorthand. All students used the text Gregg Shorthand Simplified for Colleges, Volume I, Second Edition, and each student also was required to purchase a copy of the Student's Transcript.

2. Each Beginning Shorthand class met 51 fifty-minute class periods and covered the first 52 lessons in the text. No new-matter dictation was given during the quarter. The homework assignments were the same for all students in the experiment.

3. Only the 117 students not having prior shorthand study were included in the study. Furthermore, they were not told whether or not they were included, or whether they were in an experimental or control group. During the experiment, there was one control group and three experimental groups.

4. The control group (30 students) was taught as directed by the Teacher's Handbook which accompanies the text used in the classes. Writing was begun on the sixth day of class. No rules were taught in this class.

5. Two shorthand notebooks were prepared for use in the experimental classes--the first covered lessons 1-24 and the second covered lessons 25-52. The lessons were numbered to correspond with the lessons in the text and were to serve as a medium for introducing new material.

6. The procedures used in Experimental Group One (23 students) were recorded on magnetic tape. Drill and introduction of new material was done from the notebooks which the researcher had prepared. Homework assignments were the same as for the Control Group.

7. Experimental Group Two (20 students) was instructed from the tapes prepared in Experimental Group One. These students also used the notebooks prepared by the investigator. The only difference in Experimental Group One and Two was that taped instruction was used in Group Two and live voice instruction was used in Group One. Homework assignments remained constant.

8. The magnetic tapes were also used for instructing Experimental Group Three (44 students). The major variable in this class was that after the tenth lesson the teacher left the room each day after starting the class and only returned for lessons 12, 24, 36, 48, and the final examination. Homework assignments remained constant.

9. The students were measured on the basis of longhand transcription, both from shorthand plates and their own notes. All transcription tests were taken from the text used in the classes and were scored on the basis of correct words per minute transcribed. These tests were given during the testing lessons 12, 24, 36, 48, and the final examination.

10. The analysis of variance was used in determining if any significant difference existed between the control and experimental group.

11. The reliability of the tests used in this study was determined by the test, retest method.

12. Student evaluation of the different methods was received from evaluation reports filled out by the students during the final examination period.

Findings:

1. The mean rates for the Control Group were 28.4 words per minute on material transcribed from plates and 25.6 words per minute on material transcribed from their own notes. These rates compared to Experimental Group One, 26.1 and 25.10; Experimental Group Two, 27.7 and 26.5; and Experimental Group Three, 26.3 and 26.7 respectively.

2. The evaluation reports indicated various reactions by the students. Several students indicated that the instructor did not waste time. Some of the students resented taped instruction, and some students in Experimental Group Three believed the course could be improved by a better student-teacher relationship.

3. On three test, retest situations, the correlations found were .928, .956, and .891. The smallest significant correlation coefficient at the 1 percent level was .505.

Conclusions:

1. There is no significant difference in the achievement in transcription between two beginning shorthand groups when one receives introduction of new words on the chalkboard and the other by means of a special notebook.

2. No significant difference existed between two groups of beginning shorthand in transcription achievement when one was taught by tape and the other by a live instructor.

3. There is no significant difference between the transcription achievement of two beginning shorthand groups when the teacher is always present in one class and absent two-thirds in another class both using taped instruction.

Recommendations:

1. That a similar study be done involving high school students.

2. That a similar study be done using different homework procedures.

3. That a study be done varying the sequence of shorthand learning activities to determine significance.

4. That a study be completed to determine the effectiveness of taped recordings in other skill subjects such as typewriting.

5. That a study be done to determine the affect music would have on learning shorthand.

6. That studies be completed to determine the significant factors to be considered in preparing effective taped materials.

7. That a study be done in which the special notebooks used in this study are used in conjunction with t.v. instruction.

8. That research be completed to determine the optimum and maximum size shorthand classes which can be effectively taught with taped instruction.

Implications:

1. Taped instructions may be able to aid in handling increased enrollments without a proportionate increase in teaching staff.
2. Taped instruction may have particular use in large schools which divide classes into sections or small schools where it is a challenge to provide extensive opportunities under limited conditions.
3. Taped instruction may provide teachers with more classtime to increase professional activities in student counseling, curriculum improvement, and significant research.
4. Taped instruction may provide opportunities for satisfying individual differences.

Abstractor's Comments:

1. Procedures given in this study were much more detailed than those given in this abstract.
2. The abstractor believes that classtime belongs to the students and curriculum planning and research should be fitted in someplace else.

Abstract 39

Norma N. Crewdson, "A Comparison of the Effect of Accuracy in Transcription from Outlines or Context" (unpublished Master's thesis, University of Minnesota, 1963), p. 42.

Problem:

The problem of this study was to determine whether students will transcribe their notes more accurately from the context of the sentence or from an altered shorthand outline.

Procedure:

1. This study consisted of 45 girls enrolled in fourth-semester shorthand in high school.

2. Six letters were selected from the 100 letters used by Mildred Hillestad in her study. The three shorthand principles tested were: o's and oo's, blends, and past tense.

Findings:

1. Nothing was found in this study to indicate that context alone is the major factor in transcription. A correctly written outline seems to be equally as important as context.

2. The students had the most difficult transcribing words which contained oo's and o's.

3. Emphasis should be placed on writing the correct outline rather than getting something down for every word. More emphasis should be placed on theory tests early in the course.

Abstractor's Comment:

Since this original thesis was reported lost and unavailable through interlibrary loan, the above information was taken from the summary listed in the National Business Education Quarterly.

Abstract 40

Carolyn McLean Curtin, "An Analysis of Changes in Brief Forms in the 1916, 1929, 1949, and 1963 Editions of Gregg Shorthand" (unpublished Master's thesis, The University of Tennessee, 1964), p. 100.

Problem:

The problem of this study was to analyze and compare the changes made in brief forms in the 1916, 1929, 1949, and 1963 Editions of Gregg Shorthand.

Procedure:

1. A list was compiled containing all the brief forms in the four editions. Since in the earlier texts a variety of words could be considered brief forms, this was not an easy task.

2. A 4 x 6 card was prepared for each brief form in the 1916 edition of Gregg Shorthand. The longhand word was written in the top lefthand corner. A column was set up across the card for each edition. When a brief form did not appear in an edition, a dash was placed in the column. A new card was prepared for each new brief form, and each alternate meaning was placed on a separate card. A coding system was devised for indicating the sounds that were omitted in constructing the brief forms.

3. Master List A was then prepared from the cards. The same coding system was used on this list as that used on the cards. With the use of this list, it was possible to determine which brief forms had been added, dropped, and changed in each edition.

4. Business letters of 100 to 125 words were selected from typing textbooks published by Prentice-Hall (69b) and South-Western (48b). Each sample contained 1,500 running words or a total of 3,000. These letters were written in the shorthand from each edition in order to determine the changes in strokes from one edition to another. Using Chi-Square, the sample was found to be adequate in stroke count and revised word count.

5. Related research was analyzed to determine which brief forms had been recommended for change by three or more researchers. These were compared with the actual changes made in the 1963 Diamond Jubilee Edition.

6. A list was compiled of brief forms recommended for change by at least three of six other studies. This list was compared with actual changes made in these brief forms for the 1963 Diamond Jubilee edition.

Findings:

1. From the 1916 edition to the 1963 edition, a total of 592 brief forms were eliminated. The most in any revision was 392 from the 1929 to the 1949 editions. Only 81 were eliminated from the 1949 to the 1963 editions and 119 from the 1916 to the 1929 editions.

2. In each edition the number of changed outlines for brief forms increased, with 4 in 1929, 6 in 1949, and 17 in 1963.

3. With each new edition, the total number of brief forms decreased. There were 702 in 1916, 615 in 1929, 225 in 1949, and 148 in 1963.

4. A total of 122 brief forms retained the same outline in all four editions and 18 had a changed outline in at least one edition.

5. A total of 117 brief forms were included in the 1916 edition only and 361 included in the 1916 and 1929 editions were eliminated in the 1949 and 1963 editions.

6. Endings omitted in the omission of sounds in constructing brief forms in the 1916, 1929, 1949, and 1963 editions were 262, 230, 71, and 41 respectively. The second largest classifications were middles in 1916 and 1949, with 151 and 44 respectively; middles and endings in 1929 and 1963, with 127 and 27 respectively. Beginnings were also second in 1963.

7. Twenty-six of the 29 forms, in one or more of the four editions, beginning with re have the ending sound (s) omitted; 8 of the 6 brief forms beginning with y have that sound omitted; and 29 of the 40 brief forms omitted the sound w or wh.

8. The largest increase in required strokes to write business context material was 536 in 1949. In 1963, the increase was 321 strokes.

9. In 1949 the number of revised outlines was 409 as compared to 282 in 1963.

10. A majority of the strokes added in both the 1949 and 1963 editions were caused by revisions of brief forms, with 60.5 percent of the 536 added in 1949 and 80.1 percent of the 321 added in 1963 as a result of revisions of brief forms.

11. A large number of the revisions made in 1949 and 1963 were a result of changes in brief forms, with 61.9 percent of the 409 revisions in 1949 and 65.3 percent of the 282 in 1963 caused by changes in brief forms.

12. Nineteen of the 36 brief forms recommended in other studies for change were actually eliminated in 1963 edition; 16 of the 36 remained as a brief form; and one remained as a brief form, but the outline was changed.

Conclusions:

1. Although reductions in brief forms were made in all editions, the greatest change occurred from the 1929 to the 1949 editions.

2. Omission of endings in constructing brief forms was the largest classification of omission of sounds in all four editions.

3. The omission of ending sounds of words beginning re and be and beginning sounds of words beginning w, wh or y seemed to follow a definite pattern.

4. The largest percentage of increase in the number of strokes required to write business contextual material occurred in the 1949 edition.

5. The revision of brief forms caused the larger percentage of increase in strokes and revision of words required to write business contextual material.

6. Authors have not considered the findings of previous research studies very heavily in the revision of brief forms.

Recommendations:

1. Studies are needed making an analysis of the effect of the changes in Diamond Jubilee Series on speed writing and error rate of brief forms.

2. A study is needed comparing the frequencies in the Silverthorn study with changes made in the Diamond Jubilee Series.

Abstractor's Comment:

Only four of the thirty-six brief forms, recommended by four or more of the six studies compared in this study, remained unchanged--correspond, merchant, recognize, and won. It does seem that some of the suggestions made by researchers have been followed by the authors of Gregg Shorthand. Perhaps other recommendations will be followed in future revisions.

Abstract 41

Rita C. Curtin, "The Relationship Between Selected Factors and Difficulty of Dictated Material" (unpublished Master's thesis, University of Minnesota, 1958), p. 31.

Problem:

The problem of this study was to determine whether syllabic intensity is a valid measure of the difficulty of dictation material, or would another measure serve the same purpose and perhaps even better.

Procedure:

1. With the use of a table of random numbers, 41 letters were selected from Dictation For Mailable Transcripts (47b) for use in this study.

2. "Multilating" was the first step in preparing the materials for use. This was done by deleting every fifth word, as Taylor (71b) suggested in his directions for using the technique. The letters were long enough so that 27 words could be omitted. The letters were then duplicated for use in the classes.

3. Students in the Minneapolis Marshall, Minneapolis Edison, and Richfield schools were given the cloze letters. Two St. Paul schools and Johnson and Harding took part in the dictation phase of the study.

4. Second-year students in the three schools in Minneapolis were used in the cloze procedure phase of this study. The students were asked to fill in each blank even if they had to guess at the missing words. The score on the cloze part for each letter was the number of blanks filled in correctly, with a maximum of 27.

5. The same 41 letters were dictated in their complete form to the students in the three schools in the St. Paul area. They were near the end of the second year of shorthand study. Ten letters were dictated to each of three classes and 11 letters were dictated to the fourth class. Since this study was concerned with the students' knowledge of shorthand and not shorthand speed, the teachers were instructed to dictate at a speed which the students could take comfortably.

6. Words written correctly other than proportion were not considered errors. Each dictated word was counted as a single word, and phrases were also counted as individual words. Proper names were not counted.

7. A minimum of 19 students took each letter; therefore, 19 papers were randomly selected from larger classes. Each letter was adjusted to 160 words, making a total of 124,640 shorthand characters included in this study.

8. On the cloze papers, only the exact word and not synonyms were counted correct. Thirty papers were randomly selected from the 41 letters, and the total scores made on the 30 letters from here on will be called the cloze score for that letter.

9. The total number of syllables for each letter was divided by the number of words in the letter to determine syllabic intensity.

$$\text{syllabic intensity} = \frac{\text{Number of syllables}}{\text{Number of words}}$$

Summary of Data:

1. An IBM card was prepared for each word containing the vocabulary level index and the number of syllables. These data were tabulated and predictor scores calculated for each letter. This score and the cloze score for each letter were entered on a summary sheet.

2. The Pearson product-moment correlation was used in determining the relationship between the number of errors made on the dictation material and the cloze scores for the same letters.

3. Coefficients of correlation were then calculated between the criterion score and the following predictor scores for cloze score procedure: syllabic intensity, number of different words, and vocabulary level. Intercorrelations were also calculated among the predictor variables.

Findings:

1. The correlation of coefficients between the predictors for cloze score vocabulary level index, syllabic intensity, and number of different words and

shorthand errors were not high enough to predict the difficulty of dictation material.

2. The highest correlation of coefficient was .501, which was between shorthand errors and vocabulary level index. This alone would not be sufficient to predict difficulty of shorthand dictation material.

3. The intercorrelations among the predictor variables were very low. The relationship between the cloze score and the number of different words was the highest at .776. These two predictors possibly measure the same thing in shorthand dictation material.

Conclusions:

1. The relationship found between cloze score and the number of shorthand errors was significant. The cloze score should not be used by itself to measure difficulty of shorthand dictation material.

2. Of the predictors studied, vocabulary level index had the highest correlation coefficient. The relationship found between shorthand errors and syllabic intensity and number of different words was only slight.

3. The intercorrelations were very low. A relatively high correlation was found between the number of different words in the letters and cloze scores. The number of different words produced a higher correlation with the criterion than did cloze score. Since the number of different words is easier to obtain, the number of different words is the better predictor of the measures.

Recommendations:

1. Further research is needed concerning the relationship between vocabulary level and the difficulty of dictation materials.

2. Further research is needed on the effect of syllabic intensities on the difficulty of dictation materials.

3. Further research should be done on how the number of different words affects difficulty of dictation materials.

4. Further research is needed to determine the affect other factors such as brief forms, phrases, vowel

omissions, word endings and beginnings, or other principles of shorthand have on the difficulty of dictation materials.

Abstractor's Comments:

1. The difficulty of dictation materials is an important factor in shorthand achievement. Therefore, we need more information on how to best determine the difficulty of shorthand dictation materials.

2. This study indicates that there are factors other than syllabic intensity to be considered in determining difficulty of dictation materials. Further research is needed in this area.

Abstract 42

Delbert D. Dallmann, "A Comparison of Achievement on Three-Minute Dictation Tests and Five-Minute Dictation Tests in Gregg Shorthand" (unpublished Master's thesis, Mankato State College, 1962), p. 32.

Problem:

"The purpose of this study was to make a comparison of achievement on three-minute dictation tests and five-minute dictation tests in Gregg shorthand in order to determine whether or not the three-minute dictation might give an adequate indication of achievement."

Procedure:

1. Eight schools selected from a Minnesota Directory of Business Teachers and Mankato State College participated in this study during the 1962 school year. Selection was made on the basis of convenience of the investigator and availability of beginning and advanced shorthand classes; furthermore, no attempt was made to obtain a random sample.

2. The materials used for this study were selected at random from the April and May, 1961, Business Teacher. The test material contained six letters--two three-minute tests, one letter each; and two letters for each five-minute timing. The five-minute tests were dictated at 60 and 80 words a minute, and the three-minute

tests were dictated at 60 and 80 words a minute. Both first-year and second-year students participated in the study.

3. The students were compared on the basis of the number of errors to determine relative achievement on the three-minute and five-minute tests.

4. Typing errors recorded consisted of faulty shifting, piling, and strike-overs. Punctuation errors included omissions, additions, or incorrect placement of commas, colons, semi-colons, periods, question marks, apostrophes, and hyphens. A record was also kept of word additions, word omissions, word choice, sentence structure, and general appearance.

5. A total of 111 papers for the 60 words a minute dictations and 103 papers for the 80 words a minute dictations was received. The papers for high school students and college students were all analyzed together.

6. The "t" test was the statistical calculation used to compare the student's achievement on the three-minute and five-minute dictation tests.

Conclusions:

A "t" value of .9962 between the two tests at 60 words a minute and a "t" value of 1.7353 between the two tests at 80 words a minute tend to confirm the null hypothesis. Therefore, it seems that, at least part of the time, achievement can be measured as reliably by three-minute tests as by five-minute tests.

Recommendations:

That a similar and more comprehensive study be conducted in which more of the variables are controlled so that the results would be more reliable. Some variables to consider are (1) various levels of achievement, (2) better selection of test material, (3) random sampling, and (4) more control on dictation and time for transcription.

Abstractor's Comments:

1. The findings and conclusions were presented together under the title of conclusions.

2. Several times throughout the study the writer refers to the null hypothesis; however, none was ever clearly stated--only implied.

3. As indicated by the writer of this study, too many variables were presented to permit broad generalizations.

Abstract 43

Harriet Ann Danielson, "The Relationship Between Competency in Shorthand Vocabulary and Achievement in Shorthand Dictation" (unpublished Ed.D. dissertation, Indiana University, 1959), p. 142.

Problem:

"This problem is a study of the relationship between competency in shorthand vocabulary and achievement in shorthand dictation."

Procedure:

Basic to the study of the relationship was the measurement of the two aspects--competency in shorthand vocabulary and achievement in shorthand dictation. Competency in shorthand vocabulary was measured by random samples of the most frequently used words in business. The measurement of the shorthand dictation was accomplished by the dictation of a series of business letters. Statistical methods were employed to determine the relationship between these two elements.

Overview of the Study:

1. The shorthand program at Indiana University was used as the testing ground for this study. There are vice semesters in the shorthand program, and classes meet for 50 minutes, five days a week. The manual method of shorthand was used in these classes. This study was concerned with the last three courses of this shorthand program.

2. One hundred twenty students enrolled in the last three courses of the program participated in this investigation. Thirty-three of the 120 students were studied continuously for two semesters during the school

year, 1956-1957. During the first term of that year, 65 students were enrolled; in the second term there were 88 students including the 33 from the first semester. Students enrolled for first or second semester took three word-list tests during the term. Six word-list tests were taken by those students enrolled in both semesters. Students were not given any special preparation for the tests except that the directions for the first test were explained carefully the previous day.

3. The timed word list, consisting of the most frequently used words in business, was the instrument selected for measuring competency in shorthand vocabulary. Fifteen hundred words were sampled from the Silverthorn List (65b). Each test was comprised of 250 words. In order that the words from the five different thousands would be evenly distributed throughout the test, the words were arranged in such a way that every five words came from the first, second, third, fourth, and fifth thousands respectively.

4. After the word list had been dictated, the students transcribed the outlines. The students were required to write as many translations of the word as they could remember. The transcribed word was considered correct if at least one correct translation for each shorthand outline was given. If the transcription was correct, the students were not penalized for incorrect outlines. The highest score that each student attained on these word lists was considered to be his shorthand vocabulary index. These highest vocabulary indexes were then categorized into high, middle, and low groups.

5. Business letters from English correspondence books were reviewed and edited. Each letter was counted on the basis of 1.5 syllable intensity.

6. The dictation tests were graded on the basis of mailability rather than a percent of accuracy. However, a letter was considered unmailable if the letter contained a misspelled word, a word incorrectly hyphenated, a transposition in words, or a wrong word which changed the meaning of the sentence.

7. Usually two or three letters had to be mailable at a certain speed before a passing dictation rate was credited to the student. Each dictation speed was three minutes in length.

8. A total of 30 sets of business letters, each containing speed groups of 60 to 130, were dictated during

the two semesters. On the average, one set of letters was dictated each week. Students were not allowed to transcribe material taken at a speed level at which they had already passed three tests.

9. During the course of this investigation, the highest dictation rate at which a student could transcribe into mailable-letter form was considered to be his shorthand dictation rate. These rates were then categorized into speed groups of 80 through 130.

10. The influence of general scholastic ability was considered, as measured by the American Council on Education Psychological Examination, the Reading Comprehension Test C2, and the Cooperative English Test, Form OM. It was thought that these indexes might determine the relationship between competency in shorthand vocabulary and achievement in shorthand dictation.

Findings:

1. Shorthand vocabulary competency was found to be significantly related to shorthand dictation achievement. Although shorthand vocabulary is a prime requisite, it is not the sole factor.

2. As a student's shorthand vocabulary index increased, his rate of taking dictation also increased. The increase in vocabulary was greater at each dictation speed level from 80 to 100 words a minute than from 100 to 130 words a minute. As a student improves his shorthand vocabulary, his dictation ability also improves.

3. General scholastic ability, as measured by selected indices used in this study, was found to be only distantly related to the ability in shorthand vocabulary. Practically no relationship was found between the scores on the English vocabulary sections of the general ability tests and the shorthand vocabulary index. Likewise, little or no direct relationship was evident between grade-point average and shorthand vocabulary index.

4. A substantial relationship was found between achievement in shorthand dictation and general scholastic ability. Without exception, a similar relationship prevailed between shorthand dictation rate and each of the measures of general scholastic ability.

5. The close relationship between general scholastic ability and shorthand dictation achievement also was borne out at five of the six different levels of

dictation speed (from 80 to 130 words a minute). The exception was the 130-word level, which undoubtedly was affected by the small number of cases at this level.

Conclusions:

1. The objective of shorthand instruction is the development of shorthand dictation at acceptable rates and the ability to produce a high-quality transcript in a reasonable time. Based upon the findings pertaining to shorthand vocabulary and shorthand dictation rate, it may be concluded that during the learning period continuous growth in shorthand vocabulary is a factor of prime importance in the development of acceptable shorthand dictation rates.

2. The lack of influence of general scholastic ability on competency in shorthand vocabulary leads to the observation, if not a defensible conclusion, that apparently mastery of shorthand vocabulary requires abilities and capacities considerably different from those required for mastery of general academic subject areas. Failure of students of high level general scholastic ability to achieve well in shorthand may in part be due to the absence of the abilities peculiar to mastery of shorthand vocabulary.

3. In general, achievement in shorthand dictation is directly proportionate to general scholastic ability. This means that the chance is relatively small for students of below average scholastic ability attaining high dictation rates.

4. The evidence revealed in this study indicates that:

- a. Shorthand vocabulary competency significantly influences achievement in shorthand dictation at all speed levels.
- b. General scholastic ability also significantly influences shorthand dictation achievement at all speed levels.
- c. Shorthand vocabulary competency and general scholastic ability bear little relationship to each other.

Abstractor's Comment:

The reader should keep in mind that the data from which the findings and conclusions were drawn does not

represent a random sample of all shorthand students, but only those students who were enrolled in the transcription classes at Indiana University during the school year 1956-1957. However, it would seem that within reasonable limits these findings may have implications for other shorthand students.

Abstract 44

John Alvin Dickinson, "The Role of Practice in Shorthand Skill Development As Related to Selected Classical Theories of Learning" (unpublished Ed.D. dissertation, The University of Oklahoma, 1966), p. 170.

Problem:

"The problem of this research study was to determine whether authoritatively recommended practice techniques and procedures in shorthand are in accord with theories of learning applicable to practice as advanced by authorities in the field of psychology."

Procedure:

1. Extensive study was made of published material relating to practice and to the learning of shorthand.

2. Determination of the psychological elements essential for effective practice. Reference was made to information relative to connectionism, behaviorism, and gestaltism.

3. Determination of the authoritatively recommended techniques and procedures for practice as a significant element in the learning of shorthand. Reference was made to information relative to the teaching of shorthand written by the individuals of the Gregg System.

4. A comparison was made between recommended practices in shorthand methodology and representative views concerning the psychology of learning.

5. The 20 principles stated by Leslie (45b) were used as points of departure for a comparison of the views of the psychologists and the shorthand inventors as these views relate to practice in the teaching of shorthand.

6. The principles were divided into the following three categories: (a) The Theoretically-Based Principles,

(b) The Functionally-Based Principles, and (c) The Commentary principles.

Findings:

The Theoretically-Based Principles

1. Substantial agreement was found on these six principles:
 - a. Skills are best learned under the most favorable conditions.
 - b. Skill should never be either forced or strained until it is well established.
 - c. Skill is not a fixed or static state.
 - d. Repetition is not the cause of learning.
 - e. Easy practice materials develop speed more effectively than difficult practice materials.
 - f. Skill is best learned in the largest feasible wholes and subwholes.
2. Substantial disagreement was found on the principle that: Perfect relaxation is necessary for the most effective skill development.
3. Two of Leslie's principles could not be found in the psychological literature. They are: Skill is best developed in intensive bursts of nervous energy of perhaps 30 to 90 seconds, and the area of the skill increases with the intensity of the skill.

The Functional-Based Principles

1. Three of these principles were found to have substantial agreement:
 - a. Language arts like English, shorthand, and transcription are best developed by extensive rather than by intensive practice.
 - b. Skill develops most effectively under practice conditions.
 - c. The learning process proceeds best when the learner has knowledge of his status and progress.
2. Substantial disagreement was found on the following principle: Consciousness of or conscious direction of the mechanical details of the skill impair the skill.

3. One principle was not substantial in psychological literature. The principle is: Related acquired habits and information should be utilized in order to start action as though on familiar ground.

Commentary Principles

1. One Commentary principle was found to have substantial agreement on the following principle: The expert does not make rapidly the movements that the beginner makes slowly.

2. The principle that had substantial disagreement was: The skill learner is training his mind rather than his hand.

3. Four of the principles have no basis in the psychological literature examined in this study. Those principles are:

- a. The obvious path to skill is not always the correct path.
- b. A teaching procedure that is helpful in one stage of learning may be useless or even harmful in another stage.
- c. A proper teaching treatment of the initial diffuse movements or irradiation will greatly shorten the period of skill learning.
- d. Any desired achievement on the part of the pupil must be the result of a planned teaching procedure on the part of the teacher.

Conclusion:

The inventors have expressed certain techniques and procedures for practice in building shorthand skill that are in agreement with principles set down by psychologists. However, there are significant psychological elements on which the inventors and psychologists do not agree.

Therefore, it may be concluded that techniques and procedures recommended for shorthand practice are neither uniform or consistently in accord with theories of learning applicable to practice as suggested by those psychologists whose literature was examined for this study.

Recommendations:

1. That research be done to test recommendations made by Leslie, Gregg, and Zoubek in classroom situations.
2. That further study be done comparing teaching procedures with psychological theory.
3. That further research be done involving psychology which integrates the two traditions used in this study.

Abstractor's Comments:

1. As the writer of this study indicated, the disagreement of some of the principles may be the way they were stated. Semantics play an important part in causing disagreement.
2. One would not expect the psychologists and the inventors of shorthand to be in total agreement, but possibly more than they are. Perhaps the inventors of shorthand should keep these principles in mind when revisions are made.

Abstract 45

Jerry Clayton Diedrick, "A Study of Significant Trends Concerning Accuracy of Transcription and the Discarding of Certain Principles of Writing Shorthand Outlines Under the Gregg Shorthand Diamond Jubilee Method" (unpublished Master's thesis, Mankato State College, 1967), p. 120.

Problem:

The problem of this study was to determine whether discarding certain principles of writing outlines in Gregg Shorthand, Diamond Jubilee Series caused a significant trend toward more accurate outlines and more accurate transcripts.

Procedure:

1. This study involved a sample of 106 Simplified students and 50 Diamond Jubilee students within an 80 mile radius of Emmetsburg, Iowa. This included teachers and students from Northern Iowa and Southern Minnesota.

2. Since this study was only concerned with those principles, except brief forms, which were changed from the Simplified edition to the Diamond Jubilee edition, the four test letters used incorporated these changes. The same letters were used for both groups and were dictated at 40 words a minute by the cooperating teachers.

3. The students were asked to turn in their notes as well as their transcripts. The accuracy of the changes were checked in both the notes and transcripts.

4. Talley sheets were used for recording the data and tables for each principle tested were prepared from the talley sheets. The t-test was used to check for a significant difference.

Findings:

1. The following 22 outline principles were written with significantly greater accuracy in the Diamond Jubilee Series Shorthand:

- a. Blends: tif
- b. Word beginnings: after-, incl-, supr-
- c. Word endings: -less, -self, -ally, -pose, -cate, -cation, -gate, -gation, -ify, -port, -use.
- d. Rules: Omission of final t in one-syllable words ending st; omission of final t in words of more than one-syllable ending in st; o on side before v or l; omission of t in words ending ct (kt); disjoined -or, -er; exception to tive blend.
- e. Months: July

2. Ten principles were written significantly more accurate in Simplified Shorthand:

- a. Word beginnings: pro-, ship-, short-.
- b. Word endings: -field, -position, -town.
- c. Rules: disjoined st to represent -ist, est; disjoined past tense -ed; omission of final d in word family groups.
- d. Months: April.

3. No significant difference was found with 8 principles:

- a. Blends: gent, gend; pent, pend; tive.
- b. Rules: omission of ow before n.

- c. Months: June, November.
- d. Quantity symbols: cents, percent, per annum.

4. Four principles were transcribed significantly more accurate from Simplified Shorthand:

- a. Word beginnings: after.
- b. Word endings: -field, -position.
- c. Rules: omission of final d in word family groups.

5. Two principles were transcribed significantly more accurate from Diamond Jubilee Series Shorthand:

- a. Word beginnings: ship-.
- b. Rules: exception to the tive blend.

6. No significant difference was found in the accuracy of transcribing 34 principles:

- a. Blends: gent, gend; pent, pend; tif, tive.
- b. Word beginnings: incl-, pro-, short-, supr-.
- c. Word endings: -ally, -cate, -cation, -gate, -gation, -ify, -less, -port, -pose, -self, -town, -use.
- d. Rules: omission of final t in one-syllable words ending in st; omission of final t in words of more than one-syllable ending in st; disjoined st to represent ist, est; omission of t in words ending in ct (kt); omission of ow before n; disjoined past tense -ed; o on side before r or l.
- e. Months: April, June, July, November.
- f. Quantity symbols: cents, percent, per annum.

Conclusions:

1. Twenty-two of the 40 principles changed were written significantly more accurately in Diamond Jubilee Shorthand; therefore, it may be concluded that students using Diamond Jubilee were more successful in recording dictation in shorthand than the Simplified students.

2. Eight of the 40 changes were unnecessary, since the difference between the two methods was insignificant on these eight principles.

3. The principle changes made from Simplified Shorthand to Diamond Jubilee Shorthand did not appear to improve transcription accuracy, since 34 of the 40 changes

tested showed no significant difference in transcription from the two shorthand methods.

Recommendations:

1. The following principle changes should be revised back to Simplified method: pro-, ship-, short-, -field, -position, -town, disjoined st to represent -ist and est, disjoined past tense -ed, the omission of the final d in word family groups, and the abbreviation for April.

2. More practice material should be provided in order for students to attain higher levels of accuracy on principles not changed.

3. A similar study should be made using a faster dictation rate with high school students.

Abstractor's Comments:

1. Recommendation 1 lists several principle changes in Diamond Jubilee which the investigator feels should revert back to the Simplified method. However, only the Patrick study has shown that pro-, ship-, and short- caused significantly fewer errors using the Simplified method than the Diamond Jubilee method. Other studies are needed before these principles and others suggested are changed back. Furthermore, only -field, -position, and omission of the final d in word families were transcribed significantly more accurate from Simplified Shorthand.

2. Similar studies are needed in order to add to the validity of the present study.

3. The sample of Diamond Jubilee students was small compared to that of Simplified students.

Abstract 46

Ruth Muriel Dittes, "An Experimental Study to Evaluate the Use of A Multiple-Channel Dictation System in Shorthand I" (unpublished Master's thesis, University of Colorado, 1965), p. 184.

Problem:

The problem was to determine the effectiveness of the multiple-channel dictation system in the Shorthand I classroom.

Procedure:

1. Four classes of Shorthand I at Richfield High School, Richfield, Minnesota, were involved in this study. Each class contained 25 students, making a total of 100 junior girls. The control group, which did not use multiple-channel equipment, consisted of two classes; the experimental group, which used multiple-channel equipment, also consisted of two classes. The groups were equated on the basis of the Otis Mental Ability Test.

2. The four classes were taught by the same teacher, lesson plans were identical except for the method of dictation, and each class was 55 minutes in length. The study covered a six-weeks period and 30 lessons (lessons 19-48) in the text, Gregg Shorthand, Diamond Jubilee Series.

3. The two variables included in this study were: (a) the use of multiple-channel dictation equipment, and (b) the provision for students in the experimental group to work individually at dictation speeds related to their levels of skill.

4. A 200 word theory test was given three days prior to the start of the experiment to determine the students knowledge of shorthand theory words. The words were written in shorthand and the students were to transcribe as many as possible. Sixty words, or 30 percent, were taken from the first three chapters.

5. At this time, three-minute dictation tests were also given. Homework letters from Chapter III of Gregg Shorthand, Diamond Jubilee Series were dictated at 40, 50, 60, and 70 words per minute. Students were required to transcribe the 40 and 50 word dictations and the 60 and

70 word dictations if they felt they could pass them. A 95 percent accuracy was required to pass the takes.

6. Teacher-prepared tapes were used on the multiple-channel equipment in the experimental class. Various speed-building plans were used. Those plans used included the broken-record plan, the build-up method, the line-skip method, the one-minute plan, scribble writing, and shadow writing. All tapes were the same except that different dictation speeds were used. Dictation speeds ranged from 40 to 120 words per minute in all classes.

7. The same 200 word test was given two days after completion of the experiment. Gains in theory test scores were determined by subtracting the first score from the last score. Dictation tests were also given from homework assignments in chapter VIII in the text Gregg Shorthand, Diamond Jubilee Series. Dictation tests were given at 50, 60, 70, 80, 90, 100, and 110 words per minute. Transcripts were again graded on the basis of 95 percent accuracy.

8. Students were asked to fill out a questionnaire giving their evaluation of the experiment.

9. The scores for the initial and final theory tests and the three-minute dictation tests were compared for both control and experimental groups to determine if any significant progress gains were made.

10. "Statistical calculations of the mean of the difference, the standard deviation of the mean of the differences, the standard error of the differences between means, calculation of the critical ratio, and the 't' value to determine the level of confidence were drawn from the data so presented." The summary was made and conclusions and recommendations were drawn from the findings of these data.

Findings:

1. A critical ratio of 1.94 was found between the two groups on the initial theory test. This ratio was not significant at either the 1 or 5 percent level of confidence.

2. The final theory test also indicated no significant difference between the two groups with a critical ratio of 1.70.

3. There was only 1 chance in 1,000 that the improvements shown by both groups could have been by chance alone.

4. A critical ratio of 2.29 indicates a significant difference between the control and experimental groups on the initial three-minute dictation test. The control group made the higher scores on the three-minute dictation tests.

5. The final three-minute dictation tests most definitely showed a significant difference in favor of the control group with a critical ratio of 3.78.

6. The two groups would continue to show a real difference, if the two groups were tested using the same type of three-minute dictation tests, 999 times out of 1,000.

7. The "t" test showed no real difference in the gain of the control group on the theory test as compared with the gain of the experimental group on the same test.

8. Also, the "t" test showed no real difference in the gain on the three-minute dictation test made by the control group as compared to the gain made by the experimental group.

9. An analysis of the questionnaire for both groups combined showed that 64 percent of the students enjoyed the unit, 93 percent indicated they felt they had made progress, 78 percent felt challenged, and 75 percent felt dictation speeds were sufficient for their speed level. Both groups favored the line-up and build-up methods of speed-building to the other four methods. The responses made by the experimental group were more positive than those made by the control group.

Conclusions:

1. The multiple-channel system can be used effectively for building shorthand skill in shorthand I.

2. The multiple-channel system is not superior to the conventional method of giving dictation at varying speeds in improving the ability of first-semester shorthand students to record dictation or transcribe theory words written in shorthand.

3. Students using electronic equipment for taking dictation achieve as well as students taught by conventional methods.

4. Multiple-channel equipment can be used effectively with all six speed building plans used in this study.

5. More students are challenged through the use of multiple-channel equipment.

6. Students work more independently and concentrate better when individual listening stations are provided.

7. Electronic equipment provides more time for teachers to give more individual help and, therefore, is a valuable tool for shorthand classes.

8. Students using multi-channel equipment seemed to believe that dictation speeds were more suited to individual levels of skill than students in conventional teacher-dictation classes.

9. The Norelco StenoTrainer is adaptable and usable as a multi-channel dictation system.

10. The advantages and disadvantages of electronically taped dictation for the shorthand laboratory are similar, if not identical to those associated with the use of electronic tapes for the language laboratory method of teaching foreign languages.

11. The role of the shorthand teacher who uses multi-channel equipment will likely change. These machines may replace the poor teacher; however, the creative and capable teacher will be able to spend more time engaged in constructive and efficient educational activities.

Recommendations:

1. Shorthand teachers should consider acquiring multi-channel dictation equipment for use in shorthand instruction.

2. Tapes should be prepared by the shorthand teachers using them, and tapes should be closely correlated with homework assignments.

3. Further experimentation that is needed relative to the use of taped dictation in shorthand classes is as follows:

- a. To explore other teaching techniques such as: techniques for building reading skills, learning brief forms, drilling on word beginnings and endings, and giving dictation tests.

- b. To determine the value of taped dictation for make-up work, supplementary work, and homework preparation on the high school level.
- c. To study the influence of motivation in the building of a shorthand skill.
- d. To determine the value of the multi-channel equipment for improvement of proof-reading and skill in transcription.
- e. To link the shorthand-laboratory method of teaching shorthand to the teaching of foreign languages through the language-laboratory method.

Abstractor's Comments:

1. As the writer of this study pointed out several times, multiple-channel dictation equipment is a useful tool for shorthand instruction. Any tool, however, is only as effective as the teacher using it.

2. Several implications for the use of multi-channel equipment in shorthand were given in the recommendations of this study.

3. Great care must be taken not to misuse multiple-channel equipment and other audio-visual aids.

Abstract 47

Bert Carl Dobbs, "A Survey to Determine Acceptability of Predetermined Standards and Methodology in Shorthand by Arizona Secondary Teachers" (unpublished Master's thesis, Arizona State University, 1966), p. 42.

Problem:

The problem was to survey Arizona secondary teachers to determine whether these teachers agreed or disagreed with suggestions, standards, and methodology as presented in sections of the Handbook for Business Teachers and to determine if a significant difference of opinion existed based on shorthand teaching experience.

Procedure:

1. A questionnaire was designed to contain context and terminology of the shorthand part of the Handbook for Business Education. The questionnaire was constructed so

the teachers could express the degree of their opinion from Strongly Favor, Favor, Undecided, Oppose, to Strongly Oppose.

2. There were a total of 149 questionnaires mailed to 104 schools. Of those mailed, 71, or 48 percent, were returned by 58, or 55 percent, of the schools. The returned questionnaires represented essentially every major city except Chandler, Holbrook, Mesa, Prescott, and Winslow.

3. Three of the 71 questionnaires were not marked to indicate experience; therefore, 68 were tabulated on the basis of experience. All of the questions were not answered by all the respondents, but no distinction was made between these questionnaires.

Findings:

1. Transcription, which was part of the evaluation section of first-semester shorthand, was the only category receiving less than a majority of favorable responses. A significant 28 percent were opposed while 48 percent were in favor.

2. The section on evaluation in Shorthand I received the strongest opposition; however, 65 percent favored the recommended procedures and only 18 percent opposed them.

3. Very little variation seemed to exist among opinions based on teaching experience of Shorthand I teachers. The Handbook's suggestions were favored in the following order: (a) teachers of five to eight years' experience, (b) teachers with two to four years' experience, (c) teachers with more than eight years' experience, and (d) teachers with fewer than two years' experience.

4. The range was greater in opinion among Shorthand II teachers. A significant difference did exist between the most favorable group and the least favorable group. The Handbook's suggestions were favored in the following order: (a) teachers with more than eight years' experience, (b) teachers with five to eight years' experience, (c) teachers with fewer than two years' experience, and (d) teachers with two to four years' experience.

5. When the two groups were considered together for Shorthand I and II, there was a significant difference in the degree of support given by teachers with fewer than

five years' experience and those with five or more years' experience.

Conclusions:

1. On the whole, the methodology, suggestions, and standards given in the shorthand sections of the Handbook were accepted by shorthand teachers of Arizona.

2. Although evaluation of Shorthand I was the most controversial, it was still favored by the teachers.

3. Substantial opposition was not received by either Shorthand I or Shorthand II teachers. Furthermore, Shorthand II received very few opposing opinions.

4. The suggestions in the Handbook increased in acceptance by experienced teachers.

5. The overwhelming favorable response on the questionnaire on the Handbook would indicate that the committee which formulated the shorthand section were well selected.

Recommendations:

1. The wide distribution and use of the Handbook throughout high schools in Arizona should be encouraged.

2. A follow-up study should be made in two or three years to determine if shorthand teachers in Arizona are actually using the standards and methodology suggested in the Handbook.

Abstractor's Comments:

1. For each set of figures two tables were given--one showing composite scores and one showing a breakdown according to experience of teachers. The number in these tables are not in agreement. Under New Matter on Table XV there are 26 people who Strongly Favor; however, when broken down according to experience, only 23 Strongly Favor. There are many instances of this and it seems to the abstractor that they should be in agreement.

2. Since all teachers did not reply to all questions, a column showing number not replying or total replying would have aided in the interpretation of the tables.

3. On page 40 the statement is made that only 15 opposing opinions were received in all sections of second-year of shorthand; however, I count 16 Strongly Opposed opinions tabulated on the tables for second-year shorthand.

4. As a result of the type of study conducted, no bibliography was given.

5. It would appear to the abstractor that similar Handbooks would be beneficial to teachers in other states. It was surprising to me that the Handbooks were favored more by experienced teachers than unexperienced teachers.

Abstract 48

Allan Doerr, "An Analytical Study of Selected Factors of the Gregg Shorthand System, Diamond Jubilee Series, to Evaluate the Degree of Difficulty Students Have in Adopting These Selected Factors" (unpublished Ph.D. dissertation, New York University, 1967), p. 167.

Problem:

"The problem of this investigation was to study and evaluate selected principles of the Gregg Shorthand System, Diamond Jubilee Series."

Hypotheses:

1. "Students will construct a greater number of correct shorthand outlines for both familiar words and new words when writing a dictated list of isolated words as compared to the number of correct shorthand outlines they will write for familiar words and new words when they are writing under pressure of continuous dictation in the form of context material."

2. "After experience in shorthand instruction, students will apply the special principles for writing shorthand outlines when they are writing familiar words; but they will not apply these same principles when constructing outlines for new words."

3. "Students will be able to transcribe in long-hand a shorthand outline written from dictated material even though the outline does not strictly adhere to the special principles of the shorthand system."

Procedure:

1. From a population of 306 students enrolled in nine first-year shorthand classes, 100 students were selected using the following procedure:

- a. An alphabetical list was made by each participating teacher and each student was assigned a first-marking period grade.
- b. A number was assigned to each student.
- c. a and b were recorded on cards and the cards were sorted into five groups as follows: Group A, 93-100; Group B, 85-92; Group C, 77-84; Group D, 70-76; and Group E, 0-69.
- d. The percent of the total population represented by each group determined the number of students selected from each group.

2. Since it was not known by the participating teachers which students had been selected, the exercises were given to all students. Some of the students were absent for a particular exercise; therefore, the sample for the first group was 100, 94 for the second exercise, and 91 for the third exercise.

3. A questionnaire was developed and mailed to shorthand teachers. On the basis of the responses, the following principles were selected for use in this study:

- a. Right "s"
- b. Left "s"
- c. Under "th"
- d. Over "th"
- e. "nd" and "nt" blend
- f. "md" and "mt" blend
- g. "den" and "ten" blend
- h. "dem" and "tem" blend
- i. "mem" and "men" blend
- j. "rd" and "ld" blend
- k. "rt" and "lt" blend

4. The two textbooks used in beginning shorthand were read and each new word containing one of the eleven principles was typed on a card. As the words reappeared, a tally mark was made on the card. A new card was prepared for each new word containing a principle. These words were known as familiar words.

5. The investigator read the Gregg Shorthand Dictionary to locate words applying the principle but that had not been found in one of the textbooks. When such a word was located, a card was made and these words formed

what was known as a new word card file. Using the Silverthorn list (64b), it was determined in which group each new word appeared. If the new word did not appear at all, it was removed from the group. The remaining cards were alphabetized and these words were known as new words.

6. Each exercise consisted of two parts--a word list and a business letter. Each word list contained a total of 50 words. Eleven of the words were new words and eleven were familiar words (one for each principle), and the other 28 words were selected from the word lists presented in the Business Teacher. None of the selected words were used on the word lists or in the letters. Both parts of each exercise were transcribed in longhand.

7. The tests were given three different times. The first was upon completion of the theory, the second about eight weeks later, and the third at the end of the first year. The context material was given before the word list and the speed of dictation was left up to the discretion of the teacher. However, maximum time limits were set. Twenty-five minutes were allowed for transcribing each exercise.

8. After each test was administered, the data were recorded on the tally sheet and computations were made in order to arrive at the answer to the questions posed in the study.

Findings and Conclusions:

1. The percentage of familiar words written according to the principles ranged from 5.3 to 93.4 percent. For new words the percentage ranged from 0.0 to 81.3 percent.

2. The percentage of new words written according to the selected principles ranged from 5.3 to 73.6 percent. Those new words written exactly as shown in the dictionary ranged from 0.0 to 37.4 percent.

Conclusion: More students apply the principles in writing familiar words than when writing new words.

3. Most students have difficulty choosing the correct "s". The students wrote fewer correct outlines containing the right "s" on the third test than on the first test. The number of new words written correctly using the right "s" increased from the first to the third test. In no cases did the students write more than 39 percent of the words correctly using the left "s".

Conclusion: Although students tend to use the right "s" in writing familiar words, both are interchanged in writing new words.

4. The number of words written correctly using the under and over "th" increased from the first to the third test. The under "th" was used more frequently in writing familiar words in context. In correct outlines written using the under "th", the percentage increased in correct outlines written in the word list from the first to the third test; but the percentage decreased in the context material. The use of the over "th" was reversed.

Conclusion: Students tend to use the under "th" in writing familiar words, but the over "th" for writing new words in context material.

5. The correct uses of the "nd" and "nt" blend decreased from test one to test three. Furthermore, this blend was not used in more than 40.7 percent of the outlines in the exercise.

Conclusion: The students tend to write out the individual strokes rather than use the blend.

6. The "md" and "mt" blend was used twice as much in familiar words in the third test as in the first. The blend was used in 45.1 percent of the new word outlines in the word list, but only 13.2 percent of the words in the context material.

Conclusion: Students tend to use the blend in writing familiar words but write out the characters in constructing new words.

7. Although the students wrote more words correctly using the "den" and "ten" blend on the third test than on the first test, in no instance was the blend used in more than 48.4 percent of the outlines. This was also true for constructing familiar words.

Conclusion: Students tend to write the individual strokes rather than using the blend.

8. The students wrote more than 60 percent of the familiar words on the word lists using the "dem" and "tem" blend. In other instances the blend was used in less than 42.9 percent of the outlines.

Conclusion: Students tend to use the blend in writing familiar words; otherwise, they tend to write out the individual strokes.

9. In writing familiar words, the students used the "mem" and "men" blend in writing 47.3 percent of the words in word lists and 61.5 percent of the words in context material. However, this blend was used in writing fewer than 30 percent of the new words.

Conclusion: Students tend to use the blend for constructing familiar words, but write out each stroke in constructing new words.

10. The "rd" and "ld" blend was used in writing 93.4 percent of the familiar words in the word lists and 6.48 percent of the words in the context material. However, the blend was used less than 25 percent of the time in writing new words. The number of correct outlines written using "rt" and "lt" ranged from 45.1 to 60.4 percent in the third test.

Conclusion: In constructing familiar words, students tend to use the "rd" and "ld" blend; otherwise, it is written out. The possibility of them using the "rt" and "lt" blend is slightly greater than chance.

Implications:

1. On several of the tests, fewer principles were applied correctly on the last test than on the first. This tends to suggest that shorthand principles need to be stressed throughout the entire first year of instruction.

2. If the students are going to learn to construct new words quickly, the instructional materials need to provide more practice in constructing outlines for new words.

3. Since many of the problems seem to exist from the fact that students are given a choice between possible strokes for one sound, perhaps there should be only one stroke for each sound. In other words eliminate decision making.

Recommendations:

1. A similar study is needed using samples from other geographic areas.

2. If the above study reveals the same findings as the present study, Gregg Shorthand should be revised incorporating the changes suggested. The effectiveness

of the new system should be compared to Diamond Jubilee using a control group and an experimental group.

3. The two systems could also be compared using the techniques employed by Palmer (57b).

4. An experiment may also be completed using the two systems to test teaching methodologies. The control group would use the rules approach and the experimental group the no rules approach.

Abstractor's Comments:

1. The findings of this study should be made known to all shorthand teachers and authors of Gregg Shorthand textbooks.

2. This study further emphasizes the necessity for stressing theory during the entire first year of shorthand instruction.

Abstract 49

Nellie Ellison Dry, "A Comparison of the Memory Load of the Simplified and Diamond Jubilee Editions of Gregg Shorthand" (unpublished Ed.D. dissertation, The Pennsylvania State University, 1967), p. 71.

Problem:

The problem of this study was made to compare the memory load of the Simplified and Diamond Jubilee editions of Gregg Shorthand.

Procedure:

1. The first 4,949 most frequently used words from the Silverthorn List (65b) were typed on index cards in frequency order. The cards were arranged alphabetically within groups of 1,000.

2. The outlines were then written for all words according to the Word List of Gregg Simplified (31b) and Gregg Shorthand Dictionary, Diamond Jubilee (29b), with the Simplified form written to the left of the word and the Diamond Jubilee form written to the right.

3. Each lift of the pen was counted a stroke and each character in the word was counted a stroke. The number of strokes in each Simplified and Diamond Jubilee outline were written beside the outline.

4. The words were classified into groups to determine the effect on the memory load of various groups of words that are called "memory words." The three categories for classifying memory load words were: brief forms and deviatives, abbreviated forms and deviatives, and exceptions to basic principles. The number of words in each group were counted, and tables were prepared to show a comparison of the Simplified and Diamond Jubilee systems.

Findings:

1. A total of 997 of the first 4,949 words on the Silverthorn list were changed in the Diamond Jubilee system, which represented a 20.1 percent of change.

2. In the first 4,949 words on the Silverthorn list, there was a 4.05 percent stroke increase in the Diamond Jubilee edition.

3. The 4,949 words contain 229 Simplified brief forms and 154 Diamond Jubilee brief forms. This represents a 32.8 percent reduction in brief forms.

4. The list contained 445 Simplified derivatives compared to 288 Diamond Jubilee derivatives, for a reduction of 35.3 percent.

5. The list contained 91 Simplified abbreviated forms compared to 49 for Diamond Jubilee, which represents a 46.2 percent decrease.

6. In writing the 4,949 words, there were eight deviations from basic principles in the Simplified edition and only two deviations in the Diamond Jubilee edition, which represents a 75 percent decrease in exceptions.

7. There were 13 Simplified rules changed and 10 eliminated in Diamond Jubilee.

8. The list contained 55 Simplified prefix forms and 60 suffix forms compared to 50 Diamond Jubilee prefix forms and 45 suffix forms. Furthermore, six Simplified prefix forms and 16 suffix forms have been changed or eliminated in Diamond Jubilee.

Conclusions:

1. Although the number of strokes necessary to write the words increased in Diamond Jubilee, there is a reduced memory load required to write the 4,949 words on the high-frequency list.

2. The Diamond Jubilee edition holds memorized forms to a minimum. More words are written by simpler, fuller, and more exact shorthand forms than in the Simplified edition.

3. Although an average of one-third more stroke per word is needed to write Diamond Jubilee outlines, this does not mean that Simplified outlines can be written faster and easier.

4. Diamond Jubilee shorthand should speed up the learning of shorthand theory and, thus, allow for more time to develop dictation and transcription skills.

Recommendations:

1. The notes of shorthand office workers made from Simplified and Diamond Jubilee outlines should be analyzed to determine the greater degree of accuracy.

2. Shorthand notes made by students from Diamond Jubilee should be analyzed to determine those areas that need to be stressed when teaching theory.

3. A comparison study is needed regarding the length of time necessary to teach theory.

4. A comparison study is needed to determine whether students will perform better with Diamond Jubilee or Simplified Shorthand.

Abstractor's Comments:

1. Since many teachers believe that Diamond Jubilee Shorthand slows the students down in their ability to record dictation, studies are needed, comparing the performance of students using Simplified with an equated group using Diamond Jubilee.

2. The average increase of one-third stroke per word does not appear to be a large enough writing load to slow students down very much, if any. However, comparison studies could prove or disprove this belief.

3. The present study should be of interest to all shorthand teachers.

4. The findings of this study may be used effectively in a shorthand methods course and/or a course in improvement of shorthand instruction.

Abstract 50

Charles Howard Duncan, "The Relationship Between Listening Ability and Shorthand Achievement" (unpublished Ed.D. dissertation, University of Pittsburgh, 1959), p. 100.

Problem:

The problem of this study was to determine the relationship between listening ability and the achievement in shorthand by high school students studying the Gregg system.

Procedure:

1. Correlation coefficients were calculated using the product-moment method to determine relationships between shorthand achievement of the total group and the following: (a) listening ability, (b) immediate recall, (c) ability to follow directions, (d) ability to recognize transitions, (e) ability to recognize word meanings, (f) lecture comprehension, and (g) syllabic enumeration.

2. The various tests used to gather the desired information were: Brown-Carlson Listening Comprehension Test, Form Am; The Syllable Enumeration Test; and The Shorthand Dictation Test.

Brown-Carlson Listening Comprehension Test, Form Am: This test contains 76 items divided into five subtests. The test is mostly oral, with the teacher reading the test and answers and the students selecting the best answer.

The Syllable Enumeration Test: This test was constructed by the investigator and was composed of 50 words ranging in content from 1 to 6.

The Shorthand-Dictation Test: Three tests for testing shorthand achievement were constructed from material printed in the Business Teacher. The three letters

were dictated continuously at speeds of 90, 100, and 110 words a minute, and 13 minutes and 20 seconds were allowed for transcribing all three letters. This would be a transcription rate of approximately 22½ words a minute, if all letters were finished.

3. The three tests were administered by taped recordings to 459 shorthand students in 9 different high schools. The populations ranged from 19 to 87; therefore, some of the confidence limits are wide.

Findings:

1. The correlation coefficient between the scores on the Brown-Carlsen Listening Comprehension Test and The Shorthand-Dictation Test ranged from .20 to .63, with a correlation coefficient of .36 for the entire population.

2. The correlation coefficient between immediate recall and shorthand achievement ranged from .14 to .41, with a correlation coefficient of .23 for the total population.

3. The correlation coefficient between ability to follow directions with shorthand achievement ranged from .10 to .56, with a correlation coefficient of .27 for the total population.

4. The correlation coefficient between recognizing transitions and shorthand achievement ranged from .00 to .43, with a correlation coefficient of .17 for the total population.

5. The correlation coefficient between lecture comprehension and shorthand achievement ranged from .11 to .40, with a correlation coefficient of .23 for the entire population. This was very similar to the correlation coefficient between immediate recall and shorthand achievement.

6. The correlation coefficient between ability to syllabicate spoken words and shorthand achievement ranged from .04 to .41, with a correlation coefficient of .19 for the entire population.

7. Since the scores on the two subtests Recognizing Transitions and Immediate Recall were considerably lower than scores on other subtests, these two were deleted and the revised scores were correlated with shorthand achievement scores. This revealed a range of .23 to .45

for the nine schools, with a correlation coefficient of .36 for the total population.

Conclusions:

1. The findings of this study did not indicate a high relationship between shorthand achievement and listening ability.

2. The findings tend to indicate that shorthand achievement, at least at the third-semester level, depends on factors other than memory.

3. The low correlation between shorthand achievement and ability to recognize exact word meanings tends to indicate exactness of understanding of words that have been dictated may not be essential to successful use of shorthand as a recording device.

4. Syllabication, ability to follow directions, and ability to recognize transitions have little, if any, relationship to shorthand achievement.

Recommendations:

1. That similar studies be conducted on other levels of shorthand achievement not tested in this study.

2. That a similar study be conducted using equated groups, with one being the control group and one the experimental group.

3. That other studies be conducted determining the relationship of listening ability to other business subjects.

4. That other factors of listening ability be identified and their relationship to achievement in shorthand determined.

Abstractor's Comments:

1. The investigator pointed out that many of the students identified as superior in shorthand achievement also scored superior in listening ability. However, cases were also found where superior listening ability could be associated with the lower shorthand achievement scores.

2. Further research needs to be done similar to the present study in order to validate the findings of this study.

Abstract 51

Brehaut Robert Edmunds, "A Study of Shorthand Prognosis at Jordan Senior High School, Long Beach, California" (unpublished Master's thesis, The University of Southern California, 1957), p. 57.

Problem:

The problem of this study was to compare the correlations between certain factors and success in shorthand.

Procedure:

1. The Turse Shorthand Aptitude Test was administered to 132 prospective shorthand students for the fall of 1956. Only 113 of these officially enrolled in shorthand and 18 of these had dropped by the end of the first semester.

2. Correlation coefficients were calculated between the scores made on the Turse Shorthand Aptitude Test and the grades earned by the 95 students who completed the first semester of shorthand. Grades in sophomore English, first semester shorthand, and intelligence quotients were also compared.

Summary:

1. The correlation coefficient between the Turse Test and the first semester shorthand grades was .33. The correlation is small but definite.

2. There seems to be some relationship between a high IQ and shorthand success. However, according to the findings of this report shorthand success cannot be predicted by IQ for average and below average groups.

3. Lack of success as shown by low grades in shorthand is a factor which influences the shorthand drop-out rate.

Conclusions:

1. No accepted method has been determined for predicting shorthand achievement.
2. The correlation between the Turse Test and the achievement for 113 shorthand students for the school year 1956-57, was only slight and could be disregarded altogether.
3. There was a slight relationship between IQ scores and shorthand achievement of the 113 students selected for this study.
4. The relationship between English grades and shorthand grades was fairly high. Approximately 42 percent of the students earned the same grade in both courses.
5. Those students doing poorly had a tendency to dropout rather than remain in the course and try to improve their skill.

Recommendations:

1. If students are to be restricted from enrolling in shorthand, this should be based on grades earned in sophomore English.
2. A study is needed to determine, if possible, what methods to employ to encourage students to remain in shorthand for a full year before dropping.
3. Investigations should be made to determine the possibility of introducing different shorthand systems in order to reduce the dropout rate.

Abstractor's Comments:

1. In one place the writer indicates that 18 dropped before the end of the first semester and in another place he indicates 12 dropouts.
2. The writer states in the summary that the correlation between sophomore English and shorthand grades earned at the end of the first semester was highest, but nothing in the findings shows this correlation.
3. This study points out, as several others have, that one of the best predictors of shorthand success is

available to all teachers for all students, which is sophomore English grades. This predictor should not be used solely as the predictor of success, but used correctly could help reduce dropout and failure rates.

Abstract 52

Robert Daniel Edwards, "A Study of the Progress of Students Taught with Taped Dictation as Compared to Teacher Dictation in Beginning Gregg Shorthand" (unpublished Master's thesis, Bloomsburg State College, 1965), p. 45.

Problem:

This study was conducted in an attempt to determine if there is a significant difference between the progress of students taught with taped dictation as compared to students taught with "live" teacher dictation.

Hypothesis:

"There is a direct relationship between transcription proficiency and taped dictation, and rate of growth and taped dictation as measured by the selected dictation tests given to the two groups of beginning Gregg Shorthand."

Procedure:

1. The present study involved 30 students, 28 girls and 2 boys, who were enrolled in two tenth grade shorthand I classes at Palisades High School during the school year 1964-65. These students were selected and equated from 55 students based on the Iowa Test of Educational Development--Composite Score and sex.

2. There were 14 girls and 1 boy in the control class and 14 girls and 1 boy in the experimental class. The two classes were taught by the same teacher and from the same material and lesson plan. The only variable in the experiment was that the experimental class was given dictation from multi-channel dictation equipment and the control class was given "live" teacher dictation.

3. Material for use in this study was obtained from the student's cumulative records, five three-minute

dictation and transcription tests; and related information from theses and dissertations, books, journals, and magazine articles.

4. The five three-minute dictation-transcription tests were dictated at speed levels of 30, 40, 50, 60, 70, 80, 90, and 100 words a minute and the minimum passing score was 95 percent accuracy. The pre-test was given at speeds of 30, 40, and 50 words a minute. The three progress tests were given four weeks apart at speeds which ranged from 30 to 90 words a minute. The final test was given the last week of May and covered speeds from 40 to 100 words a minute.

Findings:

1. The mean dictation speed for three-minutes on the pre-test was 36.6 for the control group and 36.0 for the experimental group. The difference was not significant.

2. The difference in the mean dictation speed for three-minutes on three progress tests was .51 on Test 1, 1.79 on Test 2, and 1.22 on Test 3. None of these differences were significant at the 5 percent level.

3. The difference in mean dictation speed on the final test was slightly higher for the experimental group, but was not significant.

4. When comparing difference in mean score growth from pre-test to final test, the experimental group was significantly higher at the 1 percent level on progress test 2 and at the 5 percent level on the final test.

5. A further analysis revealed that 33.4 percent more students in the experimental class were able to achieve 60 words a minute for three-minutes transcribed with 95 percent accuracy.

Conclusions:

1. The findings tend to indicate that taped dictation as compared to "live" teacher dictation is not significantly related to words per minute transcribed at 95 percent accuracy, but is definitely significantly related to student growth and progress.

2. Multiple-channel dictation equipment seems to be a valuable instructional aid that is especially helpful in providing for individual differences in shorthand learning ability.

Recommendations:

1. That further study be made to determine the effect of background music with taped dictation, use with larger groups, and use in other business subjects.

2. That taped instruction should be used as a valuable tool in relieving the teacher of routine dictation and permitting more time for creative work.

3. That tapes used in presenting dictation be prepared ahead of time rather than during the semester of teaching, as was the case in this study.

4. Since the student response to use of taped dictation was so favorable, further study is needed to find techniques that will increase efficiency in developing shorthand writing skill.

Abstractor's Comment:

As have several other studies involving multi-channel equipment, this study adds reliability to the use of multi-channel dictation equipment as a valuable teacher aid in shorthand.

Abstract 53

Marvin Ehley, "Status of Shorthand in the Fully Accredited High Schools of North Dakota, 1960-1961" (unpublished Master's thesis, University of North Dakota, 1961), p. 103.

Problem:

The problem of the study was to determine the status of shorthand in the fully accredited high school of North Dakota, 1960-61.

Procedure:

1. A survey was made of the related literature from 1948 to 1960 and pertinent information was summarized on 5 x 8 cards.

2. A questionnaire-opinionnaire was constructed and revised several times. The questionnaire-opinionnaire was submitted to Dr. Paul S. Lomax, a visiting professor at the University of North Dakota, and to the major advisor for the report. After each review, critical revisions were made before final copies were mimeographed. The instrument was designed to gather information on the following topics: (a) data on shorthand, (b) data on the shorthand teachers, and (c) opinions on shorthand.

3. A questionnaire-opinionnaire and cover letter were mailed to every shorthand teacher of every fully accredited high school in North Dakota. Also, an opinionnaire was mailed to every administrator of every accredited high school in North Dakota.

4. After three follow-up letters were mailed, 147, or 93 percent, of a total of 158 were returned by the shorthand teachers. Three follow-up letters were also mailed to the administrators in an attempt to get 100 percent reply, which was accomplished.

5. Of the 147 returned questionnaire-opinionnaire, 19 were unusable, the most common reason was we don't offer shorthand. Therefore, 129 were used in the final analysis. All 152 opinionnaires mailed to administrators were usable.

Conclusions:

1. In those schools offering shorthand, 7 percent of the total enrollment was enrolled in Shorthand I and over 2 percent were enrolled in Shorthand II. All Shorthand II students were girls; whereas, over 3 percent of Shorthand I enrollment was boys. Gregg shorthand was the only system used.

2. As a general rule, the classes were 55 or 60 minutes in length. The texts most frequently used were: first semester, Gregg Shorthand Manual Simplified; second semester, Gregg Dictation Simplified; and third and fourth semesters, Gregg Transcription Simplified. Workbooks were seldom used.

3. Admission requirements for Shorthand I was typewriting and in some cases a "C" average in English or over-all grade point was required. For Shorthand II, most frequently mentioned, was a "C" average in Shorthand I. However, less than 40 percent indicated any admission requirement for Shorthand I.

4. Most frequently transcription was taught during the second semester or fourth semester. Some teachers used the third and fourth both.

5. The aids used ranked in use as follows: chalkboard, bulletin board, records, awards, charts, motion pictures, dictaphones, tapes, class trips, filmstrips, teletrainers, and flash cards.

6. Textbook reading rates most frequently required were: first semester, 80 words per minute; second semester, 100 words per minute; third semester, 140 words per minute; and fourth semester, from 150 to 200 words per minute. The reading rates required for reading from notebooks were very similar.

7. The most frequently required rates from practiced material were: first semester, 60 or 80 words per minute; second semester, 80 and 100 words per minute; third semester, 80 to 120 words per minute; and fourth semester, 120 words per minute.

8. The most frequent transcription speed requirements for first semester were: textbook material, 15 words per minute; practiced material, 15 words per minute; and new material, 10 to 20 words per minute. For second semester the requirements were: textbook material, 25 words per minute; practiced material, 15 words per minute; and new material, 15 words per minute. For third semester the requirements were: textbook material, 30 words per minute; practiced material, 30 words per minute; new material, 20 to 30 words per minute. The requirements for fourth semester were: textbook material, 30 to 40 words per minute; practiced material, 30 to 45 words per minute; and new material, 15 to 25 words per minute. The dictation for testing transcription rates ranged from 3 to 5 minutes in length, with 95 percent accuracy required on all levels.

9. Although many percentage of failure in Shorthand I was lower, some were as high as 20 percent. No failures were reported by 28 of the 89 Shorthand I teachers and 16 of the 23 Shorthand II teachers.

10. Experience and professionalism of the shorthand teachers. Business experience had been acquired by only 32 percent of all teachers surveyed. Of the 147, 85 percent held bachelors' degrees, 12 percent held masters' degrees, and the rest failed to respond.

Typewriting was the most frequently business business subject taught other than shorthand. Others included Bookkeeping and Office Practice ranking second and third. Physical education and psychology were the subjects most frequently taught outside the business area.

The Balance Sheet was the most frequently received, with the Business Teacher, Today's Secretary, and Business Education World ranking in that order respectively.

Although over 60 percent belonged to the National Education Association and 20 percent were members of United Business Education Association, only 6 percent were members of the state organization for business teachers.

11. Opinions on Shorthand. Sixty-one percent of the administrators and 60 percent of the teachers believed those students planning to be office workers should have shorthand.

Shorthand programs in high schools were considered inadequate by 31 percent of the administrators and 38 percent of the teachers.

Shorthand is stressed more for vocational use than personal use was indicated by 78 percent of the administrators and 73 percent of the teachers.

Eighty-nine percent of the administrators and 67 percent of the teachers believed that the "poorer" students were not being encouraged to enroll in beginning shorthand.

Seventy-two percent of the administrators and 82 percent of the teachers indicated that shorthand will never be replaced by Briefhand and Notehand.

The voice writer will someday replace the stenographer in our business office was agreed to by 25 percent of the administrators and 22 percent of the teachers.

Eighty-two percent of the administrators and 84 percent of the teachers believed that shorthand will not be dropped from high school curriculums. Furthermore, 95 percent of the administrators and 96 percent of the

teachers believed it should be presently offered in our high schools.

Shorthand was favored of being offered in the 11th and 12th grades by 69 percent of the administrators and 79 percent of the teachers. A few believed it should be offered only in the 11th grade and only in the 12th grade by a few.

Since only 59 percent of the administrators and 49 percent of the teachers favor a one-year shorthand vocational course, it appears that both consider a one-year course inadequate for vocational purposes.

Recommendations:

1. Community surveys should be made to determine the employer's needs so that the shorthand curriculum can be adjusted to meet these needs.

2. If only one year of shorthand is going to be offered, this should not be before the 11th grade and preferably the 12th.

3. Since transcription is the ultimate goal, more emphasis should be placed on the total transcription process. Furthermore, mailability should be more strongly stressed.

4. All shorthand students should become acquainted with voice writing machines and other automated equipment that they will be confronted with in the modern office.

5. Admission requirements should be more clearly defined, and dictation requirements should be more widely agreed upon by teachers. These would no doubt help raise standards and create more uniformity.

6. Shorthand teachers and administrators should maintain close working relations.

Abstractor's Comments:

1. Similar studies should be made in every state throughout the United States.

2. Studies such as this help break down the stigma that shorthand is dying and on the way out.

Abstract 54

Shirley Ann Eiken, "The Effect of Test Anxiety on Achievement in First-Year Shorthand Classes" (unpublished Ed.D. dissertation, Colorado State College, 1965), p. 81.

Problem:

The problem of this study was to determine the difference, if any, in the anxiety feelings of first-year shorthand students in general testing situations and in shorthand situations.

Procedure:

1. The final analysis of this study involved 210 first-year shorthand students in nine Colorado high schools. The sample was comprised of 17 classes of juniors and seniors, taught by 10 teachers.

2. This study was concerned with the relationship between general test-anxiety, shorthand test-anxiety, and shorthand achievement. Test anxiety was measured by means of the Test Anxiety Questionnaire (13b). Shorthand achievement was determined by means of a 3-minute shorthand dictation test.

3. The three scores were compared to determine the significant difference, if any, between general test-anxiety and shorthand test-anxiety; shorthand achievement as related to general test-anxiety levels and shorthand test-anxiety levels; and test-anxiety levels of high shorthand achievers and low shorthand achievers.

4. The Test Anxiety Questionnaire contains 52 items, 4 of which are fillers and are not scored. The split-half reliability of the test has been reported as .898 and .90. This test was administered twice to the same students approximately two months apart. The first time the questionnaire was answered they were instructed to think in terms of all testing situations. The second time they were instructed to think in terms of shorthand testing only. Both tests were administered by the investigator.

5. The shorthand achievement tests were taken from those developed by Manwaring (50b). Manwaring developed a series of 3-minute tests, Form A and B, at 60, 70,

80, and 90 words a minute. A reliability of .69 had been reported on the dictation test at 70 words a minute, which were used in the present study. The two shorthand tests were dictated by the shorthand teachers on two consecutive days. No time limit was set on transcription and transcripts could be in either longhand or typewritten. The transcripts were checked verbatim. Errors in paragraphing, capitalization, punctuation, spelling, or English mechanics were not included.

6. Various statistical computations were made in analyzing the data gathered. Some calculations made were: means and standard deviations, t-test, analysis of variance, and the Pearson product-moment correlation coefficient.

Findings:

The acceptance or rejection of the following six hypotheses were used as the bases for drawing conclusions:

1. "The test-anxiety level in general testing situations does not differ significantly from the test-anxiety level in shorthand testing situations."

The t-test revealed a significant difference between general test-anxiety and shorthand test-anxiety; therefore, the hypothesis was rejected.

A further analysis revealed a correlation coefficient of .622 indicating a positive relationship between general test-anxiety and shorthand test-anxiety for all subjects.

2. "The shorthand test-anxiety levels do not differ significantly among the four general test-anxiety groups."

Since an analysis of variance showed that the level of shorthand test-anxiety differed significantly among the general test-anxiety groups, the hypothesis was rejected.

3. "Shorthand achievement does not differ significantly among the four general test-anxiety groups."

The acceptance of this hypothesis was requested, since no significant difference in shorthand achievement was found among the general test-anxiety groups.

4. "Shorthand achievement does not differ significantly among the four shorthand test-anxiety groups."

An analysis of variance revealed a significant difference in shorthand achievement among the shorthand test-anxiety groups. Furthermore, the correlation coefficient of .254 between the two was small but significant.

5. "The general test-anxiety level of high school achievers does not differ significantly from the general test-anxiety level of low shorthand achievers."

A t -test revealed no significant difference in the general test-anxiety level of high and low shorthand achievers; therefore, the hypothesis was accepted.

6. "The shorthand test-anxiety level of the high shorthand achievers does not differ significantly from the shorthand test-anxiety level of the low shorthand achievers."

Since the higher achievers had a significantly lower level of test-anxiety, the hypothesis was rejected.

7. The acceptance of hypothesis 5 and rejection of hypothesis 6 indicates that the Test Anxiety Questionnaire was more successful in differentiating between anxiety groups in regard to high and low achievement in shorthand than when the test was applied to general testing situations.

Conclusions:

1. On the basis of the findings in this study, it may be concluded that anxiety is positively related to test performance. Those students in the highest shorthand test-anxiety group made a significantly greater number of errors on the shorthand achievement test than those students in the lowest shorthand test-anxiety group.

2. A group of students do not show the same test-anxiety for all testing situations. The shorthand students showed more test-anxiety toward general testing situations than shorthand testing situations.

3. The Test Anxiety Questionnaire performed better when specifically applied to shorthand testing situations than when applied to general testing situations. This may indicate that it may not be versatile enough to measure accurately test-anxiety in all testing situations.

Recommendations:

1. Since students of low-anxiety achieve better in shorthand than students of high-anxiety, shorthand teachers should strive for an atmosphere that creates less anxious students.

2. Teachers should realize that test scores do not always reveal the true ability of the students and exercise caution in interpreting these test results.

3. Research is needed comparing deliberate increase or decrease in test-anxiety. In this manner, perhaps the optimum level of anxiety may be determined.

4. Research needs to be made of the variables which contribute to low and high test-anxiety in the classroom.

5. That a test be designed specifically for measuring anxiety in shorthand testing situations in order to measure more closely the shorthand test-anxiety.

Abstractor's Comments:

1. The findings of this study may perhaps be useful in a shorthand methods course and in a course for improvement of shorthand instruction.

2. The students may have been less anxious the second time they took the test than the first; therefore, this would account for the students showing less test-anxiety for shorthand testing situations than for general testing situations.

Abstract 55

Jean T. Ellingson, "An Analysis of Errors Made in Shorthand Outlines and the Transcript to Determine Critical Nature of Errors" (unpublished Master's thesis, Mankato State College, 1966), p. 53.

Problem:

The problem was to analyze shorthand outlines which caused hesitations in transcription and make a comparison with those words which did not seem to cause difficulty.

Procedure:

1. This study involved 57 second-year shorthand students from four schools--three in Minnesota and one in Iowa.

2. Two letters were constructed which contained illustrations of the "Most Frequent Errors in Application of Principles" as listed by Fermenich (18b). Of the words used, 60 percent were included in the first 500 words of the Silverthorn (63b) list and nearly 90 percent were in the first 4,000 words. The syllabic intensity of the first letter was 1.5 and the second one was 1.39. The two letters made a total of $4\frac{1}{2}$ minutes of dictation at 60 words per minute.

3. A letter was mailed to each participating teacher explaining the study and giving the instructions for the tests. Outlines causing hesitation in transcription were to be circled by the student.

4. A list was compiled of all words in each letter and classified according to one of the following: whether or not the word caused hesitation in transcription; whether the word was accurately or inaccurately written; whether it was transcribed accurately or inaccurately; omitted in the shorthand or transcript; and whether the errors in outlines involved vowels, consonants, or proportion.

5. An analysis was made in the following areas of all shorthand notes and transcripts to determine possible causes of difficulty in transcription:

- a. The accuracy of shorthand and transcripts.
- b. The types of shorthand errors.
- c. The syllabic intensity of the dictation material.
- d. The word frequency of dictation material.

Findings:

1. A total of 113 correctly written words were circled out of 11,826 words and 336 were circled out of 1,436 incorrectly written outlines.

2. Only 310 words were circled out of 12,926 correctly transcribed words and nearly 75 percent of those circled were written inaccurately.

3. A correlation coefficient of .97 was found between inaccurately written outlines and inaccurately and difficulty of transcription. This was significant at the 1 percent level.

4. Of a total of 1,436 errors, 1,225 were consonant errors and 930 were vowel errors.

5. Although the syllabic intensity of all dictation material was 1.45, those circled words causing hesitation in transcription had an average syllabic intensity of 3.10.

6. In the first 1,000 words of the Silverthorn list, only two were circled five or more times and 77 percent of the dictation material contained vocabulary words in the first 1,000 words.

7. Although only 10.34 of the dictation material fell in the low frequency rank, 57.89 percent of the words transcribed incorrectly fell in this category.

Conclusions:

1. Accuracy of shorthand outlines seem to affect speed and accuracy of transcription.

2. Consonant errors seem to be more detrimental to transcription than vowel errors.

3. Circled words tend to have a high syllabic intensity, which indicates difficulty.

4. Transcription accuracy seems to be affected by low frequency words.

Recommendations:

1. The findings of this study tend to indicate that more emphasis should be placed on shorthand theory.

2. More emphasis should be placed on low frequency words.

3. A more comprehensive study is needed concerning variables which affect speed and accuracy of transcription.

Abstractor's Comments:

1. The findings of this study may be used very effectively in a shorthand methods course and an improvement of shorthand instruction course. If more shorthand teachers are made aware of the words which cause hesitations in shorthand transcription, more emphasis can be placed on the teaching of these words.

2. These low frequency words may appear so infrequently in dictation material that it would not be feasible to spend a lot of time teaching them.

3. Since the words which caused hesitation were of high syllabic intensity, syllabic intensity seems to bear a high relationship to difficulty in transcription.

Abstract 56

Dorothea F. Fahler, "Audio-Visual Aids--Their Selection and Help in Teaching Beginning Shorthand" (unpublished Master's thesis, Kansas State College of Pittsburg, 1964), p. 48.

Problem:

The problem of this study was to determine the method of selecting and use of certain audio-visual aids in the teaching of beginning shorthand.

Procedure:

1. Letters were mailed to film producers, universities having an organized audio-visual aids center, and various companies that promote audio-visual aids.

2. A large number of periodicals, monographs, leaflets, and pamphlets were reviewed and the selected articles related to audio-visual aids were summarized in this study. Other helpful information was received from audio-visual exhibits attended and brochures collected at professional meetings.

3. Visits were made to local distributors to study how the equipment could best be applied to shorthand teaching.

Summary of Findings:

1. This is the age of audio-visual aids in teaching, and the opportunity and desire to use audio-visual aids are greater than ever before.
2. The older types of audio-visual aids, such as chalkboard, bulletin board, flannel board, posters, and cartoons will never entirely be replaced by mechanical projection.
3. Much more care must be taken by the teacher in planning and selecting audio-visual aids for use in first-year shorthand. Audio-visual aids are not to replace the teacher and the textbook, but rather are to be used as tools to make the class work more interesting.
4. All audio-visual aids are not applicable to all teaching situations in shorthand; therefore, the shorthand teacher needs to prepare in advance and select those audio-visual aids which best fit the situation.
5. Many aids such as the chalkboard, bulletin board, flannel board, charts, posters, cartoons, and pictures are inexpensive and have unlimited possibilities.
6. Several of these audio-visual aids lend themselves to teacher demonstrations, and the students enjoy seeing the teacher perform.
7. Audio-visual aids should not be used merely as "busy work", but rather as aids in the teaching of a particular problem. Care should be taken in selecting, preparing, planning, and timing.
8. Opaque projectors and filmstrips are excellent for detailed study and discussion. The opaque projector is especially good in providing supplementary reading material and pictures so that all students can see them at the same time.
9. Phonograph records and dictation machines allow for a high degree of flexibility in providing for individual differences.
10. Audio-visual aids need not be complicated or complex for effectiveness.
11. If stored properly, audio-visual aids can be used over and over to make the student's work more interesting, meaningful, and practical.

Recommendations:

1. That an audio-visual budget be established by high schools to provide materials, equipment, and classroom facilities.
2. That teachers take advantage of opportunities for learning how to construct and use audio-visual materials and equipment.
3. That teachers develop an audio-visual education program for shorthand, using a variety of well-chosen aids and devices.
4. That audio-visual aids to be used in beginning shorthand to be prepared well in advance of their intended use.
5. That audio-visual materials be used to promote better teaching subject material, not as a means of giving the teacher a rest.
6. That shorthand teachers become familiar with various aids and, when given the opportunity, be able to choose the item best suited to meet the particular need.
7. That electronic dictating equipment be provided for individual differences in shorthand speed.
8. That each shorthand teacher be provided an overhead projector.
9. That a file cabinet be provided for storing and protecting the materials.
10. That a planning period be provided for each teacher so that the teacher can prepare and test audio-visual materials for providing the best possible learning situation for the beginning shorthand students.
11. That because this is the age of automation, the writer recommends increased use of audio-visual materials for motivation, variety, clarification, illustration, review, emphasis, interpretation, skill development, and greater effectiveness in shorthand instruction.

Abstractor's Comments:

1. This report has great potential for use in an undergraduate shorthand methods course. Every beginning

shorthand teacher and many experienced shorthand teachers would do well to read this study.

2. All teachers can make effective use of audio-visual materials to provide a more stimulating learning situation.

3. Audio-visual aids can be most beneficial, but as has been suggested time after time, they must be used discreetly.

4. Some good suggestions were made in this study for the use of audio-visual aids, particularly the overhead projector.

Abstract 57

Geraldine Mary Farmer, "An Experiment to Test the Validity of a Measure of the Difficulty of Shorthand Dictation Materials" (unpublished Ph.D. dissertation, University of Minnesota, 1961), p. 71.

Problem:

This study was conducted to test the validity of a measure of the difficulty of shorthand dictation materials against a criterion of errors made in transcribing notes written in Pitman shorthand.

Procedure:

1. Curtain (14b) found that the syllabic intensity of a random sample of published materials ranged from 1.31 to 1.67. Using this criterion as a selecting factor, 83 letters were selected from Hillestad's (38b) study for use in this study.

2. The 83 letters were then stratified into low, medium, and high groups according to syllabic count and vocabulary level. A sample of six letters were randomly chosen from the population of 83 letters. Since Hillestad's formula showed that vocabulary level was more closely related to predicting shorthand errors, the sample was selected so that more weight was given to vocabulary than to syllables.

3. The letters were dictated to 118 Pitman Shorthand--117 girls and 1 boy. The tests were administered between the dates June 1 to June 13, 1960, in the city of

Calgary, Alberta, Canada. All the students in this experiment used the same textbooks and instructional materials in their two years of shorthand instruction.

4. The seven classes and the three levels of tests were randomly assigned to three groups. In each class, one group took the two difficult tests, a second group the two medium difficult tests, and a third group the two easy tests. The letters were then assembled in two sets, Sets I and II. Each set contained a difficult letter, a medium letter and an easy letter. It was further randomly decided that four classes would take Set I on the first day and Set II on the second day. The remaining three classes would take Set II on the first day and Set I on the second day.

5. As a result of a consensus of the teachers administering the tests, 60 words a minute was selected as the dictation rate. The investigator was present in the class at the time the tests were given in order to record any irregularities.

6. The analysis of variance was used to test the hypotheses that no significant difference exists in the average number of transcription errors among letter or classes, and that the two variables do not interact. Scheffe's technique for analysis of variance was used to test for significance the contrasts of the difficult letters, letters of medium difficulty, and the easy letters. The scores of 96 students were used in the final analysis.

Findings:

1. There was a significant difference at the 1 percent level of confidence in the mean transcript error scores of the population.

2. There was also a significant difference at the 1 percent level in the mean transcript error scores of the letters of three levels of difficulty.

3. No significant difference was found in the interaction of the levels of difficulty with the six shorthand classes.

4. The mean number of errors of 73.69 of the hard letter and 44.19 of the letter of medium difficulty was significantly different at the 5 percent level of confidence.

5. The mean number of errors of 73.69 of the hard letter and 47.06 of the easy letter was significantly different at the 5 percent level of confidence.

6. The mean number of errors of 44.19 of the letter of medium difficulty and 47.06 of the easy letter was not significantly different.

Conclusions:

1. Those letters designated as difficult were found to be significantly more difficult than those letters of medium difficulty or easy letters. The letters of medium difficulty and easy letters were not significantly different. This would tend to indicate that the method of determining difficulty used in this study was successful in establishing two levels of difficulty.

2. The significant difference in the mean transcript error scores in the population was expected because factors such as teacher differences, different methods, socio-economic levels of students, and general achievement of students were not controlled.

3. On the basis of the findings of this study, it cannot be concluded that Hillestad's theory of difficulty is a valid predictor of errors in the transcript of Pitman shorthand notes. However, the findings of no significant difference between the mean errors on the easy letters and those of medium difficulty was most likely due to the influence of one class in which the easy letters were assigned randomly to the poorest students and the letters of medium difficulty were assigned to the best students.

Recommendations:

1. A study is needed in which each student is dictated all the letters rather than randomly assigning the letters to groups.

2. A study is needed using Hillestad's formula for predicting the number of errors students are likely to make on each of the 83 letters. Using the regression formula to distribute the errors, an investigator could designate the two letters nearest the mean of the distribution of predicted errors as letters of medium difficulty; the two letters nearest one standard deviation above as letters of high difficulty; and letters nearest

one standard deviation below the mean as letters of low difficulty.

3. A study is needed on the difficulty of dictation materials involving not only syllabic intensity and vocabulary level; but the effects of order of words, series of words, and lists of items as well.

4. A study is needed to determine the relationship of the number of errors made in recording dictation in shorthand to errors made in transcribing the notes.

5. A study is needed to develop a regression formula based on transcription errors. This would assign the proper weights to those errors contributing to transcription difficulty.

6. Studies are needed involving various dictation speeds to determine the affect speed has on difficulty of materials.

7. A study similar to this is needed to investigate the difficulty of shorthand dictation materials as revealed by errors in the transcript of Gregg shorthand.

Abstractor's Comments:

1. As was pointed out by the investigator, the results may have been different had each letter been given to all the students rather than by random selection. This would have provided a broader base from which to draw conclusions.

2. This study does point out, however, that the Hillestad formula does have merit.

Abstract 58

Leonora Feitelson, "A Survey of Selected Students at Central Connecticut State College who Studied Gregg Notehand While in High School to Determine the Value of the Notehand Course" (unpublished Master's thesis, Central Connecticut State College, 1966), p. 66.

Procedure:

1. After checking the records in the office of the Director of Admissions at Central Connecticut State

College, the names were disclosed of 50 students who had taken a course in Notehand in high school.

2. A cover letter and questionnaire were mailed to the 50 students. Two of the students withdrew from school and 5 made no response. After sending a follow-up letter, 43 out of 50, or 90 percent, were returned. Of these 43, 12 were males and 31 were females.

Findings:

1. Notehand was offered as a half year course by 66 percent of the schools, while 34 percent made it a full year course. Many students who had only one semester of Notehand believed that the course should have been longer.

2. Notehand was taught five days each week for one semester by 54 percent of the schools; however, 43 percent of these schools offered Notehand in conjunction with personal use typing.

3. Of the 38 students responding to the question concerning whether or not Notehand should have been offered earlier, 48 percent said yes and 52 percent said no.

4. The greatest use of Notehand by those taking the course was for taking class lecture notes and taking of personal notes was second, with 60 percent and 51 percent respectively. Some students indicated that the course was too short.

5. Three replied that Notehand improved their study habits a great deal, 27 replied somewhat, and 12 replied none at all.

6. Of those responding to the personal reaction section, 70 percent believed that their ability to organize had been improved by Notehand and 75 percent indicated that Notehand had made them more attentive listeners.

7. Of those responding, 80 percent replied they would take Notehand again and 93 percent indicated that they would recommend the course to other high school students.

Conclusions and Recommendations:

1. From the student comments and the review of literature, it may be concluded that Notehand can be a

valuable course. Furthermore, the course must be taught by an enthusiastic teacher and a variety of material should be used to avoid boredom.

2. Five days per week for at least one semester should be allowed for teaching Notehand. Notehand should be combined with a one semester course in personal use typewriting.

3. If Notehand is to be considered in the Waterbury High Schools, Notehand should be introduced in conjunction with a course in personal use typing on a trial basis. This would provide a full one-year course.

4. A follow-up study would be made of the students taking this course to determine what use is being made of the skills.

Abstractor's Comments:

1. No problem statement was given in this study, and the conclusions and recommendations were presented together.

2. On page 40, the writer states that 11 schools offered Notehand and personal typing together and 15 did not. Yet, the table on page 37 shows that 13 did and 13 did not.

3. Many of the items presented in the conclusions and recommendation sections seemed to the abstractor to be repeats and, therefore, those presented in this abstract are only a summary.

4. Similar studies need to be made involving students of other colleges in order to determine if Notehand and personal typing are needed in other high school curriculums.

Abstract 59

William Frederick Fermenich, "An Analysis of the Relationship Between Application of Some Principles of Gregg Shorthand Simplified and Errors in Transcription" (unpublished Master's thesis, Mankato State College, 1959), p. 49.

Problem:

The problem of this study was to determine the relationship between inaccuracy of outlines of Gregg Shorthand Simplified and errors made in transcription.

Procedure:

1. A list was obtained of approved schools in Minnesota that offer two years of Gregg Shorthand.

2. The writer arbitrarily decided that 15 schools should be chosen in order to obtain a sample of approximately 100 students. Therefore, 15 schools were chosen by random sampling and double post cards were mailed to shorthand teachers in these schools asking them to participate in the study. The teachers were asked to indicate on the card the number of students enrolled in the second-year of shorthand. Of the 10 cards returned, one indicated no desire to participate.

3. The four test letters used in the Kalstrom (43b), Fox (22b), and Johnson (42b) Group Study were chosen for use in this study. These test letters and instructions were mailed to the participating teachers on December 2, 1958. The letters were to be dictated at 50 words a minute.

4. Columnar paper was used in constructing the tally sheets. These were used to tabulate the word in longhand and the outline illustrating the rule, as given in the Word List of Gregg Shorthand Simplified, was written under the word. A coded list of the possibilities of performance followed.

5. One hundred sets of papers and transcripts were received from the participating schools. Each word selected for this study was examined to see if the rule had been applied correctly. At the same time, the transcript was checked to determine if the outline was transcribed correctly. Each word was tallied according to the

coded list. Only the part of the word illustrating the rule was checked.

6. The Horn and Peterson List (40b) was used for determining the frequency rank of words.

7. The rules studied in this study were organized in nine groups which were dogmatically chosen on the basis of similarity in shorthand devices.

8. The analysis of variance was used to determine if there was any significant difference among the types of rules so far as inaccuracy of words is concerned.

Findings:

1. The correlation of coefficient between correct outlines and correct transcripts was .949.

2. The coefficient of correlation between inaccurately written outlines and incorrect transcription was .575.

3. An insignificant relationship was found between correct outlines and incorrect transcription.

4. The coefficient of correlation found between the number of words written correctly and transcribed correctly was -.490.

5. A coefficient of correlation of -.001 was found between the number of words written correctly, transcribed incorrectly and their frequency rank. Errors of this kind may have no significant relationship with word frequency.

6. A coefficient of correlation of .427 was found between the number of words written incorrectly, transcribed correctly and their frequency rank.

7. Words written incorrectly, transcribed incorrectly and their frequency rank had a coefficient of correlation of .293. This appears to indicate that this type of error tends to increase as the frequency rank increases.

8. The F test disclosed a value of 1.115 between types of rules and transcription errors. According to the value used in this study, this would not be significant.

9. The coefficient of correlation between incorrect transcription and illegible shorthand was .988.

Conclusions:

1. A relationship exists between accuracy of outlines and accuracy of transcription.

2. High frequency words appear to have a higher number of responses.

3. The findings show no significant relationship between word frequency and written-correctly, but transcribed-incorrectly words.

4. The coefficient of correlation between word frequency and written-incorrectly but transcribed-correctly indicated that fewer errors of this type would occur in high frequency words.

5. The coefficient of correlation between word frequency and written-incorrectly and transcribed incorrectly indicates that this type of error would increase in lower frequency words.

6. There was no evidence found in this study that one classification of rules is more difficult than the others.

7. There is a significant relationship between illegibility and incorrect transcription.

Recommendations:

1. A study is needed of other factors which affect the difficulty of shorthand outlines.

2. A more comprehensive study is needed using a more scientific choice of words to determine whether rules vary in difficulty.

3. An analysis needs to be made of reasons causing inaccurate transcription of legible outlines.

4. An analysis is needed to determine factors influencing correct transcription of incorrectly written words.

5. A similar study is needed using controlled frequency words to determine more conclusively the relationship between word frequency and the resulting outline.

Abstract 60

Eileen James Finney, "The Frequency of Principles and Abbreviating Devices in Gregg Advanced Dictation Simplified" (unpublished Master's thesis, The University of Tennessee, 1959), p. 155.

Problem:

"The primary purpose of this study was to analyze the word content of Gregg Advanced Dictation Simplified on the basis of the frequency of application of theory principles and abbreviating devices in the contextual material of the book."

Procedure:

1. The first step was to review the original list of 117 principles and abbreviating devices prepared by Shell (62b) for his study. Four more principles were added, making a total of 121. No distinction was made between a principle and an abbreviating device. Some of the principles were subdivided which brought the total to 134.

2. The contextual material of Gregg Advanced Dictation Simplified was read, and those words containing principles and abbreviating devices were indicated in red. The material was read a second time and 3 x 5 index cards were prepared for words containing principles and abbreviating devices occurring in the contextual material as follows:

- a. The assignment number in which the word occurred was placed on the first line of the upper left. A hyphen followed with a number indicated the letter or article in which the word appeared.
- b. The word illustrating the principle or abbreviating device and its correct shorthand outline were written in the center of the first line.
- c. The principle which the word illustrated was written in the upper right corner, and was

followed by the number assigned to the principle or abbreviating device.

- d. A card was made for each principle or abbreviating device the word illustrated.
- e. Tables were prepared showing the number of frequencies in context in each assignment and the assignment in which new words occurred.
- f. Other tables were made to show the frequencies for each principle and the different words and their frequencies which comprise the total number of occurrences for each principle and abbreviating device.
- g. From the totals from these tables, additional tables were made showing the order of frequency in context of each principle and abbreviating device as to principle, and different word, and the chapter coverage of these frequencies.

Summary:

The applications of 132 principles in the context of Gregg Advanced Dictation Simplified were analyzed and the findings were compared to the frequencies in the context of Gregg Transcription Simplified. The following summary was made from the comparison.

1. In the context of Gregg Advanced Dictation Simplified, the number of applications by principle ranged from 0 to 1,201. Twenty-five percent of the principles have 30 or fewer words in which they are applied. Two of the principles, No. 119 and No. 74, have no words in which they are applied.

2. The number of applications by principle in the context of Gregg Transcription Simplified ranged from 0 to 1,062. Slightly more than 33 1/3 percent of the principles had 30 or fewer applications. Four principles have no frequencies and principle No. 119 is not applied in either textbook. The two books compare substantially the same on these bases.

3. Gregg Advanced Dictation Simplified ranges from 0 to 254 in the number of different words by a particular principle, but Gregg Transcription Simplified ranges from 0 to 198. Nineteen of the 132 principles are applied in 5 or fewer different words in Gregg Advanced

Dictation Simplified, while forty of the 132 principles are applied in 5 or fewer different words in Gregg Transcription Simplified. Gregg Advanced Dictation Simplified has a broader vocabulary throughout the list of principles based on this comparison.

4. A comparison of multi-principle words showed:

Words containing 5 principles:

<u>Gregg Advanced Dictation Simplified</u>	4
<u>Gregg Transcription Simplified</u>	1

Four-principle words:

<u>Gregg Advanced Dictation Simplified</u>	26
<u>Gregg Transcription Simplified</u>	15

Three-principle words:

<u>Gregg Advanced Dictation Simplified</u>	200
<u>Gregg Transcription Simplified</u>	128

On the basis of this comparison, Gregg Advanced Dictation Simplified has considerably more multi-principle words.

5. The number of different assignments in which a principle occurs ranges from 0 to 80 in the context of each book. In Gregg Advanced Dictation Simplified, 20 percent of the principles appear in 20 or fewer assignments, slightly more than 50 percent appear in 60 or more assignments, 9 principles are in all 80 assignments, and 2 principles have no frequencies.

6. In Gregg Transcription Simplified 33 1/3 percent of the principles appear in 20 or fewer of the assignments, slightly more than 50 percent appear in 60 or more assignments, 13 principles appear in all 80 assignments, and 4 principles have no frequencies.

7. On chapter distribution of the application of principles, 21 principles have complete coverage in the Gregg Advanced Dictation Simplified, but only 8 have complete coverage in the Gregg Transcription. The author's statements are carried out to a greater extent in the distribution of review of principles throughout the Gregg Advanced Dictation Simplified.

Recommendations:

1. Supplementary dictation should be provided so that every principle is presented at least once in every chapter.

2. The principles of Gregg Simplified shorthand should be applied more regularly throughout the two books when they are revised.

3. Consideration might be given to eliminating some of the principles. Memory load would be reduced by writing more words in full.

Abstractor's Comment:

The authors of the Diamond Jubilee Series did follow a pattern similar to the third recommendation made in this study.

Abstract 61

Edward Henry Fox, "The Effect of Inconsistencies on Gregg Shortahnd Outlines" (unpublished Master's thesis, Mankato State College, 1957), p. 43.

Problem:

The problem of this study was to determine the effect of inconsistencies. A further intent was to see if there is any definite pattern to pupil responses so far as these inconsistencies are concerned.

Procedure:

1. Teachers attending a meeting for the Mankato Business Education Conference, October 6, 1956, were asked for their help. From those volunteering, a list was made limiting the selection to teachers of Southern Minnesota. Only second year students were selected for this study.

2. The material selected for the study was intended to be typical and no attempt was made to control the difficulty of the material. The dictation material was composed of three short letters. The material was unpreviewed and was dictated at 50 words a minute. The

material was dictated around the first of November. This time was chosen so the students would have equal review and it would fit into teaching schedules.

3. A study was made of the students' actual writing pattern for each word. This study was limited to those words written by students cooperating in this study. Flood's dissertation was used as a basis for the word selection needed for this study. An analysis of the rules and inconsistencies was made using Flood's dissertation and current textbooks.

4. Representative words were used rather than using all words showing inconsistencies. Sixty-four words were selected and 332 student responses were received for each word.

5. The student responses to each word were circled on the students' papers. The circled words were written on note cards, the correct outline was written on the card, and each word was verified by using the Gregg Shorthand Dictionary. When the card was completed, it showed the number of times the student wrote the word correctly, how many times the word was written incorrectly, and how it was written incorrectly. Nonresponses were also noted on the card. Only errors expressing a principle were considered as errors in determining the number of errors for each principle.

Conclusions:

1. A few of the areas seemed to present little difficulty, such as, air, g, ent-end, and finat t.
2. Some errors tended to follow definite patterns.
 - a. They write what they hear rather than outlines shown in the learning material; i.e., er vowel before n, and ad prefix.
 - b. They tend to follow the principle taught rather than the exceptions shown in the learning materials; i.e., are, tive, past-tense, and cate.
3. Some errors did not show a definite pattern, but showed a high frequency of occurrence; i.e., ily, ally, and vowels before k and t.

Abstractor's Comments:

1. As the writer of this study indicated, it would be helpful to know if the inconsistencies effect transcription. Some of the words written incorrectly deviate so little from the correct outline that the student can probably transcribe it correctly.

2. Also, it was noted that perhaps some of these inconsistencies could be eliminated in a future revision and most likely some of them were eliminated in the Diamond Jubilee Series.

3. Neither a findings chapter or summary of findings was given in this study. No recommendations were made.

Abstract 62

Lois Elizabeth Frazier, "The Problems Beginning Secretaries Experience with Office Dictation" (unpublished Ed.D. dissertation, Indiana University, 1961), p. 235.

Problem:

"This investigation was a study of the problems beginning secretaries experience in the process of taking office dictation and transcribing their shorthand notes."

Procedure:

1. The study involved a survey of beginning secretaries in Raleigh, North Carolina, offices and a survey of the literature of ways of helping secretaries solve the problems they experience with office dictation.

A group of 50 teams of dictators and secretaries in Raleigh, North Carolina, offices participated in the study. They represented 35 different business firms of state agencies from 14 different types of businesses. The secretaries had all obtained business training after graduation from high school, had worked less than two years, and were spending one half or more of their time taking dictation and transcribing their notes.

2. The emphasis in this study was on the negative aspects, the unfavorable conditions, or situations out of which problems grew.

3. Solution of the problems beginning secretaries experience with office dictation required the identification of the problems and the determination of ways of solving the problems. The following procedural steps were taken: development of the plan of study, collection and recording data, and processing and analyzing the data.

4. Two types of data seemed essential for the solution of this problem. These were called Class A and Class B data. Class A data were collected by means of the interview, and Class B data were collected from textbooks, periodicals, handbooks, and research reports. The interviews were held with beginning secretaries and the dictators.

5. Information sought during the interviews was of a qualitative type which could not be secured by yes and no type questions. The amount of formal education and length of work experience of each member of the dictation team were some of the data that was sought.

Summary and Findings:

1. Twenty-three problems beginning secretaries experience with office dictation were discovered from a study of evidences of difficulty obtained during interviews with them and the businessmen who dictated to them.

2. The twenty-three problems were classified according to office organization, policies and regulations, layout and physical facilities, nature of the dictation, and personality traits of the secretaries and dictators. These problems were further classified into office environment, general and technical competencies of the secretaries, habits of dictators, and personalities of the secretaries.

3. Causes of the various problems were cited and suggestions for remedies or solutions for these problems were given.

Inferences:

1. Even though all members of the group studied came from the same geographic area, the findings may be of value to business firms or schools interested in the problems of beginning secretaries.

2. Adjustment is required of beginning secretaries as they apply their skills and knowledges under new conditions, learn to work with people, adjust to rules and regulations of their business firms, and develop special vocabularies. Secretaries have obligations to the people they work for, and in return, secretaries have a right to expect cooperation and understanding from the dictators as they discharge their duties and try to solve their problems.

3. Secretaries need general education, technical or specialized education, and a composite of many personality traits in order to adjust to the people who dictate to them, to the business firms which employ them, to fellow workers, and to the environment within their offices.

4. Problems of beginning secretaries arise during transcription. Some problems seem to be closely related to office environment, habits of the dictators, general and technical competencies of the secretaries, and personality of the secretary.

5. Dictators, business firms, schools, and secretarial associations should combine efforts to provide opportunities to secretaries for acquiring information about business, developing motivation for improvement, and obtaining information about sources of materials. Secretaries need understanding and patience from their teachers prior to employment, businessmen who dictate to them, and associates as they attempt to apply specific suggestions for the solution of their problems.

6. In the final analysis, secretaries must work out the solutions for most of their problems. Suggestions for solving problems of secretaries may be classified according to the following: Improved formal training prior to employment, carefully selected in-service training provided on the job, and self-study before and after employment.

Abstractor's Comments:

1. The author pointed out that the group studied came from the same geographic area and did not represent a random sample; however, it seems that the findings of this report may have value generally to business firms or schools interested in the problems of beginning secretaries.

2. This would be a worthwhile study for reading by teachers of future secretaries and future secretaries.

3. This study points out that general education is as necessary for the future secretary as for any other prospective employee.

Abstract 63

Caryl P. Freeman, "The Development of Stenoscrypt Filmstrips for the Skill Builder" (unpublished Ed.D. dissertation, New York University, 1967), p. 195.

Problem:

The problem was to prepare supplementary instructional materials to be used in teaching stenoscrypt shorthand.

Procedure:

1. The two books Stenoscrypt ABC Shorthand Manual (5b) and Word Division Manual (63b) were used in selecting the words to be used. Each word appearing in the first 1,000 words in the Word Division Manual or a "high-frequency" word in Stenoscrypt was written on a 3 x 5 card. If a word appeared in both places, the upper right hand corner was cut off.

2. Each of the 1,000 words in the Word Division Manual was checked against the Stenoscrypt Dictionary to determine if another word was written with the same stenoscrypt outline. Whenever such a word was found to exist in the 5,000 most frequently used words in business communications, a 3 x 5 card was prepared.

3. Each 3 x 5 card also contained the following notations:

- a. A number in the upper right hand corner indicating in which 50 hundred (5,000) words the word ranked.
- b. The highest numbered rule in Stenoscrypt which must be learned in order to write the word in Stneoscrypt correctly.
- c. The lesson number in which the rule is taught in the text Stenoscrypt ABC Shorthand.

A total of 1,661 words were selected to be used in writing the contextual business material.

4. From English textbooks 15 punctuation principles were selected. The principles were weighted according to use to determine those that would be used. Since no more than seven or eight different punctuation marks can be incorporated into a business letter, those marks of punctuation chosen to be included were period at the end of a sentence, comma following an introductory adverbial clause, comma before a conjunction, comma following an introductory phrase, comma enclosing an appositive, question mark at the end of a question, and comma enclosing a parenthetical clause.

5. A total of 172 letters were obtained from businesses in Pigeon, Michigan, to be used in composing the materials. From these letters and the 3 x 5 cards that were prepared, 50 letters were prepared. The first 16 letters all contained 95 words each and the remaining 34 letters varied in length. As many of the 8 punctuation principles as possible were incorporated into each of the first 16 letters. The other 34 letters each contained all 8 principles.

6. A talley was kept on each 3 x 5 card in order to control the number of times each word was used.

7. Commercially preparation of filmstrips was too expensive; therefore, "Write-On" filmstrips were used in preparing the Stenoscript filmstrips. A great deal of difficulty was experienced before the correct pen point and inks were discovered. A total of 24 people served as judges of legibility of the filmstrips. As each filmstrip was prepared and judged legible, the filmstrip was taken to East Orange High School for classroom use. The outlines on the filmstrips became fainter with each projection.

8. The "Write-On" filmstrips prepared in this study were used in the special class in East Orange High School and also in a 10-week adult class held in the same school. The materials were used for the reading phase, writing phase, and transcription phase of shorthand learning. Detailed records were kept of these classroom experiences.

9. The class at East Orange High School was unique in nature. It met without a break for three consecutive class periods and had three teachers assigned to it--two business teachers and one English teacher who served as teacher and consultant. There were 38 students registered

for the class and two rooms were assigned to the project. All teachers met one hour each day for a conference and also had one unassigned hour. Many activities were carried on at the same time.

10. Each time a class procedure was considered to be useful, the procedure was entered on a 5 x 7 card along with the date. Below the procedure the teacher listed why it was successful. Each week the 5 x 7 cards were reviewed to determine if the procedure was still effective. These 5 x 7 cards were prepared on all three phases of shorthand learning--reading, writing, and transcribing shorthand outlines. A total of 45 cards were prepared listing effective classroom procedures in the three phases of shorthand learning.

11. After the "Write-On" filmstrips had been prepared and tried out, the Teacher's Key was prepared. Each step of this task was described in detail in the study.

12. The manual and set of five filmstrips containing 50 letters were submitted to six judges for validation. The judges were selected because each person was either (a) an experienced teacher of Stenoscript ABC Shorthand or (b) a person who has had considerable experience judging new teaching materials. Some of the judges used the materials in their classes.

Recommendations:

1. Further study is needed to determine how far the "controlled vocabulary" should be carried--one, two, three, four, or even five thousand most frequently used words. Will students who succeed with a controlled vocabulary in the classroom also succeed on-the-job? Should the controlled vocabulary be developed in symbol or alphabetic systems or in both?

2. Further research is needed to determine the proper balance between text materials and filmstrips. If a large portion of classtime is devoted to use of filmstrips, what kinds of materials are needed for homework study?

3. Further research needs to be conducted to validate the findings of this study or Barber's (6b) study.

4. Research should be done to study the mental, motor, and emotional responses of slow, average, and fast students when they work in any skill area. Do reading

habits in one skill carry over to another, and, if so, is it an advantage or disadvantage?

Abstractor's Comments:

1. The materials in this study were not tested on a sound experimental basis and, therefore, it is not known whether or not these students achieved significantly more when these materials were used than if traditional methods had been used.

2. Since Barber's study involved an experimental group and a control group and was subjected to statistical analyses, it is unfair to compare the present study with Barber's study.

3. Since very few teaching aids are available for use with Stenoscript, the materials prepared in this study are definitely an asset to this area.

4. Research is needed comparing Stenoscript and Gregg Shorthand to determine which method is easier to learn and produces the higher speed when both are studied for the same length of time.

5. Research is needed to determine the occupational opportunities with Stenoscript ABC Shorthand.

Abstract 64

Carolyn Frances Frye, "An Error Analysis of Dictation Notes of Second-Semester High School Students of Gregg Shorthand Simplified" (unpublished Master's thesis, The University of Tennessee, 1965), p. 196.

Problem:

The problem of this study was to make an analysis of errors made on predetermined brief forms and principles in dictation recorded by second-semester high school students enrolled in Gregg Shorthand Simplified.

Procedure:

1. This study and the Patrick (58b) study included 12 brief forms which previous studies indicated should be changed. Six of these were changed in the Diamond Jubilee

revision and six were not. Those brief forms changed included among, circle, experience, nevertheless, instant, and prosecute; and those unchanged were acknowledge, progress, put, recognize, throughout, and upon.

2. Also, 10 brief forms were included which insufficient evidence was found to warrant their being changed. Those five which were changed included desire, doctor, go, house, and usual; and those remaining unchanged included could, enclose, morning, year, and yet.

3. The test material included at least one brief form derivative if the derivative was included in the Silverthorn list (65b). A total of 21 brief form derivatives were included.

4. Those principles which research has indicated should be changed were analyzed. This group contained 13 principles. Six of these were changed in the Diamond Jubilee revision and seven remained unchanged.

5. Ten principles were included in the study which showed insufficient evidence to warrant their being changed. Five of these were changed in the Diamond Jubilee revision and five were not.

6. The dictation materials used in this study were prepared for use in a study in Diamond Jubilee Series. Therefore, a few outlines are not compatible with the Simplified Edition, since a few changes were made.

7. The dictation materials contained three practice letters and two dictation tests. Each test contained three letters of about 160 words each to be dictated at 50 words a minute and could be transcribed in either long-hand or typewritten form. Each selected brief form and principle was tested three times in the six letters, and each derivative was tested once in the six letters.

8. A class of 23 students enrolled in a second-year high school shorthand class was used to test the reliability coefficient of the test. A reliability coefficient of .972 was found. One of the letters was scored by two different teachers. This produced a correlation coefficient of .944.

9. Included in this study were second-semester high school students enrolled in Gregg Simplified Shorthand during the 1964-65 school year. All students had completed at least the first 50 lessons in the shorthand theory manual.

10. Detailed instructions were given to those teachers participating in the study. The first test was to be given between March 9-12, 1965; and the second test was to be given between March 12-17, 1965. The test was dictated one day without preview and the second letter was transcribed the next day. Twenty minutes was allowed for transcribing the letter.

11. The F test of variance was used to determine if any significant difference existed among the schools in error rates. Since a significant difference existed in each category, the Duncan multiple-range test was applied. Results of these two tests revealed that School No. 8 was too far different from the others in brief forms and derivatives and that School No. 1 was too far different in principles. Thus, the final analysis included eight schools in each category.

Findings:

1. The brief form error rates ranged from 2.8 to 88.5 percent, with throughout, among, recognize, and upon having the highest rates. All four were above the 80 percent error rate.

2. The five brief forms having error rates above 50 percent which were changed in the Diamond Jubilee Series were among, circle, experience, nevertheless, and prosecute. The brief forms acknowledge, recognize, throughout, and upon also had error rates above 50 percent but were not changed in the Diamond Jubilee Series. At least 50 percent of the errors were caused by "too many strokes."

3. The brief forms instant, usual, progress, and put had error rates ranging from 35 to 50 percent and desire, house, and enclose ranged from 20 to 35 percent in error rates. The first four were changed but the three in the second group remained unchanged in the Diamond Jubilee Series. In at least 50 percent of all errors except for house and enclose were caused by "too many strokes."

4. The brief forms doctor, go, could, morning, year, and yet had error rates below 20 percent. The first two were changed but the others were not changed in Diamond Jubilee.

5. Errors made in transcribing brief forms were all below 50 percent. However, circle, recognize, and upon were all above 70 percent. Except in instant, put,

recognize, doctor, could, enclose, and year, over 50 percent of all transcription errors were caused by omissions. Most of these omissions were in the transcript only.

6. For those selected brief forms which research indicated a need for changing, those which were changed had an error rate of 65.4 percent as compared to 66.2 percent for those which were not changed in Diamond Jubilee. For those selected brief forms which research indicated no need for change, those which were changed had an error rate of 23.6 percent as compared to 13.1 percent for those which were not changed.

7. Fifteen brief forms had a higher error rate in this study than in previous studies on Simplified Shorthand. Those brief forms were among, circle, prosecute, acknowledge, throughout, upon, desire, house, usual, could, enclose, yet, doctor, go, and morning.

8. The error rates range from 8.3 to 94.8 percent on the 21 selected brief form derivatives. The derivatives circled, progressive, and recognized had rates above 80 percent.

9. Fourteen brief form derivatives had error rates above 50 percent and all derivatives but enclosed had error rates higher than brief form root words.

10. Desired had an error rate between 35 and 50 percent and the brief form root was changed in the Diamond Jubilee revision. Housing, yearly, and years ranged between 20 to 35 percent and doctors, go, and enclosed were less than 20 percent. The brief form root for housing, doctors, and go was changed in the Diamond Jubilee revision but the others were not.

11. Circled and putting were written in at least 50 percent of the errors with "too many strokes with suffix added." Experienced, instantly, prosecution, acknowledgment, progressive, and desirable were written with "too many strokes with suffix added and without suffix" in over 50 percent of the errors.

12. "Substitution of brief form root" constituted the most errors for 10 of the 21 brief form derivatives.

13. Although the derivative usually constituted an error rate over 50 percent in dictation notes, the transcription error rate was only over 40 percent. Omissions comprised over 50 percent of the transcription errors of the derivatives instantly, prosecution, usually, and years.

14. An error rate of 75.3 percent was made on those derivatives which research indicated should be changed that were actually changed in the Diamond Jubilee Series; whereas, those derivatives which research indicated should be changed that were not changed had an error rate of 76 percent. For those derivatives of those selected brief forms which research indicated did not need to be changed, those changed had an error rate of 39.9 percent and those unchanged had an error rate of 44.1 percent.

15. Error rates for the selected principles ranged from 11.8 to 84.7 percent and ulate, incl, and super all had over 70 percent.

16. Twelve of the 24 principles had an error rate above 50 percent. Six of these were changed in the Diamond Jubilee revision and six were unchanged. Six additional principles had error rates which ranged from 35 to 50 percent and two ranged from 20 to 35 percent in error rates. "Too many strokes," or writing principle in full accounted for at least 50 percent of the errors made in writing principles.

17. Although stipulate and superb had transcription error rates above 40 percent, all transcription error rates on principles were less than 50 percent.

18. Those principles changed in the Diamond Jubilee revision according to research had an error rate of 64.4 percent as compared to 56.4 percent for those not changed. Those principles changed although not recommended by research had an error rate of 35.6 percent as compared to 33.1 percent for those which remained unchanged.

19. The principles dern, etc.; super-; incl-; electr-; -ng; -ily; -ally; men, etc.; short-, ship-; and pro- had larger error rates in the present study than in the Hillestad (38b) and Johnson (42b) studies.

Conclusions:

1. Of the 12 brief forms which research recommend should be changed, any or all could justifiably have been changed.

2. Of the 10 brief forms included which research was insufficient to warrant changing, the authors of Diamond Jubilee made wise choices in those revised.

3. Of the 10 principles included which research was insufficient to warrant changing, any could have been

changed since the over-all error rate was very similar for both groups.

4. The fact that some of the brief forms such as acknowledge, circle, experience, instant, prosecute, and throughout and principles such as -less, -ulate, and -pose were presented late in the theory, could have been partially responsible for the high error rates.

Recommendations:

1. Acknowledge should be written in full instead as a brief form.

2. The following brief forms should be written as follows: put, p-t; recognize, r-e-k-n-i-s; throughout, ith-r-ow; and usual, e-oo-l.

3. Further research is needed using the selected principles and brief forms used in this study to determine whether or not definite changes should be made and the patterns any changes should take.

Abstractor's Comments:

1. The statement in paragraph 4 on page 113 that "substitution of brief-form root" was most common error for enclosed and years disagrees with the sentence on page 114, which states that no one error classification was higher in frequency than the others for enclosed and years.

2. On Page 153, a statement is made referring to 11 principles in Groups II A and II B. Yet, on Page 38 they are referred to as 10 principles and shown on Page 38 in Table IV as 10 principles.

3. This study, as well as others, points out that still other changes need to be made in the next revision of Gregg Shorthand.

Abstract 65

Ruth Hilkert Gaffga, "Variations from Gregg Shorthand Simplified: An Analytical Study of a System of Phonetic Communication" (unpublished Ph.D. dissertation, New York University, 1966), p. 170.

Problem:

The problem of the study was to investigate variation from standard Gregg Simplified Shorthand after use in employment.

Hypothesis:

"Gregg Shorthand Simplified, as it was taught, served its purpose. Although certain lay elements may not have been followed accurately, shorthand writers, except for some slight carelessness and accidents, did write during employment a shorthand that was close to shorthand plate."

Procedure:

1. Samples written in natural context were sought from people who had studied Gregg Simplified Shorthand. Only those who had two years of shorthand instruction or the equivalent were contained in this study.

2. Originally, 285 samples were collected. However, some samples were inadequate and were eliminated which left 212 samples containing 133,380 outlines representing 162,544 words.

3. Local samples were collected by the investigator while national samples were collected by the aid of the Administrative Management Society. Along with the samples they were asked for year of graduation from high school, number of years shorthand was studied, and the name of the text used. Each sample contained three pages of contextual shorthand notes.

4. The samples were divided into three groups: preview group, main body group, and review group. The preview group was made up of 25 local samples. This sample was studied to determine number of variations, characteristics of variation, why they occur, and what may be expected in the main body of samples.

5. The main body group consisted of 62 samples from the Northeast or local and 25 each from the Far West, Midwest, South, and Southeast areas. This was done to supply data for the study from a wide geographic area.

6. The review group consisted of a sample of 25 employed secretaries. The investigator dictated letters from the Business Teacher at speeds of 60, 80, 100, and 120 words a minute. This material was dictated in their offices during office hours. This was used to determine if speed was a factor in the variations.

7. Nine shorthand experts were used to form three groups which served as follows: Group I approved the kind of variations as important to Simplified theory; Group II sampled the raw data and agreed that the variations were located accurately and completely; and Group III agreed on the interpretations of the data made by the investigator.

8. The variations studied in this research report were: (a) use of left and right "s", (b) confusion of "o" and "oo", (c) circle vowels (a or e) between opposite curves, (d) circle vowels (a or e) in relation to straight strokes, (e) use of "-ings", (f) "-ith" joining and its misuse, (g) representation of the word ending "-ther", (h) past tense "-ed," "-ded," and "-t," and (i) treatment of amounts and quantities.

9. Ten letters were selected randomly from 30 issues of the Business Teacher. From the body of each of the 10 letters, 100 words were taken making a total of 1,000 words. These 1,000 words were transcribed into Gregg Simplified outlines. All variations were then identified and classified under one of the nine categories of variations.

10. Ratios, estimates, and indexes of variations were determined for all samples. Ratios were computed by dividing number of times variation occurred by 1,000; estimates were found by multiplying the ratio times total words or 162,544; and indexes of variations were found by dividing estimated total cases into the actual number of variations.

Findings and Conclusions:

1. Past tense "-ded." Out of 100 cases, 33 variations occurred. This was too high to have occurred by chance. The rule has helped and the feasibility of teaching it may be questioned. This need was met by Diamond Jubilee.

2. Past tense "ed." Out of 100 cases, 23 variations occurred. This indicates a high degree of Simplified modification and the principle should be critically examined. This need was met by Diamond Jubilee.

3. Treatment of amounts and quantities. Out of 100 cases, 16 variations occurred. Shorthand Writers' needs were not being met by Simplified. This need was met by Diamond Jubilee.

4. "-ings" endings. Out of 100 cases, 7 variations occurred. The Simplified rule for "-ings" does not appear to be serving its purpose.

5. "a" between opposite curves. Out of 100 cases, 5 variations occurred. The Simplified rule was getting closer to achieving its purpose.

6. "e" between opposite curves. Three variations occurred out of 100 cases. These could have been caused by chance; therefore, the simplified rule was being applied in most cases.

7. "o" for "oo" intended. Out of 100 cases, only .9 of one variation occurred. This indicates that the Simplified rule was used on the job.

8. "-ith" joining. Only .8 of one variation occurred out of 100 cases. For the most part, the shorthand rule was used on the job.

9. Use of left "s" intended. Out of 100 cases, .7 of one variation occurred. Shorthand writers on the job tended to use the Simplified rule.

10. Circle vowel "a" in relation to straight strokes. Out of 100 cases, .6 of one variation occurred. The Simplified rule did appear to be learned and used on the job.

11. "oo" for "o" intended. Only .6 of one variation occurred out of 100 cases. The Simplified rule seemed to be serving its purpose on the job.

12. Right "s" intended. Only .5 of one variation occurred out of 100 cases. Simplified shorthand seemed to be written fairly accurately on the job.

13. "e" and straight strokes. Out of 100 cases, .4 of one variation occurred. Simplified theory appeared to be serving its purpose.

14. Past tense "t." Only .4 of one variation occurred out of 100. Variations did not seem to occur frequently enough to be important.

15. "-ther" ending. Only .2 of one variation occurred out of 100 cases, which was the lowest case studied. Simplified theory seemed to be serving its purpose very well.

16. Average variation per sample was 8.5 for the local group compared to 8.1 for the natural group. This seems to indicate that Simplified theory is written with very much the same efficiency throughout the country.

17. Average variations per minute of dictation revealed the following: 60, 1.7; 80, .7; 100, .8; and 120, 1.3. Since average variations tend to decrease as speed increases, they do not appear to be very closely related.

18. Average variation per word for each group was .0096 for the preview group and .0117 for the main body group. This would tend to indicate that the 25 samples of the preview group predicted reasonably accurately the performance of the main body group.

19. Average variation per word for the main body group and the review group were .0117 and .0112 respectively. The variations were very similar and the review group nearly repeated the performance of the main body group.

Recommendations:

1. That a Gregg system be devised with no choice-making in writing individual outlines and test it with a control group to determine the results.

2. That a study be made to study the importance of variations from principles and procedures during dictation at different speeds.

3. That research be conducted to determine frequency of all kinds of variations per 1,000 words.

Abstractor's Comments:

1. A similar study using office workers who write Diamond Jubilee would be beneficial.

2. As the writer indicated, some of the rules which involved a high degree of variation were changed in the Diamond Jubilee edition. By doing a similar study involving Diamond Jubilee writers, it could be determined whether these rules have been improved.

3. The findings of this study whould be made known to Simplified shorthand teachers so that more emphasis can be placed on the critical areas.

4. This study and a similar study with Diamond Jubilee could be used most effectively in a shorthand methods course and/or a course in improvement of shorthand instruction.

Abstract 66

James A. Gawronski, "A Study to Determine the Feasibility of a One-Year Shorthand Program for the Gifted Student" (unpublished Master's thesis, University of Wisconsin, 1964), p. 89.

Problem:

The problem of this study was to determine the feasibility of a one-year shorthand program for gifted students.

Procedure:

1. This one-year experiment consisted of 25 above average students in Washington High School, Milwaukee, Wisconsin, during the school year 1962-63. The students were selected only if ranked in the upper quartile of the total high school population and must either possess a typewriting skill or concurrently enrolled in beginning typewriting.

2. The text Gregg Shorthand Manual Simplified was used during the first semester and Gregg Transcription Simplified was used the second semester. New matter dictation was taken from Klein's Graded Drills in Gregg Shorthand Simplified and Previewed Dictation, Progressive Dictation, and Business Teacher.

3. Typewriter transcription was started during the second week of the second semester. Within five weeks the dictation for mailable transcription ranged from 80 to

100 words a minute and students transcribed at the typewriter for 30 minutes. Near the end of the second semester transcription periodically included a carbon copy and an envelope.

4. A dictation-transcription test (12b) was given to all shorthand students near the end of the final semester--second-semester for the experimental group and fourth-semester for the other seven classes. The test contained three letters in varying lengths--80 words, 120 words, and 200 words. All three letters were dictated at 80 words per minute and 30 minutes were allowed for transcription, including assembling carbons, proofreading, making corrections, and typing an envelope.

5. The results of this study were compared to several other studies, which included: seven other fourth-semester classes taking Cook's test, Anderson's (2b) survey, Hilbert's (36b) study, and Sister Barras' (7b) study. Other previous studies were cited, but the above were selected for this abstract.

Findings:

1. Results of the dictation-transcription test showed the average transcription rate for all classes was 15.9 words a minute as compared to 12.8 words a minute for the experimental class.

2. The mean total number of perfect and mailable letters transcribed for all classes was 29.3 words a minute compared to 27 words a minute for the experimental class. The average of perfect and mailable letters per student was 1.1 for all classes.

3. A further analysis revealed that the experimental group had an error average per student of 3.8 compared to 5.3 for all other classes.

4. The average reading rate at the end of ten weeks was 96.5 words per minute or 3.5 words a minute below that recommended by Anderson. At the end of 18 weeks, the average reading rate was 120 words a minute or 30 words a minute slower than recommended by Anderson.

5. Students in the experimental class had achieved dictation rates on unfamiliar material from 0 to 130 words a minute by the end of the second semester. Speeds of 80 to 130 words a minute were achieved by 92 percent of the experimental students, and 64 percent of the students had

achieved speeds ranging from 100 to 130 words a minute. The class mean was 96.4; the median, 100 words a minute; and one student failed to show any achievement.

6. The findings in this report indicate that 25.8 percent of the students in the experimental class were unable to transcribe a mailable letter. However, Anderson's 1951 study showed 77.6 percent of the students unable to transcribe a mailable letter; 33.1 percent of all students in Cook's study transcribed no mailable letters; and Hilbert and Barras's studies showed 32.4 of the students transcribed no mailable letters.

7. A further analysis revealed that 41.7 percent in the experimental class transcribed one mailable letter and 29.2 percent transcribed two mailable letters. On the other hand, 33 percent of the students in the Cook study transcribed one mailable letter and 24 percent transcribed two mailable letters. Ten percent of all students in the Cook study compared 4.2 percent in this study transcribed three mailable letters. Percentages in both of these studies were considerably higher than in the Anderson survey.

8. In comparing total words a minute transcribed by the experimental class with studies previously reported of two-year shorthand classes, there was considerable similarity. Hilbert reported 12 words a minute, Sister Barras reported 14.3 words a minute, Cook reported 15.9, and the experimental class achieved 12.8 words a minute.

9. The students in the experimental class achieved a mean mailability transcription speed of 5.1 words a minute compared to 4.4 in Hilbert's study and 4.6 in Sister Barras's study.

10. A comparison of total mailable letters typed revealed that 36 percent of all letters transcribed by the experimental class were mailable; 36 percent of Hilbert's report; 33 percent for Sister Barras's report; and Cook reported 37 percent.

Conclusions:

1. That superior students can achieve in one year of shorthand what is achieved in a two-year program by students who normally elect shorthand.

2. Beginning typewriting concurrently with shorthand definitely was a handicap to the experimental students.

3. The experimental group was superior in quality of transcription as compared to two-year students.

4. That academically talented students can achieve marketable shorthand speeds through the use of multiple-channel tape equipment.

5. Even though students were grouped according to intellectual capacity there was still a broad range of individual differences.

6. Even though the experimental group made the lowest transcription rate of any of the eight classes tested, their quality of work was average.

7. The quality of transcription of the experimental group is evident in the number of perfect and mailable letters transcribed.

8. The test results indicated that the experimental class did average work and obviously could have done better had they had 55-minute periods rather than 42-minute periods.

9. From the results of the three-minute, non-previewed dictation, it can be concluded that marginal students, as defined in this report, should not be admitted to an accelerated program.

10. That business education can challenge the superior student just as math, science, English, and foreign languages.

11. High ability students in a homogeneous grouping shorthand class progress more rapidly and easily than a normal grouping of high ability students.

12. That the combination of special grouping acceleration, and enrichment is the best method that can be provided for the academically talented student.

Recommendations:

1. That further investigation be made of one-year shorthand programs for the gifted student. Furthermore, administrators should consider one-year shorthand classes for the college-bound student.

2. That follow-up studies be made of accelerated shorthand programs to evaluate the effectiveness of the course to the student and businessman.

3. That students in future accelerated courses have at least one year of typewriting prior to enrollment in shorthand, and that at least one transcription period be provided parallel to the second semester shorthand class.

4. That multi-channel dictation equipment be provided for accelerated students to help meet individual differences in speed.

5. That criteria for selection be adhered to completely and marginal students not permitted to enroll.

6. That research be done involving accelerated classes in other areas of business education.

Abstractor's Comments:

1. The reader should keep in mind that Hilbert, Cook, and Sister Barras's studies all involved two-year students as compared to one-year students in this report. Anderson's survey also involved one-year students.

2. When reading the comparisons in this abstract, the reader should bear in mind that the experimental class and two of the other seven classes met 42-minute periods, while the remaining five classes met 55-minute periods. The Hilbert and Sister Barras's studies were both conducted on classes which met 45-minute periods.

Abstract 67

Leo G. Goetz, "The Relationship Between Symbol Mastery and Selected Dictation Achievements in Gregg Shorthand" (unpublished Ed.D. dissertation, University of North Dakota, 1966), p. 341.

Problem:

"The problem of this study was to determine the relationship between symbol mastery and selected dictation speeds in Gregg Shorthand."

Hypotheses:

1. "There is no mean difference in the mastery of shorthand symbols as indicated by a selected word list of approximately 600 words appearing in the Gregg Shorthand,

Basic Manual, Diamond Jubilee Series among groups of students taking dictation at 50-60 WPM, 70-80 WPM, and 90-100 WPM."

2. "There is no mean difference in the mastery of each selected shorthand symbol as indicated by a selected word list of approximately 600 words appearing in Gregg Shorthand, Basic Manual, Diamond Jubilee Series, among groups of students taking dictation at 50-60 WPM, 70-80 WPM, and 90-100 WPM."

3. "There is no mean difference between the selected word list administered at the beginning of the second semester and at the end of the second semester within groups of students."

Procedure:

1. This study consisted of 86 Shorthand I students at John F. Kennedy High School, Taylor, Michigan during the 1964-65 school year. These students were also enrolled in Typewriting II and were scheduled to enroll in Shorthand II, Secretarial Practice, Business English, and Cooperative Work Experience during their senior year. Many of these students were planning to seek employment after high school graduation.

2. Testing in the second semester of Shorthand I was done primarily by means of 3-minute dictation tests taken from the Business Teacher. Dictation started at 50 words per minute and students were pushed to reach 100 words per minute. No attempt was made to achieve higher speeds. All transcription was done in longhand and 95 percent accuracy was required. Three tests must be passed at a given speed before moving to the next higher speed.

3. All shorthand strokes were assigned a symbol number. The comma s was symbol one, long sound of the vowel a, was symbol two, etc. The frequency of each symbol was compiled for each lesson.

4. A word list of 600 words was selected from the text Gregg Shorthand, Basic Manual, Diamond Jubilee Series to be used as a means for measuring symbol mastery. Of the 600 words selected, 39 had a frequency higher than three, while 363 only had a frequency of one.

5. The word test was given twice--once at the beginning of the second semester and once at the end of

the semester. Two days were used for the test, with 300 words being given each day.

6. In checking the word tests, partial credit was given for the part of the outline that was correct. A total of 103,200 outlines were checked on each word list for each student in order to determine symbol mastery.

7. In order to test the hypotheses stated earlier, the students were placed into one of three groups--Group A, 50-60 WPM, 31 students; Group B, 70-80 WPM, 26 students; and Group C, 90-100 WPM, 29 students. T-tests were used to determine if the means among groups were significantly different. T-tests were also used to determine if the mean gain was significant within each group.

8. Only the word list given at the end of the second semester was used in determining the relationship between symbols and selected dictation. The symbol mastery of each student was represented by a point total. The product-moment method of correlation was used to determine the relationship between these two factors.

Findings:

1. A significant difference at the 1 percent level was found among all group means. Between Group A and B, the t -value was 7.57; between Group A and C, 12.55; and between Group B and C, 6.26.

2. Each symbol was subjected to a t -test to determine if any significant differences existed among groups. These calculations revealed that 77 of the 95 selected symbols were significant at the 1 percent level and 8 were significant at the 5 percent level when comparing Group A and B, 92 of the 95 were significant at the 1 percent level and 1 at the 5 percent level when comparing Group A and C, and 66 were significant at the 1 percent level and 12 at the 5 percent level when comparing Group B and C.

3. The t -values calculated to determine whether or not any gains were significant showed that none of the three groups had a significant gain in mean symbol mastery.

4. The t -values calculated to determine mean symbol mastery gain within groups revealed that Group A showed a significant mean gain for 5 of the 95 symbols, Group B showed a significant mean gain for 20 of the 95

symbols, and Group C showed a significant mean gain for 14 of the 95 symbols.

5. A correlation coefficient of .82 was found between selected dictation speeds and symbol mastery. This coefficient of .82 squared reveals a coefficient of determination of .67, which indicates that 67 percent of the shorthand dictation speed was effected by symbol mastery.

6. The correlation coefficient of .89 between the first and second word list indicates a high relationship. Also, the correlation coefficients within groups between word lists were also high. These correlation coefficients were: Group A, .82; Group B, .80; and Group C, .92.

Conclusions:

1. The findings of this study indicate that there is a linear relationship between symbol mastery and selected dictation speeds.

2. Students taking dictation at various speeds showed a significant difference in the degree of symbol mastery among groups.

3. The significant difference found among all group means was more significant between Groups A and C than Groups B and C.

4. As dictation speed increases, the degree of variability in symbol mastery among groups decreases.

5. As dictation speeds increase, the degree of symbol mastery is decreased proportionately for each group.

6. Since 67 percent of a student's speed achievement is effected by symbol mastery, a definite degree of symbol mastery must exist before dictation achievement can occur.

7. Group A showed a decrease in symbol mastery from the first word list to the second word list.

8. The high correlation between the first and second word lists indicates that a major part of symbol mastery occurs during the first semester.

Recommendations:

1. Symbol mastery should be an objective of first-year shorthand.

2. Symbol mastery should be reinforced the second semester in order to reach a higher degree of symbol mastery.

3. Since Group A, 50-60 WPM showed a decrease from the first to the second word list, these people should be identified and given remedial drills.

4. Since those students who achieve higher dictation speeds also achieve symbol mastery early, these people should be identified and pushed beyond the 100 WPM.

Abstractor's Comments:

1. This study emphasizes the importance of mastering shorthand theory from the very beginning. Unless theory is mastered early, high dictation speeds will not be attained.

2. The tests used in this study may also prove beneficial for use in counseling students out of second semester shorthand and certainly shorthand II.

3. The following 21 symbols accounted for more than 75 percent of the total symbol frequency and, therefore, should be stressed: r, t, left s, l, s, e, n, k, a, m, e, d, o, oo, f, i, o, and h. Supplementary materials emphasizing these symbols would aid in mastering shorthand symbols.

Abstract 68

Gloria Ann Gonyer, "A Study to Determine the Effectiveness of 'Dictaprint' as A Speedbuilding Device in the Learning of Shorthand" (unpublished Master's thesis, Brigham Young University, 1963), p. 86.

Problem:

This experimental study was made to determine whether "Dictaprint" is effective as a speedbuilding device in the shorthand classroom and to determine the merits of "Dictaprint" as a method to meet more adequately individual differences found in a regular shorthand class.

Procedure

1. This study concerns two classes of Intermediate Shorthand taught at Brigham Young University spring semester of 1963. There was a total of 64 students participating in the study.

2. All students in the two classes had completed at least one semester of beginning shorthand. Each was required to buy a packet of "Dictaprint" materials for homework.

3. The homework assignments were the same for all students. The students were expected to spend at least 90 minutes each day on homework.

4. Neither the classes nor individual students were matched, because the students in both classes were considered as one in tabulating the results for this study.

5. The dictation for shorthand speed tests was taken from eight issues of the Business Teacher magazine and tests for 100 words a minute were selected.

6. Two pre-tests were given each week on Tuesday. On Wednesday and Thursday a speedbuilding practice period and post-tests were given. Experimental and control procedures were alternated each week for practice days, "Dictaprint" on Wednesday and oral dictation on Thursday. Classroom instructions and directions were recorded on tapes.

7. "Dictaprint" was used for the experimental procedure. The students practiced for 20 minutes, writing from printed material into shorthand at their own rates. A post-test was given at the end of the practice period and compared with the pre-test given on the same material.

8. Oral dictation was used for the control procedure. The students practiced for 20 minutes, writing what was dictated by the teacher. At the end of the practice period, a post-test was given and compared with the results on the pre-test on the same material.

9. Speed improvement was measured by the correct syllables typed on the post-test as compared to the correct syllables typed on the pre-test. The critical ratio was used to determine the significance of difference between the two scores.

10. The experiment covered a period of four weeks during mid-semester.

Findings:

1. First Week: When the students practiced from "Dictaprint", the mean improvement was 72.73 correct syllables; 59.15, when using Oral Dictation. A critical ratio of 2.09 was determined. This ratio indicated a significant difference between the means.

2. Second Week: The mean improvement was 71.12 correct syllables when the students practiced from Oral Dictations; 49.72, when they practiced from "Dictaprint". This difference was also found to be significant.

3. Third Week: When the "Dictaprint" was used, the mean improvement was 64.11 correct syllables. The mean improvement was 41.44 correct syllables when Oral Dictation practice was used. This difference was significant at the 1 percent level of confidence.

4. Fourth Week: A mean improvement of 49.21 was found when the students practiced from Oral Dictation, and the mean improvement was 59.65 when the students practiced from "Dictaprint". The Critical Ratio of 1.75 was not significant at the 5 percent level.

5. The total mean improvement was 58.83 correct syllables when the students practiced with "Dictaprint", and 53.22 correct syllables when practicing with Oral Dictation. The Critical Ratio of 1.80 indicates that this difference is not significant at the 5 percent level of confidence.

Conclusions:

1. There is no significant difference in the speed improvement of students practicing with "Dictaprint" when compared with the same students practicing with Oral Dictation.

2. "Dictaprint" is as effective as Oral Dictation for speedbuilding practice in the shorthand classroom.

3. "Dictaprint" could be used in conjunction with Oral Dictation for building shorthand speed.

Recommendations:

1. That "Dictaprint" be used in conjunction with Oral Dictation in building shorthand speed.

2. That a study be made an entire semester with one class using "Dictaprint" and another taking Oral Dictation.

3. That a study be done where completely different materials are used for practicing and testing rather than re-arranged materials.

4. That a study be made using "Dictaprint" in an advanced class for the speedbuilding program.

Abstractor's Comments:

1. A study needs to be made using "Dictaprint" for a longer period than four weeks before any sound conclusions can be drawn from the findings.

2. Apparently, two separate classes would be better--one as an experimental class and one as a control class, with paired students.

3. There is need for a more scientific study in this area.

4. This study does, however, point out a very good speed building technique for giving variety to the daily class routine.

Abstract 69

Juanita Conesther Gregory, "An Analysis of the Literature for Reports of the Utilization of Audio-Visual Materials in Shorthand Instruction" (unpublished Master's thesis, The Ohio State University, 1958), p. 113.

Problem:

The problem of this study was to determine the possible effective uses of audio-visual materials in the teaching of shorthand.

Procedures:

1. Business education literature was reviewed during the period September, 1947 to April, 1958, for information pertaining to the uses of audio-visual materials for shorthand teaching.

2. A set of questions was used as a guide in collecting the data from the literature.

3. Companies were contacted which might be able to supply audio-visual materials and information that could be used in shorthand classes.

4. The data was then organized and interpreted, the findings summarized, and conclusions drawn.

Findings:

1. Teachers who use audio-visual materials in teaching shorthand stress the need for preparation for the use of these materials, effective lesson planning, follow-up activities, and evaluation of the materials.

2. Evidence was found that many audio-visual materials have been used successfully in shorthand teaching.

3. Several films were found for use in shorthand classes.

4. There are dictation tapes and records correlated with textbook materials.

5. Most of the films in shorthand are short and can be shown in a regular period.

6. There are audio-visual materials, such as the bulletin board and chalkboard, which are readily accessible to shorthand teachers.

7. The chalkboard is used extensively in teaching shorthand.

8. Many of the audio-visual materials can be prepared quickly and with very little expense.

9. Some commercial charts are available, but most audio-visual materials are prepared by the teacher.

10. Shorthand teachers have used audio-visual materials to introduce, to motivate, to preview, to review, to test, and to provide variety in shorthand instruction.

Conclusions:

1. Audio-visual materials enhance shorthand learning.
2. The use of these audio-visual materials effectively requires careful planning.
3. Teachers need not deny themselves the use of audio-visual materials, since many are inexpensive and easy to prepare.
4. Student participation in the preparation of shorthand audio-visual materials encourages learning.
5. Discretion should be used in the use of all audio-visual materials in shorthand instruction or any other class.

Recommendations:

1. That shorthand teachers use audio-visual materials with discretion.
2. That teachers become familiar with the advantages and disadvantages of audio-visual materials.
3. That teachers become aware of the audio-visual materials available for shorthand teaching.
4. That shorthand teachers and film producers work together to produce more shorthand films.
5. That each presentation using audio-visual materials be evaluated by the teacher and students.
6. That these audio-visual materials be used for only part of the period.
7. That teachers make use of the more simple audio-visual materials before trying to use the more complex.

Abstractor's Comments:

1. The abstractor was intrigued by the bibliography. Under each reference in the bibliography a brief description was given containing the audio-visual materials mentioned in the article and how they are used in the shorthand class.

2. This study would be ideal to use in an undergraduate methods course in shorthand. It may also have possibility for a shorthand improvement course, since many shorthand teachers who have taught are not familiar with all the audio-visual materials that can be adapted to the teaching of shorthand.

Abstract 70

Patrick A. Grippe, "The Micromolar Theory and its Implications for Shorthand" (unpublished Master's thesis, University of Wisconsin, 1967), p. 70.

Problem:

The problem of this study was to determine whether the micromolar theory can be utilized in the first year shorthand classes at Pius XI High School.

Procedure:

1. This study consisted of two classes of beginning shorthand at Pius XI High School, Milwaukee, Wisconsin, during the 1966-67 school year. Both the control group and the experimental group were taught through traditional methods except the experimental group was never given dictation below 100 words a minute. There were 22 students in the experimental group and 19 in the control group.

2. The two groups were compared throughout four quarters on the results of theory tests, brief-form tests, reading speed, transcription from book plates and home-work notes, and on ability to take dictation and transcribe accurately. Complete grading scales were given in the report for each phase of grading throughout both semesters. Theory and reading were stressed in the first semester and transcription was stressed during the second semester.

3. During the third and fourth quarters the control group took dictation from professionally prepared tapes. Because of the nature of the dictation in the experimental group, these tapes were impractical. The major difference between the two groups was the method of giving dictation practice. The micromolar group (experimental group) was given dictation which remained constant at 100 words a minute throughout the course. Only the length of dictation was increased. The control group was

given dictation practice at varying speed beginning at 50 words a minute. The speed and length of dictation was increased as the course progressed.

4. There were various methods of writing used to make the transition from reading to writing easier, quicker, and more fluently. These methods included scribble writing, timed copy, the build-up method, the whole sentence copy method, and the self-dictation method. Various speed-building plans used in the control group included the Pyramid Plan, the One-Minute Plan, the Stair-Step Plan, and the Spurt Dictation Plan.

5. The two classes were compared on the basis of their Otis IQ test scores and overall grade averages. On these bases, the two groups were evenly matched.

Findings:

1. When compared on transcription rates from book plates during the first quarter, 52.6 percent of the control group were transcribing between 20-24 words a minute range and 40.9 percent in the 16-19 words a minute range.

2. First quarter reading rates revealed that 42.1 percent of the control group were reading in excess of 100 words a minute as compared to 18.2 percent for the experimental group.

3. The second semester reading rates revealed a different story. Rates of 140 words a minute or above were achieved by 9.1 percent of the experimental group and the control group had none in this category. In the 120-139 range, the experimental group had zero, but the control group had 31.6 percent. In the 100-119 range, there was 15.8 percent of the control group and 18.2 percent of the experimental group. The experimental group showed real signs of improvement on the transcription tests. At least 20 words a minute were transcribed by 54.5 percent of the experimental group with no one under 15 words a minute. However, the control group had 68.5 percent transcribing 20 words a minute or above, but 15.8 percent were transcribing below 15 words a minute.

4. The experimental group did much better than the control group on a three minute dictation test at the end of the first semester. Seventy points or above were received by 81.8 percent of the experimental group and only 63.1 percent of the control group was in the same category.

5. There was very little difference between the two groups on brief-form and theory tests throughout the third and fourth quarters. The control group was slightly higher than the experimental group on dictation and transcription tests, at the end of the third quarter. The experimental group had 13.6 percent with 110 points or above compared to 26.3 percent of the control group with 110 points or above.

6. The experimental group did slightly better in reading rate during the fourth quarter. The mean reading rate was 127.5 words a minute for the experimental group and 122.9 for the control group. The two groups were fairly equal in transcription rates. There was a difference in means of only 1.1 point, with the experimental group having a mean of 126.2 and the mean of the control group at 127.3.

Conclusions:

1. The control group did achieve slightly higher in transcription points, but the experimental group was slightly higher in reading rates. The difference in reading rates did indicate that the longer speed is stressed the faster the achievement of the student's reading rates.

2. "The micromolar theory is incorrect when it states a response practiced at 100 words a minute will give a response of 100 words a minute." Thus, it seems that this rate of dictation proved to be impractical.

3. This study emphasizes again the importance of moving from the simple to the complex even in developing shorthand speed.

4. If the micromolar theory is to be used in shorthand, perhaps a different beginning speed of dictation is needed.

5. So far, research has not determined the prime speed at which dictation should begin in beginning shorthand.

6. The investigator believes that 100 words a minute was too fast, creates confusion, and is an impossible level at which to begin shorthand dictation.

Recommendations:

1. More research is needed employing the micromolar theory to determine its effectiveness in shorthand speed-building.
2. More research is needed to determine a more realistic goal for the participants--say 80 words per minute.
3. More research is needed to determine the optimum length of a shorthand course in which the micromolar theory is used.

Abstractor's Comments:

1. As the writer pointed out, constant dictation at 100 words per minute might not be too high as a goal if the course were 45 weeks long instead of 36 weeks. The micromolar approach may be more suitable to an accelerated shorthand course for the above average student.
2. There were many variables in the study, that from the procedures given, it is not known whether or not they were controlled. Also, in a study of this kind there are many variables which cannot be controlled.
3. Sufficient numbers were not given in this study in order to verify calculations.

Abstract 71

Emma Lou Gullett Gross, "An Analysis of Changes in Principles and Abbreviating Devices in the 1916, 1929, 1949, and 1963 Editions of Gregg Shorthand" (unpublished Master's thesis, The University of Tennessee, 1966), p. 153.

Problem:

The problem of this study was to compare changes in the 1916, 1929, 1949, and 1963 editions of the Gregg shorthand system and determine the effect of those changes upon the writing of business contextual material and upon the words appearing in the Gregg Shorthand Dictionary Simplified (30b). A further intent was to determine the extent to which the latest revisions have reflected research findings.

Procedure:

1. The lists of principles developed by Shell (62b), Montgomery (52b), and Finney (20b) were used as the nucleus of this study. The final list contained a total of 137 principles. Each principle was written on a 4 x 6 inch index card.
2. Letters of 100-125 words in length were selected from Prentice-Hall (69b) and South-Western (48b) typewriting textbooks. Each sample contained 1,500 running words for a total of 3,000 words.
3. The 3,000 words were written in shorthand for each edition of Gregg shorthand--1929, 1949, and 1963. The number of strokes was counted in each word to determine how many strokes had been added or dropped from one edition to the next. The Chi-square test was applied to determine if the differences occurring were significant.
4. The number of words changed in the 1949 Gregg shorthand dictionary by the 1963 edition were determined through the use of data processing equipment at The University of Tennessee.
5. A review of related literature revealed suggestions for the elimination of certain principles and devices. Those principles and devices recommended for elimination by three or more researchers were compared with the changes made in the 1963 edition.

Findings:

1. The 1929 edition added 7 principles and abbreviating devices, 17 were added in 1949, and 0 were added in 1963.
2. In 1929, 4 principles and abbreviating devices were altered, 4 in 1949, and 10 in 1963.
3. The 1929 edition eliminated 23 principles and abbreviating devices from the 1916 edition, 53 were eliminated from the 1929 to the 1949 edition, and 25 were eliminated from the 1949 to the 1963 edition.
4. From 1916 to 1929, the principles and abbreviating devices decreased from 190 to 174, or 8.42 percent; from 1929 to 1949 they decreased from 174 to 138, or 20.69 percent; and from 1949 to 1963 they decreased from 138 to 113, or 18.12 percent.

5. All four editions contained 101 principles and abbreviating devices, with 22 appearing only in the 1916 edition, 5 in the 1929 edition only, 5 in the 1949 edition only, and no new ones were added in the 1963 edition. Eighteen were eliminated in the 1963 edition which appeared in the 1916, 1929, and 1949 editions.

6. Word beginnings, disjoined was the largest category in the 1916 and 1929 editions and word endings, joined was the largest category in the 1949 and 1963 editions. Word beginnings was the largest combined category in the 1916 and 1929 editions and word endings was the largest combined category for the 1949 and 1963 editions.

7. From 1916 to 1963, Word beginnings, disjoined had the most principles eliminated. These decreased from 48 in 1916 to 11 in 1963.

8. The number of strokes needed to write contextual material increased by 536, or 7.9 percent, in 1949 and an additional 321, or 4.4 percent, were added in 1963. Of those strokes added, 38.8 percent in 1949 and 19.9 percent in 1963 were caused by revisions in principles and abbreviating devices.

9. In 1949, the number of revised outlines was 409, or 13.6 percent, and in 1963, it was 282, or 9.4 percent. Of those words revised, 37.4 percent in 1949 and 34.8 percent in 1963 were caused by changes in principles and abbreviating devices.

10. There were 2,929, or 11.26 percent, of the total 26.023 words in the 1949 shorthand dictionary which were changed by the 1963 revisions in principles and abbreviating devices. Of those words changed, 26.66 percent, were caused by elimination of 4 principles and 26.25 percent were caused by elimination or alteration of 11 principles dealing with joined word endings.

11. Only 8, or 21.62 percent, of the 37 principles and abbreviating devices recommended for elimination were actually eliminated in the 1963 edition; 2, or 5.41 percent, were altered; and 27, or 72.97 percent, were retained.

Conclusions:

1. Although the 1963 edition shows a reduction in the number of principles, the greatest number were eliminated between the 1929 and 1949 editions.

2. The trend seems to be toward fewer disjointed outlines in Gregg shorthand.

3. The percentage of increase in strokes needed to write contextual material and the percentage of revised outlines was greater in 1949 than in 1963.

4. The revision in principles and abbreviating devices caused less than a 40 percent change in number of strokes and revised words used in writing contextual material.

5. The greatest number of changes in the shorthand dictionary were caused by the elimination of s (t) and the next largest revision was the elimination of c (t). The final t is written in all root words in the 1963 edition.

6. The authors of Gregg shorthand did not consider the research findings very heavily in revising the principles and abbreviating devices in the 1963 edition.

Abstract 72

Robert Gryder, "Teaching Transcription on the Secondary Level: Theories and Practices" (unpublished Ed.D. dissertation, University of North Dakota, 1964), p. 261.

Problem:

The problem of this study was to obtain, from selected groups of business educators and specialists in methodology of typewriter transcription, opinions and their degree of agreement or disagreement concerning selected major issues in the teaching of typewriter transcription on the high school level.

Procedure:

1. A survey was made of related literature and information pertaining to typewritten transcription was recorded on 5 x 8 cards. Conflicting ideas and opinions relative to improvement of instruction in typewriter transcription was compiled and classified.

2. A list of 43 major issues was compiled from the survey of professional literature. From this list of

issues, an opinionnaire was constructed incorporating various conflicting points of view that seemed to be predominant.

3. A jury of six educators was selected to evaluate and criticize each issue as to its significance as a check-list item. Each jury member could submit additional issues or reject any already included in the opinionnaire.

4. The opinionnaire was sent to 273 high school teachers, college teachers of transcription methodology, supervisors of business education, and transcription textbook authors. Of those receiving opinionnaires, responses were received from 74 percent of the high school teachers, 88 percent of the college teachers, 74 percent of the supervisors, and 90 percent of the authors.

5. Tabulated data and percentage of response were summarized individually for each issue. No single opinionnaire was discarded regardless of number of questions completed.

Findings:

1. A significant majority, or 59-89 percent, of the high school business teachers agreed on 18 of the check-list statements.

2. There was agreement on 16 of the check-list statements by 62-89 percent of the college transcription methodology teachers.

3. Of the check-list statements, 15 were agreed upon by 59-89 percent of the business education supervisors.

4. Of the check-list statements, 7 were agreed upon by 69-89 percent of the textbook authors.

5. High school business teachers expressed a lack of agreement on 21 of the 43 issues, college teachers lacked agreement on 23 of the 43 issues, supervisors indicated lack of agreement on 19 of the 43 issues, and lack of agreement was expressed by textbook authors on 22 of the 43 issues.

Conclusion:

On the basis of the findings in this study, it may be concluded that the nature and scope of typewritten

transcription on the high school level remains an unsolved problem for business educators.

Recommendations:

1. That transcription on the high school level be a fusion of skills acquired in typewriting, shorthand, and English.
2. That two years of shorthand including typewriter transcription be considered sufficient for beginning stenographic positions.
3. That typewriter transcription be incorporated in two-year course during the fourth semester.
4. That oral pretranscription be a prerequisite skill to typewriter transcription.
5. That the learner acquire a five-minute typewriting rate of 40 to 49 words per minute on straight copy skill before beginning transcription on new matter dictation.
6. That shorthand student can take dictation on new matter material for three minutes at 60 words per minute before typewriter transcription is started.
7. That office-style dictation be postponed until late in the course.
8. That there is enough subject matter to make offering transcription as a one semester course justifiable.

Abstractor's Comments:

1. The abstractor believes that findings were mixed in with conclusions.
2. As the findings indicated in this study, there is little agreement on many of the major issues related to typewriter transcription.

Abstract 73

Emma Jean Preston Gunderson, "An Analysis of the Trends in the Methods of Teaching Gregg Shorthand in the United States" (unpublished Master's thesis, The University of Southern California, 1962), p. 68.

Problem:

"The problem of this study was to secure data concerning the historical development of different methods of teaching Gregg Shorthand in the United States and to explain the difference among them, giving the educational thought and psychological reasoning behind their use."

Procedure:

1. This study was limited to the methods used in the United States for teaching Gregg Shorthand. These included the Traditional Method; Analytical Method; Barnhart's Direct Association Method; Sentence Method of Beers and Scott; Chart Method of Skene, Lomax, and Walsh; Direct Method of Brewington and Soutler; Sentence Method of Zinman, Strelsin, and Weitz; Leslie's Functional Method; Direct Approach Method of Odell, Rowe, and Stuart; and Notehand.

2. A large portion of the information needed for this study was gathered from the prefaces to the textbook advocating a particular method. Teacher's handbooks were also used, as well as specific studies of business education trends which had reference to shorthand methods.

Conclusions:

1. Shorthand learning contains three parts: brief forms and exceptions which are learned by the direct method, frequently used words which must be automatized by either the Traditional or Direct Method, and new words which seem to be handled most easily after Traditional Method learning.

2. The emphasis placed on dictation has steadily increased since the teaching of shorthand began in the United States and especially since Gregg in 1916.

3. Frick's Analytical Method is sound, but too difficult for teachers to learn to use effectively.

4. The following are some of the more common criticisms of the Traditional Method:

- a. Even though the inductive method is time saving, the results may not be as lasting as the deductive method.
- b. If word lists are used, drill becomes boring.
- c. Hesitation in writing may be caused by too much emphasis on penmanship.
- d. The writing process may be hindered by recall of rules.
- e. Only enough guidance for effective learning should be used.
- f. Learning parts does not result in learning of wholes.

5. The Traditional Method employs less reading than the Direct Methods. Direct Methods de-emphasize penmanship drills and their principal differences are the beginning emphasis--some use the reading approach, some the writing, and still others use the meaning approach.

6. The following are some of the more common criticisms of the Functional Method:

- a. Over emphasis on reading can be boring.
- b. New words cannot be written as easily as by students of other methods.
- c. Penmanship of these students is poor.
- d. Students must accept too much on faith.
- e. Writing is postponed too long.
- f. No analysis is made of errors and no drill to overcome errors.
- g. Shorthand notes that are not checked become sloppy.
- h. Students with weaknesses have no principles to study.
- i. Method is not good for training teachers who should know principles.
- j. Students use the key as a crutch.
- k. Teacher's personality is excluded from the method.
- l. Sentences in reading exercises are too long for good practice in copying.
- m. Previously covered principles are not reviewed enough.

7. Little, if any, agreement concerning principles of learning shorthand were found among the methods studied.

8. Teacher trainees have a wide choice of techniques and may choose to use a combination of methods to achieve desired results.

Recommendations:

1. Since constructing unfamiliar outlines and transcribing from their own notes are universally accepted as the most difficult activities in shorthand, shorthand learners should be given as much practice as possible in these areas.

2. An effective learning program would be:
(a) allow students to analyze a shorthand outline and write the outline enough times to understand the principles involved, (b) read the outline without the use of the key, and (c) give students ample opportunity to test their ability to write proper outlines from dictation or printed matter.

3. Research is needed to determine the relationship between theory knowledge and transcription efficiency and how this relationship can be tested.

4. Research is needed studying methods of measuring progress of learning of the shorthand skill at different levels.

Abstractor's Comments:

1. Some of the recommendations appeared to be conclusions.

2. This study could be used very effectively in a shorthand methods course.

3. The study is one which should be read by all shorthand teachers. Many teachers are not aware of the fact that this many different methods exist for teaching shorthand.

Abstract 74

Dale D. Gust, "The Development of an Annotated Bibliography of Speed Building Procedures Employed in Gregg Shorthand" (unpublished Master's thesis, University of North Dakota, 1961), p. 69.

Problem:

This study was done to develop an annotation of the different methods used for developing Gregg shorthand writing speed by teachers and other authorities in the field of shorthand.

Procedure:

1. The Business Education Indexes were examined to locate articles dealing with shorthand speed building, and the information needed for locating these articles was recorded on 3 x 5 cards. This information included the author's name, title of article, and the source.
2. The National Business Education Quarterlies, Business Education Indexes, and the Encyclopedia of Education Research were used to locate theses that had been written and which relate to the topic from 1950 to 1960.
3. Not all articles related to speed building were indicated in the title of the article; therefore, all issues of the magazines used were surveyed. The magazines used included the Balance Sheet, Business Education World, Business Teacher, Journal of Business Education, and the Business Education Forum.
4. The same procedure was used for searching through textbooks and teachers manuals which were related to the subject.
5. As the articles were located and reviewed, a short summary was written on the card.
6. After all of the articles had been located, reviewed, and summarized, the cards were arranged in alphabetical order and a number was placed in the upper left hand corner.
7. The author decided to prepare a checklist of speed building facets to look for in reviewing the

articles for final summary. The classifications used in the check-list included writing factors, selection of material, dictation factors to consider regarding length, time and quantity of dictation, previewing, reading and copying of shorthand material, repetition and its role in developing speed, speed building, and miscellaneous factors to be considered.

8. The articles were read a second time and significant information was recorded on 5 x 8 cards. A number which corresponded to the number on the 3 x 5 card was then placed in the upper right hand corner.

9. At the end of each annotation in Chapter III, a number appeared in parenthesis. This number corresponds to the 5 x 8 card containing information from the article and also to the 3 x 5 card containing, the author, title, and source.

Summary:

The purpose of the summary will be to present the opinions of the majority of writers and authors in the field of shorthand as to particular methods used in developing shorthand speed.

Writing Factors

1. Left-handedness will not hinder the development of shorthand speed.

2. Position of the hand will cause some hindrance to writing speed but very little. The position used by the writer should be natural for him.

3. Pen-pinching does reduce shorthand speed. This is often caused by nervousness and tension.

4. A comfortable position should be used; however, posture is of little importance.

5. The writing style of the student should not be changed once they reach this stage. Attempting to change the writing style will hinder the student's progress.

6. Penmanship should not be stressed. This will cause the student to lose speed.

7. More emphasis should be placed on fluency rather than on accuracy. To mention much stress on accuracy

will cause the students to draw, and, therefore, will result in a loss of speed.

8. Students should be allowed to write dictation within their range for control.

9. Students can write only as fast as their minds can produce the outlines.

10. Students should be taught to write something down for every word. A poorly written or incorrect outline is better than no outline at all.

11. Dictation should be given to force the students to write at speeds beyond their normal writing rates.

Selection of Material

1. Some easy dictation material should be given for building speed.

2. Dictation should be given on practiced material to help eliminate hesitations.

3. Testing should be done over new-material. If new-matter material is used for dictation practice, the material should be previewed. This type of material should be used after mastery of theory.

Dictation Factors to Consider

1. The teacher's role in shorthand speed development is an important one. Teachers must give the dictation clearly, accurately, and with confidence.

2. Too much expression or emotion in the dictator's voice is distracting to the students.

3. Students should know the objectives of the course.

4. The dictation should be loud enough to be heard by all in the classroom.

5. The teacher must be enthusiastic.

6. A relaxed atmosphere should be created by the teacher.

7. Students should know how to dictate so they can dictate to each other.

8. Dictation material should be given in phrase or thought groups.

Factors Regarding Length, Time, and Quantity of Dictation

1. Short takes of 1-3 minutes should be used for building speed.

2. The dictation that is given should meet the needs of the individuals in the class.

3. Long dictations of 5 minutes or longer seldom result in an increase of speed.

4. Dictation should be given in short spurts at increased rates for building speed.

5. After increasing spurts of speed, dictation speed should be lowered to allow students to write for control.

6. Large quantities of dictation should be given, and the majority of this dictation should be previewed.

7. At least once in each period, dictation should be given at a speed where none of the students can get the material and once at a speed where all of the students can get the material.

8. When moving from one rate to another, a 5-10 word increase is better than a 20 word increase.

Previewing

1. Previews should be continued throughout the entire speed building process.

2. The chalkboard can be used with great success for previewing.

3. The reading preview can be used very effectively in building shorthand speed.

4. The preview should be approximately 10 words for every 100 in the dictation.

5. Phrases that should be automatized should be previewed.

6. The Multiple Outline Phrase can be used successfully in a speed building class.

7. Previewing helps to develop fluency and accuracy.

Reading and Copying Shorthand Materials

1. Shorthand reading increases the students' shorthand vocabulary and fills the minds with well-written shorthand outlines.

2. Copying shorthand plates is beneficial to students. This gives them an opportunity to copy well-written shorthand, and they will use some of the outline characters and style in their own notes.

3. A lot of class time should not be spent in reading back shorthand notes.

Repetition

1. Students should be aware of why material is being repeated.

2. If repetition is purposeful, it will increase shorthand speed.

3. Material used for repetition should be easy and short.

4. Automatization of words and phrases will result from repetition.

5. An excessive amount of repetition can be detrimental to shorthand speed.

Speed Building Plans

1. The most common speed building plans used are the One-Minute Plan, the Pyramid Plan, and the Minute-Step Plan.

2. Previews should be used with all speed building plans.

3. Progressive dictation is frequently used for developing shorthand speed.

4. Occasionally, the Spotwrite Plan is used by some teachers in developing shorthand speed.

Other Factors to Consider

1. Shortcuts can be used effectively in developing shorthand speed. However, if they are not thoroughly automatized, they can prove to be a hindrance to the students.

2. Shortcuts should be minimized.

3. Shortcuts can be eliminated because of the simplicity of Gregg Shorthand.

4. Phrases should be used in developing shorthand speed, but should be automatized and kept to a minimum.

5. The amount of speed developed by the student will help determine the personal use that will be made of shorthand. If students would use their shorthand for personal use, it would result in higher speeds.

Abstractor's Comments:

1. Knowledge of this study would certainly be beneficial to the beginning shorthand teacher.

2. This study could be used most effectively by undergraduate shorthand methods teachers.

3. All shorthand teachers should be familiar with the speedbuilding plans mentioned in this report.

4. No conclusions or recommendations were made in this study.

VOLUME II

PART III

ABSTRACTS OF RESEARCH STUDIES PERTAINING
TO SHORTHAND AND TRANSCRIPTION
(Abstracts H-Z)

ABSTRACTS OF 220 RESEARCH STUDIES

Part III contains the abstracts of 220 research studies pertaining to shorthand and transcription--149 masters' theses and 71 doctoral dissertations. The abstracts are arranged in alphabetical order by name of the author. When two studies were completed by the same author, the studies are arranged in order by date with the more recent date first.

The nature of the information included in an abstract depends largely upon the research procedure and format used in the original study. However, most of the abstracts include the following information: (a) complete biographical reference of the study, (b) statement of the problem, (c) procedure, (d) findings, (e) conclusions, (f) recommendations, and/or (g) abstractor's comments. The abstractor's comments pertain to such factors as the adequacy or representativeness of the sample; accuracy in interpreting data; consistency of findings, conclusions, and recommendations with the material presented in the research study; and implications for the research. Although abstractor's comments were frequently made, no attempt was made to analyze the research studies.

Abstract 75

Berle Haggblade, "Factors Affecting Achievement in Shorthand" (unpublished Ed.D. dissertation, University of California, 1965), p. 220.

Problem:

The problem of this study was to determine the relationship between certain selected factors and shorthand achievement.

Procedure:

1. This study involved 232 fourth-semester shorthand students in 13 central California high schools. Scores obtained from these 232 students provided the basis for the effect the 11 selected factors had upon achievement in shorthand.

2. The 11 selected factors for use in this study were:

- a. Ability to Write Theoretically Correct Shorthand Outlines for High Frequency Words
- b. Ability to Write Theoretically Correct Shorthand Outlines for Brief Forms
- c. Phrasing Ability
- d. Quality of Shorthand Penmanship
- e. Dictation-taking Speed
- f. Ability to Write Theoretically Correct Shorthand Outlines for Words Falling Outside the High Frequency List
- g. Typewriting Speed
- h. Typewriting Accuracy
- i. Transcription Speed
- j. Transcription Accuracy
- k. Shorthand Reading Ability

3. Shorthand achievement was determined by the number of correctly transcribed words from shorthand notes taken from five 141-word business letters dictated at 80 words per minute. This test, as were the others used in this study, was constructed by the investigator. Two criterion tests were constructed and administered. Only the results obtained on the second test were used in

this study. The two tests were constructed of words taken from the Silverthorn list (65b) and the syllabic intensity was held constant at 1.49 on all letters.

4. A 100-word list was constructed to measure the correctness of theoretically written shorthand outlines. A list was made of all words not among the first 5,000 on the Silverthorn list. Using a table of random numbers, 100 words were selected. This test was administered by tape.

5. Dictation-taking speed was measured by a series of one-minute letters ranging in speed from 60 to 130 words per minute. These eight letters were primarily constructed as the criterion letters. A certain speed was considered passed when it was transcribed with 95 percent or above accuracy.

6. Typewriting speed and accuracy were measured by a five-minute timed writing 476 words long with a syllabic intensity of 1.40.

7. Transcription speed and accuracy were measured by a five-minute timed writing from shorthand plates. This material was 358 words long with a syllabic intensity of 1.40. Both the typewriting and shorthand speed tests were computed on gross words a minute and accuracy as a percentage score.

8. A reading test to measure reading ability was also constructed by the investigator. This test was designed to measure reading speed and comprehension. This test contained 12 letters written in shorthand, with each followed by five multiple-choice questions.

9. The test battery was tried on a group of students other than those used in the study. Where results deemed advisable, slight revisions were made in the materials.

10. Statistical computations made from the data received included correlation coefficients, coefficients of determination, and multiple correlation and regression analysis.

Findings:

1. Only 7 of the 232 students were unable to write theoretically correct outlines for 70 percent or more of the high frequency words. A further analysis revealed a

correlation coefficient of .76923 between ability to write theoretically correct outlines and achievement in shorthand.

2. All of the 232 students, except 11, wrote 95 percent or more of the brief forms correctly. Ability to write correct brief forms correlated the lowest with shorthand achievement of all factors studied, with a correlation of .23396. This does not mean that writing correct brief forms is unimportant but simply that this factor is not highly related to overall shorthand achievement.

3. When students' phrasing abilities were checked, 43 percent wrote 90 percent or more of the phrases; whereas, 13 percent wrote fewer than 50 percent of the possible phrases. The correlation coefficient between this factor and shorthand achievement was .45494.

4. Penmanship was subjectively scored by the investigator. This factor showed a correlation coefficient to shorthand achievement of .36788.

5. Thirty-six of the 232 students were unable to transcribe one letter with 95 percent or above accuracy. While 50 percent transcribed acceptable letters in the 60 to 90 words a minute range, nearly 35 percent passed the 100 words a minute tests or higher. This factor produced a correlation coefficient of .62983 with shorthand achievement. This factor of one of the three variables shown by the regression analyses to be contributing the most to the criterion variance.

6. The correlation coefficient between ability to write correctly words falling outside the high frequency list and shorthand achievement was .64582.

7. Typewriting speed showed one of the highest correlations with shorthand achievement, .54306. On the other hand, accuracy showed one of lowest, .23644. A further analysis revealed an intercorrelation between typewriting speed and transcription speed, .59074. The mean straight copy rate of all 232 students was 52.64 gross words a minute for five minutes.

8. The correlation coefficient between achievement in shorthand and transcription speed was .76842, one of the two highest in the study. Transcription accuracy was more closely related to shorthand achievement than typewriting accuracy with a correlation of .44249. The mean transcription speed for all students was 28.84 gross words a minute for five minutes over shorthand plates.

9. The correlation coefficient found between reading ability and shorthand achievement was .58144.

Conclusions:

1. The regression analyses showed that ability to write correct outlines, dictation speed, and transcription speed make the greatest contribution to achievement in shorthand.

2. Ability to construct correct brief forms alone is not significantly related to shorthand achievement.

3. Since a number of the higher achieving students did not phrase a great deal, phrasing really does not seem to affect ability to achieve in shorthand.

4. Shorthand achievement does not appear to be affected by penmanship.

5. Shorthand achievement is associated with ability to record dictation at the higher speeds.

6. A low level of proficiency is being attained by a majority of the students in fourth-semester shorthand.

7. High typewriting speed is necessary for high shorthand achievement. Furthermore, student's inability to read shorthand outlines correctly contributes more to low shorthand achievement than does typewriting inaccuracy.

8. Intercorrelations showed that transcription speed involves several other factors and is a complex process requiring a combination of skills.

9. Interrelationships between reading ability and transcription speeds indicate the importance of reading in the final phase of shorthand learning.

Recommendations:

1. The writing of theoretically correct outlines should be stressed.

2. More emphasis should be placed on taking dictation from higher speeds.

3. The over-all transcription process should be emphasized.

4. Emphasis is not needed on penmanship.
5. Extra time should not be devoted to phrasing.
6. The findings of this study indicate that shorthand instruction must be improved.
7. A study in greater depth is needed as follows:
Ability to Write Theoretically Correct Shorthand Outlines
for High Frequency Words, Dictation-taking Speeds, and
Transcription Speed.
8. A similar study should be conducted using
mailable copy as the criterion of shorthand achievement.
9. A study should be conducted comparing students'
ability to transcribe from shorthand plates and ability to
transcribe from their own shorthand notes.

Abstractor's Comment:

This study further emphasizes the importance of theory to shorthand achievement.

Abstract 76

Jordan Hale, "A Factor Analysis of Shorthand-Transcription Ability" (unpublished Ph.D. dissertation, New York University, 1958), p. 126.

Problem:

The problem of this study was to identify and combine through the use of the factor analysis the factors which effect the overall transcription process and to assign weights to these factors.

Hypotheses:

1. "The basic psychological factors inherent in shorthand-transcription are:
 - a. Verbal (spelling, reading, vocabulary, word sense).
 - b. Perceptual (the rapid observation of small detail, as in name comparison, number comparison).

- c. Manual dexterity and eye-hand coordination (tracing, dotting, tapping).
- d. Abstract thinking (manipulation of symbols, perception of spatial relations).
- e. Personal (emotional adjustment, perseverance, attitude to school, work-study habits)."

2. "These factors are orthogonal (independent) of each other. They represent constellations of abilities which are different from independent of each other."

Procedure:

1. To eliminate teacher influence, three teachers were selected on the bases of ability, training, age, experience, motivation, and status. These three teachers were selected from Girls High School, Jackson High School, and Van Buren High School in the New York City area.

2. The final analysis involved 78 girls enrolled in Stenography 4 classes taught by the three teachers selected in the three high schools. Purposive sampling was used in selecting the students involved in the study.

3. A battery of 12 tests was used for gathering data for this study. Several of the tests had one or more subtests. All of these tests were administered during the second, third, and fourth months of the term. All of the tests but the shorthand-transcription criterion examination were scored by the investigator.

4. In studying the data, the subtest scores were treated as individual scores. Correlation coefficients were calculated on an IBM 650 electronic calculator. The matrix or intercorrelations were factored by the centroid method. No attempt was made to compare schools or classes in any way.

Conclusions:

1. The 23 test variables administered revealed three psychological factors which are inherent in the shorthand-transcription process: psychomotor speed, consisting of perceptual and manual speed and ability to work under stress; verbal ability to work with words and meanings; and non-verbal ability with spatial visualization --mechanical ability component.

2. The verbal factor was the only independent factor in the shorthand-transcription process as stated

in hypothesis number one. The three factors, personal, perceptual, and manual dexterity, are all a part of psychomotor speed rather than independent factors.

3. The abstract-thinking factor in hypothesis one is not distinct, but is involved in the non-verbal factor.

4. The hypothesis of independence of factors in the shorthand-transcription process is basically verified by this study.

5. The Minnesota Clerical number comparison subtest can test only a little more than one-half, or 54 percent, of the variance attributed to the psychomotor speed factor. However, this was the best test of this factor.

6. The Turse Word Discrimination subtest can test a large percent, or 84 percent, of the variance attributed to the verbal factor.

7. The Turse Symbol Transcription subtest was the best measure of the non-verbal factor. However, it only measures 44 percent of the variance in the test attributed to the non-verbal factor.

8. The New York State Combination Shorthand, Transcription, and Typewriting regents test proved to be a poor criterion measure. The criterion test chosen did not measure substantially any of the three factors found inherent in shorthand-transcription.

9. Although the teachers were selected for the study, student achievement no doubt was affected by output, personality, interest for their work, methods used, professional competence, and general "know-how."

10. Many of the tests used in this study were inadequate. Therefore, more valid measures of the aptitudes they were supposed to test may have shown more independent factors than revealed in this study.

Recommendations:

1. That a similar study be made using more valid measures of psychomotor speed and non-verbal ability.

2. That a test be developed to measure validly student interest in shorthand-transcription.

3. That even though the criterion test does not affect the factors analysis, a more valid criterion test would have added to a study of this nature.

4. That a prognostic test be constructed using the three factors identified in this study.

5. That a similar study be conducted outside the New York City area.

6. That the findings of this study be made available to shorthand teachers in order that they may provide for these factors in their teaching.

Abstract 77

Wilma J. Hall, "The ITED Test as an Indicator of Shorthand I Success at Sky View High School" (unpublished Master's thesis, Utah State University, 1966), p. 25.

Since the Iowa Tests of Educational Development is considered to be one of the best tests of its kind, it was selected for use in this study. There are nine subtests in the test battery, but only Test No. 3, Correctness and Appropriateness of Expression, and Test No. 8, General Vocabulary, were selected for use in this study. The writer believed that none of the other tests were even generally related to shorthand.

This study involved Shorthand I students who were enrolled at South Cache High School from 1960-1964 and those enrolled at Sky View High School during the 1964-65 school year. This arrangement came about as a result of a consolidation of South Cache and North Cache High Schools. All of those students involved had taken the ITED Test during their sophomore year. There were 11 classes or a total of 303 Shorthand I students.

Although both tests showed a relationship to shorthand success, the relationship between final grades in shorthand and Test No. 8, Vocabulary, was much higher. Students who scored 20 or above on the same test did not receive a final grade in shorthand lower than "C".

The findings of this study may be useful at Sky View High School in determining which students will be most successful in Shorthand I. However, they will not be used to eliminate students from the possibility of enrolling in Shorthand I.

Abstractor's Comments:

1. No problem statement or procedures was given in this study. Furthermore, the report did not lend itself to the usual abstract form.
2. Similar studies need to be made by other school systems to determine those factors which will aid in counseling future shorthand students.

Abstract 78

Frances Norton Hamlett, "A Utilization Study of Programmed Shorthand" (unpublished Master's thesis, Virginia Polytechnic Institute, 1965), p. 50.

Problem:

The problem of this study was to determine the extent to which shorthand theory can effectively be taught through programmed materials and the extent to which theory will be retained during the second semester when no theory was formally taught.

Hypotheses:

1. "Programmed shorthand can be used successfully in the first semester of first-year shorthand in place of a textbook for the learning of theory."
2. "There will be no significant difference in theory test scores when programmed lessons are completed before class instruction is given and when programmed lessons are completed after class instruction is given."
3. "Theory will be retained during the second semester when no theory is being formally taught."

Procedure:

1. This study was conducted at Cumberland High School, Cumberland, Virginia, during the 1964-65 school year. The study consisted of 16 students using programmed shorthand lessons for one semester. The class met five times per week for 18 weeks, or a total of 90 class periods, each 55 minutes long.

2. The programmed lessons were covered alternating between prior instruction before individual completion of five lessons (called Method A) and no prior instruction before completion of the next five lessons (called Method B). This pattern was repeated four times, as there were five lessons in each chapter and a total of 40 lessons. No separate program was written for the review lessons.

3. A theory test was given upon completion of each chapter. There were four tests given under Method A and four under Method B, all prepared by the instructor.

4. Five theory tests were given during the second semester, each containing 100 words, at approximately two-to-four week intervals. Words were dictated at the rate of 10 per minute; therefore, the tests were 10 minutes long. The same test was given at the end of the second semester that was given at the end of the first. These five tests were taken from the 1963-64 issues of the Business Teacher and each was designed to measure retention of theory.

5. The data from these tests were tabulated to show how well students retained shorthand theory when no theory was being formally taught.

Findings:

1. Since 15 of the 16 students received a mean grade of 75 or above and this denotes passing, Hypothesis I, which states that shorthand can successfully be learned from programmed instruction, was accepted.

2. Hypothesis II, which stated that no significant difference would exist between Method A and Method B, was also accepted. A Z score larger than 1.96 was needed to be significant at the 5 percent level. All 16 Z scores ranged between .13 and 1.77.

3. Based on the means of seven theory tests given between the end of the first semester and the end of the second semester, Hypothesis III was accepted. The first test showed a mean of 24.00 items missed out of 100; whereas, the last test had a mean of 14.00. The other five means were 19.94, 22.19, 19.00, 21.56, and 13.63 respectively.

4. The mean IQ of the students in the study was 98.53 and their mean high school average was 85.75. Including time spent in class and at home, each student spent an average of 97 hours on programmed shorthand.

Conclusions:

1. Shorthand theory was learned from programmed materials by the 16 students participating in the study.
2. There was no difference between Method A and Method B as far as these 16 students were concerned.
3. Knowledge of theory actually increased rather than decreased during the second semester when no theory was formally taught.

Recommendations:

1. That the value of programmed materials for homework for the first semester needs to be determined.
2. That further research be done to determine the special benefits programmed materials can offer the slow learner or the gifted student.
3. That research be done to determine if learning shorthand from programmed materials is affected by the length of the programmed lesson.

Abstractor's Comments:

1. Programmed materials need to be tested for value to second semester students as well as first semester students.
2. The sample in this study was too small to draw broad generalization from.
3. An equated control group to compare to the experimental group would have added validity to the study.

Abstract 79

Karen Joyce Hammond, "A Comparison of the Shorthand Achievement on Tests Administered by Oral and Printed Dictation" (unpublished Master's thesis, Brigham Young University, 1963), p. 114.

Problem:

"The problem of this study was to determine the correlation of shorthand tests administered by oral dictation as compared with printed dictation."

Procedure:

1. This study was conducted at Brigham Young University during the spring semester of the 1963 school year. The two classes contained all the 63 shorthand students registered for the transcription course. As all 63 students were subjected to both methods of testing, no attempt was made to assign them to specific classes. The two classes were taught by the same instructor who followed the same lesson plan.

2. On Monday and Tuesday of the first and third weeks, the students were given oral dictation. These tests contained a warm-up and two 3-minute tests. The students were allowed a maximum of 25 minutes to transcribe and check one of the 3-minute tests.

3. Dictaplate was test material typed in two columns with writing lines left between lines of typing for the students to use in recording shorthand notes. Transparent paper is placed on the top to write on, so that transcription could be done from student's own notes.

4. On Monday and Tuesday of the second and fourth weeks, the students were given printed dictation tests or dictaplate. These tests contained the exact same material as taken by the students in the oral tests. An additional one minute's dictation was added to give ample material for those who might write beyond their oral dictation rates. These tests involved a warm-up and one 3-minute test. During the printed dictation tests, the students wrote from dictaplate and were instructed to write as much as possible in three minutes. They were given 25 minutes to transcribe and then each student checked his own transcription.

5. The measurement of each student's performance was determined by the scores made on the four oral dictation tests and the four printed dictation tests. These test scores were then compared to determine the difference in the achievement on the two methods of testing and the correlation of coefficient of the two methods.

Findings:

1. For the 33 students in Section I, the mean scores of syllables for tests 1, 2, 3, and 4 were 429.5,

401.5, 454.0, and 435.0, respectively, for the tests by oral dictation. On the printed dictation tests the mean scores of syllables were 428.5, 418.1, 446.3, and 440.4, respectively.

2. For the 30 students in Section II, the mean scores of syllables were 433.9, 395.0, 460.0, and 434.4 for the tests by oral dictation and 446.2, 432.3, 470.0, and 445.8 for the tests by printed dictation.

3. The correlation coefficient for Section I on Tests 1, 2, 3, and 4 were .449, .598, .605, and .267, respectively; and for Section II they were .120, .738, .651, and .796, respectively.

4. When a person considers all 63 students, the difference in mean scores of syllables for the two methods of testing were 7.0, 27.0, 3.6, and 9.0, respectively, with critical ratios of 2.42, 3.13, 1.09, and 2.41, respectively. Based on the above critical ratios, a significant difference was revealed at the 5 percent level on tests 1 and 4. Furthermore, the critical ratio on test 2 was significant at the 1 percent level.

Conclusions:

1. The findings of this study seem to indicate that printed dictation may be used to measure speed, permitting students to write at their own rates.

2. The evaluation obtained from the two methods of testing may vary from a negligible relationship to a substantial relationship, or may be in substantially the same relationship.

Recommendations:

1. That further experimentation be done involving printed dictation tests.

2. That similar studies be done covering a longer period of time.

3. That a study be made for comparing two equated classes, with one using oral dictation and the other using printed dictation.

Abstractor's Comments:

1. On occasions the author stated that there were 40 students in each class, and on other occasions stated that there were 33 students in section 1 and 30 in section 2.

2. As the investigator indicates, the sample was relatively small in number of students and the number of tests given.

3. Because the words dictaprint and dictaplate are used interchangeably, the abstractor assumes that the two terms mean the same.

4. Printed dictation would be beneficial in providing for individual differences in speed, make-up tests, and additional testing for those trying to attain certain goals.

Abstract 80

Robert Nelton Hanson, "Visual Stimulus Versus Combined Audio-Visual Stimuli for Out-of-Class Practice in First Semester College Gregg Shorthand" (unpublished Ed.D. dissertation, University of North Dakota, 1966), p. 164.

Problem:

The problem of this study was to determine whether first-semester Gregg shorthand classes doing homework by self dictation from textbooks (visual stimulus) and classes doing homework from textbooks and taped dictation of the textbook material (audio-visual stimuli) differ significantly.

Procedure:

1. A comprehensive survey was made of the literature which related to the study. From the literature reviewed, variables were selected for matching the control and experimental groups. Those variables selected included: IQ; high school percentile rank; ACT college-bound composite percentile score; ACT college-bound English percentile score; Turse Shorthand Aptitude Test 6; the Guilford-Zimmerman Temperament Survey; and anticipatory attitude toward the learning of shorthand. The writer also reviewed basic psychological principles of skill

learning, particularly as they relate to repetitive practice.

2. The students involved in the study were enrolled in Shorthand 122 at Illinois State University at Normal, Illinois, during the 1964-65 school year. There were 25 students enrolled in fall semester at 9:00 a.m., 16 of whom were subjects of the experiment and 23 students in the 1:00 p.m. class, 17 of whom were subjects. The 9:00 a.m. class was determined the control class and the 1:00 p.m. class the experimental group. There were 16 students in the spring semester who were divided equally between two classes. None of the students participating in the study had previous training in shorthand. On the basis of the criteria used in selecting the students, none of the groups were significantly different at the 5 percent level of confidence.

3. All classes were taught by the same instructor, the researcher, in the same room, and from the same lesson plans. Each class met four days each week for 50-minutes each day. All classes used the test Gregg Shorthand, Diamond Jubilee Series, and all students had a copy of the student transcript. New-matter dictation was taken from several other sources.

4. The major variable in the experiment was the manner in which students did their homework. The control group did daily self-dictation taken from the textbook. The experimental group for homework took daily dictation from taped material. The experimental group was directed to leave their textbooks open while taking taped dictation, which was correlated with the text. Some of the tapes were commercially prepared tapes and some were prepared by the researcher.

5. Various types of tests were given throughout the term. Here are descriptions of those tests:

- a. At the end of 15 clock hours, two theory subtests and two 1-minute reading tests were administered.
- b. After 30 clock hours, two theory subtests and two letters dictated in three minutes were administered. The speed dictation was 60 words per minute for the first minute, 70 words per minute for the second minute, and 80 words per minute for the third minute. No time limit was set on transcribing.
- c. After 45 clock hours, two theory subtests and two 3-minute tests were given on new-matter.

Speeds were increased every 30 seconds, and each of the two letters contained speeds of 50, 60, 70, 80, 90, and 100 words per minute. No time limit was set on transcribing.

- d. After all principles were introduced, 5 different 3-minute tests on new-matter were given. Dictation speeds ranged from 50 to 90 words per minute. No limit was set on transcribing and a certain speed level was passed when a student was able to transcribe his notes with 95 percent accuracy. The 5 percent error allowance included capitalization, punctuation, and spelling.

6. The "t" test was used to compare the two groups on achievement scores recorded throughout the semester. The "t" test was also used in comparing the attendance of the two groups and the number of out-of-class hours spent practicing.

Findings:

1. The control groups consistently scored higher on the theory tests after all three time periods. When theory test scores were combined for all control students and compared to combined scores for all the experimental students, the control group was significantly higher at the 1 percent level of confidence.

2. A comparison of the two groups on reading scores after 15 hours of instruction and transcripts on practiced material after 30 hours of instruction revealed no significant difference at the 5 percent level.

3. A comparison of transcripts on new-matter dictation after 45 hours of instruction showed consistent differences in favor of the experimental group. However, these differences were not significant.

4. A comparison of number of persons passing three-minute dictation tests at different speeds with 95 percent accuracy showed the fall semester experimental group achieved better than the control group. However, the spring semester control group achieved better than the experimental group. Pooled scores of both groups favored the experimental group.

5. The attendance records showed no meaningful differences. However, both groups indicated considerable more practice time was spent by the students in the spring semester.

6. The responses on the questionnaire varied somewhat. A greater liking for shorthand was indicated by the control students; however, the experimental students thought shorthand was slightly easier to learn than did the control students.

7. Several of the experimental students felt that laboratory practice periods were difficult to fit into their already busy schedules. Most of them believed laboratory practice was beneficial.

8. High school percentile rank; Test A, The Guilford-Zimmerman Temporary Survey; ACT college-bound English percentile score; ACT college-bound composite percentile score; Turse, Test 6; and IQ were all found to be correlated with the theory tests after all three periods.

9. After 15 clock hours, reading skill was found to be correlated to ACT college-bound English and composite percentile scores; and Test A, G, O, and E, The Guilford-Zimmerman Temperament Survey.

10. Dictation on practiced material after 30 hours was found to correlate with IQ; Turse, Test 6; and Test T and F, The Guilford-Zimmerman Temperament Survey.

11. After 45 hours of instruction, new-matter dictation was found to correlate with IQ; high school percentile rank; ACT college-bound English and composite percentile scores; and Tests P and T, The Guilford-Zimmerman Temperament Survey.

Conclusions:

1. A superior knowledge of principles was acquired by students using the traditional method for out-of-class practice after 45 hours of instruction.

2. Neither homework method was superior in developing reading skill in 15 hours of instruction, or in developing ability to write dictation from practiced material with 30 hours of instruction.

3. Even though the transcript scores on new-matter dictation were higher for the experimental group after 45 hours of instruction, no conclusion could be made that laboratory homework procedures are superior in developing a writing skill in shorthand.

4. Neither method affected punctuation and spelling

more than the other, and neither was more effective than the other in encouraging homework practice.

5. Students using the traditional homework procedure liked shorthand slightly more; however, the experimental students believed shorthand was slightly easier to learn using their method of homework.

6. Most students believed that laboratory equipment was beneficial.

7. There was a strong relationship between the success measured by theory tests at the end of one semester and nine of the criteria for predicting shorthand success.

8. There was a strong relationship between success as measured by new-matter dictation at the end of one semester and six of the criteria for predicting shorthand success.

Recommendations:

1. Self-dictation homework by first-semester shorthand students should not be eliminated.

2. Writing from taped dictation should not be the major type of homework for first-semester shorthand students.

3. Scheduling laboratory periods for homework writing should be considered.

4. A similar study needs to be done involving second-semester shorthand students.

5. Further research should be made of the predictive value of Tests A, F, E, P, and T from the Guilford-Zimmerman Temperament Survey and their relation to shorthand success.

6. Further research is needed comparing performance of one group practicing non-repetitive writing from dictation and another group using repetitive dictation practice.

Abstractor's Comments:

1. The student questionnaire tended to indicate that a student does not necessarily have to be in love with a course to achieve well in it.

2. There is really no way of knowing how many hours were spent in out-of-class practice by students of either group. The teacher could check on the homework done in the lab, but not that homework done at home. Therefore, students may be more self-conscious of time spent on homework and this may account for the higher achievement by the experimental group on dictation of new-material.

3. If students follow the taped material, they automatically receive dictation on reading and writing practice. Students using the traditional method may or may not receive this practice.

Abstract 81

Jacquelynn J. Harder, "A Study of the Minimum Standards for First-Year Shorthand in Community Unit High Schools in Illinois" (unpublished Master's thesis, Northern Illinois University, 1967), p. 141.

Problem:

"The purpose of this study is to provide information on the reading skill, knowledge of theory, dictation speed, and transcription rate standards for first-year shorthand in community unit high schools in the State of Illinois."

Procedure:

1. A survey was made of the past and current literature to determine the minimum standards for first-year shorthand suggested by leaders in the field of shorthand education and the minimum requirements of shorthand proficiency of governmental agencies, both State of Illinois and Federal.

2. Community unit high schools in Illinois were selected from the Directory of Illinois schools, 1963-64. One high school was selected from each county as follows: the first high school in the first county, the second high school in the second county, etc. This procedure was broken when the county number did not contain that many high schools. Then, the number reverted to one and the procedure is resumed.

3. Eighty-three questionnaires were mailed on February 8, 1965. Fifty returns were received by

February 24, 1965. A follow-up letter was mailed and five more returns were received. A second follow-up letter produced fifteen more returns, bringing the total to 70 or 84.4 percent.

4. The returns were classified according to Northern or Southern Division and were broken down into enrollment categories of fewer than 300 students, 300-499 students, and more than 500 students.

The Northern Division had 22 high schools in the fewer than 300 group, 6 high schools in the 300-499 group, and 4 high schools with more than 500 students. The total schools represented in this area were 32.

The Southern Division contained 23 high schools in the fewer than 300 group, 9 high schools in the 300-499 group, and 6 high schools with more than 500 students. The total schools represented in this area were 38.

5. The findings were tabulated according to the enrollments within the divisions and enrollment categories of the total number of high schools replying and compared with the suggested standards for first-year shorthand.

Findings:

1. The number of replies for the various classifications, by enrollment size, is representative of the total number of community unit high schools in regard to specific size in the State of Illinois.

2. The smallest enrollment in shorthand was 6 and the largest was 90, with several classes being taught. Thirty-five of the schools had classes of 11 to 20 students.

3. Approximately 1/4 or 25.6 percent of the total schools replying had any prerequisites for enrollment in first-year shorthand.

4. In the Northern Division 62.5 percent offered shorthand in the junior year of high school; 65.8 percent, in the Southern Division. Of those schools replying, 15.8 percent offered shorthand at the senior level and 18.4 percent allowed the students to take it at either level.

5. Typewriting was required by 53.2 percent of the schools in the Northern Division; 29 percent, in the Southern Division for enrolling in the first-year shorthand.

6. The number accepting stenographic jobs upon graduation was very low.

7. A little more than 1/2 or 52.9 percent of the schools replying offer two years of shorthand.

8. The 37 schools replying that offer two years of shorthand believed that less than 50 percent of the students would enroll in a second year of shorthand.

9. Four of the schools in the Southern Division and one in the Northern Division would allow students to enroll in the second year without meeting minimum standards in the first course.

10. Of the schools replying, 87.2 percent considered that one year of shorthand was not sufficient for employment.

11. Complete theory tests are given during the first semester by 67.1 percent of the total number replying to the questionnaire.

12. Complete theory tests are given in the second semester by 52.7 percent of the total number replying to the questionnaire.

13. Brief form tests are considered important and were given in the first semester by 98.6 percent of the schools replying.

14. Brief form tests are given in the second semester by 65+ percent of the schools replying.

15. A few more than 1/2 or 54.3 percent indicated that they timed the reading of shorthand plates, class work, and homework.

16. Even though over 98 percent of the schools test over brief forms, only 31.3 percent test the reading of brief forms; therefore, the assumption is that testing of brief forms is written.

17. The terminal dictation speed required by 82.9 percent of all the schools replying was a minimum of 60 words a minute, with 54.3 percent of them using new material.

18. There was a broad range of accuracy requirements on the transcription of new material. Slightly more than 68 percent of those replying required 95 percent

accuracy. The accuracy requirement ranged from 70 to 100 percent for the other respondents.

19. The accuracy requirement of 95 percent for practiced material was the most common.

20. The dictation speed of 60 words a minute was not considered adequate for employment.

21. A majority of those responding to the questioning about adequate speed for employment indicated a minimum terminal speed of 80 words a minute.

22. A small percentage of the respondents, in either division, test the reading from dictation given in class.

23. The length of the dictation seemed to range from 3 to 5 minutes.

24. The students were required to transcribe all or part of the dictation.

25. For all divisions, 68.1 percent of those responding give office-style dictation in the first-year of shorthand.

26. The respondents indicated that 74.3 percent of the students used typewriters for transcription.

27. The students are required to transcribe immediately following the dictation by the majority of those responding. Time given to transcribe ranged from 10 to 45 minutes.

28. Of those responding, 91.4 percent did not have a separate period for transcription in first-year shorthand.

29. Reference materials were allowed by 89.6 percent in the Southern Division and 96.9 percent in the Northern Division.

30. Mailable copy in transcribing was required by 65+ percent of the respondents. Mailable copy is copy that is neatly and attractively placed on the paper and errors corrected.

31. The most emphasis was placed on dictation and transcription by 75 percent of those responding.

32. A majority of the students knew in the beginning what the course standards were.

33. In most cases, 90+ percent of the students in first-year shorthand would pass.

34. Over 1/2 of the respondents indicated that the majority of those students taking shorthand would pass. These same teachers indicated that the standards would not be lowered.

35. Students were usually required to pass the minimum dictation speed more than one time.

Conclusions:

1. There was little difference between the Southern Division and the Northern Division in standards. Also, there was little difference in the standards according to the size of the school.

2. Sixty words a minute was not adequate, but students would be unable to achieve higher goals in the first year of shorthand.

3. In most cases the first-year shorthand course was not to prepare students for stenographic positions.

4. The requirements set by respondents were not high enough.

Recommendations:

General Information

1. Students should be selected for first-year shorthand courses.

2. Put shorthand in the proper place in the secretarial curriculum.

3. At least one semester of typewriting should be taken before enrolling in first-year shorthand.

4. Students who are capable of taking second year shorthand should be encouraged to do so.

5. Students should not be allowed to enroll in the second year course without meeting the requirements for the first-year shorthand course.

6. First-year shorthand should be taught so that the students receive the maximum benefit from it.

Theory

1. Shorthand theory and learning of brief forms should be completed in the first semester of the course.

2. Reading of shorthand plates, class notes, and homework is important and should be timed.

3. Homework should be tested occasionally.

Dictation Speed

1. A minimum of 80 words a minute should be required of first-year students.

2. Dictation tests should be on new material.

3. Mailable copy should be required, since 95 per-cent accuracy does not always produce mailable copy.

4. Students who can take only 60 words a minute cannot take dictation in an office adequately.

5. Reading from dictation taken in class gives the teacher a check on how well the student's shorthand is written.

6. Some standards should be set for the reading of this dictation.

7. Little emphasis concerning office-style dictation is needed. If a student can take regular dictation, she can also take office-style dictation.

Transcription

1. Typewriters should be used in transcribing.

2. Students should be given drills in transcription.

3. Transcription accuracy is most important, but transcription speed should also be stressed.

4. Students need to begin transcribing immediately after dictation.

5. If only one year of shorthand is taught, more than one period a day is needed for shorthand.

6. Students should be taught how to use reference materials.

7. Students should be taught from the beginning to produce only mailable copy.

8. If teachers say they require 95 percent accuracy and mailable copy in transcription, they should evaluate the two requirements to assure compatability.

Evaluating the First-Year Shorthand Student

1. Students who are to be in shorthand only one year should be evaluated to determine their ability for holding a shorthand position.

2. A student's ability to transcribe can be measured by having the students transcribe only part of the dictation.

3. A student should be required to pass the minimum requirement at least three times.

4. The accuracy requirement should be higher than 95 percent.

5. All dictation should be properly transcribed.

6. Requirements should be made known to the students at the beginning of the course.

7. The majority of the students who begin the course should be prepared to complete the course satisfactorily.

8. Passing grades should not be given to those students who do not meet the minimum requirements.

Further Recommendations

1. Evaluation of the stenographic curriculum should be done each year in each school.

2. If adequate time is not available for the course, recommendations should be made to the school administrators for additional time.

3. High standards of achievement should be maintained.

4. Research needs to be done to determine the proper placement of shorthand for students who will be entering the cooperative work-experience programs.

5. Further examination of the requirements of first-year shorthand needs to be made.

6. Students should be prepared to meet the minimum requirements of business, industry, and governmental agencies, even when only one year of shorthand is taught.

Abstractor's Comments:

I question the recommendation that transcription in first-year shorthand be held to mailable copy, unless two class periods are used for shorthand. I doubt that it would be possible to refine the skill of taking dictation on new material for three minutes and transcribing it in mailable copy in one year with only one period a day. I agree that this would be ideal, but not realistic.

Abstract 82

James Harper, "An Evaluation of the Comparative Effectiveness of Carter Briefhand and Gregg Shorthand (Simplified)" (unpublished Ed.D. dissertation, Colorado State College, 1964), p. 100.

Problem:

"The basic problem in this study was to compare achievement in Carter Briefhand with the achievement attained in Gregg Shorthand (Simplified)."

Hypotheses:

1. "There is no difference in achievement at the end of ninety class periods of instruction between classes taught Briefhand and classes taught Gregg Shorthand (Simplified)."

2. "There is no difference in achievement of classes taught Briefhand for ninety instructional periods and classes taught Gregg Shorthand (Simplified) for 180 periods."

Procedure:

1. This study involved students enrolled in Briefhand or Gregg I and II in five high schools in the San Francisco Bay Area during the 1962-63 school year. The equated samples were selected from seven Briefhand classes, taught by five teachers, and eight Gregg I and II classes, taught by four teachers.

2. From a total enrollment of 191 in Briefhand and 200 in Gregg I and II, two equated samples of 70 girls were selected. These groups were equated by these tests: Turse Shorthand Aptitude Test, California Test of Mental Maturity, Iowa Tests of Educational Development, and total grade point average.

3. Each student included in the study filled out a form indicating degree of interest and use to be made of the course. Additional data gathered included: time spent in preparing homework, hours during the day course was taught, and professional background of the teacher.

4. At the end of each semester, 12 three-minute dictation-transcription tests were given by taped recordings. Dictation speeds ranged from 50 to 100 words per minute and transcription was done in longhand. These longhand transcripts were scored for total error count by two experienced shorthand teachers. The tests were taken from issues of The Pitmanite and were checked to see that each word appeared in both manuals, appeared in the first 1,500 words of the Silverthorn (63b) list, and the syllabic intensity was 1.4.

5. The reliability of the dictation-transcription test was checked by the test-retest method. The difference between the means of each test-retest was not significant at the 1 percent level.

6. The scores made on the two tests were averaged at each speed level to obtain one score for each speed level. The t-test was used to determine the difference in error means between the Briefhand group and the Gregg I and II group.

Findings:

1. The differences in error means between Gregg I and Briefhand were in favor of Briefhand at all speeds except 100 words a minute. Whereas, the t-values were significant at the 1 percent level at speeds of 50, 60,

and 70 words per minute in favor of Briefhand, they were not significant at the higher speeds of 80, 90, and 100 words per minute.

2. When Briefhand was compared to Gregg II, the differences in error means were all in favor of Gregg II. The t-values were significant at the 1 percent level for all speeds except at 50 words per minute in favor of Gregg II.

Conclusions:

1. Briefhand is better than Gregg for those students who plan to take only one semester.

2. Gregg is better than Briefhand for those students who plan to take two semesters.

3. At all speed levels ranging from 50 to 100 words per minute, two semesters of Gregg (Simplified) are more effective than Briefhand.

4. More seniors took Briefhand than Gregg. This fact might account for their ability to do their homework in half the time needed by the Gregg students.

5. The fact that the Gregg students were enrolled in the course for vocational use may account for their being highly motivated.

6. The background of the teachers of both shorthand systems was very similar.

Recommendations:

1. Briefhand is a desirable course and should be taught to those desiring it for personal-use.

2. Gregg shorthand should not be taught as a one-semester course, but rather at least two semesters for vocational use.

3. More homework practice should be included in the Briefhand text.

4. Specific teacher instructions should be provided in the teacher's manual to provide for more uniform instructional procedures.

Abstractor's Comments:

1. The findings of this study show that there is a need for both personal-use and vocational-use shorthand courses. Furthermore, the same system is not effective in both situations.

2. All shorthand teachers should find this study of interest.

Abstract 83

Larry Donald Hartman, "An Analytical Study of Phrases in the Introductory Text: Gregg Shorthand, Diamond Jubilee Series" (unpublished Master's thesis, Brigham Young University, 1964), p. 108.

Problem:

The problem of this study was to measure the extent, entry, pattern, review, and sequence of phrasing.

2. Then, an appropriate definition had to be determined for a phrase, the principles of phrasing, and phrase usage.

3. The beginning textbook of Gregg Shorthand, Diamond Jubilee Series, 1963 edition was analyzed to determine the following:

- a. At what point in the instructional outline of the textbook are phrases introduced?
- b. What patterns of phrase introduction and phrase usage are found in the textbook?
- c. Are phrases reviewed and utilized in succeeding lessons?
- d. What individual phrases were used in each chapter?
- e. Were the phrases presented by principles?
- f. Key punch cards were prepared and the IBM 7040 Computer was used in tabulating the data.

4. For high frequency phrases, more than one card was needed. Analysis cards for 900 phrases were used in this study. These phrase analysis cards were a 30 lb., 5 x 8 cardboard paper card. Each card could contain as many as 136 entries. Each card contained the following information: the type and place of phrase entry or review, the page on which a phrase was entered or reviewed, and the page where the phrase began in the textbook's shorthand

plates. The card also contained information showing how the phrase was introduced, by phrasing principles, by drill sentences or whether a phrase was entered or reviewed in the contextual plates without rules or principles. Analysis cards were prepared for 848 phrases used in this study.

5. The textbook was read and all phrases located were circled in red. Then the phrases were entered on the analysis cards, giving the page numbers on which they appeared and indicating whether entry or review.

6. When the second analysis was made, a person read from the student transcript while the investigator read the textbook. Red check marks were placed by the circled phrases.

7. Finally, a third analysis was made. As the textbook was read, the phrases were circled in red.

8. The data on the analysis cards were punched on IBM cards. When the IBM cards had been completed and checked for errors, a program was prepared; and the key punched cards were entered on the 7040 IBM Computer for tabulation and compilation.

Findings:

1. The majority of the phrases and the derivatives appeared in chapters 2, 3, 4, 5, 6, and 10. Chapter 10 contained 144 phrases; but because of the late introduction of these phrases, they were seldom reviewed or repeated.

2. Phrases were introduced by four methods, with the most frequent being in contextual shorthand plates. The second most frequent was introduction with phrasing principles; the third was introduction in review lists; and the fourth was introduction in word families.

3. The most frequently reviewed phrase was 135 times and the least was 0.

4. Eighty-eight of the 848 phrases were introduced in special lists or by phrasing principles, and only 48 were introduced with theory statements with phrasing rules.

5. Phrases were reviewed primarily in contextual material. Only 87 phrases were reviewed with rules and

3,343 of the 3,430 total were reviewed in contextual material.

6. Of the 848 phrases introduced, 360 were never reviewed and an additional 315 were reviewed 5 times or fewer. This means that only 173 of the phrases were reviewed more than 5 times.

7. When the findings of this study were compared to Zoubek's Phrase Frequency Word Count (82b) findings, 471 of the lower frequency phrases were not found on Zoubek's list. A further analysis revealed that 129 phrases were represented correctly in the textbook. An additional 246 were used from two to ten more times in the textbook than in the Zoubek Phrase Frequency Word Count study.

Conclusions:

1. The findings of this study indicate that a majority of the phrases in Diamond Jubilee are not introduced and taught with rules.

2. The findings of this study revealed that phrases are primarily introduced in chapters 2, 3, 4, 5, 6, and 10.

3. The phrases were primarily introduced through the reading and writing of contextual plates without special or formal introduction.

4. The findings of the study indicated that the majority of the 848 phrases utilized in the textbook were never reviewed after initial entry.

5. Based on the findings of this study, 471 of the phrases used in Diamond Jubilee were not high-frequency phrases. An additional 246 phrases were used from one to ten more times in the textbook than in the Zoubek Phrase Frequency Word Count study.

Recommendations:

1. That research studies be made concerning the methodology of phrases in other shorthand systems.

2. That a study be made analyzing the frequencies, usages, and method of phrasing as each were applied in dictation source books.

3. That an experimental study be conducted on the college level comparing two teaching methods: (a) a method where phrasing principles are taught and where phrases are systematically repeated, and (b) the method suggested by the authors of Gregg Shorthand, Diamond Jubilee.

Abstractor's Comments:

1. In the findings chapters, 315 and 360 are indicated as a 674 total; however, this is not a major error.

2. In the summary of the findings, the investigator makes an untrue statement. First, he stated that 471 phrases were used in the textbook that were not used in Zoubek's high-frequency phrase list; and then, the writer states that an additional 836 phrases occurred from two to ten more times in the textbook than in Zoubek's list. This statement is in error because there were originally only 848 phrases.

3. According to my interpretation of the findings, conclusion 4 is misstated. There were 360 phrases never repeated after their initial entry and this is only 42 percent of the 848 phrases, not a majority.

4. This study points out that little effort is made actually to teach phrasing. The authors of the text believe that through contact with phrases in the contextual materials that students will phrase automatically. Perhaps this is true because the analysis was made of a beginning text.

5. As many shorthand experts have pointed out, phrasing is only an asset to shorthand dictation if the phrases are written without hesitation. Otherwise, phrases will hamper speed rather than increase it.

6. As would be expected in a beginning shorthand text, the easy phrases such as it is, in the, and of the were reviewed often.

Abstract 84

Jeannette Hatcher, "The Relationship Between Accuracy of Gregg Diamond Jubilee Shorthand Outlines and Accuracy of Transcription" (unpublished Master's thesis, The University of Tennessee, 1967), p. 95.

Problem:

The problem of this study was to determine the relationship between accuracy of Gregg Diamond Jubilee shorthand outlines and the accuracy of transcription.

Procedure:

1. This study involved 74 students who took their initial course in shorthand at the University of Tennessee. They were enrolled in the second term of shorthand for the 1966-67 Fall or Winter quarter, and were enrolled in the third term during the Winter or Spring quarter of 1967.
2. Ten speed dictations were given in the second term of shorthand and nine were given in the third term of shorthand. All were 5-minutes in length, with 20 minutes allowed for transcribing. Four of the tests were given outside of class on tapes and the others were given by the teacher during class. These tests were constructed by the shorthand teachers at the University of Tennessee.
3. The students' papers were grouped according to accuracy level. A student had to pass two or more tests at a given speed in order to be in a particular speed group. These two tests are referred to in the tables as Test 1 and Test 2. In the 98 percent accuracy group, speed levels ranged from 60 to 100 words per minute and were divided into five groups. In the 95 percent accuracy group, speed levels ranged from 60 to 80 words per minute and were divided into three groups. The standard used in the courses for passing was 98 percent, which probably accounts for such few groups in the 95 percent accuracy group.
4. The transcription tests were analyzed to determine errors in the shorthand outlines. Errors in shorthand outlines were classified as principles and non-theory words and as brief forms and brief form derivatives. Sub categories under these major headings included incorrect

outline, incomplete words, proportion, penmanship, incorrect word beginnings and endings, position on line, and slant.

5. Statistical difference between errors made on Test 1 and Test 2 was determined by the Chi-Square test of significance.

Findings:

1. In the 98 percent accuracy group, 859 errors were made at the 60 words per minute speed level, 419 errors at the 70 words per minute level, 1,195 errors at the 80 words per minute level, 1,295 errors at the 90 words per minute level, and 321 errors at the 100 words per minute level.

2. In the 95 percent accuracy group, 1,305 errors were made at the 60 words per minute level, 229 errors at the 70 words per minute level, and 598 errors at the 80 words per minute level.

Shorthand Notes--98 Percent Accuracy Group

3. In the 98 percent accuracy group, the shorthand notes contained a 10 percent error at the 60 words per minute level. The individual student errors ranged from nine errors to 117 errors. Of the 859 errors, 47 percent were from incorrect outlines, 19 percent from proportion, 11 percent from brief form derivatives, and 23 percent from the other categories.

4. A 9 percent error was in the shorthand notes in the 98 percent accuracy group at the 70 words per minute speed level. Of the 419 errors, 48 percent were incorrect outlines, 21 percent from proportion, 10 percent from penmanship, and 21 percent from the other categories. The individual student errors ranged from 31 to 92 errors.

5. At the 80 words per minute speed level in the 98 percent accuracy group, 48 percent were from incorrect outlines, 21 percent from proportion, 10 percent from penmanship, and 21 percent from the other classifications, with 8 percent error in the shorthand notes. The individual student errors ranged from 30 to 144 errors.

6. A 10 percent error occurred in the shorthand notes, in the 98 percent accuracy group at the 90 words per minute speed level. The individual errors ranged from 42 to 142 errors, with 52 percent from incorrect

outline, 23 percent from proportion, and 25 percent from the remaining categories.

7. At the 100 words per minute level in the 98 percent accuracy group, there was a 6 percent error in the shorthand notes of the 321 errors, 48 percent were from incorrect outline, 24 percent from proportion, and 28 percent from the other categories. The individual student errors ranged from 52 to 91 errors.

Shorthand Notes--95 Percent Accuracy Group

8. At the 60 words per minute speed level in the 95 percent accuracy group, there was a 13 percent error in the shorthand notes. Of the 1,305 errors, 50 percent were from incorrect outlines, 15 percent from deviation in brief form from dictionary, 15 percent from proportion, 20 percent from the other categories. The individual student errors ranged from 30 errors to 155 errors.

9. There was an 8 percent error in the shorthand notes at 70 words per minute in the 95 percent accuracy group. Of the 229 errors, 54 percent were from incorrect outlines, 15 percent from proportion, and 31 percent from other categories. The individual student errors ranged from 36 to 94 errors.

10. There was an 11 percent error in the shorthand notes at 80 words per minute in the 95 percent accuracy group. Of the 598 errors, 52 percent were from incorrect outlines, 16 percent from proportion, and 32 percent from the other categories. The individual student errors ranged from 57 to 119 errors.

Transcripts

11. In the 98 percent accuracy group at the 60 words per minute speed level, 116 errors were made, of which 43 percent were shorthand errors and 57 percent were nonshorthand errors. A total of 74 errors were made at the 70 words per minute level, with 44 percent shorthand errors and 46 percent nonshorthand errors. At the 80 words per minute level, 207 errors were made, with 55 percent shorthand and 45 percent nonshorthand errors. A total of 149 errors was made at the 90 words per minute level, with 52 percent shorthand errors and 48 percent nonshorthand errors. Forty-eight errors were made at the 100 words per minute level, with 71 percent shorthand errors and 29 percent nonshorthand errors.

12. In the 95 percent accuracy group at the 60 words per minute level, 348 errors were made, with

55 percent shorthand errors and 45 percent nonshorthand errors. A total of 94 errors was made at the 70 words per minute level, with 43 percent shorthand and 57 percent nonshorthand errors. A total of 192 errors was made at the 80 words per minute level, with 74 percent shorthand errors and 26 percent nonshorthand errors.

13. At all speed levels in both the 98 and 95 accuracy groups, "not the word dictated" was the highest shorthand error.

14. Punctuation was the highest nonshorthand error in all speed levels, except the 100 words per minute level in which spelling was the highest nonshorthand error.

Conclusions:

1. The findings of this study indicate that a relationship exists between the accuracy of shorthand notes and accuracy of transcripts in both the 95 and 98 percent accuracy groups.

2. As the speed level increased among the 98 percent accuracy group, so did the accuracy of the shorthand outlines.

3. Transcripts in the 98 percent or above group were generally produced from shorthand notes containing from 6 to 10 percent error. However, transcripts in this category could also be produced with as much as twice the average rate in shorthand notes.

4. Transcripts in the 95 percent accuracy or above group were generally transcribed from shorthand notes containing from 8 to 13 percent error. However, transcripts in this category could also be produced with as much as twice the error rate in shorthand notes.

Recommendations:

1. Since punctuation and spelling were the most frequent of the nonshorthand errors, these should be stressed in the transcription process.

2. Since "not the word dictated" and "omitted words" were the most frequent shorthand errors, shorthand theory should be stressed.

Abstractor's Comments:

1. Page 88 in the findings number 1 stated that of 404 errors, 47 percent resulted in incorrect outlines. However, there were 404 errors, or 47 percent, of 859 total errors which resulted in incorrect outlines.

2. The findings of this study tend to indicate that proportion and shorthand theory need to be stressed more in beginning shorthand.

Abstract 85

Joyce Heemstra, "An Evaluation of Two Shorthand Aptitude Tests" (unpublished Master's thesis, The University of Nebraska, 1965), p. 85.

Problem:

The problem of this study was to determine which of the following factors would be a better predictor of success in shorthand: Turse Shorthand Aptitude Test, ERC Stenographic Aptitude Test, English grade average, or Total grade average.

Hypotheses:

The following hypotheses were tested in this study and a short statement of rejection or acceptance made on the basis of the findings follows each:

1. "There is no significant correlation between each of the sections of the ERC Stenographic Aptitude Test and the dictation rate achieved in shorthand."

Rejected: high school--Accepted: business college and college.

2. "There is no significant correlation between each of the sections of the Turse Shorthand Aptitude Test and the dictation rate achieved in shorthand."

Rejected: high school--Accepted: business college and college.

3. "There is no significant correlation between the Turse Shorthand Aptitude Test and the ERC Stenographic Aptitude Test."

Rejected: high school and college--could not be tested for business college.

4. "There is no significant correlation between the predictive validity of the ERC Stenographic Aptitude Test and the predictive validity of English grade average to shorthand success."

Rejected: high school and business college--
Accepted: college.

5. "There is no significant correlation between the predictive validity of the Turse Shorthand Aptitude Test and the predictive validity of English grade average to shorthand success."

Rejected: high school and business college--
Accepted, college.

6. "There is no significant correlation between the predictive validity of the ERC Stenographic Aptitude Test and the predictive validity of the total grade average to shorthand success."

Rejected: high school--Accepted: business college and college.

7. "There is no significant correlation between the predictive validity of the Turse Shorthand Aptitude Test and the predictive validity of the total grade average to shorthand success."

Rejected, all three groups.

Procedure:

1. This study involved 121 students at levels of high school, business college, and college. Although the background of the students ranged from two to five semesters, all students were in the second semester class. There were 34 high school students from 3 schools, 56 business college students from one school, and 31 college students from two schools.

2. The ERC Stenographic Test was given in its entirety and Test 1 and 6 were omitted from the Turse Test. These two tests were eliminated to shorten the test and because they overlapped the ERC Stenographic Test. To avoid carry-over from the ERC Stenographic Test to the Turse Test they were given three weeks apart. The tests given were as follows:

ERC Stenographic Aptitude Test

- Test I: Speed of Writing
- Test II: Word Discrimination
- Test III: Phonetic Spelling
- Test IV: Vocabulary
- Test V: Dictation

Turse Shorthand Aptitude Test

- Test 2: Spelling
- Test 3: Phonetic Association
- Test 4: Symbol Transcription
- Test 5: Word Discrimination
- Test 7: Word Sense

3. Because of the rapid turnover in business colleges, these classes were divided in half. One-half took the ERC Stenographic Test and the other half took the Turse Test. The writer assumed that the two halves were equal in ability and skill.

4. The following information was gathered from various records for each student: (a) Shorthand dictation rate on new material for 3 minutes with 95 percent accuracy; (b) Average of English grade at the level of enrollment; (c) Total grade average at the level of enrollment.

5. Since the different schools used various grading methods, the grades were all converted to a nine-point scale in order to have a common base for comparing the students.

6. All of the tests were hand scored and the correlation coefficients were calculated on computers. The Pearson product-moment correlations were used.

Findings:

To be significant at the 1 percent level, a correlation of .436 was needed for the high school students, .487 for the business college students, and .456 for the college students. A correlation of .339 for high school students, .381 for business college students, and .355 for college students was needed to be significant at the 5 percent level.

1. The correlation coefficient between the shorthand dictation rate and the ERC Stenographic Test was .691

for the high school group, .425 for the college group, and .368 for the business college group.

2. The shorthand dictation rate and the Turse Test produced a correlation of .575 for the high school students, .289 for the college students, and .014 for the business college students.

3. A correlation of .413 was found for high school students between dictation rate and English grade average and it was .215 for college students.

4. A correlation was found between dictation rate and total grade average of .561 for high school students and .512 for college students.

5. The correlation between the total score and English grade was .598 and between total score both on the Turse Test and total grade average was .576 for high school students; .534 and .628, respectively, for business college students; and .355 and .464, respectively, for college students.

6. The correlation between the total score on the ERC Stenographic Test and dictation rate was .498, with English grade average was .445, and with total grade average was .498 for high school students; the correlations were .368, .540, and .445, respectively, for business college students; and .425, .397, and .523, respectively, for college students.

7. The shorthand dictation rate correlated highest with Test 5 of the ERC Stenographic Test, with .585 for the high school students; for the business college students it was Test 3, with .402; and for the college students, it was Test 5, with .381.

8. Test 2 of the Turse Test correlated highest with shorthand dictation, with .596 for the high school students; Test 7, with .385 correlated highest for college students; and Test 2, with .207 correlated highest for business college students.

9. Test 2 of the Turse Test correlated highest with English grade average, with .581 for high school students; Test 2, with .636 correlated highest for business college students; and Test 7, with .450 correlated highest for college students.

10. Test 2 of the Turse Test correlated highest with total grade average, with .533 for high school students; Test 2, with .731 correlated highest for business

college students; and Test 5, with .584 correlated highest for college students.

11. Test 2 of the ERC Stenographic Test correlated highest with English grade average, with .676 for high school students; Test 5, with .490 correlated highest for business college students; and Test 4, with .610 correlated highest for college students.

12. Test 2 of the ERC Stenographic Test correlated highest with total grade average, with .646 for high school students; Test 2, with .492 correlated highest for business college students; and Test 5, with .673 correlated highest for college students.

13. The business college students were divided in half and one-half took the ERC Stenographic Test, while the other half took the Turse Test. For those who took the ERC Stenographic Test, the correlation between dictation rate and English grade average was .354; with total grade average .294.

14. For those taking the Turse Test, the correlation between dictation rate and English grade average was .603; with total grade average .427.

Conclusions:

1. Success in shorthand can be predicted more successfully with the ERC Stenographic Test than with the Turse Test.

2. Both tests are better predictors of success in shorthand at the high school level first and the college level second. Neither is very good predictor for business college students.

3. Success in shorthand at the business college level can best be predicted by English grade level.

4. Success in shorthand at the college level can best be predicted by total grade average.

Recommendations:

1. Prognosis in shorthand should not be based solely on one factor but a combination of factors.

2. Students should not be denied the opportunity to enroll on the basis of one of the factors studied in this report.

3. Ability grouping would seem feasible in shorthand. Thus, the advanced students could progress more rapidly and the slower students more slowly.

4. More time should be spent on motivation and interest until a more valid test is constructed.

5. Further research is needed on content of the test in order to find better measures for all levels of students.

Abstractor's Comment:

The table on page 44 of the report tends to indicate that English grade average and total grade average are among the better predictors of shorthand success. Although perhaps no student should be denied the opportunity to enroll in shorthand, these two factors still give us a basis for counseling with students who plan to enroll in shorthand.

Abstract 86

Rosanne C. Hendrickson, "The Differential Aptitude Tests for Verbal Reasoning, Numerical Ability, Abstract Reasoning, Space Relations, Mechanical Reasoning, and Clerical Speed and Accuracy as Predictors of Success in Shorthand" (unpublished Master's thesis, University of Minnesota, 1963), p. 37.

Problem:

The problem of this study was to determine the validity of the Differential Aptitude Test (DAT) as a predictor of shorthand success of high school students.

Procedure:

1. The data for this study were obtained from the cumulative records of 69 graduating Seniors at Southwest High School, Minneapolis, Minnesota, for the years 1961, 1962, and 1963. The information gathered from these files included grades in four semesters of shorthand and scores made on six of the seven subtests of the DAT.

2. The shorthand average was found by converting the letter grades to numerical grades, added, and divided by four.

3. The DAT tests were given in the ninth grade. At least one of the subtests was missed by five students; therefore, the final analysis on the subtests range from 64 to 69.

4. Any student with an IQ below 95 or an average in English of D or below was discouraged from enrolling in beginning shorthand.

5. Correlation coefficients were computed to compare the relationship between average shorthand grade and each DAT subtest.

Hypotheses:

1. There is a positive relationship between average shorthand grades and DAT, Verbal Reasoning.

2. There is a positive relationship between average shorthand grades and DAT, Numerical Ability.

3. There is a positive relationship between average shorthand grades and DAT, Abstract Reasoning.

4. There is a positive relationship between average shorthand grades and DAT, Space Relations.

5. There is a positive relationship between average shorthand grades and DAT, Mechanical Reasoning.

6. There is a positive relationship between average shorthand grades and DAT, Clerical Speed, and Accuracy.

Findings:

The correlation coefficients between average shorthand grades and the six subtests were:

Verbal Reasoning and average shorthand grades	.196
Numerical Ability and average shorthand grades	.155
Abstract Reasoning and average shorthand grades	.135
Space Relations and average shorthand grades	.262
Mechanical Reasoning and average shorthand grades	-.005
Clerical Speed and Accuracy and average shorthand grades	.169

These correlations show that all hypotheses were true except number 5. However, they were all extremely low and should not be used as prognostic measures.

Conclusions:

1. On the basis of the findings in this study, the DAT test scores should not be used in counseling future shorthand students.

2. The relationship between average shorthand grades and Space Relations was highest, but is too low for use as a predicting device.

Recommendations:

1. The findings of this study suggest that further research be done with students who have taken all seven subtests of the DAT.

2. Another test or tests should be used for shorthand prognosis.

3. Counselors, advisors, and teachers should not use DAT scores for predicting success in shorthand.

Abstractor's Comments:

1. The findings of this study may have been different if a larger population had been used.

2. The predictive measures tested in this study were not as valid predictors of shorthand success as other predictive measures which have been tested in other studies.

3. The findings of this study may be used effectively in shorthand methods and improvement of instruction courses.

Abstract 87

Sister Mary Claudette Henninger, O.P., "Supplementary Dictation Material for First-Year Shorthand Based on Christian Career Guidance Principles" (unpublished Master's thesis, The Catholic University of America, 1957), p. 55.

Problem:

The problem of this study was to develop and construct material containing Christian principles with guidance

information that can be used as supplementary dictation material in first-year shorthand classes.

Procedures:

1. A survey was made of current professional literature and research pertaining to vocational guidance in Catholic high schools. This revealed a real need for special guidance with Catholic emphasis.

2. Material suitable for teaching these principles was gathered from Catholic books, texts, periodicals, and pamphlets. Whenever possible this material was correlated with career guidance information obtained from a number of current career guidance books.

3. The materials prepared were presented in three chapters: Assignments Based on Selected Catholic Writings Covering Fundamental Christian Career Guidance Principles, Assignments Based on Selected Catholic Writings Applying Christian Principles in the Business World, and Assignments Based on Selected Catholic Writings Concerning Models of Successful Living. There were 25 assignments in the first chapter, 15 in the second one, and 10 in the third chapter.

Summary of the First 25 Assignments:

The essential attitudes and character traits of the young Christian worker were given in 25 assignments of dictation material. This chapter was divided into three parts: The Dignity of Work and the Dignity of the Worker, Christian Motives and Values in the Choice of a Lifework, and Essential Qualities of the True Christian Personality.

The assignments are counted and marked in groups of 28 syllables or 20 standard words. The syllabic intensity of all the assignments is 1.4 or less for all chapters.

Summary of the Second Group of 15 Assignments:

One of the most important tasks of the Catholic business teacher is to inspire his students to choose their career with a higher purpose than just to make a living. If students are to be a part of God's plan, they are actually preparing for a two-fold vocation.

The shorthand teacher can use suitable dictation material that will help make students aware of their

double vocation in life. The 15 assignments in this chapter are to be used for that purpose.

The chapter is divided into two parts: The Christian Worker in the Business World and The Christopher in the Business World.

Summary of the Third Group of 10 Assignments:

Current shorthand tests and aids do not present Christian ideals of successful living; therefore, there is a real need for supplementary materials, suitable for first-year shorthand students, that will supply appeal of virtuous living as a necessary means to true success. The 10 assignments given in this chapter are designed to supply the shorthand teacher with material for teaching Christian ideals of successful living.

Conclusions:

1. Business teachers should seek ways to integrate Christian career guidance principles, if Catholic students are going to be adequately prepared for their work as Christians in the business world.
2. There is a scarcity of material in the field of Christian career guidance which can be used by the business teacher for preparing Catholic students for future success as Christian workers in the business world.
3. Teachers need supplementary materials which can be used to integrate Christian principles in the teaching of business subjects.
4. "Catholic business graduates not only are lacking the attitudes and character traits which employers seek today, but they are found wanting in a true appreciation of the dignity of work and of the worker and in Christian motives for seeking employment."

Recommendations:

1. That further study be made to determine the best materials and methods for integrating moral and social principles into their teaching.

Abstract 88

Meritt J. Henry, "An Analysis of One of the Determinants in Shorthand Legibility" (unpublished Master's thesis, Mankato State College, 1964), p. 49.

Problem:

The problem of this study was to determine whether the addition or omission of vowels seems to be detrimental to legibility.

Procedure:

1. This study involved second-semester shorthand students from five schools in the area of Gibbon, Minnesota. Permission to administer the tests was secured from the administration and the teachers of the classes involved.

2. A selected group of 25 words were written on 50 6 x 9 flash cards. The Silverthorn (65b) list contains all but two of the words. Also, all of the words appeared in the reading material of the students.

3. A transcription test taken from unfamiliar material was used to measure ability to transcribe shorthand plates into longhand. The test was 3-minutes in length and was taken from material in the textbooks of the class.

4. The students were then asked to transcribe in longhand the shorthand word from the 50 flash cards. Examples were given to familiarize the students with the investigator's penmanship. The interval between words was approximately 7 seconds.

5. The outlines were then tallied as either correctly written, incorrectly written with a major or obscure vowel added, or incorrectly written with a major or obscure vowel omitted.

6. Correlation coefficients were then computed from the results by a 1604 Control Data Digital Computer.

Conclusions:

1. Of the 1,784 incorrect responses, 1,009 errors were word choice, 602 were omitted responses, and 173 were partial responses.

2. Although there were more correct responses when the vowel was included than when the vowel was omitted, the t-score of .50 does not indicate a significant difference.

3. A t-score of .606 was obtained for the difference between mean scores of correct responses made on words which had appeared in the reading material and those which had not. This difference was not significant, since a t-value of 2.06 was needed for significance at the 5 percent level.

4. Although there were more correct responses when the major vowel was included than when the major vowel was omitted, a t-value of .79 does not indicate a significant difference between the means of correct responses.

5. A further analysis revealed that there were more correct responses when the obscure vowel was written than when omitted. However, a t-value of .17 does not indicate a significant difference between the means of correct responses.

6. An analysis was made of the types of errors in response to the words written on the flash cards. The errors were classified according to proportion, substitutions, and additions. This analysis provided the basis for the following conclusions:

- a. The last part of the word contained 166 errors of a total of 214 errors, tending to indicate that students anticipate the word by looking at the first part.
- b. There was a total of 245 errors made in proportion, of which 115 were in the major vowel of the accented syllable. These errors tend to indicate the cue value of the major vowel.
- c. Only 46 errors occurred when the obscure vowel was omitted, indicating a negative result to the inclusion of an obscure vowel.
- d. Answering with a word that different proportions would have written was the most frequent type error. Therefore, proportion and position tend to affect legibility.
- e. Of a total 422 errors, 139 errors were made substituting a response for similarly written word. The major vowel of the accented syllable accounted for 41 of the errors, indicating the cue value of the major vowel in similarly written words.

7. A correlation coefficient of .627 was revealed between students' transcription rates and correct responses made to the words written from flash cards. Furthermore, a t-value of 7.97 was obtained and is significant at the 1 percent level of confidence, indicating that the speed with which shorthand outlines are recognized affects the speed of transcription.

8. A correlation coefficient of .557 was revealed between IQ scores and correct responses to the words written on flash cards. Furthermore, t-value of 8.21 reveals a significance at the 1 percent level of confidence, indicating that intelligence is of some relative importance to transcription speed and accuracy.

Recommendations:

1. Proportion and significant parts of difficult words should be stressed by shorthand teachers.

2. Unfamiliar words should be spelled out before pronouncing.

3. Similar studies are needed as follows:

- a. Using proportion as a determinant instead of omission or addition of vowels.
- b. Using a larger sampling of words and students.
- c. Using a standardized reading test or an aptitude test to determine validity.

Abstractor's Comments:

1. The findings and conclusions were presented together in the summary chapter under the heading of conclusions. Therefore, they are presented the same in the abstract.

2. Since there were more correct responses when the major vowel or obscure vowel was written than when the vowel was omitted, the logical approach seems to be to write words out in full rather than to abbreviate them. This would agree with the trend of the Gregg Shorthand textbooks.

3. As the writer indicated, more comprehensive research is needed in the area before broad generalizations can be made.

Abstract 89

Oleen Majors Henson, "The Development, Utilization, and Effectiveness of Programmed Materials in Gregg Shorthand" (unpublished Ed.D. dissertation, Temple University, 1964), p. 49.

Problem:

The problem of this study was to develop and construct programmed materials for presenting the first five chapters of Gregg theory, to use these materials in the classroom, and evaluate their effectiveness during the first nine weeks of shorthand instruction.

Procedure:

1. Programmed instruction was developed for the first 36 lessons of Gregg Shorthand Manual Simplified, Second Edition, according to the concepts advocated by B. F. Skinner (66b, 67b). Additional derivatives were given in programs, which did not appear in the word lists in the textbook. Only two lessons, however, contained new words. Lesson 1 was completely revised three times before the remaining lessons were programmed. Final revision was made after the pilot study was completed.

2. The pilot study was completed by 43 girls in two shorthand classes at Lenape Regional High School, Medford, New Jersey during the first ten weeks of the school year 1962-63. As these students also received regular shorthand instruction, no conclusions could be drawn.

3. At the beginning of the 1963-64 school year, two matched classes in beginning shorthand were set up at the Cherry Hill High School. There were 16 students in both the control group and experimental group, who had scores on both the Test of Educational Ability and the Differential Aptitude Tests. A "t" test and an "f" test showed no significant difference in these two groups on the bases of the two tests.

4. The experimental group was taught by programmed materials and the control group was taught by the conventional method. No classroom instruction was given to the experimental group. The two classes were taught by the same teacher.

5. The tests used in both groups were the Graded Transcribing Tests for Gregg Shorthand Simplified, Second

Edition (46b). Each chapter quiz contained a word list consisting of 30 words, 15 brief forms and phrases, and two letters written in shorthand to be transcribed in long-hand by the student. The reliability of these tests was checked by the test-retest method.

6. There were 132 principles, rules, and abbreviating devices in the first five chapters which were necessary. Of these 132, 126 or 96 percent were represented one or more times, indicating content validity of these tests.

7. The final revision of the programs included 30 lessons consisting of 42 sets, to be completed in nine weeks. There were 1,535 frames, including 116 checkframes and 82 explanatory frames in the 42 sets.

Findings:

1. The findings of this study tend to indicate that students using programmed materials are able to cover more material in less time than students in conventional classes. The experimental class completed the 30 lessons one full week before the control group.

2. A comparison of group mean scores on the vocabulary section of Chapter 1 quiz showed no significant difference between the two groups; however, the difference in mean scores on the transcription part of the quiz was significant in favor of the experimental group.

3. The difference in mean scores on the vocabulary part of Chapter 2 quiz was significant at the 5 percent level, in favor of the experimental group.

4. On the Chapter 3 quiz, no significant difference between the two groups was found on the vocabulary section of the test; however, the difference between groups on the transcription part of the test was significant at the 5 percent level of confidence in favor of the experimental group.

5. On Chapters 4 and 5 quizzes, there was a significant difference in favor of the experimental group on both the vocabulary and transcription parts of the tests.

6. Rank-difference correlation of coefficients of four variables, with average vocabulary scores, revealed the following: (a) Intelligence and verbal reasoning is

significantly related to learning shorthand, and (b) language usage aptitude was more significantly related to conventional instruction than to programmed instruction.

7. Rank-difference correlations of coefficients of four variables with average transcription scores indicated the following: (a) Intelligence and verbal reasoning is significant factor in transcription in either method, but were more significant in the experimental group, and (b) language usage aptitude was significantly related to transcription ability in the control group, but not for the experimental group.

8. Five of the questions on the questionnaire could be answered "yes" or "no." The replies of the 16 students in the experimental group were as follows: All 16 were glad their class had been selected as the experimental class, 8 said they could have progressed more rapidly, 13 asked the teacher for help when it was needed, 12 wanted to use programmed materials for the remainder of the lessons, and 7 indicated a desire to use programmed materials in other classes. Other responses revealed that three students felt more practice should have been given in writing shorthand on the programmed materials, helped them to learn faster, more effective way to study, constant repetition helped to remember better, and was enjoyable.

Conclusions:

1. Gregg shorthand theory is adaptable to programmed instruction.

2. The developmental procedure and programming techniques used in this study were effective in obtaining results as compared to the control group.

3. Students of equal ability progressed more rapidly using the programmed materials.

4. Programmed materials were useful for both classroom and homework.

5. Teacher's role with programmed materials is to give individual instruction, help evaluate their progress, and to supervise the class.

6. During the first nine weeks, group instruction and demonstrations are not necessary in programmed shorthand instruction.

7. The findings tend to support the idea that programmed instruction was more effective in improving transcription ability.

8. The results of the five quizzes showed that language usage scores are more closely related to learning shorthand in the control group, and intelligence scores and verbal reasoning scores were more closely related to learning shorthand in the experimental group.

9. Programmed instruction reduced the variability of the range of scores by eliminating scores on the lower end.

10. For the most part, student comments on the questionnaire were favorable.

Recommendations:

1. That further revision be made on these programmed materials to allow for more reading and writing practice.

2. That programmed materials be prepared for all of the theory lessons for the latest revision, which is Diamond Jubilee.

3. That experimentation be done using programmed materials for homework and multiple-channel dictation equipment for classroom work.

Abstractor's Comments:

1. This study, along with others conducted recently, tend to support a more extensive use of shorthand programmed materials.

2. A study similar to recommendation 3 has already been done by Max Waters (81b).

Abstract 90

Helena Wesser Hilleary, "An Experimental Investigation Concerning Class Size" (unpublished Ed.D. dissertation, The University of Southern California, 1958), p. 285.

Problem:

The problem of this study was to test in an experimental situation the validity of the following hypothesis: class size need not be a critical variable in the efficiency of learning in a beginning shorthand class.

Procedure:

1. Three experiments were conducted pairing learners in a small class with learners in a large class. These students were paired on the bases of intelligence quotient, chronological age, sex, and previous shorthand background. Experiments I and II were held during the 1956-57 school year and Experiment III the fall term of the school year 1957-58. The classes were comprised of adult students enrolled in beginning shorthand at a Los Angeles junior college. Each experiment was planned to cover a nine-week period.

Experiment I. The small class met Monday and Wednesday, and the large class met Tuesday and Thursday. Both classes were taught by the same instructor, using the same methods, and met the same hour of the day.

Experiment II. The meeting days were going to be reversed, but this was not possible; therefore, the classes met the same days as for Experiment I. These classes were taught by different instructors.

Experiment III. Only one class was available so that students in this class were paired with students in the large class in Experiment I. Experiment III was taught by the same instructor as Experiment I and the small class met on reverse days from Experiment I.

2. The small class was held constant at 25 for all three experiments and were selected by dividing one of the large classes and selecting 25 students at random. There were 13 matched pairs in Experiments I and III and only 10 matched pairs for Experiment II.

3. All variables were held constant, except the class size. Both classes met the same hour, but on different evenings. The same teacher, the same room and facilities, and the same equipment were used for both the small and large classes.

4. The results of the experiment were reported in terms of differences in gains or losses in achievement

as measured by three achievement tests. The first two tests measured the student's ability to transcribe from shorthand plate material into English. These tests were graded for transcription speed and also accuracy of transcription. The third test measured the student's ability to transcribe his own shorthand notes taken from pre-recorded tapes at 40 words per minute. This test was graded only on accuracy of the transcript.

5. Statistical calculations were used to determine how far the means of the measured sample would deviate from the population means. The difference between means in two samples was determined by the t-ratio.

6. At the end of the nine-week period, a questionnaire was given to the students for use in rating the instructor.

Findings:

1. No significant difference was found in the three experimental groups or in the total sample on the bases of IQ and age.

2. A total of 12 tests was computed to determine any differences that existed between pairs regarding errors made on the achievement tests. Only one of these, the combined tests for Experiment III, showed a significant difference and this difference favored the large class.

3. A total of nine tests was made to determine the difference between the groups in regard to transcription speed. The second speed test for Experiment II showed a significant difference in favor of the small class, while the second speed test for Experiment III showed a significant difference in favor of the large class.

4. The t-ratios were computed to determine the differences between the pairs regarding number of days of attendance. For Experiment I, the t-ratio revealed a significant difference in favor of the large class. When all three experiments were combined, no significant difference existed.

5. Similar t-ratios were computed to determine differences between the pairs in regard to the amount of homework. In Experiment III a significant difference was found in favor of the large class. When the three experiments were combined, no significant difference was found.

6. From the results of the questionnaires, Chi-square tests were computed separately and totally for all three experiments. For Experiment III, 5 of the 22 items were found significant at the 5 percent level of confidence. The difference was in favor of the small class. When all three experiments were combined, no significant difference was found in the items.

Conclusions:

1. On the basis of the findings in this study, it seems reasonable to conclude that class size was not a critical factor in the measurement of class efficiency.
2. Greater utilization could be made of teachers through the scheduling of larger classes.
3. The large class techniques and devices used in this study have implications for other classes that require similar learning activities.
4. The classroom may be more adaptable to those techniques necessary for large class communication and to encourage the use of audio-visual equipment and materials.
5. As far as the questionnaire used in this study was able to determine, there was no indication that instructors were perceived differently by students in small classes than by students in large classes. Furthermore, the total learning situation was perceived the same by both small and large classes when considering the learning activity of beginning shorthand theory.

Recommendations:

1. A similar designed study is needed on class size concerning other variables, such as large class communication as filmstrips, tachistoscope, overhead projectors, loop films, educational television, tape recordings, and educational movies.
2. Further research is necessary to determine loss or gain of class efficiency for small and/or large classes.
3. Such additional related factors as age and sex, and various intelligence quotient groupings should be studied concerning their effect on learning in small and large classes.

4. Similar studies also need to be extended to the more broad general subjects of the liberal arts program, which emphasize abstract thinking.

5. New buildings should be provided for use of recent audio-visual techniques.

Abstractor's Comments:

1. Most of the differences between groups that were significant favored the large class. The small class was significantly favored only on 5 of the 22 items on the questionnaire analyzed for Experiment III. When all of the experiments were considered as one sample, no significant difference existed.

2. The findings of this study tend to support large shorthand classes when taught by the scientific method.

Abstract 91

Mildred C. Hillestad, "Factors Which Contribute to the Difficulty of Shorthand Dictation Materials" (unpublished Ph.D. dissertation, University of Minnesota, 1960), p. 280.

Problem:

"The problem is one of developing a multiple regression equation which will predict the number of errors students are likely to make in their shorthand notes when writing a shorthand dictation test."

Procedure:

1. There was a total of 100 letters prepared by the investigator. These 100 letters were constructed from a collection including letters of many kinds and a variety of subjects. Letters were collected from circular mail, first-class mail, and form letters from large and small businesses. Subjects covered included insurance, wearing apparel, retirement plans, building supplies, music, art, credit and finance, hospitalization, and publishing. Some of the wording was changed, but an attempt was made to retain the original form as much as possible. All of the letters included 160 actual words in the body of the letter.

2. Fourth-semester shorthand classes were chosen for the study: three in Minneapolis; including a suburban school; and four in St. Paul. The letters were dictated to all advanced shorthand classes by the teacher in charge and all papers were submitted to the investigator, who then randomly selected the classes to be used.

3. The letters were dictated over a three-month period. Once each month the papers were collected from the teachers. A sample of five papers for each letter was drawn from each of the eight schools, which made a total of 40 sets of shorthand notes for each letter. These 40 sets for each of the 100 letters totaling 4,000 papers constituted a random sample of approximately 20 percent of all the papers collected. The 4,000 papers, each containing 160 actual words, made a total of 640,000 shorthand words that were checked for errors.

4. The Word List of Gregg Shorthand Simplified (31b) was used to verify the correct symbol for each word. The word was considered to be correct if all the letters were there, regardless of direction written, except when a reversed stroke made another letter as p for f or b for v. Numbers written in figures unless listed in the text as a brief form were regarded as correct outlines. The position of the outline on the line was not considered.

5. IBM cards were prepared for the words in the letters of this study. A total of 16,000 cards was prepared and each card contained identification data concerning the presence or absence of each of the characteristics, and the number of errors made on the words.

6. Two sets of three letters each were randomly selected from the letters in the study. These two sets were scored by three other experienced shorthand teachers. The scores reported by the three teachers and the investigator were compared by a two-way analysis of variance, and the reliability was measured by the method suggested by Hoyt. The reliability was over .98 for the scores.

7. The sixteen variables included in this study were syllabic intensity; vocabulary level; brief forms; brief form derivatives; are, air, and er sounds; expression of oo and o sounds; terminal to following a k or an s sound; suffixes and derivative endings; prefixes; blends; diphthongs; and words not included in the first 1,500 most commonly used words.

8. Comparisons were made of the percentage of errors made on each characteristic studied and the percentage

of the total words containing the principle. Further analysis was made on each variable by observing the percentage and kind of errors made on each of the shorthand principles in different situations.

9. Correlations and multiple-regressions were used to determine the relationship between each variable and the criterion, shorthand errors. The "F" test was used as a test of significance between each variable and the criterion.

Hypothesis:

"In each case the hypothesis tested was that the product moment correlation of coefficient between each of the variables and the number of shorthand errors made in recording dictation in Gregg Shorthand was zero when the relationship between all of the other variables as a group and the criterion was held constant."

Findings:

1. The preceding hypothesis was accepted by ten of the variables and rejected by six. The six variables making significant contribution to the prediction of the number of errors made in recording dictation in Gregg shorthand were syllables, vocabulary level, oo sounds, o sounds, terminal t's and word beginnings.

2. When the six significant variables were used in a regression equation, over 73 percent of the criterion variance was contributed by syllables and vocabulary level index. This multiple regression produced an $R^2 = .8275$.

3. A third multiple regression was ran substituting the number of words beyond 1,500 most frequently used words and vocabulary level index. This produced an $R^2 = .7779$.

4. The regression using all sixteen variables produced an $R^2 = .8987$. The difference in the regression using 16 variables and that using 2 variables was significant at the 1 percent level.

5. A total of 58,156 errors was made on the 640,000 forms written. These errors were placed in three categories: brief forms, brief form derivatives, and words. The brief forms accounted for the fewest number of errors and brief form derivatives accounted for nearly ten times as many errors as did brief forms. Fifty-one percent

of all the words written were brief forms, yet fewer than one-seventh of all errors made were attributed to brief forms.

6. Fewer than one-half, or 44 percent, of all words written were made up according to shorthand principles. These words, however, accounted for over 75 percent of all errors made.

7. Errors tended to increase as words became longer. Over one-half of the longest words, six syllables, were written incorrectly. The percentage of errors seemed to increase about 10 percent for each additional syllable in the word.

8. Errors were also found to be directly related to vocabulary level. The percentage of errors tended to increase as the words were among those less frequently used. Those words in the first 100 group comprised about 53 percent of all words in the dictation, but accounted for only about 8 percent of all errors. The second group accounted for about five times as many as the first group; the third group had an error rate double the second; and the error rate for the last two groups is over five times that of the second group.

9. The most errors were made in joining or blending past tenses, with over 26 percent of all errors occurring in this category. Error rates in expressing past tense on brief forms was one-half of the error rate on words.

10. The blends dev and tive had the highest error rate of all the blends and ld had the lowest, with approximately 27 percent and 1 percent, respectively. By far, the largest percentage of blend errors was that of not employing a blend when it was possible to do so.

11. The sounds oo and o accounted for about 10 percent of the errors, with over 62 percent of these involving the substitution of one stroke for the other.

12. For all principles studied on words concerning a t at the end of the word followed by a k or an s there was about a 13 percent error rate.

13. Joined prefixes accounted for about 12 percent error rate, but disjoined prefixes accounted for an error rate over 17 percent.

14. Students were inclined to write words out in full. More letters were written into words that should

have been omitted than were omitted from words in which they were to be written.

Conclusions:

1. When using the set of 100 letters prepared in this study, prediction of the number of errors students are likely to make in recording these letters from dictation seems possible, with the two predictors, the number of syllables in the words and the vocabulary level of the words used in the letters.

2. Fewer errors were made on brief forms than other types of shorthand errors.

3. With one exception, that of the five-syllable words, the error rate tended to increase as words became longer.

4. The vocabulary level was more directly related to the percentage of error than was the number of syllables.

5. Errors occur more frequently on inconsistently applied principle than on those consistently applied, e.g., expression of past tense and omission and inclusion of vowels.

6. Some problems also occurred in word endings other than past tense.

Recommendations:

1. A broader vocabulary is needed in shorthand.

2. Attention should be given to the number of words beyond the first 1,500 most frequently used words when selecting dictation materials.

3. Because 71 percent of all words are included in the first 500 words on the Silverthorn list (65b), these should be as automatized as brief forms.

4. More emphasis should be placed on distinguishing oo and o sounds.

5. More emphasis should be placed on brief form derivatives.

6. The easier principles should be taught first, leaving the more difficult until last.

7. Materials should be organized according to frequency of use of words. Thus, a vocabulary could be built more rapidly and students could handle larger amounts of dictation early in the course.

8. Ideally, principles and frequency of words should be coordinated.

9. More of the first 1,500 words on the Silverthorn list should be brief forms.

10. Past tense should be consistently expressed as a disjoined t, since this produced a lower error rate than when several alternatives were given.

11. The principal vowel in all words should be written.

12. One shorthand character should represent both the oo and o sounds.

13. When a t follows a k or s sound, it should always be written.

14. Further research is needed to determine proper weightings to assign to number of syllables and vocabulary level to predict more accurately difficulty of dictation materials.

15. Research is needed in which such a regression equation is applied to transcription.

Abstractor's Comments:

1. The formula derived in this study should be applied to all dictation material to assure consistency in those materials used at a given period in each shorthand course.

2. The use of this formula could bring us closer to standardized testing and standards in shorthand.

3. This study verifies the fact that syllabic intensity plays a major role in determining the difficulty of dictation materials.

Abstract 92

Aubrey E. Holderness, "A Comparative Analysis of the Manual Method and Functional Method of Gregg Shorthand Instruction" (unpublished Master's thesis, Adams State College, 1965), p. 172.

Problem:

The problem of this study was to determine whether the Manual Method or the Functional Method of teaching Gregg shorthand produced better results with regard to final achievement, student enthusiasm, and interest during the school year.

Procedure:

1. Three types of information will be pursued in this study. Research related to this subject will be gathered, authorities in the field will be interviewed, and parallel groups will be set up for experimentation. The results will be recorded and statistics tabulated.

2. The experiment involved two shorthand classes at Farmington High School, Farmington, New Mexico. One class contained 43 students and was taught by the Manual Method, while the other one contained 47 students and was taught by the Functional Method. The class taught by the Functional Method was called the experimental group. The same teacher taught both classes.

3. During the first six weeks, testing was done only on reading. Upon completion of the first nine chapters, 18 days were spent in review. One day was spent reviewing the chapters and a 100-word test was given the next day.

4. A questionnaire was given to the students four times during the year in an attempt to determine the student's attitude toward the two methods of teaching. The same questionnaire was given all four times.

5. Two weeks prior to the end of the first semester dictation was begun over familiar material. Later this was changed to new material. All tests were three minutes in length and must be transcribed with 95 percent accuracy in order to be passing.

6. The two classes were compared on the basis of over-all grade point average, raw scores, and inter-class rankings on the statewide junior tests, differences between junior test percentiles and grade point averages, and English grade point averages.

Summary:

1. The mean of average grade point for the control group was 2.36 and 2.25 for the experimental group.

2. The raw scores and inter-class rankings on the statewide junior test did not show a significant difference between the two classes.

3. The mean score for English grade point for the control group was 2.49 as compared to 2.37 for the experimental group.

4. On the basis of the 900 theory words, the mean of the control group was 655.7 correct words or 76.68 percent accuracy, as compared to a mean of 536.4 correct words or 65.87 percent accuracy for the experimental group.

5. When the two groups were compared on the basis of dictation speeds for short letter dictations, the mean of the control group was 101.95 words per minute as compared to 97.50 for the experimental group.

6. On the basis of the three-minute dictations, the mean of the control group was 73.66 words per minute and the mean for the experimental group was 72.50 words per minute. When the difference between these two scores was subjected to the F-test, a difference of .0205 was found.

7. The responses to the student questionnaire tended to show that more students in the control selected shorthand as one of their favorite subjects. The statistical difference is not known, nor is it known why the difference exists.

Conclusions:

1. Although the differences were not significant, the control group was slightly higher than the experimental group on over-all grade point average, the junior test, and English grade average.

2. On the basis of the data presented in this study, it seems logical to conclude that the Manual or control group learned more in regard to theory than the Functional or experimental group.

3. On the basis of the T-test on the findings of the three-minute dictation tests it can be concluded that no significant difference exists between the two methods of teaching, as tested by three-minute dictation tests.

Abstractor's Comments:

1. The T-test was not applied to any figures prior to the dictation tests in order to determine if any significant difference existed between the two groups.

2. This study tends to indicate that the method of teaching shorthand does not determine student failure or success.

3. No recommendations were presented in the study.

Abstract 93

Gary Holst, "A Critical Analysis of Internal Punctuation Errors Made by Post-High School Students in Shorthand Transcripts" (unpublished Master's thesis, Mankato State College, 1967), p. 66.

Problem:

The problem of this study was to determine the extent of internal punctuation errors made by post-secondary students in shorthand transcription.

Procedure:

1. This study involved 100 sets randomly selected papers from those reserved from approximately 140 secretarial students in six area-vocational schools in Southwestern Minnesota. These letters were charted according to 24 different punctuation principles, which included 49 principle applications in all.

2. Three letters were selected because of their variety of punctuation principles. The letters, with

instructions, were mailed to the participating schools on April 15, 1967. The letters were dictated at 80 words per minute and contained punctuation principles regarding commas, colons, semicolons, dashes, hyphens, and apostrophes.

3. Tally sheets were prepared on which the following were recorded: frequency, number of errors, correct substitute, number of omissions, and percent of error.

Findings:

1. Whereas nine of the punctuation marks were missed by 50 percent or more of the students, 5 were missed by 75 percent or more.

2. The difficulty with possessives was lack of ability to determine where to put the apostrophe.

3. When the word following was used with colons, only 1 error was made out of 99 chances; however, only 47 percent used the colon correctly when the word following was omitted.

4. The most frequent errors made in using the comma were in the following: (a) parenthetical clauses, (b) introductory phrases, (c) explanatory expressions, (d) expressions out of natural order, (e) intervening clauses, and (f) appositive.

5. The dash produced the largest percentage of error among the five internal punctuation marks, with an overall average of 77 percent.

6. Out of 294 chances for error, 53, or 18 percent, were actually made.

7. The use of the semicolon caused an error frequency of 49 percent. The areas of difficulty were: (a) clauses joined by conjunctive adverbs, 53 percent; (b) before coordinating conjunctions when there is other internal punctuation, 64 percent; (c) each complete unit in a series having internal punctuation, 60 percent; and (d) serial phrases or clauses with a comma dependent upon something that precedes or follows, 43 percent.

Conclusions:

1. A need definitely is present for further emphasis on punctuation principles in high schools and post-high schools.

2. The training presently being provided in our schools is inadequate.

Recommendations:

1. More emphasis should be placed on internal punctuation in business English.

2. More emphasis should be placed on compound sentences.

3. A similar study is recommended comparing secretaries on the job for at least one year with those still in school.

4. More punctuation rules should be taught in shorthand.

5. Students should be taught why this punctuation and not merely rules.

6. Teachers should develop remedial instructional material to fit their classes.

7. Follow-up studies should be made to determine if the graduates' knowledge of punctuation is adequate.

Abstractor's Comments:

1. The findings of this study should be made available to the teachers of those classes involved in this study so that corrective steps can be taken.

2. Similar studies are needed to determine the effectiveness of other curricula in teaching punctuation principles.

Abstract 94

Mary Patricia Houtz, "The Effectiveness of Closed-Circuit Television on the Teaching of the Principles of an Alphabetic Shorthand System" (unpublished Master's thesis, The Pennsylvania State University, 1957), p. 83.

Problem:

The problem of this study was to determine the effectiveness of closed-circuit television in the teaching of the principles of an alphabetic shorthand system.

Procedure:

1. A group of 22 participants was used for the five-day instructional period. Tests were given to determine the increase or decrease in writing speed.

2. An alphabetic system was used which was unfamiliar to any of the participants. The new system to be learned would, therefore, test the use of television for teaching shorthand more effectively.

3. Fifteen of the 22 were graduate students enrolled in Supervision and Administration in Business Education at the summer session of 1965 Pennsylvania State University. The other 7 were graduate and undergraduate students attending the same session who volunteered to be a part of the study.

4. Detailed lesson plans for each day's presentation were not made until after the discussion held with the participants each day following the television presentation.

5. The students were oriented to the purpose of the study and other background material about the project. Also, they were given a tour of the television originating, receiving, and control rooms to give them a basic understanding of the functions of these rooms. The researcher believed that this orientation would reduce curiosity about the rooms and equipment; therefore, the participants could concentrate on the learning of shorthand.

6. Twenty of the students received the instruction from a 24-inch screen receiving set. The other 2 were in front of the instructor to help the instructor pace the teaching. A discussion was held following each 60-minute presentation.

7. The following tests were used: intelligence, reading, phonetic association, speed of writing, and word retention. A vocabulary test and dictation tests were given to determine the amount of learning during the week.

8. Each participant was given a questionnaire so that their reactions to the learning of shorthand over television could be obtained.

Findings:

1. Prior to July, 1956, no alphabetic shorthand system had been taught by closed-circuit television.

2. Houtz and others have reported studies of alphabetic systems of shorthand which indicate that:

- a. Use of the alphabetic shorthand system may be employed immediately.
- b. Percentage of accuracy in transcription is extremely high for speeds of 40, 50, and 60 words per minute, with accuracy dropping off slightly at 70 words per minute.
- c. Speeds of 40 to 70 words per minute are reached in a relatively short time with some students obtaining a speed of 90 words per minute within one semester.

3. The principles of an alphabetic shorthand system can be taught in one week with speeds of 70 words per minute obtained with no mistakes in the transcript.

4. The highest speed of writing in longhand was 43.5 words per minute and the highest speed of writing in an alphabetic shorthand system was 70 words per minute--an increase of 26.5 words per minute.

5. Special visual aids must be developed to break the monotony of the camera being focused on the instructor constantly.

6. There should be at least one student in the originating room to aid the instructor in the pacing of his teaching.

7. All handwriting on blackboards or cards placed on a bulletin board must be large to lessen eye strain for the viewers as much as possible.

8. It is very disturbing to the people in the receiving room to not be able to ask questions as they arise. This can be elivated somewhat by the instructor anticipating questions.

9. Some shorthand techniques, which are not particularly effective in classroom teaching, are quite satisfactory when used for television instruction, such as flash cards.

10. Because of the awareness of time when teaching by television, new techniques are necessary so that the televising time is utilized at every moment.

11. Detailed lesson plans are imperative.

12. There was no particular pattern to the rank order obtained by the participants in the general tests administered.

13. Although drilling on words written on the board was considered the best visual aid by the participants, the use of flash cards received the highest number of aggregate votes for effectiveness.

14. The superimposing of answers for checking purposes was considered the least successful of all visual aids used.

15. Television is an effective medium for teaching shorthand because:

- a. It gives a good view of the board.
- b. It gives everyone a better view of illustrations.
- c. The instructor is not interrupted by questions and classroom disturbances.
- d. The instructor must prepare.
- e. More students can be taught without the additional physical strain of speaking luder and walking farther.
- f. It is especially adaptable to visual aids.

16. Although half of the class thought they had learned less shorthand by television in relation to what they would have learned in the classroom, the majority of them were in favor of television instruction with a

good instructor in preference to classroom teaching with a poor instructor.

17. A previous knowledge of a symbol shorthand system hindered some of the participants in the learning of this system.

18. Because of the necessity of forgetting one shorthand system and learning another, one week was not sufficient time to enable the students to adjust to this situation.

19. An alphabetic shorthand system can definitely increase a person's rate of writing in a very short time.

20. An orientation of the technical set up of the room utilized in teaching by television is helpful in enabling students to concentrate on television presentations.

21. According to results obtained from the intelligence test administered in this project, the participants were of a higher intelligence than the national norm. In the speed-of-reading test administered, the participants were slightly lower than the norm for college seniors.

Recommendations:

1. A two-way intercommunication system should be set up for the teaching of shorthand by television.

2. More emphasis should be placed in college and high schools on a one-hour day a week course in an alphabetic shorthand system for personal use.

3. More than a week's time should be allowed for the learning of an alphabetic shorthand system by television.

4. Further study needs to be done on various systems of alphabetic shorthand.

5. Additional research should be conducted on speeds attained by alphabetic shorthand systems in various lengths of time.

6. More experiments attempted on special visual aids for shorthand teaching by television.

Abstractor's Comments:

The situation described in this study is unique. All but four of the students knew another shorthand system and had shorthand teaching experience. The group was not an ordinary group and, therefore, cannot be generalized about.

Abstract 95

Elizabeth Iannizzi, "Transcription and Shorthand Errors Among Elementary and Advanced High School Writers of Simplified and Diamond Jubilee Shorthand" (unpublished Ph.D. dissertation, New York University, 1967), p. 112.

Problem:

The problem of this study was to analyze shorthand and transcription errors made by writers of Diamond Jubilee Gregg Shorthand and Gregg Shorthand Simplified in beginning and advanced high school shorthand courses to determine the relationships between shorthand errors and transcription errors.

Hypotheses:

1. "Errors in standard Diamond Jubilee Gregg Shorthand written by students in elementary and advanced classes have an adverse effect upon the accuracy of the transcription produced."
2. "Errors in Gregg Shorthand Simplified written by students in elementary and advanced classes have an adverse effect upon the accuracy of the transcripts produced."
3. "There is no relationship between the effect of shorthand errors in elementary classes and those in advanced classes."
4. "There is no relationship between transcription accuracy in elementary classes and transcription accuracy in advanced classes."

Procedure:

1. The dictation materials used in this study were the 100 letters constructed by Mildred Hillestad (38b) for use in her study.

2. These letters were pre-recorded in order to provide consistency in testing. The tapes for the elementary classes provided dictation at 40 words a minute; those for the advanced classes contained dictation at 70 words a minute.

3. Test tapes and instruction sheets were prepared and tested. The only negative comment was the volume of the dictator's voice. On the basis of this suggestion, other tapes were prepared and tested. These proved very satisfactory.

4. The students were not informed of the situation so they would write as they normally did. Each paper contained the following information at the top: name, school, name of teacher, class taken in, years of prior shorthand study, and system (Simplified or Diamond Jubilee).

5. The population used in the study was selected from schools in the Long Island, New York, area that were teaching either Simplified or Diamond Jubilee. Of 100 schools contacted concerning the study, 35 agreed to participate in the study.

6. Since these schools did not represent schools in other parts of the United States, letters were sent to 13 business education experts throughout the United States seeking pertinent information.

7. Using a table of random numbers, four papers were selected from each class at each level. Each class set represented individual teachers. Papers were selected only from students who had studied one of the two systems and who were making a passing grade. When a student had made an excessive number of errors, the next paper was selected. If a student transcribed more than one letter, a coin was tossed to determine the letter used.

8. A check list was developed for classifying the errors made in writing Gregg Shorthand. The list included the following categories: brief forms, derivatives, blends, oo hook, o hook, left and right s, past tense, joined endings, disjoined endings, joined beginnings, disjoined beginnings, diphthongs, position of vowel with opposite curves, contractions, plural forms, and miscellaneous.

9. The check list developed for classifying transcription errors included: Omitted word, substituted word,

past tense, plural, contraction, added ending, and added word.

10. Total errors in each category were summarized for each letter for both shorthand errors and transcription errors. The scoring of the papers was checked by randomly selecting papers from any levels or systems of shorthand.

Findings:

1. Of all errors made at the elementary level, brief forms and brief form derivatives represented 32.7 percent of the errors in Gregg Simplified and 15.9 percent in Gregg Diamond Jubilee. At the advanced level, brief forms and derivatives represented 29.4 percent of the errors in Gregg Simplified and 22.7 percent in Gregg Diamond Jubilee. At the elementary level, 37.2 percent were transcribed incorrectly from Gregg Simplified and 24.8 percent were transcribed incorrectly from Gregg Diamond Jubilee. At the advanced level, 19.3 percent of the brief forms and derivatives in Gregg Simplified and 34.1 percent in Gregg Diamond Jubilee were transcribed incorrectly.

2. The Simplified students had a mean number of errors of 20.77 at both levels, as compared to 22.79 for the Diamond Jubilee students at both levels. Furthermore, shorthand errors were transcribed incorrectly 18.8 percent of the time by Simplified elementary students and 18 percent of the time by Diamond Jubilee students at the same level. On the other hand, the Simplified advanced students transcribed correctly 87.8 percent of the incorrectly written outlines; the Diamond Jubilee students transcribed incorrect outlines correctly 84 percent of the time.

3. The Simplified advanced students averaged 4.36 fewer errors than the Simplified elementary students. Also, the Diamond Jubilee advanced students averaged 4.89 fewer errors than the elementary students.

4. Of incorrectly written outlines transcribed incorrectly, contractions and plurals were among the highest percentages.

5. The categories being affected the least by incorrect transcription of incorrect outlines were the right and left s and position of vowel with opposite curves.

6. At both levels and in both systems, substituted word represents 46 percent of all transcription errors. More than 50 percent of these errors were also errors in the shorthand notes.

7. With relation to shorthand errors, contractions, past tense, and plurals exceeded the category of substituted word.

8. The second largest category of total errors was omitted words, which represented 25 percent of all errors at the advanced level and 33 percent of all errors at the elementary level. In all categories, except Diamond Jubilee elementary, 20 percent of the omitted words from the transcripts appeared in the shorthand notes.

9. When all levels were combined, the Diamond Jubilee students excelled over the Simplified students in transcribing perfect transcripts. Furthermore, the elementary Diamond Jubilee students performed better than the elementary Simplified students by 7 percent.

10. The transcription mean of the Simplified students was 6.75, as compared to 7.59 for the Diamond Jubilee students. The percentage of transcription errors was 4.2 and 4.4, respectively.

Conclusions:

1. There is a direct relationship between transcription errors and shorthand errors.

2. A relationship between errors in elementary classes and advanced classes is directly related. Advanced students tend to transcribe more accurately than elementary students. Whereas, the accuracy of the advanced students increased, it may be questionable whether the increase will justify the additional time spent.

3. The Diamond Jubilee students tended to be slightly less accurate in both shorthand and transcription than the Simplified students.

4. On the basis of the findings of this study, Diamond Jubilee had no substantial effect, positive or negative, on the production of accurate transcripts.

5. Since a large percentage of transcription errors resulted from substituted words, the problem seems to be one of reading outlines rather than writing outlines.

6. Advanced students showed a higher percentage of transcription errors from correctly written outlines than the elementary students.

7. Since nearly 20 percent of the omissions in the transcripts were contained in the shorthand notes, the difficulty was either carelessness in reading the notes or inability to read the notes.

Recommendations:

1. A larger number of perfect transcripts need to be studied to determine the relationship between accuracy of shorthand notes and production of perfect transcripts.

2. Further study is needed to determine the rate of improvement as a student moves from one shorthand level to another.

3. Since this study revealed no real substantial effect of Diamond Jubilee on accuracy of shorthand and transcription, further research is needed to determine its purposes.

4. More emphasis should be placed on verbatim transcription in the early transcription phase.

5. More emphasis needs to be placed on the accuracy in writing brief forms and derivatives.

6. Supplementary materials need to be provided for strengthening the weak areas such as contractions and plurals.

Abstractor's Comment:

The abstractor tended to find a lot of repetition in the format of the study.

Abstract 96

William Max Jaeger, "The Opinions of Fifty-Eight Illinois Secondary School Shorthand Teachers Regarding Selected Areas of the Diamond Jubilee Edition of Gregg Shorthand" (unpublished Master's thesis, Northern Illinois University, 1966), p. 63.

Problem:

This study was conducted to determine the opinions of selected Illinois secondary school shorthand

teachers regarding the expectation that the changes presented in Diamond Jubilee Edition have resulted in easier learning and in better transcription skill.

Procedure:

1. The Gregg shorthand textbooks of various editions were compared, and a survey was made of the related readings in professional magazines and selected theses completed at other institutions of higher learning.

2. The opinionnaire developed for this study was used in a pilot study involving experienced shorthand teachers enrolled in a shorthand improvements course at Northern Illinois University. The opinionnaire was revised following the pilot study.

3. The opinionnaire was then mailed to shorthand teachers in 75 high schools in Cook, DuPage, DeKalb, and Ogle Counties. A sample was made of small and large high schools in both urban and rural communities.

4. Only the opinionnaires were included in this study that were returned by teachers who had taught Diamond Jubilee for at least one year and at least one year of Gregg Anniversary or Gregg Simplified.

Findings:

1. The opinionnaires were mailed to 75 public schools and replies were received from 64, or 85.3 percent, making a total of 92 opinionnaires returned. Of those 92 returned, 34 of the teachers had either not taught Diamond Jubilee or had not taught Anniversary or Simplified. Therefore, only 58 of the opinionnaires could be tabulated for use in this study. Further analysis revealed that 29 of the 58 teachers had taught Simplified and Diamond Jubilee, and one teacher had taught Anniversary and Diamond Jubilee.

2. The shorthand teachers included in this survey believe, in general, that the Diamond Jubilee Edition: (a) provided for easier learning of theory, results in increased ease in taking dictation, and results in more accurate transcription; (b) theory is easier to present, less hesitation and question on the part of the student, and writing speeds have not been noticeably affected; (c) as a result of changes, word beginnings and endings are easier to learn and apply, but dictation rates have

not necessarily been affected by these changes; (d) learning load has been reduced, transcription readiness increased, and has aided in eliminating hesitation caused by the necessity for choice making when reading and writing shorthand outlines; (e) student learning and achievement have not been affected by the changes made in the brief forms; (f) the Diamond Jubilee textbooks are better organized and easier to teach from; and (g) Jubilee textbooks are better organized and easier to teach from; and (g) the teachers also believed that the use of the Diamond Jubilee Edition will have no effect on their school's shorthand curriculum offerings.

3. These teachers who had taught the combinations Simplified-Diamond Jubilee and Anniversary-Simplified-Diamond Jubilee seemed to be in agreement regarding the Diamond Jubilee Edition in the selected areas studied.

Conclusion:

Approval of Diamond Jubilee was indicated by the shorthand teachers included in this survey. These teachers believe, in general, that Diamond Jubilee results in easier learning for the student and in better transcription skills when compared with the Simplified Edition.

Recommendations:

1. That research of Diamond Jubilee be conducted to note any possible future criticisms and/or suggested improvements; and to determine if the passing of time and continued use of Diamond Jubilee are factors that could change certain teacher's opinions of the strengths and weaknesses noted in Diamond Jubilee when compared with the Simplified Edition.

2. That in-depth research be done for inquiry into specific areas of Diamond Jubilee. The area of word beginnings and endings could be studied in order to determine the effects, if any, the longer but more consistent outlines have upon student learning, reading results, writing speed; and transcription accuracy.

3. That an experimental study be made to use respective editions of Simplified and Diamond Jubilee with classes taught by the same teacher in which a comparison of Diamond Jubilee and Simplified is made in regard to learning effectiveness and ease of presentation.

Abstractor's Comments:

1. Since much has been said concerning the effectiveness of Diamond Jubilee, studies of this type are certainly valuable.

2. The study is, however, merely opinions. Had a different group of teachers been surveyed, the results may have been different.

Abstract 97

Junne Wood Jenson, "An Investigation of the Effect of the Study of Shorthand on Spelling" (unpublished Master's thesis, San Jose State College, 1957), p. 61.

Problem:

The problem of this study was to determine if there was any negative transfer effect on spelling ability as a result of the study of shorthand.

Procedure:

Subjects

1. Selection of Experimental Groups. Two classes of beginning shorthand were being taught in Bladensburg Senior High School, Bladensburg, Maryland, and both classes were used as subjects. Only those students in the 11th grade were used. There were 69 of these students, all girls.

2. Selection of Control Groups. The researcher decided to use English classes as control groups. Two general English classes having about the same number of students as the two shorthand classes were selected. There were 58 of these students, 23 boys and 35 girls.

3. Mental Ability. Townsend and Williamson have shown that there is positive relationship between mental ability and spelling ability. The two groups' IQ scores differed by 6.18 points, the shorthand group being higher. This difference, although significant, was unimportant in this study.

Second Experiment

During the process of this study the writer moved to another part of the country. The experiment was repeated at Fremont Union High School in Sunnyvale, California. The two high schools were similar in many respects.

1. Selection of Experimental and Control Groups.

The groups were selected in the same manner as they were selected in Bladensburg. There were 32 shorthand students and 28 English students.

2. Mental Ability in Fremont. The mental ability according to the California Test of Mental Maturity IQ showed a difference between the two groups of only .97.

Tests

1. Two kinds of pencil-and-paper tests were constructed, with instructions given orally. The tests used in Fremont were different from those used in Bladensburg, but similar in form. The tests were timed to give all the students involved the same amount of time.

2. Selection of Words. Several lists were made containing spelling "demons" and words selected at random from these lists until 200 words had been selected. Each word was written on a card and the cards were shuffled. The cards were drawn one at a time until 100 words had been selected. Every other word was selected from this list until each test contained 50 words. The tests were then cut to 48 words each, because of the number of lines on paper used by the students.

3. Forms. Two forms were developed and they were called "Form R" and "Form M." Form R was a recall test. The phonetic spelling, followed by a short definition was given for each word. Careful analysis was made so that the spelling of a word was not given in one of the definitions. The students were to fill in the correct spelling of the word. Form M consisted of a short definition, then several spellings from which the student was to select the correct spelling. Each test was divided into two parts and each part was timed separately.

4. Fremont Test. The mean scores on the tests given to the Bladensburg students indicated that the tests were relatively easy. The tests were reworded for the Fremont students in the following manner:

Using the same technique for selecting words and using the same format as for Test R, a test was constructed

containing 150 words. This test was given to 100 high school seniors at Melo-Atherton High School in Melo Park, California. The tests were scored and the 50 most difficult words were chosen for the final test. These words were then made into Test R and Test M with the same words for both tests.

Answer sheets were provided the Fremont students and this proved to be helpful in scoring the tests. In the Bladensburg testing program, the students were instructed to write their answers on the tests.

5. Validity of Tests. These tests were considered valid for the purpose for which they were used, since they asked the examinees to perform tasks similar to those spelling tasks in writing.

6. Reliability of Tests. The reliability of the Bladensburg study was done by correlating the two parts of each test. In the Fremont study the reliability was completed by correlating the odd and even items. The reason for the different methods was that the two parts of the tests were not timed separately at Fremont, as they were at Bladensburg. After applying the Spearman-Brown formula the reliability coefficients approached .90, which is considered adequate for purposes of group testing.

7. Administration of Tests. The tests were administered by those teachers whose students were involved in the study. The students were informed that the scores of these tests would not affect their class grades.

The teachers involved were given both oral and written instructions for administering the tests. The teachers were instructed to give Test R first and Test M last. Certain amounts of time were allowed for each test. Samples were given to use in explaining the tests. The tests were stapled together in the order to be given for uniformity in administering the tests. Both tests were given in the same class period.

8. Time Limits. The actual test time allowed was 20 minutes for Test R and 15 minutes for Test M. More time was allowed for Test R, because the students had to write the answers. The same tests were given twice to each student. The first test was given soon after school started and was repeated near the end of the year.

9. Spelling Instruction. No special instruction in spelling was given in either group. The teachers were asked to conduct their classes as they normally would.

Analysis of the Data

1. Recording the Data. Cards were prepared to contain the student's name, date of test, letter indicating group, all IQ scores and ability scores that were available, sex, and spelling test scores giving number of correct words on each test. The cards also contained the scores for the pre-test and end-test and the differences between these test scores. Cards having only one test score, for one reason or another, were discarded.

2. Treatment of the Data. The scores for the two experiments were treated separately. This was done because the tests used for the two experiments were different. The mean and standard deviations were computed for each group on both the pre-tests and end-tests. Tests of significance of difference were made for the following:

- a. The difference between pre-tests and end-tests using group average raw scores for the shorthand groups.
- b. The difference between shorthand and non-shorthand groups using gain scores.
- c. The difference in intelligence between the two groups of students.

The significance of difference was tested with the t-test and the .05 level of confidence was accepted as indicating a significant difference.

Product-moment coefficient of correlations was computed to determine the relationship between Test R and Test M, between intelligence and pre-test scores for each form, and between intelligence and gain on each form.

Findings:

1. The major finding was that there was no evidence of negative transfer to spelling as a result of the study of shorthand. The mean of spelling scores actually rose in both experiments. There was no loss in spelling ability, but a small gain which could be considered significant.

2. On Test M the difference gain was .47 of a word in the Bladensburg study in favor of the non-shorthand students. In the Fremont study the difference was 2.8 of a word gain in favor of the shorthand students.

3. In Test R the difference was .43 of a word gain in favor of the shorthand students at Bladensburg, and at Fremont the difference was .9 of a word gain in favor of the shorthand students.

4. There was a low positive correlation between mental ability and spelling ability, ranging from .22 to .47.

This type of correlation coefficient usually ranges from .45 to .55. This correlation approached that level.

5. The relationship between intelligence and gain in spelling scores was negligible, or at least small and unstable.

Conclusions:

1. The findings of this study parallel those of the Hastings' study. On the basis of the findings of this study, shorthand has no negative effect upon spelling ability.

2. There is an apparent relationship between intelligence and spelling, but no consistent relationship was shown between intelligence and improvement in spelling.

Recommendations:

1. That shorthand teachers assure their students that shorthand will not cause them to lose their spelling ability.

2. That the students look to other causes of loss in ability to spell, if a student finds his ability deteriorating after beginning to study shorthand.

Abstractor's Comments:

1. The problem studied in this study is as old as shorthand. The findings of this study help solve that problem.

2. The fact that the experiment was run in two different schools in two sections of the country makes it more valid. These findings should prove to shorthand teachers that shorthand does not affect a person's ability to spell.

Abstract 98

Donald D. Jester, "A Time Study of the Shorthand Transcription Process" (unpublished Ph.D. dissertation, Northwestern University, 1959), p. 137.

Problem:

The problem of this study was to identify and analyze the numerous activities which make up the complete shorthand transcription process, the typing and non-typing activities of the transcription process.

Procedure:

1. A time study was chosen for obtaining valid data for this study. This method was chosen because it provided the desired means of precisely measuring each element or individual activity and a means of identifying the frequency with which these activities occurred during the transcription process.

2. The type material chosen for use in this study was same as found in H. H. Green's Applied Dictation and Transcription (27b): "This material was considered to represent actual business dictation and transcription. The dictation is based on letters that have actually been dictated, transcribed, and mailed. Five unpublished letters were selected from those collected by H. H. Green, but not published in the text. These letters contained problems which arise from the entire process of dictation and transcription.

3. The five letters provided one to two hours of transcription time for each transcriber. The letters varied in length and contained a total word count of approximately 830 words. All five letters were dictated at approximately 80 words a minute in an atmosphere as similar to an office as possible.

4. A total of 36 high school students, college students, and students in evening programs of adult education took part in the study. These 36 transcribers had varying amounts of work experience. No attempt was made to screen the students on the bases of grades or ability levels. The sole criterion was willingness to participate.

5. The college students completed dictation and transcription of the five letters in one period; however, the high school students took several days. None of the students at any time were required to transcribe cold notes.

6. The observations of the transcriber were recorded on a Dictaphone Time-Master. The machine recorded the actual striking of the keys, and each time the transcriber stopped the observer would record the reason for the interruption in the typing activity. All timing was done exclusively from these recordings.

7. The transcriber's straight copy typing rates were obtained from the school records and were later compared to typing rates during the transcription process.

8. A shorthand theory test based on the vocabulary of the five letters was given to each transcriber at the end of the transcription process. The test contained 50 words. The longhand words were printed in columns with space provided for the shorthand word. They were then duplicated for presentation to the transcribers. No attempt was made to time them in any way.

9. The sufficiency of the sample was determined by sequential sampling. After each group of twenty-five letters, the twenty-three activities were analyzed and tabulated. The table became fairly stable after the first 125 letters; however, 180 letters were used to attain greater stability.

Findings and Conclusions:

1. Typing activities consume only 38.1 percent of the overall transcription time; whereas, 61.9 percent of the overall time is consumed by non-typing activities. Of the total number of time intervals, 47 percent are devoted to typing activity and 53 percent to non-typing activity. Therefore, it can be concluded that the time intervals of non-typing activity occupy a larger span of time than the time intervals of the typing activity, thus the importance of non-typing activities.

Typing Activity

1. Only 6.4 percent of the time intervals were 60 seconds long.

2. Nearly 60 percent of the transcribers transcribed at speeds between 45 to 55 percent as fast as their

straight copy typing speeds. Furthermore, a significant positive correlation of .677 existed between straight-copy typing speeds and speed during transcription.

3. The overall production rate generally centered at 20 percent of the straight copy rate.

Non-Typing Activities

1. There were 22 different non-typing transcription activities tabulated in this study. Thirteen consumed 1 percent or more each of the total transcription time, with erasing and correcting ranked first. Erasing and correcting consumed roughly 17 percent of the total transcription time. Others in rank order included: proofreading and correcting, 7.5 percent; deciphering incorrect outlines; reading notes for content and meaning; making ready, 3.9 percent; spelling problems; poor penmanship, 3.3 percent; inside address, 3 percent; fill-in information, 2.5 percent; tabulation problems, 1.7 percent; punctuation, 1.7 percent; information for the signature, 1.3 percent; and machine adjustments, 1.2 percent.

2. A very high correlation of .788 was found between the number of theory errors on a shorthand test and number of problems occurring during transcription.

Characteristics of slow transcribers

1. Did not keep eyes on the shorthand notes during the typing activity.

2. Slowness in making important decisions reduced their transcription considerably.

3. More time was spent in making corrections. This does not mean that they made more errors, but that they spent more time locating errors, positioning typewriter, etc.

4. More time was spent in preparing materials for insertion into the typewriter.

5. More time was spent on format and placement of the letter. Special lines, such as attention lines, caused them difficulty. More time was spent on setting up tabulations.

6. Hesitation in knowing where to look to find needed information.

Characteristics of fast transcribers

1. Typist kept their eyes on shorthand notes and typing was more rhythmical.
2. Instantaneous decisions were made.
3. Greater skill was shown in erasing on both original and carbons.
4. Less time was spent inserting materials into the typewriter.
5. Less time was spent in setting material up in correct form.
6. More skill was shown in knowing where to look and how to use reference materials.

Implications:

1. More than simply typing from shorthand notes must be taught in transcription. Training must also be given in the non-typing activities.
2. Since reference materials are used frequently in transcription, direct training in their use should be an important consideration in transcription. Students need training in taking addresses from incoming letters and files, in locating invoice number, in finding information in a company manual, in checking and verifying names, numbers, and amounts, and in generally working in context.
3. The time spent in transcription classes on building and improving typing skill might be better spent on other activities and leave this training to the typing class.
4. Since the time intervals of typing in transcription are short, long speed drills certainly have no place in the transcription class.
5. Students should be taught the mechanical aspects involved in erasing and correcting errors, and the ability to evaluate quickly and with self-assurance the gravity of errors.
6. The importance of writing correct shorthand outlines should be stressed from the beginning, and theory should not be neglected to give training in typewriting and English.

Recommendations:

1. Further research is needed dealing with methods of teaching transcription to determine how these results can best be achieved.
2. A study is needed comparing the transcription process of material dictated to mechanical dictating machines and the transcription process of shorthand notes.

Abstractor's Comments:

1. This study gives shorthand and transcription teachers a good insight into the transcription process. The results of this study should be used to improve the overall process of transcription.
2. As this study vividly points out, shorthand and transcription teachers are not falling down in teaching typing activities, but in teaching the non-typing activities. More emphasis is needed in the area of non-typing activities.

Abstract 99

Clifford O. Johnson, "An Analysis of Errors Made in Application of Principles in Gregg Shorthand Simplified" (unpublished Master's thesis, Mankato State College, 1958), p. 65.

Problem:

The problem of this study was to analyze the errors made in applying the principles in Gregg Shorthand Simplified. An analysis of each principle was made to weigh the principle in terms of difficulty and to discover those principles that may need more emphasis.

Procedure:

1. All stated principles were listed on a worksheet using Gregg Manual Simplified as a guide.
2. Letters were used rather than theory tests because letters would present a more businesslike situation. Most of the content used in composing these letters came from Klein's Graded Drills in Gregg Shorthand

Simplified (44b). The letters were dictated at 50 words a minute and total dictation time was 14 minutes.

3. An 8 x 5 card was set up for each principle and the word that was used to represent the principle. The material was transferred from the cards to worksheets. From these worksheets data frequency ratings were determined for each word.

Conclusions:

1. The frequency rank of the word appeared to have some relationship to the percent of correct responses.

2. Errors in writing tended to follow definite patterns.

3. Tendency to write the outline in full constituted the greatest violation of theory application.

Recommendations:

1. That another study be made which centers around lower-frequency words.

2. That greater emphasis be placed on principles which tend to cause a greater degree of error.

3. That a more comprehensive study be made of the application of the principles.

4. That those principles which are more difficult be distributed more carefully.

5. That those abbreviating principles which students tend to write in full be eliminated.

Abstractor's Comments:

1. A findings chapter pulling all the information together would have been beneficial in understanding the study.

2. The tables did not seem to be clearly interpreted. A great deal of analyzing was done but not enough interpretation of the analyses.

3. The conclusions indicated that errors in writing tend to follow definite patterns, but these patterns were not emphasized in the study.

4. The study does not point out the principles that cause students the most difficulty and that should be given more emphases.

Abstract 100

Ronald L. Johnson, "An Analysis of Drop-Outs and Failures in the First Semester of High School Beginning Shorthand" (unpublished Master's thesis, University of North Dakota, 1965), p. 89.

Problem:

The problem of this study was to determine the primary reasons for failures and drop-outs in the first semester of high school beginning shorthand.

Procedure:

1. A questionnaire was constructed for use in this study. The questionnaire was submitted to fellow classmates and major advisor for criticism. After the questionnaire was revised, resubmitted, and revised, it was accepted by the major advisor.

2. The questionnaire and a cover letter were mailed to the head shorthand teacher in two schools in each of the 50 states. A self-addressed, stamped envelope was enclosed for their convenience in returning the questionnaire. After two follow-up attempts were made, 84, or 84 percent, usable questionnaires were returned.

3. The questionnaires were tabulated using 5 x 8 cards.

Conclusions:

1. Gregg shorthand is taught by all 84 schools.

2. The majority, or nearly 71 percent, of the 84 teachers used a combination of the functional and manual methods.

3. Four semesters were most frequently offered. This was reported by 76 percent of the teachers.

4. Grade eleven was reported by nearly 73 percent as being the most common year for taking beginning shorthand.

5. A large majority reported offering 1, 2, or 3 classes in beginning shorthand.

6. Class size ranged from 12 to 36 students. The most common sizes reported were 25 and 30 students, respectively.

7. A total of 5,115 students were enrolled in the 84 schools.

8. Shorthand was dropped during the first semester by 118 students with passing grades.

9. Shorthand was dropped during the first semester by 161 students with failing grades.

10. One hundred and thirty-one of the students passing did not continue shorthand study and 216 failed the course. This represented a total of 626, or 12.2 percent, of the original 5,115 enrollment.

11. Aids such as dictation labs, records, and tapes were available in 61 percent of the schools. The lowest rates were reported by schools having the larger supply of aids.

12. Enrollment in shorthand was determined by the counselor in 47 percent of the cases.

13. A majority of the teachers would allow failures to enroll in another class of beginning shorthand.

14. Prognostic testing was not used by nearly 61 percent of the teachers responding. However, the mortality rate in schools using prognostic testing was 8.98 percent compared to 13.96 percent in schools not using prognostic testing.

15. English grades were the most common criterion used in selecting shorthand students with typewriting, IQ, and cumulative grades next in line.

16. Lack of ability was the most common reason listed by teachers for students dropping shorthand.

Unwillingness to do homework, poor attendance, lack of interest, dislike for shorthand, lack of knowledge of usefulness for shorthand, and inability to react to sound were other significant reasons given.

Recommendations:

1. Prognostic measures should be used in selecting students who enroll in beginning shorthand.
2. Individual differences should be provided for in beginning shorthand.
3. There is a need for different levels of proficiency in shorthand.
4. The teacher should attempt to motivate the students with his knowledge, enthusiasm, and presentation of the subject.
5. Proper study habits should be emphasized by the teacher in order that students may receive optimum achievement for study time spent.
6. Students should be aware of class standards.

Abstractor's Comments:

1. No problem statement was given in the study.
2. Exhibits were placed right in the middle of the material and, thus, made reviewing the study a difficult task.
3. In the summary chapter, the findings were summarized under the section of conclusions.
4. The basis for selecting the teachers to whom the questionnaires were sent was not given in the procedures or summary of this study.
5. The abstractor does not agree totally with recommendation 3. Minimum standards must be set for all students and adhered to. If less is required, students will do less. Any standards set must be realistic and within range of the students.
6. Conclusion 14 again stresses the importance of using certain criteria for selecting shorthand students.

Abstract 101

Sister M. Cyrilla Jones, C.S.J., "Enrichment in the Teaching of Shorthand Through the Use of Audio-Visual Aids" (unpublished Master's thesis, Kansas State College of Pittsburg, 1957), p. 135.

Purpose:

The purpose of this study was to present a discussion of various audio-visual aids that could be used for the enrichment and improvement of the teaching of shorthand in high schools and colleges.

Procedure:

1. Material for use in this study was obtained from film producers, universities which have an audio-visual aids center, government agencies, and business houses interested in promoting audio-visual education.

2. Other information was collected from the current literature and teachers in fields other than shorthand. Other items included exhibits, professional convention exhibits.

Summary:

A principal hazard in using certain types of audio-visual devices in the classroom is that a great deal of valuable time can be lost in administering the device. Frequently the time spent in games and contests could be spent more wisely in skill building. On the other hand, these games and contests can be good motivators.

Audio-visual aids must be understood in their relationship to the whole of teaching and the learning process. If the teacher does not understand this relationship, she cannot expect to make intelligent use of the techniques that offer her so much help in her daily teaching. Shorthand teachers must also realize that audio-visual methods are but one method that can be used to improve the teaching of shorthand.

The results that are achieved through the use of audio-visual aids must be evaluated carefully. The use of an audio-visual aid or any other technique can only be justified in the shorthand classroom if the teacher can do a better job with it than without it. These media are only as good as the teacher using them.

Summary and Findings:

1. The most important factor in the teaching of shorthand is the shorthand teacher.
2. The teaching of the basic skill is intensified through the basic textbook.
3. After new-material dictation has been introduced, materials should be used which represent business life in the community and those techniques which are represented in the office.
4. The most effective teaching aid in shorthand is the chalkboard. The opaque projector and the tachistoscope may also be used effectively in shorthand classes.
5. The results achieved in the shorthand class will be affected by the way the teacher varies the shorthand dictation.
6. The alert shorthand teacher can use effectively other teaching aids as the bulletin boards, motion picture, television, and the radio.

Abstractor's Comments:

1. A great deal of material concerning the preparation and use of audio-visual aids could be gleaned from this study for use in an undergraduate methods course.
2. As the writer of this report pointed out, the shorthand teacher who keeps varying his presentation; his approach and manner of teaching; and who makes effective use of audio-visual aids will find the closing bell ringing before the class really seems to get started.
3. Remember, any medium of instruction is no better than the teacher using it.

Abstract 102

Mariam Helen Joseph, "Current Office Transcription Practices in Business Firms of the Tri-State Area (Kansas, Missouri, and Oklahoma)" (unpublished Master's thesis, Kansas State College of Pittsburg, 1960), p. 52.

Problem:

The problem of this study was to provide an analysis of the current practices used by a selected group of business firms in the states of Kansas, Missouri, and Oklahoma.

Procedure:

1. The Normative Survey method of research was used with the check list as the technique for gathering information for this study. After construction and revision, the check list was sent to 150 business firms in the states of Kansas, Missouri, and Oklahoma.

2. A random selection was made of business firms from the tri-state area that ranged in size from 250 to 2,500 employees. Some small firms had to be used in order to have 150. Of the 150 check lists mailed out, 110 were returned, of which 109, or 72.6 percent, could be used.

3. The results of the check lists were tabulated and analyzed forming the basis for this study.

Findings:

Part I: Outgoing Letters

1. Of those responding to the check list, 97.2 percent used 8½ x 11 letterhead paper exclusively or in combination with other sizes. Only one size of paper was used by 103 of the 109 firms.

2. The depth of printing letterheads ranged from ½" to 3" with the most of them from 1" to 2".

3. Of those responding, 92.7 percent use the #10 envelope or large envelope, and 82.7 percent use only one size.

4. Of the six letter styles checked, the block style was used by 63.3 percent of the firms. The study also revealed that 81.4 percent of the firms use only one letter style. (Block Letter Style: all lines except the date and the closing lines begin flush with the left margin.)

5. The style of punctuation preferred by 81.3 percent of the firms was mixed. This includes a colon after the salutation and a comma after the complimentary close.

6. Of the 109 firms, all but one used an attention line when necessary. The attention line is typed on the left margin and was preferred by 72.2 percent of the firms.

7. There were mixed emotions in the placement of the subject line. Of those responding, 39 percent center it, 33.3 percent type it on the line with the salutation, and 26.6 percent type it flush with the left margin.

8. Of the 109 firms responding, 66.6 percent single space all letters and 33.3 percent double space all short letters. Long letters were always single spaced by 98.1 percent.

9. The addressee's name, page number, and date were used in the second page heading by 62.7 percent of the firms. The page number was used by only 21.8 percent of the firms.

10. The four most commonly used complimentary closes were: Very truly yours, Yours very truly, Sincerely, and Sincerely yours.

11. A majority of the firms surveyed use the initials of both the signer and the stenographer, place the enclosure two spaces below the initials, and require a carbon copy of outgoing letters.

Part II: Interoffice Memos

1. The size of memo used by 60.8 percent of the firms was 8½ x 11 and only one size memo was used by 71.3 percent of them.

2. The number of items included in the heading by the 101 firms using printed headings ranged from 1 to 5. The items most frequently used were the "Date," "To," "Subject," and "From."

3. Of the 101 responding to this item, 86.2 percent single space the body of the memo.

4. Complimentary close was never used by 55.5 percent, sometimes used by 24.7 percent, and always used by 17.8 percent of the firms.

Conclusions:

1. The majority of the firms used 8½ x 11 stationery, the #10 envelope, the block letter style, and mixed punctuation.

2. Most of the businesses use the attention and subject lines when needed in their business letters. The attention line was usually placed on the left margin two spaces below the inside address, and the subject line was usually typed below the salutation and flush with the left margin.

3. A great deal of emphasis is being placed on the use of the person's name in the salutation.

4. There was not a complimentary close which was dominant over the others.

5. Short letters were most frequently double spaced.

6. The majority of firms use printed forms for interoffice memos and usually have five headings printed on them.

7. There seems to be a trend toward the use of a simplified letter style, but no trend was indicated for dropping the salutation and the complimentary close.

Recommendations:

1. Business education teachers should learn the procedures being used in business firms in the areas where they teach. They should read articles or studies made concerning the trends of business practices throughout the United States.

2. Business procedures used by the majority of business firms or newer methods being followed should be stressed in shorthand classes.

3. Business teachers should develop within their students the ability to make their own decisions as to letter style, punctuation, etc. Often these decisions are left to the stenographer.

4. A further study of a larger area would be beneficial.

Abstractor's Comments:

1. In Table X, 76 firms out of 101 is 75.2 percent rather than 60.8 percent as indicated. The percentages were based on 109 firms instead of the 101 actually responding to the item.

2. Conclusion 3 was misstated in the report, as it stated that the subject line is usually typed following the inside address. The survey indicated that this is the position for the attention line and that the subject line is usually typed below the salutation or on the same line.

3. The writer points out in conclusion number 5 that there is a trend to double space short letters; however, he does not indicate with what the findings of this report were compared to determine this trend.

Abstract 103

Kathleen Elaine Kalchoff, "The Application of Shorthand Training by Graduates of Granite City High School" (unpublished Master's thesis, Illinois State Normal University, 1962), p. 109.

Problem:

The problem of this study was to determine the extent to which the shorthand training in Granite City Senior High School, Community Unit District No. 9, Granite City, Illinois, has met the needs of the graduates of the 1958, 1959, and 1960 classes.

Procedure:

1. This study was done at Granite City High School, Granite City, Illinois and consists of graduates of January and June 1958, 1959, and 1960, who had completed at least two semesters of shorthand. The school record of each graduate was examined to determine number of semesters of shorthand passed, address, and first name of each parent.
2. Each graduate was telephoned by a student in second-semester shorthand to obtain current addresses, marital status, and married name of graduate and to create interest in the study.
3. After carefully investigating similar studies, a questionnaire was developed and mailed to 252 graduates of Granite City High School. A cover letter signed by the principal and investigator and a stamped, self-addressed envelope accompanied the questionnaire.
4. After two weeks, a follow-up was made by telephone and letter. Those local were telephoned and those outside the district were sent a letter. One week later, a second follow-up was made. Of those mailed out, 178, or 71 percent, were returned.
5. A questionnaire was developed and mailed to those employers named by the graduates. Of the 25 contacted, 21, or 84 percent, responded to the questionnaire.

6. The data gathered from both the employees and employers were compared with the shorthand training given at Granite City High School from 1955 through 1960.

Findings:

1. Of the 178 responding, 45 had completed two semesters of shorthand; 24, three semesters; 24, four semesters; and 85, four semesters of shorthand and one of secretarial practice.

2. Sixty-three percent of the graduates were employed full- or part-time. Although 9 percent were unemployed, only 3 percent were looking for full-time work.

3. Of the 178 responding, 60 continued education beyond high school. At the time of the survey, 22 were in school full-time and 1 part-time.

4. More extensive vocational use is made of shorthand by those having the most shorthand training. This is evidenced as follows: two semesters, 29 percent; three semesters, 46 percent; four semesters, 67 percent; and four semesters and one semester of secretarial training, 81 percent.

5. A direct relationship between shorthand training and jobs held was indicated as follows: two semesters, 75 jobs, 23 percent required shorthand; three semesters, 51 jobs, 37 percent required shorthand; four semesters, 41 jobs, 73 percent required shorthand; four semesters and one of secretarial practice, 140 jobs, 72 percent required shorthand. Only 10 of the total 178 have not held a job since graduation.

6. Personal use was made of shorthand by 92 of the 178 responding to the questionnaire. Seventy-seven of the 81 graduates living in Granite City were working full-time; 31 in Granite City and 46 in St. Louis.

7. Of the 53 presently employed who had all the shorthand offered at Granite City, 39 were employed as stenographers or secretaries; whereas, only 3 of the 21 who had two semesters of shorthand were employed as secretaries or stenographers.

8. Typewriting ranked first and shorthand second of importance in the present job. English, clerical practice, and secretarial practice ranked third, fourth, and fifth respectively.

9. Jobs were obtained through the high school office by 59 of the 168 responding to this item.

10. Typewriting was the most frequently used placement test and the median speed required was 50 gross words a minute. The median speed required in shorthand was 80 words a minute.

11. Sixty-seven percent of those transcribing with two semesters of shorthand and 94 percent of those having four semesters of shorthand and one of secretarial training used Gregg shorthand.

12. Making carbon copies and typing envelopes and letters were the duties most frequently performed, in which high school training was offered.

13. In the 20 firms participating in this study, about 17 percent of the employees were secretaries or stenographers.

14. Seventeen of the 20 firms replied that dictation and transcription tests are given to future employees. Tests in typewriting and intelligence ranked second and third.

15. Shorthand was also required of approximately 50 percent of the machine transcribers.

16. Personality and appearance ranked first and second, while tests results ranked third in considering a person for a stenographic position.

17. A tendency to waste time and spelling ability were the deficiencies most frequently reported.

18. Improvement was desired in spelling, grammar, vocabulary, and attitude. One employer indicated that two semesters of shorthand training are insufficient in most cases for vocational use.

19. The minimum requirements of the employers were less than the minimum requirements for the fourth semester of shorthand and typewriting at Granite City High School.

20. The employers and graduates agreed that improvement is needed in vocabulary, spelling, and grammar.

Conclusions:

1. In some instances three semesters of shorthand training are sufficient for obtaining a shorthand job; however, four seems to be more desirable.
2. Voice-writing machines are usually used in conjunction with Gregg shorthand.
3. College education is not required by most firms for advancement in the secretarial field.
4. A large percent of the employers required type-writing and shorthand tests to be taken by prospective employees.
5. Since over 50 percent of those possessing a skill in shorthand make personal use of it for composing personal letters and notetaking, the shorthand program should include training in these areas.
6. Courses of value to stenographers other than shorthand, secretarial practice, and typewriting were: general business, office machines, and bookkeeping.

Recommendations:

1. More emphasis should be placed on spelling, grammar, and vocabulary; work habits; and personality traits.
2. Students planning to enter the labor market upon high school graduation should be encouraged to take the complete stenographic curricula.
3. Business teachers should stay up-to-date with occupational trends.
4. Similar follow-up studies should be made at regular intervals to determine the effectiveness of the stenographic curricula at Granite City High School.

Abstractor's Comments:

1. Some of the conclusions seemed to be based on personal opinions rather than findings and, therefore, were not included in the abstract.

2. This study indicates, as others have, that four semesters of shorthand are needed for most students to gain vocational competency.

Abstract 104

Roger Booth Kalstrom, "An Analysis of Errors in Writing Brief Forms in Gregg Shorthand" (unpublished Master's thesis, Mankato State College, 1957), p. 52.

Problem:

"The purpose of this study was: (1) to determine the degree of accuracy with which brief forms are written, (2) to determine from an analysis of the errors in writing brief form outlines if the responses follow any patterns, and (3) to determine some possible causes of the incorrect outline patterns."

Procedure:

1. This study was one of three studies of errors made by students in writing shorthand outlines. The group decided that 300 responses would be a substantial basis for the solution to the problem. The other steps of the group study plan were the same as outlined in the Edward Fox (22b) study.

2. Brief forms were included in the prepared dictation material, which consisted of five letters. Excerpts were taken from the text, Graded Drills in Gregg Simplified (44b), and adapted to this study. The letters ranged in length from 2 1/2 minutes to 4 1/2 minutes dictated at 50 words a minute and had a syllabic intensity of 1.4.

3. The brief form outlines written in the students' notes were checked for accuracy. Three types of errors seemed to follow definite patterns: outlines written in full, outlines which were near the brief form outline, and outlines which would have been correct for another brief form. A fourth group was recorded on a chart whose writing included additions, omissions, or substitutions but did not follow a pattern. The brief form accuracy percentage and the total frequency of the errors and percentage of error responses in their distinct classifications could then be drawn from this chart.

4. Those brief forms that were written correctly by 90 percent of the students were eliminated from this study.

5. There was a 92 percent return of the materials mailed out to the cooperating teachers. A minimum frequency of 308 responses was secured for each brief form.

Summary and Conclusions:

1. Brief forms are written with a high degree of accuracy. One hundred and forty-nine brief forms were written correctly over 90 percent of the time.

2. Errors in writing brief forms tend to follow various patterns:

- a. Some brief forms are expressed by their first syllable or first sound. No definite pattern was indicated by the brief forms in this group except experience, which was written with the e included.
- b. Some brief forms omit sounds in the body of the word. Outlines which include sounds that should be omitted were: b-e-l for bill, d-e-r-k for direct, and r-e-k-n-i-s for recognize.
- c. In other brief forms, the first sound is omitted. Some incorrect outlines included the beginning sound; e.g., the use of e in else and enough.

3. Three possible causes of incorrect patterns are:

- a. Inadequate repetition which would tend to make the word less automatic.
- b. The attempt to construct approximate outlines for brief forms not mastered; e.g., a-v for advantage and a-v-t for advertise.
- c. The transfer effect from the basic principle governing the writing of words in full, which includes such words as state, send, and date.

Recommendations:

1. Some brief forms should be revised to conform to the material writing pattern.

2. More drill should be done on those brief forms that appear to cause students difficulty.

3. Brief forms that have a low frequency rank should be eliminated.

4. A similar study should be done with more control on the variables.

5. The relationship of writing brief forms to classroom presentation techniques and methods should be determined.

Abstractor's Comments:

1. The abstractor believes that a findings chapter would have added to the study. The study contains significant factors not given in the summary and conclusions.

2. Other items that might be of significance are:

- a. Put was written as part 49 percent of the time.
- b. Opinion was written as opportunity.
- c. Brief forms interchanged included: regard and regular, advantage and advertise, and part and particular.
- d. Among was written incorrectly 57 percent of the time.
- e. Nevertheless had the highest error occurrence of all brief forms. A possible cause for this was its low frequency.

3. A study to determine the errors made in transcribing brief forms written incorrectly would be significant. Some of the errors made in writing brief forms would more than likely be transcribed correctly; however, research supporting this idea would be most beneficial.

Abstract 105

William Karaim, "Conflicting Opinions of Teachers Concerning the Status Quo of Shorthand" (unpublished Master's thesis, University of North Dakota, 1960), p. 107.

Problem:

The problem of this study was to collect and analyze data related to the opinions of shorthand teachers.

regarding: (1) The effectiveness of one year of shorthand as vocational stenographic preparation, (2) The major causes of shorthand drop-outs, (3) The current demand from the business world for students trained in shorthand, (4) The academic standing of students enrolled in shorthand, (5) Dictation requirements for shorthand students, (6) The percent of shorthand students that continue school after graduation from high school, and (7) The professional preparation of shorthand teachers.

Procedure:

1. The bibliography was prepared by perusing literature that pertained to this general topic and problem. Summarizations and quotations selected from these readings were placed on 5 x 8 cards.

2. The first step in developing the questionnaire was to compare a list of objectives needed to fulfill the main objectives of this study. These objectives served as an outline in preparing the questionnaires. Two questionnaires were prepared--one for businessmen and one for shorthand teachers. It was then determined that a survey of teachers only would be comprehensive enough. This questionnaire was then expanded to include items for a more comprehensive coverage of topics appropriate to teachers.

3. Upon examination, 8 of the 175 questionnaires returned were discarded for one reason or another. In some cases, two questionnaires were received from the same city. In these cases, the one received first was used in the study.

4. Forms were prepared for tabulation of the returns from the questionnaires. From these tabulations, percentages were computed and data organized for writing.

5. Four shorthand teachers were surveyed randomly in each of the 50 states, making a total of 200 teachers. The cities ranged in size from 1,000 to 112,000. The questionnaire was mailed to the head shorthand teacher in the city.

6. The questionnaire along with a letter of transmittal were mailed to the 200 shorthand teachers. A self-addressed, stamped envelope was enclosed for their convenience.

7. The findings were presented in four sections. These four sections were presented in the same order as found on the questionnaire.

Summary of Findings:

1. An increase in shorthand enrollments was indicated by 85 or 51 percent of the respondents. A decrease in shorthand enrollments was indicated by 35, or 22 percent, and 38, or 22 percent, stated that their enrollments in shorthand were remaining steady.

2. It was believed by 134, or 80 percent, of 164 teachers of the 167 that students with one year of shorthand are not sufficiently trained in dictation and transcription skill to assume stenographic positions.

3. A majority of the respondents, or 51 percent, indicated that they did not believe there is a trend to offer one year of shorthand. Those teachers who believed there was a trend toward one year of shorthand being offered gave the following reasons: (a) not enough time in the curriculum of today for two years of shorthand; (b) emphasis on other subjects, such as science, math, and other college preparation courses; (c) increase in the number of required courses in the curriculum; (d) students are offered positions before they have time to take two years, so why offer more than one year; (e) one year of shorthand is adequate for students going on to colleges or business schools.

4. The reasons given most frequently for offering more than one year of shorthand were: (a) two years of shorthand are necessary for employment; (b) sufficient transcription training cannot be given in one year; and (c) one year does not provide enough experience to master the skill.

5. A majority of the teachers, 88 or 53 percent, believed that the demand by businessmen for shorthand trained students was remaining about the same. It was believed by 59, or 35 percent, that the demand was increasing.

6. Four shorthand teachers indicated that their students were in the below average or average group, 100 teachers, or 60 percent, indicated that their shorthand students were in the average group, 18 teachers, or 11 percent believed that their students were in the average or above average group, and 33 teachers, or 19 percent indicated their shorthand students were in the above average group.

7. One hundred teachers, or 60 percent, of those responding, believed that the majority of shorthand dropouts was caused by difficulty in mastering the skill.

Comments given most frequently on this answer were: Many students have difficulty mastering shorthand because of lack of initiative on their parts, many have difficulty mastering shorthand because they are weak in spelling and English fundamentals, improper guidance, and a tendency to counsel the better students into the academic subjects.

8. The most common second semester requirement for dictation speed was from 60-80 words a minute, and for the third and fourth semesters they were 80-100 words a minute.

9. In reporting the findings concerning the number of high school shorthand students who pursue training beyond high school, the percents were grouped in intervals of 5 percent. Thirty-one of the respondents indicated that 1-5 percent of their students would pursue shorthand training after high school, 19 reported 6-10 percent, 4 reported 11-15 percent, 6 reported 16-20 percent, 13 reported 21-25 percent, 1 reported 26-30 percent, 1 reported 31-35 percent, 9 reported 46-50 percent, 8 reported 51-55 percent, 3 reported 56-60 percent, 1 reported 61-65 percent, 1 reported 71-75 percent, and 27 indicated that they had no idea.

10. A majority, or 54 percent, of the teachers answering the questionnaire had not had shorthand instruction in high school. Two of the respondents indicated 1 semester of training, 30 completed 2 semesters, 2 completed 3 semesters, 38 completed 4 semesters, and 3 completed more than 4 semesters. A shorthand methods course was taken by 133 of the shorthand teachers answering the questionnaire, and 33 indicated they had not had a shorthand methods course.

11. Instruction on voice writing machines was offered in 106 of the 161 responding to this question. The length of instruction time varied from school to school, and the enrollments tended to increase.

12. Teachers seemed to be in agreement that both shorthand and voice writing machines have their place in business and that it is not a matter of superior or inferior. A consensus agreed on the following: (a) a good secretary should be able to use both, since the two together is better than either skill alone, (b) the two complement each other, and (c) voice writing machines are used to supplement shorthand dictation.

13. Of those taking voice writing machine instruction, 8 teachers believed these students to be below

average, 98 believed their students were average, and 19 indicated that their students were above average.

Conclusions:

1. More than twice as many students are enrolled in shorthand I as in shorthand II.
2. Two years was the most common length of instruction.
3. One year of shorthand is not sufficient for assuming stenographic positions.
4. The demand for shorthand trained personnel is at least holding its own and in some cases on the increase.
5. Shorthand classes for the most part contain students of average ability.
6. Teachers were evenly divided in opinion as to whether students decline taking shorthand because of the homework involved.
7. Difficulty in mastering shorthand was considered to be the major reason for shorthand dropouts.
8. Many shorthand teachers do not set dictation requirements for the first semester of shorthand. Those set for the other semesters vary greatly.
9. Gregg Shorthand system was taught by 99 percent of the teachers.
10. The number of students pursuing shorthand training after graduation from high school varied a great deal.
11. A majority of the shorthand teachers surveyed had no shorthand training in high school, and the training in college varied greatly in the number of semesters or quarters of instruction.
12. Instruction in the use of voice writing machines was offered in 63 percent of the schools surveyed, but the length of the instruction varied from a few hours to one semester. Most of these courses were increasing in enrollments.
13. Courses that substitute for shorthand have not gained acceptance into the curriculum. Most of the teachers

believed that courses substituted for shorthand are inferior. The reason given most frequently was that high rates of speed are impossible with substitutes.

14. Most teachers believe that shorthand is as popular as ever.

15. Guidance counselors and English background are the two most important problems confronting shorthand teachers.

Recommendations:

1. That more emphasis be given to shorthand.
2. That two years of shorthand are necessary for vocational skill.
3. That the guidance counselor be made aware of the aims of the shorthand classes as well as the rest of the business education department.
4. That dictation requirements be agreed upon by shorthand teachers and business and standardized throughout each state and, if possible, the United States.
5. That more time be devoted to transcription.
6. That a shorthand methods course be standard requirement for all shorthand teachers.
7. That voice writing machines not be offered in place of shorthand, but since they do have a place in business, instruction should be offered in high school on these machines.
8. That a semester of briefhand, speedwriting, or any other substitute for shorthand be offered to college-bound students for personal use in note-taking. These systems may also be used in jobs requiring only light dictation, but they should not be offered to replace shorthand.

Abstractor's Comments:

1. Because of the large number of findings presented in this study, only those the abstractor felt most significant were included in the abstract.

2. The finding, conclusions, and recommendations tended to overlap a great deal.

Abstract 106

Karma May Kent, "Dictation Material to be Used in the Teaching of Diamond Jubilee Shorthand to Beginning Shorthand Students" (unpublished Master's thesis, Utah State University, 1967), p. 53.

Problem:

The problem was to develop and construct dictation materials according to a predetermined pattern for presenting brief forms and theory principles in lessons 7-29 of Gregg Shorthand, Diamond Jubilee Series.

Procedure:

1. The letters constructed for the first ten lessons ranged in lengths of approximately 50, 75, and 100 standard shorthand words and for the last ten lessons letters ranged in length approximately 75, 100, and 125 standard shorthand words. Each letter was preceded by a preview. These letters ranged in syllabic intensity from 1.1 to 1.6. A letter indicated (.50-1.55) at the end would mean that the letter is 50 standard shorthand words long with a syllabic intensity of 1.55.

2. The words were repeated according to the following plan:

- a. Each new brief form and theory principle was used at least four times in the three letters of the presentation letter. Material was not prepared for lessons 12, 18, and 24, since these were review lessons.
- b. Each brief form and theory principle was used at least three times in the first lesson following the presentation lesson.
- c. Each brief form and theory principle was used at least twice in the second lesson following the lesson of presentation.
- d. Each brief form and theory principle was used at least once in the third lesson after the lesson of presentation.
- e. After the third lesson, one lesson was skipped in which no effort was made to repeat brief

forms and theory principles.

- f. Each brief form and principle was used at least once in the next lesson. This skipping procedure was followed until five lessons were skipped.

3. A copy of Most-Used Words and Phrases was used to make sure that words were not presented in the dictation material before they had been introduced to the students. The letters were evaluated to make sure the brief forms and theory principles were used the desired number of times.

4. The brief forms and theory principles were underlined once in the presentation lesson of the dictation materials and repeated material from other lessons was underscored twice.

Recommendations:

1. That additional material be constructed for lessons 31 through 47, using the same repetition plan followed in this study. This would provide the shorthand teacher with new-matter dictation for all of the theory lessons in the basic Gregg Shorthand text.

2. That these materials prepared in this study be used in the experimental classroom in order to find out whether students actually learn brief forms and theory principles better when taught through the use of the materials developed in this study.

Abstractor's Comments:

1. Before these materials can be beneficial to shorthand teachers, they must be published and made available to shorthand teachers.

2. An experiment needs to be made with an experimental group and a control group to determine whether or not these materials actually facilitate the learning of brief forms and theory principles.

3. No findings or conclusions were given in this study.

Abstract 107

Herbert Eugene King, "An Integrated Program for the Instruction of Business Machines and Filing with Shorthand II, Together with a Follow-up Study of This Program" (unpublished Master's thesis, University of Minnesota, 1958), p. 90.

Problem:

This study was conducted to determine the effectiveness of an integrated program for the instruction of machines and filing with Shorthand II.

Procedure:

1. Only those students enrolled in Shorthand II participated in this program. The first year the program operated was the school year 1952-53 and there were 9 students; in 1953-54, there were 14; in 1954-55, there were 20 students; and in 1955-56 and 1956-57, there were 30 students each year.

2. The integrated program was not started until the beginning of the second semester. The first week was spent in orientation of the students. The rotation schedule begins with the second week and takes 15 weeks to complete. Thus, there are 2 weeks for job applications and testing. Shorthand and transcription are taught on Monday and Tuesday; and business machines and filing are taught on Wednesday, Thursday, and Friday.

3. At the present time, the machines used in the program include 1 mimeograph, 1 mimeoscore, 1 liquid duplicator, 1 dictaphone, 1 soundscriber, 2 ten-key adding machines, 2 full keyboard adding machines, 2 electric typewriters, and 30 manual typewriters. A rotation schedule was set up for the course of instruction and is presented in the study.

4. A questionnaire was carefully prepared and mailed to the 103 graduates who had taken the integrated course of instruction during the school years 1952-53, 1953-54, 1954-55, 1955-56, and 1956-57. A letter was sent with the questionnaire encouraging their response. A follow-up post card was mailed 10 days following the letter

and questionnaire. Of the 103 questionnaires mailed out, 84, or 81.6 percent, were returned.

Findings:

1. Of those responding, 84.8 percent held jobs classified as office clerk typist, bookkeepers, or secretaries.

2. Fifty-eight of the graduates, or 79.5 percent, had worked on the same job since graduation. There were 13 of the respondents who changed jobs one time, and only 3 had changed jobs three times.

3. Insurance companies and banks were by far the more popular of the business listed and this accounted for 52.2 percent of the jobs held by the graduates.

4. Only one student left the state to work and 82.2 percent of the students were employed in Minneapolis, which is 65 miles from Kimball.

5. The manual typewriter was the most common skill used by the graduates. The machine was used by 91.8 percent some of the time, and 82.2 percent indicated that they used the typewriter often. Of those responding, 49.3 percent used the electric typewriter some, with 26.3 percent indicating that they used it often. This would indicate that there are almost 2 manual typewriters for every electric.

6. Although 70 percent of the instruction in the integrated program was devoted to shorthand and transcription, only 35.6 percent of the graduates used shorthand on the job.

7. It was reported by 84.8 percent of the students that they perform filing duties on the job.

8. Eleven of the students reported that they believed training should be given on the calculator, and seven indicated that some training should be given in good telephone techniques.

Conclusions:

1. The first job taken by most new employees is that of general office clerk. Therefore, she should be able to use the typewriter in various typing situations,

use carbon paper, perform filing, add columns of figures, use the electric typewriter, and do duplicating jobs.

2. The integrated program developed familiarization and an adequate degree of skill in using business machines and filing.

3. From the response to the follow-up study and the fact that the class finally had to be limited, the students seem to like the course.

4. The rotation schedule provides economical use of the machines and gives sound training to many students on a few machines.

5. The instruction sheets outline both minimum and maximum assignments and, therefore, allow ample opportunity for individual initiative.

Recommendations:

1. That this course be used by other schools who cannot offer separate courses in business machines and filing.

2. That training on the calculator, posting machine, and good telephone techniques be added to the present course.

3. That supplementary drills and dictation be provided for students who desire to reach higher speeds in shorthand.

4. That more electric typewriters be purchased.

5. That a permanent follow-up file be established in the school to aid in future evaluations.

Abstract 108

Richard C. Klaseus, "An Analysis of Some of the Factors That Contribute to the Difficulty of Transcription Materials in Gregg Shorthand, Diamond Jubilee Series" (unpublished Master's thesis, Mankato State College, 1964), p. 59.

Problem:

This problem was conducted to determine some of the factors that contribute to the difficulty of transcription materials in Gregg Shorthand, Diamond Jubilee Series.

Procedure:

1. A list was prepared containing all principles of the theory of Gregg Shorthand, Diamond Jubilee Series. All but 18 of the words selected were on the Silverthorn (65b) high-frequency list. The vocabulary was limited as much as possible so that the difficulty of principles rather than vocabulary would be measured.
2. Five letters were composed for use in this study. The letters were prepared so that no letter was more than three-minutes in length. They were dictated at 40 words per minute. Although many teachers may believe that this rate is too slow, this rate was chosen since the study was concerned with measuring principles rather than speed ability of the students.
3. With the use of the Hillestad (38b) formula, the letters were written so there would be no significant difference between them.
4. Dictation of the letters was postponed until all theory had been taught. No more than two letters were dictated during any one class period. Letters were mailed to the teachers in a sample of 16 schools using Diamond Jubilee. The names of these teachers were supplied by the Gregg Representative.
5. Shorthand notes and transcripts were obtained from the cooperating students, and only those words used to illustrate a rule were checked for errors. Both the shorthand notes and transcripts were carefully analyzed to determine the frequency of error in application of each

principle. These errors were then recorded on a tally sheet, and tabulations were made from these tally sheets.

Findings:

1. Correctly written outlines were transcribed correctly 96.1 percent of the time as compared with inaccurate outlines being transcribed correctly 58.8 percent of the time.

2. The correlation of coefficient between correct shorthand outlines and correct transcription was .924; whereas, the relationship between incorrect shorthand outlines and incorrect transcript was .538. Using the Fischer formula for testing significance, both were significant at the 1 percent level of confidence.

3. It should be pointed out that 485 incorrectly written shorthand outlines were transcribed correctly. These errors were a result of outlines being written in full rather than according to principles. The next highest percent included outlines which omitted letters. This category contained 335 incorrectly written outlines which were transcribed correctly. These were errors that did not seem to affect transcription.

4. Other errors of high frequency which did not seem to affect transcription significantly included writing the major vowel when the official outline omitted it, 252 cases; writing the minor vowel when the official outline omitted it, 253 cases; writing the separate letters of a blend, 223 cases; and word beginnings and endings, 351 cases. Had these errors been placed in the category of "tendency to write the outline in full" there would have been a total of 1,079 errors in that category or 42.15 percent of the incorrectly written words transcribed correctly.

5. There were 2,630 incorrectly written outlines that were transcribed incorrectly. The classification having the highest frequency was the omission of letters. Other errors of high frequency that seem to affect accuracy of the transcript include omitting the major vowel when the official outline included it, 9 cases. If these errors were all combined, there would be a total of 155 errors, or 33.2 percent of the incorrectly written--incorrectly transcribed words.

6. Substitutions would appear to make transcribing more difficult. However, 270 shorthand outlines contained

substitutions and 228 were transcribed correctly. The most frequent error of this type was confusion of o and u hooks.

7. There were two substitutions that did cause difficulty in transcription--the substitution of i for e and substitutions of letters that did not appear to be based either on the sounds of the word or on the shorthand principle.

8. Of the errors which were not transcribed correctly, omitted letters were the highest with 19.87 percent; incorrect word endings were next with 16.28 percent; substitutes were 14.53 percent; words written in full were 11.54 percent; omitted major vowels were 11.32 percent; blends were 10.94 percent; and added minor vowels were 6.84 percent.

Conclusions:

1. The correlation of coefficient between shorthand outlines and correct transcript and the high percentage of written correctly--transcribed correctly would tend to indicate that if the outline is written correctly, it most frequently will be correctly transcribed.

2. Although the correlation is not high between incorrect shorthand and incorrect transcript, there is a possibility that if the shorthand outline is written incorrectly, it will be transcribed incorrectly.

3. The principle error found in the 54 incorrectly written outlines, which fell in the category of write the outline in full, was the addition of other letters which destroyed the readability in transcription.

4. A large number of errors fell into the general classification of omitted letters. The principle difference noticed in words that were transcribed correctly and those that were not was the omission of a minor vowel near the end of the word. In most cases when the words were not transcribed correctly there was not enough of the word to make it legible.

5. The substitutions of o - u hooks was the most frequent error in substitutions. The findings did not reveal, however, that it is critical so far as the accuracy of transcription is concerned.

6. Illegible outlines were the major cause of omissions in the transcripts.

Recommendations:

1. Students should be encouraged to write shorthand words according to basic rules.
2. Legibility and accuracy of shorthand outlines are important and should be stressed.

Abstractor's Comments:

1. The abstractor believes that the findings and conclusions were mingled together too much.
2. Perhaps, as Mildred Hillestad recommended in her study, separate outlines should be devised for o and u.
3. The tables were often included two or three pages from the interpretation of them and, therefore, made for difficult reading.

Abstract 109

Otto Kolpack, "The Effects of the Teaching of Shorthand on Spelling Ability" (unpublished Master's thesis, University of Wisconsin, 1961), p. 29.

Problem:

The problem of this study was to determine whether or not the study of shorthand has any effects on spelling ability.

Procedure:

1. This study consisted of 196 juniors in Shawano, Clintonville, and New London High Schools during the 1958-1959 school year. One half of these students were enrolled in shorthand.
2. The same list of words was given four times during the year. The first was given during the first week of school; the second, at the end of the first nine-weeks; the third, at the end of the first semester; and the fourth, at the end of the year.
3. The tests were given in the American History class in New London and Shawano, while Clintonville gave

all the tests in junior English. The students nor the shorthand teachers were told that an experiment was being conducted and the students were never given advanced warning of the tests.

4. After the first test, a shorthand student was equated with a non-shorthand student according to spelling ability. This was the only basis used for matching the students.

5. The 100-word list used in this study was the same as compiled by Kendall A. Finger (19b). All teachers were given the same plan for administering the tests: Each word was pronounced, used in a sentence, and pronounced again.

6. The three schools were designated School A, B, or C. After the students were paired, School A had 22 pairs; School B had 41 pairs; and School C had 35 pairs.

Findings:

1. The number of pairs decreased throughout the year as a result of absences, transfers, and drops. The first test scores were compared for 98 pairs, the second test for 82 pairs, and the third and fourth tests for 72 pairs.

2. For test four, School A had the highest average with 71.21 correct words and School B had the lowest average with 56.70 correct words. Furthermore, School A showed the largest gain from test one to test four with 19.17 correct words and School B had the lowest gain with 7.22 correct words.

3. Shorthand groups of School A and B outgained the non-shorthand groups by 7.80 and 4.63 correct words respectively. However, the non-shorthand group in School C outgained the shorthand group by 2.79 correct words. When considered as combined groups, the shorthand group exceeded the non-shorthand group by 9.64 correct words.

4. A fifth test was given to 24 pairs of School B a year later. The shorthand group averaged 72.25 correct words for a 22.94 gain since the first test and a 11.09 gain since the fourth test. The non-shorthand group averaged 63.92 correct words for a 14.14 gain since the first test and a 6.92 gain since the fourth test. This accounted for a gain of 8.63 correct words by the shorthand group over the non-shorthand group during the two-year period.

Conclusions:

1. The findings of this study tend to indicate that shorthand students can spell as well as any other high school student and that high school students are not as poor spellers as critics have indicated.

2. Since the three shorthand groups outgained the non-shorthand groups in correct words, it may be concluded that study of shorthand does not adversely affect the students' spelling ability.

Recommendations:

1. The results of this study should be made available to those interested as evidence that spelling ability is not affected by studying shorthand.

2. A similar study is needed in a large high school so that more of the variables can be controlled and, thus, increase the validity of the results of the study.

Abstractor's Comments:

The writer states in the analysis of data that the gain of 8.63 correct words made by the shorthand group over the non-shorthand group was significant. Yet, no calculations were given to show that this gain was significant.

Abstract 110

Wanda E. Krabbenhoft, "Dictation and Transcription Standards for First-Year Shorthand" (unpublished Master's thesis, University of Iowa, 1957), p. 130.

Problem:

The problem of this study was to test possible standards for first-year shorthand and compare the findings of this study with the opinions given in the professional literature.

Procedure:

1. The data for this study were collected in the school year 1956-57.

2. Approximately 35 shorthand teachers participated in this study in Iowa, Minnesota, and Illinois. Tests were administered to approximately 400 students by the individual teachers according to specific directions and the results were forwarded to the State University of Iowa for tabulation.

3. The tests were prepared from the first 24 lessons of Gregg Shorthand Manual Simplified by the department of office management and business education at the State University of Iowa. The length of the dictation was 3-minutes for each six-week period. This dictation was given at 40 words a minute for the first six-week period. For the other periods the dictation was graduated as follows: Second six-weeks period, 20 words a minute for the first minute, 30 words a minute for the second minute, and 40 words a minute for the third minute; Third six-weeks period, 30 words a minute for the first minute, 40 words a minute for the second minute, and 50 words a minute for the third minute; Fourth six-weeks period, 40 words a minute for the first minute, 50 words a minute for the second minute, and 60 words a minute for the third minute; Fifth six-weeks period, 50 words a minute for the first minute, 60 words a minute for the second minute, and 70 words a minute for the third minute; and Sixth six-weeks period, 60 words a minute for the first minute, 70 words a minute for the second minute, and 80 words a minute for the third minute. Each test was preceded by a short preview and warmup.

4. The students were allowed 2 minutes to read their notes and 12 minutes to transcribe the dictation given on the first test. Only incorrect words were counted as errors.

5. On the second test the students were allowed only 1 minute to check their notes and 9 minutes to transcribe the dictation. The students were penalized for omitted words, misspelled words, misplaced periods, misplaced paragraphs, and incorrect words.

6. On the third test the students were allowed 1 minute to read their notes and 10 minutes to transcribe the dictation. The students were penalized for the same errors as in the second test.

7. On the fourth test, 1 minute was again allowed for checking their notes, but 13 minutes were allowed for transcribing the dictation. The errors penalized were the same as for the second test.

8. On the fifth and sixth tests, they were allowed 1 minute to check their notes and 15 minutes for transcribing. The errors penalized were the same as for tests 2, 3, and 4.

9. The data were then summarized and tabulated by the department of office management and business education.

Findings:

1. Over 50 percent of the students performed with 90 percent accuracy or better on the second test.

2. The results on the test at the end of the second six-weeks period were much more satisfactory than the results at the end of the third six-weeks period.

3. Over 50 percent of the students transcribed with better than 95 percent accuracy on the fourth six-weeks test.

4. On the fifth test, over 52 percent of the students transcribed at 95 percent accuracy or better.

5. Approximately 40 percent of the students transcribed at 95 percent accuracy or better on test 6.

Conclusions:

1. Authorities are not in agreement on first-year shorthand standards. Areas of disagreement were: rate of dictation, accuracy requirement, material used, length of sustained dictation, and rate of transcription.

2. Many of the writers did not comment on one or more of the issues studied in this study. The omission of one of these factors creates a difficult problem when making comparisons.

3. More thought should be given to the rate of transcription.

4. Some of the standards recommended by authorities and business educators are too high in reality.

5. Many of the standards suggested by writers were not comparable to the results obtained in this study.

6. There is an indication that too many unqualified students are taking shorthand or there are too many incompetent shorthand teachers.

Recommendations:

1. More research needs to be done concerning standards in first-year shorthand in order to provide more realistic and definite standards.

2. Business education writers should be more specific in stating shorthand standards.

3. Use dictation of one speed rather than varying speeds as was used in this study.

4. More research is needed regarding second-year shorthand standards.

Abstractor's Comments:

1. The abstractor is of the opinion that much of the dictation that was used in this study was too slow. Dictation whether on practiced material or new material should not be given slower than 60 words a minute. Furthermore, three minute sustained dictation on new material should not be given at the end of the first six-weeks period.

2. Shorthand is a gradual building until the final objectives are reached. Dictation at first should be on practiced material for short lengths of time. You gradually build the length of time until three minutes are reached, if this is the desired outcome. After the vocabulary has been mastered, then new material dictation is given, but not at the end of six-weeks. The students in this study were subjected to too many things at one time. This study was not controlled well enough to know if this building process was taking place between the tests. Also, to penalize a student for paragraphing in beginning shorthand is unrealistic.

3. The writer of this study was too critical of the authorities and business education writers in the area of shorthand. A questionnaire to these people may have gathered the desired information to use in a comparison.

Abstract 111

Mary Jane Lang, "The Relationship Between Certain Psychological Tests and Shorthand Achievement at Three Instructional Levels" (unpublished Ed.D. dissertation, University of Missouri, 1960), p. 185.

Problem:

The problem of this study was to determine the relationship between certain criteria pertinent to success in foreign languages and success in shorthand and transcription achievement at three instructional levels.

Procedure:

1. Those participating in the study were enrolled in elementary stenography, intermediate stenography, and advanced stenography in the College of Education at the University of Missouri during the second semester of the 1958-59 school year and the first semester of the 1959-60 school year. There was a total of 184 students included in the study: 51 in elementary stenography, 90 in intermediate stenography, and 43 in advanced stenography.

2. Various tests were selected to gather certain information about each person included in the study. Tests were selected to measure aptitude for modern foreign languages, vocabulary, linguistic ability, and general scholastic aptitude, and dictation and transcription achievement.

3. The text Gregg Simplified for Colleges, Volume I, Second Edition was used in the classes and new matter dictation for testing in the second course was taken from Zoubek's Previewed Dictation and Progressive Dictation with Previews and issues of the Business Teacher. Testing material for the third course was taken from Zoubek's Dictation for Transcription and Dictation at In-Between Speeds and issues of the Business Teacher.

4. Dictation tests were 5-minutes in length on familiar material for the first course and new material for the second and third courses. Students had to pass two tests from a sequence of four dictated at a particular rate before moving to the next rate, and 95 percent accuracy was required for passing.

5. Correlation coefficients were determined between dictation and transcription scores and the four selected criteria given in procedure 2. These measures were also used in running multiple correlations. All basic computations were done on the electronic digital computer in the Electronic Computer Center at the University of Missouri.

Findings:

1. The correlation between shorthand and transcription achievement and the Foreign Language Aptitude, Form M was .60 at the elementary level; .41 at the intermediate level; and .47 at the advanced level.

2. The correlation between the Cooperative Vocabulary Test, Form Q and dictation and transcription achievement was .54 at the elementary level; .43 at the intermediate level; and .27 at the advanced level.

3. On the Linguistic Section, the correlation with dictation and transcription was .53 at the elementary level; .42 at the intermediate level; and .45 at the advanced level.

4. On the composite score, the relationship with dictation and transcription achievement revealed a correlation of .59 at the elementary level and .39 at both the intermediate and advanced levels.

5. All of the single correlation coefficients but one were significant at the 1 percent level of confidence, and in all calculations the highest degree of relationship occurred at the elementary level.

6. Multiple correlations combining Foreign Language Aptitude, Form M and Cooperative Vocabulary Test, Form Q or the composite score produced a correlation, with dictation and transcription, of .62 at the elementary level. When combining a third measure, the correlation could be raised to .63.

7. When the Foreign Language Aptitude, Form M and Cooperative Vocabulary Test, Form Q or the Linguistic section were combined, a multiple correlation, with dictation and transcription, of .48 was obtained for the intermediate level. Adding a third factor did not affect the correlation.

8. When combining the Foreign Language Aptitude, Form M and the Linguistic Section, a correlation, with

dictation and transcription, of .54 was obtained at the advanced level. Adding a third factor raised the correlation to .55.

Conclusions:

1. The single correlation did not produce a correlation high enough to justify being used as a single predictor of success in dictation and transcription.

2. The multiple correlations also did not produce values sufficient enough to warrant their use as sole bases for predicting success in dictation and transcription.

3. Success in dictation and transcription is probably attributable to factors other than those measured in this study.

4. Since the factors used in this study seem to predict success most effectively at the elementary level, it would appear that continuance in shorthand should be based on prior achievement.

Recommendation:

Further study is needed in the area of prognosis to determine the variables which are attributable to success in dictation and transcription, since more than half of the variability in dictation and transcription achievement is unexplained.

Abstractor's Comment:

Other studies have been done in this area which have determined other factors to be used in predicting shorthand success, such as English grade average. However, no single factor has been found which can be used as a sole predicting factor. Therefore, a combination of factors should be used which can be a valuable aid or tool in selecting shorthand students.

Abstract 112

Clara B. Laughlin, "The Validation of Terminology and Gregg Shorthand Outlines for Geology" (unpublished Master's thesis, University of North Dakota, 1967), p. 50.

Problem:

The problem of this study was to obtain a list of the most commonly-used geology terms and to develop short, easily-written shorthand outlines.

Procedure:

1. The files of the North Dakota Geological Survey at the University of North Dakota were read and each term dictated by a state Geologist was written on a 3 x 5 card. A record was kept of the number of times each word appeared. The cards were read by several geologists and recommended some deletions and additions.
2. A definition was typed for each word on each card. These were again reviewed by geologists and some were shortened and simplified.
3. The geology terms were submitted to the Committee to receive approval for methods of constructing the outlines.
4. Several shorthand textbooks and dictionaries were received along with several books on shortcuts.
5. Since the Anniversary edition is considered much more abbreviated, the Shorthand Dictionary (28b) was checked to see if a shorthand outline had been constructed for the geological term. In some instances, the Anniversary term was used.
6. Letters were written to Business Education World and Today's Secretary to find out their methods used in preparing advertising reprints on shorthand outlines in various fields.

Conclusions:

Numerous terms were found to exist which were not included in this study. Since the investigator felt that the most commonly-used terms were indicated by their frequency of use in the correspondence files, she included the 40 terms which were most often dictated at the North Dakota Geological Survey. Those terms and frequency of use were as follows:

geological	(310)	bedrock	(17)
geology	(172)	bentonite	(17)
geologist	(112)	subsurface	(17)
mineral	(91)	limestone	(16)
glacial	(65)	brine	(14)
lignite	(51)	glacier	(14)
fossil	(48)	topographic	(14)
petroleum	(42)	Ordovician	(12)
formation	(41)	paleontology	(12)
geologic	(41)	auger	(11)
saline	(41)	Precambrian	(11)
mineralized	(27)	sulfate	(11)
geochemical	(26)	Devonian	(10)
Cretaceous	(24)	geomorphology	(10)
shale	(23)	seismic	(10)
moraine	(20)	Pleistocene	(9)
stratigraphic	(20)	scoria	(9)
potash	(19)	pre-glacial	(8)
stratigraphy	(18)	quadrangle	(8)
aquifer	(17)	seismograph	(8)

Recommendations:

1. The investigator recommended the development of a textbook for a short course in shorthand outlines for geology or other areas of specialization.

2. Similar studies are needed in other areas of specialization such as science, physics, chemistry and engineering.

3. If the material presented in this study, and similar ones which may be conducted was used for training stenographers for special areas, their competencies and capabilities could be improved considerably.

4. Further, more comprehensive research is still needed in the area of geology and the most-used terms. This could be directed to reports and bulletins written by geologists, terms in each separate field of geology, or terms peculiar to a certain part of the country.

5. If there were more competent secretaries in the area of geology, an enormous amount of time could be saved. The geologist would then be able to dictate their reports to the stenographers rather than spend time handwriting or typewriting their notes.

Abstractor's Comment:

As the writer of this report indicated, similar studies in other specialized areas would no doubt be beneficial.

Abstract 113

Richard E. Lawrence, "The Use of Shorthand by Office Workers in Certain Minnesota Businesses with Implications for the High School Teacher" (unpublished Master's thesis, Mankato State College, 1962), p. 103.

Problem:

The problem of this study was to determine the use made of shorthand by office workers in certain Minnesota businesses.

Procedure:

1. In June, 1961, letters of inquiry, a postal reply card, and a 14 point sample questionnaire were mailed to 22 businesses representing four population classes. Of these 22, 15 were in Minneapolis; 2 in Mankato; 3, New Ulm; 1, Long Prairie; and 1, Browerville. Interest in participating in the study was indicated by four businesses in Minneapolis and all but one in the other three classes.

2. Appointments were made with the Personnel Directors to discuss the study and ask for their suggestions. The following businesses agreed to participate: General Mills, New York Life Insurance Company, Prudential Insurance Company, and Twin City Federal Savings and Loan, Minneapolis; First National Bank and Hubbard Milling Company, Mankato; Citizen's State Bank and International Milling Company, New Ulm; The Hart Press, Inc., Long Prairie; and Todd County Dairy Co-operative, Browerville.

3. The questionnaires were designed to acquire information relative to shorthand training, use of

shorthand, salary, and other comments. The questionnaires and letters of explanation were supplied to all businesses during August and September, 1961. A total of 952 questionnaires were returned. Because of the number returned from General Mills and Prudential Life Insurance Company, representative samples of 121 and 163, respectively, were selected from these returned questionnaires. All other returned questionnaires were used making a total of 390.

4. Employment offices throughout the state of Minnesota were contacted in order to determine the supply and demand of office workers. Results were tabulated from 31 Minnesota State Employment Services and 3 private agencies.

5. The newspapers from the four city classes were analyzed over a six-month period to determine the number of want ads listed for office workers. Since some of the smaller newspapers printed only on Thursday, the Thursday papers in all areas were analyzed.

6. For tabulating purposes, the four population classes were referred to as follows: Minneapolis, first-class; Mankato, second-class; New Ulm, third class; and Browerville, fourth-class. The schools were also referred to in the same manner.

Findings:

1. Of the 380 questionnaires tabulated, 276, or 72.6 percent, had some shorthand training, of which 195, or 70.7 percent, had two or more years of shorthand.

2. While 61.4 percent of those having two years of shorthand used their training, 78.1 percent of those having more than two years used their shorthand training.

3. Of those receiving shorthand instruction in high school, 49 percent made some use of their skill with 17.6 percent using it often. Of those receiving all their shorthand instruction in a business college or college, 72.6 percent made some use of their skill, with 24.1 percent using it often. A further analysis revealed that of those who received shorthand instruction in high school and business college, 76.7 percent use their skill some and 48.8 percent use it often.

4. Roughly 63 percent to 67 percent of the students considered their shorthand training was adequate regardless of the school size.

5. The questionnaire revealed that only 55.7 percent were seeking employment where they might use their shorthand upon graduation from high school.

6. The data showed that 93.3 percent of those educated in a first-class school remained in the large city to work, while only six went to a smaller city to work. Furthermore, 76.2 percent of those educated in a second-class school went to the large city to work; and 80.6 percent who attended third-class schools found employment in the large city.

7. Shorthand was considered useful by 60 percent of the graduates from a third-class school, 75.9 percent of those from a second-class school, and 71.6 percent of those from a first-class school.

8. Shorthand was considered useful by 62.5 percent of the employees in fourth-class jobs; 88.9 percent, third-class jobs; 72.7 percent, second-class jobs; and 67.9 percent by first-class jobs.

9. Shorthand was never used vocationally by 56.7 percent of the graduates from a third-class school. From first- and second-class schools, only 39.3 percent and 36.7 percent, respectively, reported no vocational use was made of shorthand.

10. The workers from a third-class school, who had used or were using shorthand at the time of the survey, was the lowest of the three class schools with 53.6 percent.

11. When the city size was considered, 64.9 percent of the total workers had used or were using their shorthand skill. However, the third-class city was the highest with 87.5 percent.

12. Almost 78 percent of those making A's in English made often or some use of their shorthand skill. As the English grade went down, so did the use of shorthand.

13. Of those who made A's in shorthand, 75.3 percent used their skill often or some. This compared to 60 percent for those who made B's. A similar relationship tended to exist between speed attained in shorthand and vocational use.

14. Salaries were very similar whether shorthand was used or not. Salaries were a little higher for those who used shorthand during the early years of employment;

however, they were slightly higher for those who did not use shorthand during the later years.

15. Office skills used more than shorthand by over one-half of the employees were: typing, 99.5 percent; filing, 65.2 percent; and calculating machines, 53.1 percent.

16. Employment agencies reported that 45.2 percent of all requests were for office workers with shorthand. Furthermore, only 57.9 percent of these were filled. Of all the want ads analyzed, 26.2 percent were for office workers with shorthand.

Conclusions:

1. On the basis of the findings, it may be concluded that the more shorthand training received the more likely it will be used vocationally.

2. Many of the students who took shorthand in high school did not plan to use it on the job.

3. A majority of those taking shorthand in high school considered their training adequate regardless of size. Furthermore, a large percent considered shorthand to be a useful course to take.

4. Students from smaller cities tended to be attracted to the larger city for employment.

5. The vocational use made of shorthand seemed to directly relate to grades in English and shorthand and speed achieved in shorthand.

6. Salaries were not affected very much by shorthand.

7. Other skills used as much or more than shorthand by office workers were: typing, filing, and calculating machines.

8. Employment agencies and want ads tend to indicate that a great demand still exists for office workers with ability in shorthand.

Recommendations:

1. A similar study is needed covering a larger geographic area.

2. More research might be done to determine why the graduates from small schools did not use their shorthand as much as those from larger schools.

3. A similar study is needed using a larger number of employees from smaller cities and companies.

4. Similar studies are needed to obtain accurate data regarding the requests received by employment agencies for office workers, since this study asked for approximations.

Abstractor's Comments:

1. This study points out that the higher the degree of shorthand skill the greater the possibility that shorthand will be used vocationally.

2. The findings indicate that workers with shorthand ability are still in high demand, at least in the area surveyed.

3. As the writer suggested, a similar, more comprehensive survey would be beneficial to all shorthand teachers, guidance counselors, and administrators.

4. Although a problem statement is given in the abstract, no problem statement was actually given in the study.

5. The findings and conclusions were presented together in the study but are not in the abstract.

Abstract 114

Carole Dawn Lee, "A Study of the Effect of Reward and Punishment on Learning in Shorthand" (unpublished Master's thesis, Brigham Young University, 1962), p. 61.

Problem:

The problem of this study was to determine the extent to which punishment and reward affect shorthand learning.

Hypothesis:

"Shorthand students who are motivated by praise and approval will make significantly greater progress in shorthand writing speed than students who are motivated by criticism and disapproval."

Procedure:

1. The participants in this study consisted of 64 female college students enrolled in two lower division shorthand classes at Brigham Young University during the Spring Semester of 1962. The two groups were equated according to age, prior shorthand experience, placement in college, high school grade point average, and sex. The two classes were called Experimental Class A and B.
2. The attitudes of the students were determined by a questionnaire administered to them three days after the semester started.
3. Two 5-minute dictation tests were dictated at progressive speeds from 60 to 150 words a minute. The first test was given nine days after the semester started and the second test was given the next day. Thirty minutes were allowed for transcribing their notes.
4. Following these tests, the gradually increasing negative attitude was employed in Group A and a gradually increasing positive attitude was used in Group B. This was the only variable in the study.
5. Every effort was made to create a negative atmosphere in Group A and a positive atmosphere in Group B. Students in Group A were referred to as Miss and their last name. Students in Group B were all called by first names.
6. A few of the students in Group A were interviewed after nine weeks of study, and a few students in Group B were interviewed after ten weeks of study. This was done to determine if the techniques used were having an effect on the students.
7. At the end of the course, the same tests were given that were used at the beginning of the course. The scores on the two tests were averaged. The students were also given a second evaluation sheet.

Findings:

Student Attitudes

1. The evaluation sheets distributed at the beginning of the course revealed very similar ratings. The greatest difference between the two groups on any question was question seven. This difference was not significant.

2. The final evaluation showed a big difference between groups on several questions. Those questions having the greatest difference were questions 12, 90 points; question 25, 63 points; question 10, 41 points; question 11, 35 points; and question 5, 34 points. These differences revealed that teacher attitude had a substantial influence on the students' attitude toward the course, since the greater difference in points occurred on questions dealing directly with student-teacher relationships, class presentation, fairness and impartiality in tests and grades, and teacher interest in student welfare and progress.

Test Scores and Statistical Analysis

1. On the initial test, Group A had a mean score of 147.5 correct words transcribed and the mean score for Group B was 145.0. The difference revealed was not significant.

2. On the final test, Group A had a mean of 204.4 correct words transcribed and Group B had a mean score of 225.9. The critical ratio was found to be 3.656, which was significant at the 1 percent level of confidence.

Conclusions:

1. Student progress in shorthand was affected by the projected teacher attitude.

2. Students exposed to a positive classroom atmosphere achieved significantly more than students exposed to a negative classroom atmosphere.

3. The teacher sets the atmosphere of the classroom and this atmosphere affects the interest, learning, and progress of the students within the classroom.

Recommendations:

1. Shorthand teachers should employ a firm but positive attitude.
2. All comments, whether oral or written, should be given from a positive point of view.
3. Good classroom performance should be praised rather than criticizing poor classroom performance.
4. Teachers should show a personal interest in their students.
5. Fear should not be used as a motivating device.
6. A similar study should be made covering a longer period of time.
7. Further research should be done to determine what specific kinds of rewards will encourage students to achieve their greatest potential.

Abstractor's Comments:

1. This study could be very effectively used in an undergraduate methods course and perhaps even in an improvement of shorthand instruction course.
2. This study points out very vividly that the teacher is the key factor in whether or not their course is a success.
3. The student comments also revealed that some students will achieve in any circumstances, while others are affected greatly by them.

Abstract 115

Mary Elizabeth Lee, "A Prognostic Study in Shorthand" (unpublished Master's thesis, The University of Southern California, 1958), p. 152.

Problem:

The problem of this study was to compare the relationship between achievement of Shorthand IV students and eight selected predictive factors.

Procedure:

1. Twenty-nine students all girls and all members of the Shorthand IV class during the spring semester of the school year 1957-58 at San Pedro High School participated in the study. The students receiving a grade of A and B were called Group A, which contained 15 students. Those students receiving grade of C and D were called Group B, which contained 14 students.

2. Those factors correlated with shorthand achievement included intelligence quotient, average grade-point, average English grades, reading comprehension, and selected scores from the Iowa Tests of Education Development.

3. Additional emotional and socioeconomic data were gathered from the autobiography, questionnaire, and interview.

Findings:

1. The correlation coefficients of the eight variables with final achievement in Shorthand IV were:

Correctness in writing	.461
Average of all marks	.423
Composite Iowa Test score	.376
Quantitative thinking	.346
Intelligence quotient	.227
General vocabulary	.179
Reading comprehension	.177
English	.117

Only the first three were significant at the 5 percent level of confidence.

2. Students in Group A were slightly higher economically than Group B. Furthermore, families of Group A tended to move less. Sixty percent of Group A spoke a foreign language at home and liked shorthand best of all subjects. Students of Group A held more offices, won more honors, and tended to work at jobs involving more responsibility.

3. Students of Group B came from a lower economic group and a larger percent of the mothers worked. English was the favorite subject of Group B students and only 35.7 percent spoke a foreign language at home. They did not win as many honors, but held almost as many offices in

school organizations. Group B missed 104 days school compared to 59 days for Group A and Group B tended to work at jobs involving less responsibility.

4. The three dominant influences of the two groups were the Catholic Church, the Democratic Party, and labor unions. Most of the students in both groups assisted with chores at home, and only two in Group B and none from Group A were from broken homes. Both groups felt that study conditions both at home and school were bad and that their studies had been affected because they participated in too many extracurricular activities.

Conclusions:

1. There was a substantial relationship between shorthand achievement and correctness in writing and the average of all grades.

2. There was a small but definite relationship between shorthand achievement and the following: (a) composite Iowa Test score; (b) quantitative thinking; and (c) intelligence quotient.

3. Absenteeism showed the most significant relationship to achievement in shorthand of all the socioeconomic factors.

4. Economic status seemed to have a definite relationship to success in shorthand.

5. Mothers who worked outside of the home seemed to affect shorthand achievement.

6. Student achievement tended to be affected by mobility.

7. Knowledge of a foreign language aided shorthand learning.

Recommendations:

1. Caution must be used to avoid relying too heavily upon any one factor as a predictor of success in shorthand.

2. Students with high absenteeism should be discouraged from taking work in shorthand.

3. Further study is needed in regard to socio-economic and emotional factors and their relationship to success in shorthand.

Abstractor's Comment:

This study, unlike several others, revealed a very low correlation between shorthand achievement and English. There was, however, a significant correlation between shorthand achievement and grade-point average.

Abstract 116

Ellen Louise Lensing, "An Experiment to Compare Terminal Achievement in Second-Semester Shorthand Classes Taking Dictation from the Teacher and Classes Taking Dictation from a Range of Tape-Recorded Material" (unpublished Ph.D. dissertation, University of Wisconsin, 1961), p. 312.

Problem:

"This study was undertaken in an attempt to develop a way of providing appropriate writing practice for shorthand students of varying abilities without dividing the class into separate small groups."

Procedure:

1. The study consisted of 145 students in seven beginning shorthand classes in two Wisconsin High Schools. The two schools were referred to as School X and School Y. Four teachers were involved in teaching the seven classes and were referred to as Teacher A, B, C, and D. All but Teacher B taught both an experimental class and a control class.

2. Of the seven classes used in the study, four were experimental and three were control. The control classes received "live" dictation from the teachers, while the experimental classes received dictation by means of multiple-channel electronic equipment. This was the primary variable in the experiment.

3. Dictation material for both groups was taken primarily from Zoubek's Previewed Dictation and Progressive Dictation with Previews.

4. Homework assignments were the same for matched groups. Short tests were given over the homework in spelling, punctuation, vocabulary, and "live" dictation. Not all were used the same day; however, the teacher used the same ones in both her experimental and control classes.

5. Different material was used for each taped program. "Preview Sheets" were provided for each taped program and were stored in a file cabinet in the classroom. This allowed the students to choose the "Preview Sheet" for the program they desired.

6. Tests to measure shorthand achievement were given four times each semester. These tests were referred to as the pretest, six-week test, twelve-week test, and final test. Students were measured on the rate at which they could write dictation and the accuracy of their transcription.

7. Each teacher was consulted prior to test days to determine the speeds to be included in the tests. The tests were administered by taped recordings, with ten word intervals between speeds. The material selected ranged in syllabic intensity from 1.38 to 1.50.

8. The dictation-transcription tests were three minutes long for the pretest and six-week test, four minutes for the twelve-week test. The final dictation tests were 3 minutes long and were administered on three consecutive days. Each student was to transcribe in long-hand the middle speed she wrote and one other.

9. The pretest included dictation at speeds of 40, 50, and 60 words per minute. The six-week test ranged in speeds from 40 to 90 words a minute; twelve-weeks test, 40 to 110 words a minute; and the final test, 50 to 120 words a minute. The desired accuracy on transcripts was 95 percent or higher. The accuracy of the transcript and the speed transcribed determined the score for that transcript.

10. A Point Chart for Scoring Tests was used to determine the transcription score at varying speeds at accuracy levels from 95 to 85 percent. Errors in English mechanics were not counted in determining accuracy scores.

11. Various classes were visited frequently by the investigator in order to record information that might be pertinent to the study. During the 9th or 10th week, the students were also asked to write open-ended responses concerning the experiment. Students were also asked to fill out a questionnaire at the end of the first-semester.

12. The four teachers participating in the study were interviewed in order to determine their reactions to the experiment.

Findings:

1. On the basis of age, grade level, overall gradepoint average, IQ scores, first-semester shorthand grade, and pretest scores, no significant differences were found between the control and experimental groups.

2. A two-way analysis of variance showed no significant differences between the two groups at the end of six-weeks.

3. At the end of twelve weeks, no significant differences were found to exist between the achievements of the control and experimental groups.

4. At the end of the first semester, no significant differences were found between the achievements of the two groups.

5. No evidence was found to indicate that any of the four teachers was more successful with one method than the other.

6. Observations and interviews tended to indicate that Teachers A, B, and C weighted speed more heavily in determining final grades; whereas, Teacher D leaned more heavily toward accuracy.

7. Teachers and students' attitudes toward the multiple-channel electronic equipment tended to be uniformly enthusiastic. All classes except one control class expressed favorable attitudes toward use of the equipment. Furthermore, the comments made by the experimental classes were more favorable than those made by the control classes.

8. The experimental students indicated that they found taped dictation more interesting and challenging than "live" dictation. On the other hand, the control students expressed opinions just the opposite; however, they believed taped dictation was easier.

9. Both control and experimental students indicated that teacher supervision was adequate during writing practice.

10. A further analysis of the student responses showed that about one-third of Teacher B's students and three-fifths of Teacher D's students believed more time should be spent in group activities. Furthermore, about one-third of Teacher B's and C's students and two-thirds of D's students felt that more time should be spent in "reading back."

Conclusions:

1. Instructional procedures used frequently are usually favored by the students.
2. Generally, students desire teacher supervision and guidance during writing practice activities in shorthand.
3. Students' interest can be maintained by incorporating a variety of learning activities on each taped program.
4. The dictation speeds attained by students who practice from pre-recorded tapes does not appear to differ significantly from those speeds attained by students who receive their practice from "live dictation."
5. Students who have used electronic equipment enough to become familiar with it tend to believe that teachers have more time to devote to guidance and assistance when dictation practice is provided by taped programs.

Recommendations:

1. Further studies are needed to validate the conclusions of the present study.
2. Multiple-channel equipment should be considered a valuable teacher aid even though the differences between groups were insignificant.
3. Further research is needed to determine the uses for electronic equipment in shorthand instruction in areas such as testing, out-of-class practice, and instruction of large groups.

Abstractor's Comments:

1. Other similar studies have been conducted with similar results. The advantages of electronic dictation equipment seem to be other than achievement of higher rates of speed.

2. Since proper use of this equipment can be advantageous for the shorthand teacher, the use of this equipment and preparation of material should be included in a shorthand methods course and a course in improvement of shorthand instruction.

Abstract 117

Rose Ellen Lewis, "Evaluating Transcribers on the Job, A Study Made in the Madison, Wisconsin Area" (unpublished Master's thesis, University of Wisconsin, 1958), p. 47.

Problem:

The problem of this study was to determine the frequency of mechanical versus direct dictation and the standards expected of the stenographer in transcribing the dictation.

Procedure:

1. During the spring of 1958 at Madison, Wisconsin, 17 executives and businessmen were interviewed. Although the different types of businesses and number of each were predetermined, the 17 businessmen and executives were randomly selected. The types of businesses included were federal offices, state offices, bank and loan and savings companies, law offices, insurance companies, and business firms.

2. A check list was used in gathering the desired information from the 17 persons interviewed. The interviewer seldom asked the questions exactly as they appeared on the check list.

Summary:

1. A majority, or 13 out of 17, preferred dictating to a stenographer rather than to a machine. However, some of them used both.

2. Nine of the 17 dictate punctuation and paragraphs, and five dictate only paragraphs.

3. Twelve of the 17 indicated that they permit their secretaries to change the wording if it doesn't change the meaning.

4. The name of the individual to whom the correspondence is going was spelled out by 10 of the 17 interviewed.

5. Secretaries were permitted to compose certain types of letters by 11 of the 17. One executive reported that his secretary did all of his letter writing.

6. All 17 of those interviewed read all of the correspondence signed by them.

7. The person to whom the correspondence is going does not change the quality of the letter for 10 of the 17 interviewed.

8. Standards remain the same throughout the day and 10 reported that the standards are the same for all forms of correspondence and for all people. Five were more lax with memos.

9. Pen corrections were permitted with reservations and neat erasers were permitted by all. Two reported they were not overly concerned with spelling errors and strikeovers. As a general rule, it was indicated that businessmen prefer perfect work but will accept less.

10. Thirteen said they would require letters with typographical errors, which could not be corrected, to be retyped. All 17 indicated they would require letters to be retyped which contain English errors and errors in content.

11. The length of the letter had little influence on determining whether or not a letter would be retyped, if it contained errors the businessmen objected to. Two would have both retyped; two would have short ones retyped, and seven would not, and two said it would depend on the importance of the letter. The question was related to four, since they dictate only short letters.

Recommendations:

1. Additional studies similar to this are needed, since they furnish useful information to transcription teachers.

2. Since secretaries are expected to correct errors in punctuation, spelling, and grammar, these skills should be stressed in transcription.

3. Many businessmen expect secretaries to compose letters of certain types; therefore, more time should be devoted to the composition of letters by the students.

4. As office standards tend to be high, high standards should be required in the classroom.

5. Realistic materials should be used in the classroom to obtain the maximum desirable learning.

Abstractor's Comments:

1. The conclusions stated in the report were very similar to the summary; therefore, no conclusions were reported in this abstract.

2. The abstractor agrees that future secretaries need more practice in composition of original letters; however, advanced typewriting or secretarial procedures classes are the places to accomplish this rather than in the transcription class.

Abstract 118

Francis L. Lipovac, "An Experiment to Determine the Value of Stressing Thought Units During the First Semester of Shorthand" (unpublished Master's thesis, The Ohio State University, 1960), p. 114.

Problem:

The problem of this study was to determine if marking shorthand plates in thought groups would speed up the process of learning shorthand.

Procedure:

1. The writer taught three beginning classes in shorthand--one from 9:20 a.m. to 10:00 a.m., one from 12:20 p.m. to 1:00 p.m., and another from 1:05 p.m. to 1:45 p.m. There was a total of 69 students enrolled in the

three classes. From this group, eleven pairs were selected, but only eight pairs were used for analysis in this study. The class having the largest number of students from each period, which was the group taught during the second period, was used as the experimental group. The remaining two classes were used as the control group.

2. The students were informed as to what was taking place, but the individual students who were paired had no knowledge of their part in the study. The three classes were taught in exactly the same way except for the introduction of the single variable to the experimental group. The constant stressing of thought groups in the reading and writing of shorthand was the variable used in this study.

3. After reviewing many research studies, three factors were chosen for use in pairing the students-- general scholastic average, the average of the 9th and 10th grade English, and IQ. Age, grade level, and sex were also used in determining the paired groups for this experiment. The experimental group was referred to as "E" and the control group as "C," therefore, student E1 and C1 were parallel.

4. For use in teaching the experimental group, the first 29 lessons of the connected matter were marked off in readable phrase groups. The marks were made perpendicular with red pencil, and the keys in the back of the books were marked in the same manner. Blue perpendicular lines were used for marking the first five lessons in their transcription textbook. The first two lessons were marked off in groups of three to five syllables, and the last three lessons varied from three to ten syllables.

5. The shorthand text Gregg Shorthand Manual Simplified, Functional Method was used in the classes for this experiment. Lessons three through seven were marked in groups containing approximately three syllables. The salutation contained a line after it and one was always placed at the end of the sentence and before and after the complimentary close. The groups were enlarged in lessons eight and nine to include from three to six syllables. In lessons ten through twelve the thought groups were expanded to include from five to ten syllables. When writing was introduced with lesson nineteen, the thought groups were reduced back to approximately three syllables. They were again gradually expanded through the twenty-ninth lesson.

6. The dictation-transcription tests were planned so that the middle speed was dictated for three minutes and all the letters were as near the same length as possible. If tests being given were at speeds of 50, 60, and 70 words a minute, each letter would contain approximately 180 words. Two sets of tests were prepared for each test day. All tests were transcribed in longhand throughout the experiment. The investigator planned for a transcription rate of 15 words a minute, so time allowed for transcription varied according to the length of the letters. The paired students were compared on the basis of these tests.

Findings:

1. There was a difference of only 3.44 words a minute between the two groups in the reading of shorthand from the textbooks during the sixth week of school.

2. During the 36th week of school, the experimental group read an average of 12.89 words a minute faster than the control group. The longhand reading scores only differed by 0.13.

3. From the 6th to the 36th week, all students improved their reading rates.

4. The experimental group scored slightly higher on the vocational tests than the control group.

5. In the longhand copying rate, no student exceeded her partner by more than 4 words a minute.

6. The average transcription speed of the control group in transcribing from the textbook was 1.78 words a minute faster than that of the experimental group. There was a difference of 5.41 percentage points in the average percent of accuracy and the control group was slightly higher.

7. The control students transcribed the higher speeds on the first transcription from students' own notes and also made more errors. The experimental group had a faster transcription average with 11.6 more words than the control group and had a higher degree of accuracy in the transcription.

8. On test 5, the experimental group transcribed 4 percent more accurately on the entire dictation than the control group. The experimental group also had a higher degree of speed by .8 words a minute.

9. On test 6, the accuracy on the entire dictation was higher for the experimental group by 2.2 percent, and the experimental group transcribed 9.1 more words per minute.

10. On test 7, the control group had the higher accuracy on the entire dictation by 1.9 percent. The experimental group transcribed an average of .3 more words a minute.

11. On test 8, the control group exceeded the experimental group in all respects. The accuracy on the entire dictation was 4.7 percent higher for the control group. The control group transcribed an average of 5 more words a minute, and their transcripts were 1.6 percent more accurate than those of the experimental group.

12. As a whole, the experimental group transcribed with 88.3 percent accuracy; whereas, the control group transcribed with 86.7 percent accuracy. The experimental group not only transcribed more words than the control group but also transcribed slightly faster. Both groups transcribed the same number of tests at 50, 60, and 70 words per minute.

Conclusions:

1. The marking of shorthand copy into thought groups does increase reading speed of shorthand plates from the textbooks.

2. Reading in thought groups through marking of shorthand plates has a light but positive effect on accuracy in the writing of individual vocabulary shorthand words.

3. Neither marked plates nor unmarked plates affect the willingness of students to do shorthand homework.

4. The marking of shorthand plates into thought groups had a negative affect on the success of transcription from shorthand textbook plates.

5. Emphasis on thought groups did produce more accurate transcripts, when transcribing from their own notes.

6. Emphasis on thought groups slightly increased transcription speed.

7. Stressing thought units has little effect on the speeds of the dictation transcribed.

8. Thought units are more beneficial to students of higher ability than those of low ability.

Recommendations:

1. That further study be done along these same lines and that follow-up studies be made in advanced shorthand classes to determine whether or not the stressing of thought units does enable students to transcribe more accurately and more quickly.

2. That testing be planned on the basis of lessons rather than on the basis of time as was the case in this study. There are some interruptions that are inevitable in high school classes; therefore, during some weeks there were four lessons and during other weeks there were five lessons taught.

Abstractor's Comments:

1. A similar study needs to be made involving more than eight pairs of students. Eight pairs is not a large enough sample on which to base sound conclusions.

2. The final objective of shorthand is ability of students to take dictation and transcribe accurately, and there appears to be very little difference between the groups tested in this study. However, the difference was not tested statistically.

Abstract 119

Joe R. Lower, "The Status of Shorthand and Other Dictating Devices Used in a Representative Number of Business Firms in Columbus, Ohio, in 1956" (unpublished Master's thesis, The Ohio State University, 1957), p. 71.

Purposes:

The purposes of this study were as follows:
(a) To determine the status of shorthand and dictating devices used in a representative number of business offices in Columbus, Ohio. (b) To determine the status of various types of transcribers. (c) To compare the

findings of this study with those of a similar survey taken in Columbus, Ohio, in 1946.

Procedure:

A questionnaire was used to make a cross section survey of firms according to number of employees and types of business. Of the 125 questionnaires mailed out, 79 were received that were usable in the study.

Findings:

1. An analysis of the findings revealed that 70 percent of 1,311 transcription workers used shorthand part or all of the time, as compared to 71 percent in the earlier survey.

2. The employees increased 63 percent in the 40 firms represented in both studies and those doing transcription work increased 105 percent.

3. Those using voice-recording machines increased over the 10 year period; however, secretaries received higher salaries than the voice-recording operators.

4. Approximately 90 percent of the firms indicated that high school graduates have as much of an opportunity for promotion as college graduates.

5. In 43 percent of the firms reporting women with shorthand have a greater opportunity for promotion than those without shorthand.

6. Of the 9,514 office workers, 86 percent were nontranscribers.

7. Men made up 1.3 percent of the transcription workers.

8. Men with shorthand training had a greater opportunity for promotion in 13 percent of the firms.

Abstractor's Comment:

The abstractor was unable to obtain the original document; therefore, the summary presented here came from the Fall issue of the 1958 National Business Education Quarterly.

Abstract 120

Norman Malcolm Lusk, "A Study of the Comparison Between Construction of Shorthand Outlines According to Theory and the Accuracy of Transcription" (unpublished Master's thesis, University of Washington, 1959), p. 152.

Problem:

The problem of this study was to determine the shorthand-construction and transcription ability possessed by students at the end of the first year of shorthand.

Procedure:

1. A survey was made of professional literature, methods books, and teachers' manuals to determine the quality of outline and dictation standards business educators believe shorthand students possess after one year of shorthand.

2. Statements pertaining to shorthand-outline construction were classified according to educator's opinions concerning the value assigned to an understanding of shorthand theory, initiation of outline, and penmanship techniques. The statements pertaining to dictation standards were classified according to speed, length of dictation, and the accuracy of transcription.

3. The ability students possessed in shorthand-outline construction and transcription was determined by analyzing each shorthand outline and the transcription for the outline. Outlines written theoretically incorrect were classified according to one of the ten categories established for incorrect outlines. An analysis of the transcripts indicated whether the incorrectly written outlines were transcribed correctly, transcribed incorrectly, or omitted completely in the transcript. The data obtained from the analysis of the shorthand notes and transcripts were used to indicate implications concerning need for stressing theoretically correct shorthand outlines in the teaching of shorthand.

4. Dictation tests published in the Business Teacher were chosen at random--two at 60 words a minute and two at 80 words a minute. Two tests were chosen so

in order to get one hard one and one easy one. The length of the tests was set for 5 minutes. The tests were dictated to a pilot group to determine if indeed an easy one and a hard one had been chosen, a rating scale for shorthand outlines, and a classification of transcription errors.

5. The classification for shorthand outline-construction errors included incorrect outline, omitted outline, proportion, illegible outline, wrong outline, longhand in notes, transposed outline, and added outline. The rating scale for classifying transcription errors included incorrectly transcribed word, omitted word, transposed word, and added word.

6. The dictation tests were given to seven classes of Shorthand II students in four different high schools involving between 148 and 161 students in each dictation. The tests were administered near the end of the second semester. The tests were given as new-matter dictation and without a preview. The two tests at 60 words a minute were labeled "1A" and "1B," and the two tests at 80 words a minute were labeled "2A" and "2B."

7. The data for each test were presented according to the total number of students taking the test, the number who passed with 95 percent accuracy or higher, and the number who failed to pass with 95 percent accuracy. These were labeled group A, B, and C.

Findings:

(Test 1A)

1. This test was given to 156 students and was passed by 62 percent of them. Group B transcribed 92.2 percent of the incorrectly written outlines, but Group C transcribed only 59.8 percent of them. The students in Group B averaged only 4.83 transcription errors and Group C averaged 56.02 transcription errors.

2. There were 21 different words written incorrectly by 50 percent or more of the students in Group B; however, a high proportion of these were transcribed correctly. Nineteen of the 21 words were written in longhand by at least one student. A small 1 percent of the incorrectly written words were brief forms.

(Test 1B)

1. Even though this test was considered to be more difficult, 73 percent of the total 161 taking the test passed with 95 percent accuracy or higher. Test 1B was also 46 words longer than Test 1A.

2. Omitted outlines and more longhand words in the shorthand notes implies that Test 1B was more difficult to record in shorthand; however, omitted words were insignificant due to the increase in transcription accuracy of incorrect outlines.

3. There were 25 different words written incorrectly by 50 percent or more of the students in Group B and a small percent of these were brief forms. A high proportion of these were transcribed correctly.

(Test 2A)

1. There were 406 words in this first dictation at 80 words a minute and 39 percent passed with 95 percent accuracy or higher.

2. Wrong outlines and longhand did not occur as frequently in Test 2A as in the two dictations at 60 words a minute.

3. Average shorthand and transcription errors were higher for both Group B and C in Test 2A than in Test 1A and 1B.

4. There were 36 different words written incorrectly by 50 percent or more of the students in Group B, but a high proportion of these were transcribed correctly. Only two brief forms were written incorrectly by 50 percent or more of Group B and over one-half the words in Test 2A.

(Test 2B)

1. Out of 148 students who took this test only 38 percent passed with 95 percent accuracy or higher. This indicated that the increased difficulty of Test 2B is only slightly significant. Test 2B included 410 words and 68 different words were written incorrectly by 50 percent or more of Group B. However, a high percent of these were transcribed correctly.

2. A higher percent of the brief forms in Test 2B were written incorrectly than in Test 2A; however, these

represented a small percent of the total incorrectly written words.

Conclusions:

1. Since over 50 percent of the predictable errors were written correctly by both Group B and C, there is little need to emphasize the writing of theoretically correct shorthand outlines to facilitate transcription. However, the students who passed the dictations were definitely better qualified to write theoretically correct outlines than were the students who failed the dictations.

2. The students who passed the dictations did not repeat errors as frequently for words which were repeated in the dictation material as students who failed the dictations. Both groups B and C repeated errors for words reoccurring more frequently in both the 80 words a minute dictations than in the 60 words a minute dictations.

3. Since over one-half of the words in the dictations were brief forms, skill in writing brief forms was necessary. Group B wrote less than 15 percent of the brief forms incorrectly.

4. The average shorthand-outline errors increased in Test 2B as compared to Test 1B, for Group B, but the increase was insignificant in increase of transcription errors. This would tend to indicate that either the degree of deviation was not an important factor, the outlines omitted could easily be supplied, or that words containing more than one syllable could be abbreviated in longhand.

5. The incorrect outlines for Group C contained a higher degree of deviation from theoretically correct outlines than did the outlines written by Group B.

Recommendations:

1. To make an analysis of shorthand outlines written from dictation with error categories established for classifying exact theoretical inaccuracies of outline construction. This would provide a means of determining the transcription results of outlines according to the degree of deviation from the theoretically correct outlines.

2. To conduct a study with a control group in which the students were of equal ability and taught by the

"functional" method. This would eliminate unqualified students from the testing situation and would provide a definite evaluation of the "functional" method of teaching.

3. To conduct a study using a series of tests similar to those used in this study, dictated to a group of students who had been given drills on brief forms to develop rapid reading and dictation rates in order to determine whether or not a high developed skill in writing brief forms would assist a student in passing the dictation tests.

Abstractor's Comments:

1. This study points out that syllabic intensity and vocabulary index do not always determine the difficulty of dictation material. This is pointed out by the finding that fewer words were written incorrectly in Test 1B than in 1A, with Test 1B being the more difficult.

2. The study also points out that as dictation gets longer and at higher speeds more words are written incorrectly, but that a high percent of these are transcribed correctly.

3. The study further points out that a large percent of the words used in average dictation material are brief forms; therefore, brief forms should be stressed.

Abstract 121

Donald Alexander MacRae, "A Study of the Status of Shorthand in the Public Secondary Schools of Iowa, with Special Reference to Dictation Standards in First-Year Shorthand in Selected Schools" (unpublished Ph.D. dissertation, State University of Iowa, 1962), p. 357.

Problem:

The problem of this study was an attempt to answer the following two major questions: (1) What is the status of shorthand? (2) What are the desirable and actual standards of achievement in shorthand?

Procedure:

1. The investigation for this study included two parts--one for 1953-54 and the other for 1958-59. The 1953-54 mailing consisted of 407 shorthand teachers in Iowa. For the 1958-59 mailing, 200 names were randomly selected from the original list of 407. This mailing was to validate the first mailing and to detect any trends that exist.

2. Of the 407 questionnaires mailed in 1953-54, 394 were actually teaching shorthand. After two follow-ups were made, a 74.4 percent return was received. Only one follow-up was needed in 1958-59 in order to get a desired return of 100 questionnaires. Actually, 144 of the 200 were returned.

3. Those teachers who indicated on the 1953-54 questionnaire a willingness to participate in the second part of the study were mailed copies of the test material. These test materials were five-minute dictation tests of 60, 80, 100, and 120 words a minute taken from the May-June, 1954, issue of the Business Teacher. Only the results were to be mailed to the investigator.

4. For the second part of the study completed in 1959, tests were taken from the May-June, 1959, issue of the Business Teacher. The tests were administered by each individual teacher and only the results were sent to the investigator.

5. Both the 1954 and 1959 tests were graded according to the Gregg testing rules and 95 percent accuracy was required. Since only the results were sent to the investigator, the teachers could send the transcripts to the Gregg Company for awards.

6. Of the 293 returned questionnaires in 1954, 48.5 percent returned results of the tests given to Shorthand I students. Furthermore, 46.5 percent of the 144 who returned questionnaires in 1959, also returned results of the tests administered to Shorthand I students.

7. For comparison reasons, the schools were divided into four classes according to enrollment. Those classes were: Class A, more than 400; Class B, more than 125 and less than 401; Class C, more than 65 and less than 126; and Class D, less than 65.

Findings:

Shorthand Training Offered

1. The percentage of Iowa high schools offering shorthand increased from 43.5 percent in 1953-54, to 57.2 percent in 1958-59.

2. Of the 277 schools included in the analysis of the 1953-54 survey, 57.1 percent offered two years of shorthand. Of the 138 schools included in the analysis of the 1958-59 survey, 64.5 percent were offering two years of shorthand.

Shorthand Teachers

1. Although the number of schools in Iowa had decreased during the five years, as a result of consolidation, the schools had become larger and the number of shorthand teachers had increased by 56. Furthermore, the number of men teaching shorthand has also increased.

2. All the teachers held at least a Bachelor's degree, while about one-fourth held the Master's degree, and about one-fourth had taken work toward the Master's.

3. The number of shorthand teachers receiving business college training decreased over the five year period.

4. Over 80 percent of the teachers responding had received some business or office experience. Most of this training had been received during the summer.

The Shorthand Class

1. The mean class size for Shorthand I grew from 14.5 in 1954 to 16.1 in 1959. However, the mean class size for Shorthand II remained practically the same.

2. Although some boys did take shorthand, the ratio of girls to boys was 40.1 to 1 in 1954 and 63.9 to 1 in 1959. For second-year shorthand the ratio was even larger.

3. Of the 277 schools responding to the 1953-54 survey, 94.2 percent were offering Gregg Simplified; 4.7 percent, Gregg Anniversary; and 1.4 percent, Thomas Natural shorthand. However, in 1958-59, 99.4 percent were using Gregg Simplified and only .7 percent were using Gregg Anniversary. None were using the Thomas system.

4. Admissions requirements for enrollment in first-year shorthand were used by only one-third of the school responding to both surveys. The most frequently listed requirements were: "C" grade in English, grade point average of "C," one year of typewriting, and satisfactory score on the Turse Aptitude Test.

5. Of those teachers responding, only 20 percent believed that most students could handle office dictation after one year of shorthand.

6. A majority of those schools offering two years do have admission requirements for enrollment in Shorthand II. Those requirements mentioned most frequently were: "C" grade in Shorthand I, ability to pass a 5-minute 60 words a minute test with accuracy, recommendation of first-year teacher, pass Shorthand I and Typing I; and "C" grade in typing, shorthand, and English.

7. The titles for the combination unit for second-year shorthand in both years were "Office Practice" and "Secretarial Practice." In addition to shorthand and transcription the skills most frequently taught were: general office training, filing, office machines, duplicating, and material in secretarial science textbooks.

8. Eighty-seven percent of the 1953-54 teachers and 90 percent of the 1958-59 teachers believed shorthand should remain in the curriculum as a two-year course.

Methods and Techniques Used in Teaching Shorthand

1. Most of the teachers in 1953-54 preferred the One-Minute Plan for building speed followed by various other plans. Repetition of practiced material at progressive rates was rated last by the 1953-54 teachers and first by the 1958-59 teachers. The second choice of the 1958-59 teachers was the One-Minute Plan.

2. The use of the pen only for recording dictation increased from 50.9 percent in 1954 to 61.1 percent in 1959.

3. Over one-half of the teachers in both years indicated use of the awards program to motivate their students. Various awards programs were mentioned.

4. Of the handbooks used in 1953-54 classes, Hutchinson's Standard Handbook for Secretaries ranked first and Koeble's Stenographer's Reference Manual ranked second. In 1958-59, Hutchinson's Reference Manual for Stenographers and Typists ranked first.

5. Approximately two-thirds of the teachers in both surveys reported using secretarial magazines for supplementary reading.

6. In addition to the chalkboard, other popular audio-visual aids were: record player, tape recorder, wall chart, and voice writing machines. The percentage of teachers using each aid increased considerably during the five years.

7. Over 90 percent of the teachers using the tape recorders in 1953-54 prepared their own tapes; whereas, this dropped by one-fourth five years later.

Standards

1. Three-fourths of the teachers responding indicated that the dropout rate was 10 percent or less in Shorthand I. Furthermore, 80 percent of the Shorthand II classes in 1953-54 had no dropouts compared to 70 percent of the classes in 1958-59.

2. There were no failures in over 60 percent of the first-year classes and over 80 percent of the second-year classes. The reason most frequently given for failures was lack of ability.

3. A definite grading standard was used by approximately one-third of the responding teachers.

4. Approximately 75 percent of the responding teachers believed that a desirable dictation range was 60 through 80 words a minute. Desirable transcription rates ranged up to 25 words a minute for about 40 percent of the teachers, with 25 percent making no comment.

5. Standards for second-year dictation ranged from 80 to 120 words a minute, with 80 percent considering 100 words a minute or higher as a desirable standard for second-year shorthand. A desirable transcription rate was considered 20 words a minute or higher by 80 percent of the teachers responding in both years.

6. A majority of the teachers felt that 75 percent of the first-year shorthand students could achieve 60 words a minute dictation speed. However, less than 50 percent of the teachers felt that 90 percent of the students could attain this goal.

7. Of the teachers responding in 1953-54, 67 percent believed that 90 percent of the second-year students could achieve 80 words a minute or higher

dictation; whereas, approximately 50 percent of the teachers in 1958-59 believed this would be possible.

Student Performance in First-Year Shorthand on 5-Minute Tests:

1. The 60 words a minute test was passed by approximately 60 percent in 1954 and 75 percent in 1959.

2. The 80 words a minute test was passed by 50 percent in 1954 and over 33 percent in 1959.

3. The 100 words a minute test was passed by over 25 percent in 1954 and over 33 percent in 1959.

Conclusions:

1. Enrollment in first-year shorthand increased during the five-year period. Thus, the number of teachers also increased.

2. The number of men teachers increased, as well as the number holding masters degrees.

3. The enrollment in shorthand was predominantly girls with ratio of girls to boys increasing over the five-year period.

4. The survey in 1959 showed a decrease in the schools using the Functional approach and an increase in use of the Manual approach.

5. Only one year of shorthand was frequently offered because classes were too small, too little demand, and too few teachers.

6. Although most schools had requirements for enrollment in second-year shorthand, there was a decrease in number of schools stating such requirements. Shorthand teachers became more concerned about the English background of students.

7. Second-year shorthand was most frequently taught as a part of a unit.

8. Teachers in both surveys agreed generally on the One-Minute Plan for the major speed-building device. Other devices used included short speed spurts, repetition, and preview.

9. A majority of the teachers consider the pen to be the best shorthand writing instrument.

10. Awards were used as a motivational device by over one-half of the teachers in both surveys. Although the 3-minute test was gaining ground, the 5-Minute Speed Tests were still favored by most.

11. It was very evident that the use of audio-visual aids increased during the five-year period.

12. This study vividly points out the need for clearly definint what is meant by a "dropout." e.g., Should a student be classified a dropout simply because they move from one school to another.

13. The failure rate in this study was reduced because students were counseled to drop before failing. However, this does not help the dropout rate.

14. A very small percent of the teachers responding use a definite grading standard in first-year shorthand. Furthermore, many believed that desirable standards were higher than those set for determining grades.

15. Literature indicated that 80 words a minute would be considered a minimum employable standard. A majority of the teachers indicated that only 25 percent in first-year would reach this goal; however, they believed that most of the second-year students would achieve this goal. Therefore, the second-year seems to greatly improve employability potential.

Recommendations:

1. When the curricula will allow, two years of shorthand should be offered.

2. Provisions should be made in the budget to include audio-visual aids and materials.

3. Those schools that do not have a prognostic program should set up one.

4. Shorthand teachers should encourage boys to take the course.

5. Shorthand teachers should work toward their Master's and obtaining office experience if they do not already possess them.

6. Teachers should make use of available audio-visual aids to improve their shorthand instruction.

7. Teachers should set up more definite shorthand standards for both dictation and transcription.

8. Teacher training institutions should do a better job in training their teachers with regard to vocational standards, audio-visual aids, and office experience.

9. Businessmen should get together with business educators and work out more uniform, meaningful standards.

10. The following research is needed:

- a. Status studies are needed periodically.
- b. To try to achieve greater uniformity in standards.
- c. To determine the effect of consolidation upon the entire shorthand program.
- d. To determine results that may be achieved on 5-minute tests at the end of two years.

Abstract 122

Ernest William Madrid, "A Study of the Readability of Gregg Shorthand Textbooks" (unpublished Master's thesis, The University of Southern California, 1960), p. 82.

Problem:

The problem of this study was to determine the readability of Gregg Shorthand textbooks and to determine the differences existing between the readability formulas in the findings.

Procedure:

1. The ten textbooks used in this study included two for beginning shorthand, four for advanced students, and four for college students.

2. Twelve samples were taken from each transcript of the text. The transcript was used because it was easier to work with. The samples were taken primarily

from the reading and writing practice, and were distributed evenly throughout the transcript.

3. After considering several readability formulas, the Gunning Fog Index Formula (33b) and the Flesch "Reading Ease" Formula (21b) were chosen for use in this study.

Findings:

1. Gregg Shorthand Manual Simplified. The two formulas used indicated that this text is easy reading, around 7th to 9th grade levels.

2. Gregg Dictation Simplified. This text was ranked by the Gunning formula as 11th grade reading, while the Flesch formula ranked it 8th or 9th grade level.

3. Gregg Speed Building One-Year Course. This book was considered 11th grade level by the Gunning formula and 8th or 9th grade level by the Flesch formula.

4. Gregg Speed Building Simplified. The Gunning formula classified this book as 11th grade reading, and the Flesch formula assigned it to 8th or 9th grade level.

5. Gregg Advanced Dictation Simplified. This textbook is considered 10th grade reading by the Gunning formula but only 7th grade reading by the Flesch formula.

6. Gregg Transcription Simplified. The text is rated as 11th grade level by the Gunning formula, and the Flesch formula rated the text as 8th or 9th grade level.

7. Gregg Shorthand Simplified for Colleges, Volume I. The Gunning formula shows this book as being 8th grade reading, but the Flesch formula indicated the text as being 7th grade reading.

8. Gregg Shorthand Simplified for Colleges, Volume II. The text was rated as 14th grade level by the Gunning formula and 10th to 12th grade level by the Flesch formula.

9. Gregg Speed Building for Colleges. The Gunning formula classified this book as 12th grade reading, but according to the Flesch formula it ranged from 7th grade level to junior college level.

10. Expert Shorthand Speed Course. The text was indicated by the Gunning formula as being 14th grade level, and the Flesch formula rated it as 10th to 12th grade reading.

11. The Gunning formula placed the majority of the books on the level in which they belonged, while the Flesch formula rated them below the level where they belonged. In most cases, the Flesch formula placed the textbooks two grades below the Gunning formula.

12. The raw scores of the Flesch formula were correlated with the raw scores of the Gunning formula and came up with a positive correlation of .976. Other factors showing a significant positive correlation were average sentence length, .938; average no. of sentences, .983; Gunning percentage of hard words and Flesch average syllables per 100 words, .952; and Flesch raw score and average syllables per 100 words, .922. Those factors revealing a low correlation include Gunning raw score and average sentence length, .745; Gunning raw score and average number of sentences per sample, .722; Gunning raw score and percentage of hard words, .859; Flesch raw score and average sentence length, .727; and Flesch raw score and average number of sentences per sample, .763.

Conclusions:

1. The shorthand textbooks contained significant variation in readability scores.

2. The Gunning formula indicated that the textbooks ranged from 9th grade reading to college sophomore.

3. The textbooks, according to the Flesch formula, ranged in readability from 7th grade to 12th grade.

4. First semester textbooks were considered to be the easiest to read.

5. All the college textbooks except one were rated the most difficult to read.

6. The two formulas ranked most of the textbooks in the same order of difficulty.

7. The Gunning formula was influenced most by the percentage of hard words, while the Flesch formula was affected most by the average number of syllables per 100 words.

8. Reading the Gregg shorthand textbooks from shorthand plates would naturally make the readability more difficult than that shown by either of the formulas.

Recommendations:

1. That further study be done in this area taking the factor of reading from shorthand plates into consideration.

2. That Gregg authors in the development of textbooks materials make use of readability formula in an effort to adapt teaching materials to grade level and to parallel business communications readability.

Abstractor's Comments:

1. This study points out that the text Gregg Shorthand Simplified for Colleges, Volume I, is far below its level in reading difficulty.

2. This study shows that, for the most part, Gregg Shorthand textbooks are too easy for the students using them; therefore, we need to take a long hard look at the percent of failures in shorthand.

Abstract 123

Wilmer O. Maedke, "The Relative Prognosis Value of Selected Criteria in the Prediction of Stenographic Success or Failure in Selected Secondary Schools in Illinois" (unpublished Ph.D. dissertation, Northwestern University, 1957), p. 162.

Problem:

"This study was made to determine the relationship existing between selected, objective criteria and subsequent stenographic success or failure, measured by first-year shorthand-transcription test scores and second-year shorthand semester grades."

Procedure:

1. The following criteria were used in this study:

- a. Turse Shorthand Aptitude Test total score
 - 1. Manual Dexterity score
 - 2. Spelling test score
 - 3. Phonetic Association score
 - 4. Symbol Transcription score
 - 5. Word Discrimination score
 - 6. Dictation test score
 - 7. Word Sense score
- b. Scholastic average
 - 1. English grade average
 - 2. Foreign language grade average
 - 3. General business grade average
 - 4. Bookkeeping grade average
 - 5. Typewriting grade average
- c. Academic aptitude percentile rank
- d. Attendance in beginning shorthand class
- e. Reasons for enrolling in elementary shorthand class
- f. Reasons for discontinuing the study of shorthand as stated by the dropouts

2. The Turse Shorthand Aptitude Test was given in September, 1954, to 490 beginning shorthand students in 19 classes taught by 12 teachers in 7 selected Illinois high schools. Each student also filled out a questionnaire entitled "Reasons for Enrolling in Shorthand." The scholastic records of each participant was secured from the official records of each school.

3. Anytime students withdrew from shorthand during the year, they were asked to fill out a questionnaire entitled, "Reasons for Dropping Shorthand." Those students terminating their study of shorthand at the end of one year also filled out one of the questionnaires.

4. Five-minute transcription tests dictated at 80 words a minute were given during the week of May 16-20, 1955. The scores from these tests were used to determine transcription achievement for first-year shorthand. The scores from these tests ranged from 99.50 to 27.25.

5. Second-year transcription grades were obtained from the teachers in June, 1956. The letter grades were changed to numerical grades in order to use the grade statistically.

6. Of the original 490 students, 13 moved and 6 were absent on one or more test days; therefore, the final analysis contained 471 students.

7. Various statistical calculations were made using the data collected in this study. Those calculations included mean, standard deviation, Pearsonian correlation coefficient, and the standard error for the means, standard deviations, and correlation coefficient.

Findings:

1. A correlation coefficient that falls within the range of .45 to .59 was considered satisfactory for use in a predictive team. Coefficients in this category between transcription scores in first-year shorthand and the criteria studied were: bookkeeping, .57; English, .54; typewriting, .48; foreign language, .47; spelling, .46; total Turse Test score, .45; and grade-point average, .45.

2. Correlation coefficients between second-year transcription scores and the selected criteria that fell within the satisfactory range were: total Turse Test score, .68; foreign language, .63; phonetic association, .59; grade-point average, .55; typewriting, .49; spelling, .48; word sense, .48; dictation, .46; English, .46; and general business, .46.

3. The largest percentage of dropouts came at the end of the first-year, 37.1 percent. The reason most frequently given was that the course was too difficult. Other reasons included: lack of interest, lack of room in college prep schedule, lack of initiative, and illness either personal or in the family.

Conclusions:

1. Of all the criteria investigated in this study, the Turse Test complete score was the best predictor of shorthand success. However, it does not appear adequate as a sole predictive measure.

2. Other factors that can be used successfully as part of a predictive team in both elementary and advanced shorthand are: grade-point average, foreign language grade, English grade, and typewriting grade.

3. Attendance should not be used as a predictive measure.

4. The dropout rate is higher among students taking shorthand for vocational purposes than for personal use and its value in college work.

5. Most students dropping shorthand do so at the end of the first year. These are primarily college-bound students who cannot fit more shorthand into their schedules.

6. A good predictive team can be composed of shorthand aptitude, academic aptitude, and grade-point average.

7. Success in advanced shorthand can be predicted more accurately by the Turse Test than success in beginning shorthand.

8. Those students who have a better background in language and a strong reasoning ability tend to perform better than those students who do not.

Recommendations:

1. Similar studies should be made in other geographic areas throughout the United States.

2. Studies are needed in such areas as phonetic association, symbol transcription, word sense, and word discrimination. Then perhaps more reliable shorthand aptitude tests could be constructed.

3. Studies are needed to find ways of making beginning shorthand less difficult.

4. Studies are needed to determine ways for incorporating personality into shorthand prognosis.

Abstractor's Comments:

1. Studies such as this one should be made available to shorthand teachers, counselors, and administrators.

2. The findings of this study may be used effectively in a shorthand methods course and a course in improvement of shorthand instruction.

3. Although such factors as grade-point average, English grade, and typewriting grade may not be used as individual predictors of shorthand success, they may be used effectively as a basis for counseling students who want to enroll in beginning shorthand.

Abstract 124

Gordon J. Malone, "A Follow-Up Study of the 1960-1962 Notehand Graduates of Niles Township High School, East, Skokie, Illinois" (unpublished Master's thesis, Northern Illinois University, 1965), p. 74.

Problem:

The problem of this study was to determine the value received from the notehand course taken by the graduates of Niles Township High School, East, Skokie, Illinois.

Procedure:

1. This study consisted of 150 students from six classes of notehand taken at Niles Township High School, East, Skokie, Illinois from 1960 to 1962. The names and addresses of these students were secured through a data sheet filled out by the students at the end of each semester.

2. An opinionnaire was constructed and submitted to the Introduction to Research in Business Education class at the Northern Illinois University. Suggestions made by these students were incorporated into the final draft of the opinionnaire.

3. The opinionnaire along with a letter of transmittal and a stamped, self-addressed envelope were mailed to the home addresses of the 150 graduates participating in the study. After a follow-up letter was mailed, 105 opinionnaires, or 70 percent, were returned.

Findings:

1. Of the 105 respondents, 92.4 percent had attended one to seven semesters of college. Eight reported that they were working and three of these were doing secretarial work in which they used notehand frequently.

2. Lectures, personal notes, individual reference work, and rough drafts were uses most frequently made of

notehand. Those duties for which notehand was never used included correspondence, shopping lists, reports, and club minutes.

3. Those graduates who were employed frequently used notehand for telephone conversations, vocational purposes, personal notes, and shopping lists. Those duties for which notehand was never used included correspondence, outlines, rough drafts, club minutes, and speech work.

4. Those graduates responding indicated that more time should be spent on transcribing from longhand to notehand, personal appearance speakers, reading and writing exercises, and preparing for examinations. Those activities in which the graduates believed should be decreased in class included budgeting study time, taped lectures, timed transcription from notehand to longhand, and note cards. The graduates felt that the class time spent should remain the same for teacher chalkboard work, library acquaintance, duplicated theory review sheets, manuscripts, and note cards.

5. Responses from the employed graduates regarding class time spent on various activities were as follows: (a) more class time should be spent on student chalkboard work, duplicated theory review sheets, and timed longhand transcription from notehand; (b) less class time should be spent on timed longhand transcription from notehand, budgeting, and printed reference research work; and (c) class time should remain the same for teacher chalkboard work and timed longhand transcription from notehand.

6. Of the 105 graduates responding to the opinionnaire, 102, or 97.4 percent, rated notehand of average value, more than average value, and most valuable.

7. Many of the student comments were merely elaboration of points already marked on the opinionnaire. However, 80 percent of those students who made any type of written comment wrote some or all of the comment in notehand.

Conclusions:

1. Since 92.4 percent of those taking notehand enrolled in college, notehand should be limited to college-bound students.

2. The use made of notehand does not vary greatly from one semester to another.

3. Since 49 percent of the employed graduates never use notehand, it should not be taken for vocational use.

4. Since 41.7 percent of all responses by those enrolled in college indicated that notehand was frequently used for lectures, personal notes, individual reference work, rough drafts, and speech work (note cards), it is evident that notehand is for personal use.

5. Since 97 percent of the graduates feel notehand is of average value or higher, notehand is definitely meeting a need, and written comments indicate that a one semester course is sufficient.

6. Since the course should be geared to college-bound students, less time should be spent on notehand for correspondence, shopping lists, reports, telephone conversation, and club minutes; and more time should be devoted to transcription of longhand to notehand, personal appearance speakers, reading and writing exercises, and preparation for exams.

Recommendations:

1. The notehand course should be retained with some modifications in activities, standards, and materials used.

2. Notehand teachers should stress taking, organizing, and using notes in discussion and lecture-type courses; and its practical application.

3. Student evaluation of the course should be requested in order to determine the value students are receiving from notehand.

4. Guidance personnel and administrators should be made aware of the value of notehand to college-bound students.

5. A study should be made to determine if the use students, employed or college, make of notehand differs because of the exposure to certain types of uses.

6. Notehand should be limited to college-bound students and vocational students should enroll in short-hand.

Abstractor's Comment:

This study and others similar in nature indicate that notehand is a valuable and worthwhile course for college-bound students. More business education teachers should be made aware of notehand and its usefulness to certain students.

Abstract 125

James Manos, "A Comparative Analysis of Pen Shorthand and Machine Shorthand" (unpublished Master's thesis, The University of Southern California, 1959), p. 137.

Problem:

The problem of this study was to determine where, if at all, machine shorthand should be included in the public school curriculum.

Procedure:

1. A cover letter and questionnaire were sent to 58 secretarial administration graduates of the University of Southern California in the years 1952-1956. Three were returned by the post office and 38 by the graduates making a 65.5 percent return.

2. Questionnaires were also sent to 39 graduates of the Stenotype School of California. Three were returned by the post office and 21 by the graduates making a 56.4 percent return.

3. Questionnaires were sent to 21 business firms in Los Angeles and 15 responded for a 71.4 percent return.

4. Additional information was obtained from the following sources: Stenotype School of California, Stenographic Machines Corporation of Illinois, and the library at The University of Southern California.

5. Limitations were placed on the study because the graduates failed to answer many of the questions.

Findings:

1. Shorthand skill regardless of the system is used on the job.

2. Knowledge of some shorthand skill is of most importance in obtaining a job. The system itself is not so important.

3. The salaries of the machine shorthand writers was higher than that of the pen shorthand writers; however, it must be kept in mind that the machine writers were employed in legal offices which commands a higher beginning salary.

4. Those secretaries entering the general business field were paid on the same scale regardless of the shorthand system.

5. Few secretaries ever use their maximum speed with any shorthand system.

6. Both pen writers and machine writers are being used in the legal field; however, the pen writer still rules in the general business field.

7. Each shorthand system has a job to do and neither system can be said to be superior.

8. The employers indicated that there was more to a good secretary than the method of recording shorthand.

9. The businessmen believed that the greatest value for machine shorthand was that of taking notes in business conferences.

10. Many businessmen were of the opinion that machine shorthand will never replace pen shorthand in the office.

11. Of those businessmen in favor of the system of machine shorthand, 73 percent or more indicated that they are not willing to purchase the machines for the secretaries.

Conclusions:

1. Machine shorthand should not be included in the curriculum of the high schools in the Los Angeles Area.

2. Machine shorthand has not been completely accepted.

3. More value is placed on the individual rather than on the system of shorthand used.

4. Salaries are the same in the general business area. The machine operators do command higher salaries in the field of court reporting and convention reporting.

5. The great speed that can be attained by the machine operators was not utilized in many offices.

6. The dictation speeds used by both writers are not their maximum speeds.

Recommendations:

1. That machine shorthand not become a part of the curriculum of the public schools in the Los Angeles area.

2. That colleges assume the burden of machine instruction.

3. That further studies be made to keep educators aware of the changes in this area.

Abstractor's Comments:

1. The findings of this study cannot and were not used for making broad generalizations, since the sample came from one geographic area. Furthermore, the sample was too small.

2. It might be questionable in some cases if the responses to a given question were sufficient for a finding or conclusion.

3. The need for secretaries who can use any system of shorthand effectively is greater today than ever before. As it was pointed out, both systems investigated in this study have their place in business.

4. This study did point out that machine shorthand is superior to pen shorthand in some isolated cases. Therefore, machine operators are needed and should be trained, but not to replace other shorthand systems.

5. A more comprehensive study of the United States using a random sample would be beneficial.

Abstract 126

Jane Lewman Manwaring, "The Effect of Doubling the Time Spent in Presenting Each Lesson of Gregg Shorthand Theory" (unpublished Ed.D. dissertation, Colorado State College, 1965), p. 96.

Problem:

The problem of this study was to determine the effect on shorthand achievement of spending two days per theory lesson as opposed to one day per theory lesson in first year shorthand.

Hypotheses:

1. "There is no difference in the ability of beginning shorthand student who received two days of instruction on each theory lesson and those who spent one day to record dictation at 70 words a minute for three minutes at the end of one year of instruction."

2. "There is no difference in shorthand achievement between the experimental and the control groups of students of C and D scholastic abilities at the end of one year of shorthand instruction."

Procedure:

1. This study involved forty-four classes in beginning shorthand taught by twenty-two teachers during the 1964-65 school year in schools located in California, Colorado, Illinois, Indiana, Iowa, and Minnesota. A control class and an experimental class were taught by each teacher.

2. All classes used the texts Gregg Shorthand and Gregg Dictation, Diamond Jubilee Series, functional or manual. Daily lesson plans were prepared by the investigator and presented to the teachers participating, for use in the classes. The major variable in the experiment was that two days were spent on each theory lesson in the experimental groups and only one day was used for each lesson in the control groups.

3. Achievement in the experiment was measured by students' ability to transcribe two 3-minute dictation tests dictated by the investigator at 70 words a minute on magnetic tape. Eight 3-minute dictation tests were given, two each at 60, 70, 80, and 90 words a minute in order to avoid altering the usual dictation pattern. However, only the two takes at 70 words a minute were used in the final analysis. All of the test tapes and procedures used were identical for both the experimental and control classes.

4. The test letters used in this study were selected from those written by Hillestad for her study (38b). This was done to control the difficulty of material and increase the reliability of the testing instruments. The reliability of these letters was checked by administering them to 92 third-semester students and was found to contain a reliability coefficient of .69.

5. Since tests were given at four different speeds, the first week one test was given each of four days ranging from 60 to 90 and the second week a test was given each of four days ranging from 90 to 60. The tapes, instructions for giving the tests, and testing schedules were mailed to the participating teachers for testing the first two weeks of May, 1965. The schools were randomly selected for the testing blocks, and the tests could be transcribed in either longhand or type-written.

6. The analysis of variance was used to determine the difference, if any, between the experimental and control groups.

7. The papers were checked by the participating teachers and spot checked by the investigator. If a discrepancy of an average of more than two errors was found on the three papers selected for spot checking, all papers for that particular class were rechecked.

8. In the final analysis two classes were dropped. One because the regular teacher had been ill for a considerable time and the other because it was the only class with eight or fewer students. Thus, twenty classes were used in the final analysis and these classes were equated to eleven students each through the use of random numbers.

Findings:

1. The F ratios for fifteen of the schools ranged from .012 to 1.301, which indicates no significant difference between methods. However, F ratios for three of the schools ranged from 4.502 to 7.745, which are significant at the 5 percent level; and two of the schools' F ratios ranged from 8.351 to 10.020, which are significant at the 1 percent level.

2. Of the 440 students in the study, 272 had overall grade averages of C or D, 140 in the experimental classes and 132 in the control classes. The findings showed that these students did not achieve significantly better in classes that spent two days on each theory lesson than those in classes only spending one day on each theory lesson.

Conclusions:

1. The major conclusion drawn from the findings was that either method of presenting theory may be used without detrimental affect on the outcome of student's achievement.

2. The hypothesis that there would be no difference in achievement at the end of one year of shorthand instruction between the two methods of presenting shorthand theory was accepted.

3. The hypothesis that there would be no difference between students with C and D grade-point averages using the two methods of presenting shorthand theory was accepted.

Recommendations:

1. Teaching methods should be adapted to a particular class, since some students feel more at ease going slower and some prefer to move more rapidly.

2. A similar study should be done in which materials are prepared for use the second day each theory lesson is presented.

3. Further study is needed to determine the relationship between the accuracy of theory written in dictation and the ability to produce acceptable transcripts from dictation at various speeds.

Abstractor's Comments:

1. As was pointed out in this study, it is very difficult, if not impossible, to control teacher variables. There is a likely possibility that teacher bias toward the experiment had a noticeable affect on the outcome of the achievement of students.

2. A similar study needs to be made in which the experimental class and control class are both taught by the same teacher. Perhaps this could eliminate part of the teacher bias.

3. The low ability students are likely to have difficulty in shorthand taught by any method. This is only more reason why students should be selected for enrollment in shorthand.

Abstract 127

Nancy Marcus, "Determining the Effect of Business Vocabulary on the Learning of Shorthand" (unpublished Master's thesis, San Francisco State College, 1958), p. 64.

Problem:

The problem of this study was to determine whether or not there seems to be any pattern of frequency of vocabulary in business letters from a comprehensive group of business and professional firms, and how this vocabulary effects the learning of beginning shorthand.

Procedure:

1. A letter was mailed to 50 selected firms asking for correspondence containing vocabulary. Replies were received from thirty-three firms answering the request, but three did not send correspondence.

2. Visits were made to other businesses from which additional letters were desired. Finally, 212 letters were collected for use in this study representing 20 large classes of business. Those businesses represented were: miscellaneous; medical supply; cash register sales office; architecture; oil refineries; manufacturers, wholesalers, and retailers of food; steamship company; research bureau; law firms; television station; railroad company; insurance companies; advertising agencies;

community organizations; public utilities; department stores; hotel; banks; loan and investment companies; wholesale and retail druggists; and publishers.

3. The criterion for word selection was frequency of use. A comprehensive list of 1,278 words was made from 34,653 total running words. The list was studied carefully to determine which letters of the alphabet were used to begin words having the highest frequency and the number of words began with each letter.

4. Words used at least 30 times were considered high frequency words and were used in this study. There were 213 of these words. They represented 62.36 percent, or 21,611, of the total 34,683 running words counted.

Findings:

1. The first 50 most frequently used words represented 41.11 percent of the total 34,684 running words comprising the comprehensive word list.

2. The second group of 50 words represented 8.91 percent of the 34,683 running words comprising the comprehensive word list.

3. The third group of 50 words represented 6.34 percent of the total 34,683 running words.

4. The fourth group of 50 words represented 4.87 percent of the total 34,683 running words.

5. The remaining 13 words represented 1.15 percent of the total running words.

6. Of the total running words counted, 15.46 percent of the words started with the letter "t." The letter "b" was used to begin only about one-fourth that number.

7. The most frequently used letters were not generally used to begin the greatest number of different words. The letter "s" was used to begin the greatest number of different words.

8. The memory words represented 70.13 percent and the alphabet words represented 29.87 percent of the 21,611 running words comprising the high frequency list of 213 words.

Conclusions and Recommendations:

1. The greater frequency alphabet letters and words should be introduced first.
2. Simple sentences should be built around the memory words, since they appear more frequently.
3. Alphabet words should gradually be introduced into sentences built around the memory words.
4. Speed in shorthand appears to be built around high frequency words.

Abstractor's Comments:

1. The abstractor believes that the first part of the problem of the study was answered, but that the second part was only implied and not clearly brought out.
2. The materials were listed in tables, but very little if any explanation of the tables was given. The findings, conclusions, and recommendations could have been presented in a better form.

Abstract 128

Ethelyn Darlene McCord, "A Qualitative and Quantitative Evaluation, by Office Managers, of Production Typewriting and Transcription Errors" (unpublished Master's thesis, Iowa State Teachers College, 1959).

Problem:

The problem of this study was to determine the following:

1. If businessmen with high office standards are in agreement regarding errors that are acceptable.
2. Whether the quality of an error affects its classification by businessmen.
3. If errors in group 1 or 2 in business copy would affect the attitude of the businessmen enough to cause them to change the classification.
4. How closely business teachers and businessmen agree on error evaluations.

5. To what extent businessmen will correct errors with pen rather than have the typist correct with the typewriter or completely retype the copy.

Procedure:

1. A check list was prepared using a list of 25 typewriting and transcription errors as the basis for its construction. Several examples of each error was given illustrating varying degrees of seriousness. There were a total of 120 illustrations in all.

2. The questionnaire was then mailed to 89 members representing the Des Moines, Iowa, Chapter of the National Office Management Association, and to 35 Iowa high school business teachers.

3. Each error was classified by the respondent as insignificant, minor, or major. They were also to indicate if they thought it could be corrected with pen. The respondents were to assume that only one error occurred in the course of a normal business day.

4. There was a 71.9 percent return received from the businessmen and a 71.4 percent return received from the high school business teachers.

Findings:

1. Sixty-five percent of the illustrations were classified in one of the error groups by over 51 percent of the businessmen.

2. Businessmen do classify errors according to the seriousness of the error.

3. Businessmen consider an insignificant error occurring in quantity in a piece of correspondence as affecting the seriousness of the error and also the mailability of the correspondence.

4. A majority of the high school business teachers agreed on 79 percent of the error classifications made by a majority of the businessmen.

5. Approximately 33 1/3 percent of the businessmen indicated that they would make a pen correction on correspondence of average importance. Most of the corrections involved addition of a stroke, a short word, or a mark of punctuation.

6. Major errors were errors of any type, that might lead to misunderstandings or falsification, that reflected discredit to the sender, that occurred frequently within the same copy, extreme placement of style, that could only be corrected by retyping the copy.

7. Minor errors included errors that could be corrected easily; any discredit to the sender would be slight, if the error were not corrected; strikeover letters, and errors half erased.

8. Insignificant errors included extra space between words, irregular space before and after punctuation marks, irregular stroking not to exceed one per line, uneven stroking, almost invisible strikeovers, slightly elevated capitals, insertions that did not change the meanings; and letter placement errors, such as letter two high, line length too long, or uneven right margin.

Conclusions:

(Major)

1. According to 51 percent of the businessmen, any error of omission, transposition, insertion, choice of words, substitutions, or rewording that changes the meaning or changes the emphasis intended by the sender would be a major error.

2. Any error of omission, substitution, transposition, spelling, word division, repetition, proper name, number, or choice of word that would result in ill will toward the sender or would reflect discredit to the sender if not caught in proofreading and in which all would have to be retyped to be corrected would be a major type error.

(Minor)

1. Errors of substitution, omission, insertion, punctuation, or capitalization that could easily be corrected if not noticed in proofreading, but if not corrected no ill will would result, and any discredit to the sender would be slight.

2. All obvious strike-overs.

3. Half completed erasers.

(Insignificant)

1. Space errors
2. Strike-overs which were almost invisible
3. Capitals slightly raised
4. Insertions that do not change the dictator's meaning or emphasis intended.
5. Errors in letter placement, such as: Letter too high, line length too long, right margin uneven.

1. No agreement was reached on 39 of the error illustrations. Group 2 appears to be evaluated with the least consistency. This could have been caused by misinterpretation of respondents or differences in standards of mailability among businessmen.

2. It is obvious from the high percentage ratings in group 3 that businessmen look upon simple typographical errors with considerable disfavor, e.g., teh, willl, and the adding of g at the end of a word.

Recommendations:

1. That a study be done that will provide a method of evaluating production typewriting and transcription errors. Weight should be attached to errors considering the seriousness of the error and the time it would take to correct major or minor errors. No penalty would be made for insignificant errors.

2. That a similar study be done using this or a similar questionnaire as a basis for the study, and that errors in letters actually mailed from offices be compared with the findings of the questionnaire.

Abstractor's Comments:

1. The sample used in this study is not representative of the total United States.

2. The abstractor does not agree with some of the classifications made by the businessmen, e.g., To me a strike-over is a major error and would make a letter unmailable; however, a majority of the businessmen classified the error as minor.

3. This study indicates that businessmen and teachers do not always agree on what a major or minor error is.

Abstract 129

Margaret Ann McKenna, "An Experiment to Determine the Effect of the Early Introduction of New-Matter Dictation in the Teaching of Beginning Shorthand to College Students" (unpublished Ph.D. dissertation, Michigan State University, 1966), p. 148.

Problem:

"The major purpose of this study was to compare two methods of teaching shorthand to determine the effects on the performance of a group of beginning shorthand students."

Hypotheses:

1. "There is no difference at the end of two terms of instruction in achievement of beginning shorthand students taking new-matter dictation from the beginning of the third week of the first term and that of students who have had only practiced material for dictation until after all theory has been presented."

2. "There is no relationship between student scores on the Michigan State University Entrance Test Battery and subsequent performance in beginning shorthand."

Procedure:

1. The present study consisted of 33 Michigan State University students who were enrolled in Beginning Gregg Shorthand I, Winter term 1965 and Beginning Gregg Shorthand II, Spring term 1965. Section one was arbitrarily designated as the language arts class and Section two as the new-matter or science-type class. Both classes met four days each week for a 50-minute period.

2. At the first class meeting, the two sections were told that those students in LIO 201 planning to take LIO 202 in the spring term would not be permitted to change sections. Those unable to meet at the same hour during

the spring term were encouraged to drop for the fall term.

3. The two groups were equated on the basis of their performance on each section of the Entrance Test Battery. The analysis of covariance was the statistical technique used. The six scores comprising the battery included verbal or vocabulary, General Information, Numerical, Total, English, and Reading.

4. The students were given a pre-test to validate students' statements concerning prior training in shorthand. The three parts included in the test were as follows: (a) a 3-minute transcription test from shorthand plate material, (b) a 3-minute theory test which consisted of 10 words in shorthand to be transcribed in longhand and 11 words written in longhand to be transcribed in shorthand, and (c) a 3-minute brief form test constructed the same as in b.

5. The language arts class was taught by what shorthand teachers commonly call the functional approach. In this method the students read for several lessons before writing was introduced and no rules, principles, or generalizations were taught. No new-matter dictation was given until all theory had been completed.

6. The science-type class was taught by what is commonly referred to by shorthand teachers as the manual method. With this method the students begin writing after the first lesson. Rules and principles are taught, but students are not expected to memorize them. New-matter dictation is introduced as early as the eighth lesson. Special dictation material was prepared for this class by the researcher.

7. The two sections were taught on a team-teaching basis by the researcher and the director of the study. Each teacher taught the same day in both sections--teaching two days each week and observing two days. The teachers met almost daily to discuss and evaluate procedures. Other than the early introduction of new-matter material in section two, the two classes were basically taught the same.

8. Two theory tests and a series of dictated letters were used to compare the two classes. The difference between groups was computed on the Michigan State University Control Data Corporation 3600 Computer using the Analysis of Variance.

9. The scores on the Entrance Test Battery were correlated with student's achievement in shorthand as measured by the total number of correct words transcribed in the dictation tests. This comparison was made to check the second hypothesis.

Findings:

1. No significant difference was found between the two sections in any of the six areas compared.

2. The two groups were not significantly different on the dictation tests. The mean score was 602.20 for section one and 601.89 for section two.

3. The two groups were not significantly different on the theory tests. The mean score on the first theory test was 85.33 for section one and 84.89 for section two. On theory test two, section one had a mean score of 73.40 and section two had a mean score of 74.17. The two groups also were not significantly different in the number of shorthand or transcription errors made on the tests.

4. Transcription achievement, as measured by dictation tests, did correlate with theory knowledge, as measured by word tests, in each section and in both sections combined.

5. None of the correlation coefficients were high enough to be used as criterion measures for predicting shorthand success. However, the following were significantly different from 0: Section one: English, .5203; Section two: Verbal, .6171; Informational, .6400; CQT-Total, .6924; English, .6935; Sections one and two: Verbal, .3889; Informational, .4423; CQT-Total, .4431; English, .6103; Reading, .3450.

Conclusions:

1. As measured by the standards of the department at Michigan State University, early introduction of new-matter dictation does not result in an increased ability to take and accurately transcribe new-matter dictation.

2. The early introduction of new-matter dictation does not retard students as measured by the departmental standards at Michigan State University.

3. The study does not provide evidence to suggest postponed benefits or handicaps from early introduction of new-matter dictation.

4. Students taught by the functional method do not differ in knowledge of shorthand theory from students taught by the manual method as measured by word tests.

5. A relationship does exist between knowledge of theory as measured by theory tests and transcription achievement as measured by dictation and transcription tests.

6. The scores made on the subtests of the Entrance Test Battery are not valid predictors of shorthand success in beginning shorthand at Michigan State University.

7. No evidence was found in this study to support the theory that students with verbal facility will do better in a language arts method and students with quantitative ability will achieve better in a science-type method of learning shorthand.

8. A multiple regression equation obtained by considering five subtests of the Entrance Test Battery at the same time was not an accurate predictor of individual success in shorthand.

Recommendations:

1. That further research be conducted to determine the most effective use of new-matter dictation in beginning and intermediate shorthand.

2. That similar studies be done involving students in high schools, junior colleges, and business colleges.

3. Further research is needed to determine the relationship between emphasis on shorthand theory and achievement in ability to take shorthand dictation.

Abstractor's Comments:

1. This study indicates that it is not the method used, but the teacher which develops shorthand skill.

2. Research is needed involving high, medium, and low ability students to determine if one method is superior to the other with students of different levels.

Abstract 130

Sister Mary Donna Mee, R.S.M., "A Study to Determine the Feasibility of an Accelerated Shorthand Program in the Secondary Schools Conducted by the Sisters of Mercy" (unpublished Master's thesis, Northern Illinois University, 1959), p. 105.

Problem:

The problem of this study is to determine the feasibility of the accelerated shorthand program in the secondary schools conducted by the Sisters of Mercy in the United States.

Procedure:

1. A critical analysis of the information received from the survey was used to determine the existing business curricula in the various liberal arts high schools conducted by the Sisters of Mercy in the vicinity of Chicago.

2. The following information was sought:

- a. The percent of the students enrolled in high school who are taking secretarial courses.
- b. The percent of drop-outs in shorthand classes.
- c. The percent of failures in first-year shorthand.
- d. The requirements for admission into secretarial classes.

3. A study was made of the available relevant literature pertaining to one-year shorthand courses. The sources consulted for locating these materials include: Educational Index, Business Education Index, Master's theses on related subjects, and research studies in business education.

4. The following authorities in the field of business education were interviewed:

- a. Dr. R. L. Thistlethwaite, Associate Dean of Instruction, Northern Illinois University.

- b. Dr. J. Howard Nelson, Professor of business, Northern Illinois University.
- c. Dr. W. Maedke, Associate Professor of Business Education, Northern Illinois University.
- d. Charles Zoubeck, Co-Author of Gregg shorthand text.
- e. Dr. Ruth Anderson, Professor of Business Education, North Texas State University.
- f. Madeline Strony, Co-Author of Gregg shorthand text.

5. An experimental study was made at Marquette High School, Ottawa, Illinois, to determine achievement of dictation and transcription students at the end of two semesters of shorthand instruction. The project was launched at the beginning of the 1957 school year, and contained a group of unscreened students. The investigator had no previous experience teaching an accelerated course in shorthand. However, she had seven years previous experience in the field of business education.

6. The textbooks used for the experiment were the Second edition of Gregg Shorthand Manual Simplified followed by Gregg Dictation Simplified for the first semester, and Second edition of Gregg Transcription Simplified for the second semester.

7. Audio-visual aids were also used in conjunction with the textbooks. The Marquette high school students also have television programs for homework assignments that supplements the work done in class. Other audio-visual aids used included: dictation tapes and records, filmstrips, slides, and motion pictures. At various times the teacher recorded on the tapes the exercises and drills which caused the students unusually difficulty so students could use them for out of class practice. Some of the films that proved to be worthwhile were the following: "Developing Shorthand Speed," "Doing Homework in Gregg Shorthand," "Teaching Marginal Reminders," and "Typical Lessons in Gregg Shorthand."

8. Ruth Anderson's (2b) outline for the first semester of work in shorthand was used by the instructor as a guide in conducting the experiment. The goals set up by Anderson are as follows:

Weeks 1-10	Assignments 1-45 Three-minute longhand transcription takes based on homework assignments are given beginning with the 4th week.
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- Weeks 11-12 Assignments 46-55
New dictation is introduced by thoroughly previewed.
- Weeks 13-18 Assignments 56-70
Tests are introduced on practiced material and later on new material.

Reading Achievement the First Semester:

4th Week--60 wam	12 Week--110 wam
6th Week--80 wam	14 Week--120 wam
8th Week--90 wam	16 Week--140 wam
10th Week--100 wam	18 Week--150 wam

9. The students were given their first transcription at the typewriter after eight months of study. Difficult outlines were previewed but the letters were not practiced. The dictation was given at the rate of 60 words a minute to prevent strain on the part of the students, who might be emotional. The two letters dictated contained a total of 180 words.

Findings:

Findings from the Experiment conducted at Marquette High School, Ottawa, Illinois:

1. The reading achievement of the experimental class was approximately that which was suggested by Anderson. On the average the class read at 100 words a minute at the end of the 12th week.

2. They took 60 words a minute dictation at the end of the first semester, 80 words a minute at the end of the second semester, and the better students had no difficulty writing at 100 words a minute.

3. Transcription rate on the first transcription test were as follows:

Transcription rate	Percent of class
35-44	18%
25-34	5%
15-24	55%
10-14	22%

By the end of the year the students were transcribing at the rate of 30-35 words a minute.

A Study of Existing Shorthand Programs in Selected Secondary Schools:

1. Of the schools reporting, 12 have 55 minute periods, 10 have 55 minute periods, 11 have 45 minute periods, and 25 have 40 minute periods.
2. A majority of the schools who responded offer 4 semesters or two years of shorthand instruction.
3. Of the schools responding, 4 require 5 years of teacher preparation and 54 require 4 years of teacher preparation.
4. A majority of the schools reporting indicated a failure rate of 4-7 percent.
5. The study indicated that a large number of the students enrolled in shorthand are seniors, which indicates a stronger reason for having a one-year course.
6. None of the schools reporting reached the reading rate of 110 words a minute at the end of 12 weeks, as set up by Anderson.
7. The survey showed sufficient progress in dictation but a lag in reading and transcription progress.
8. The dictation rate of 80 average words a minute achieved by the experimental group at Marquette agreed with the findings of the survey.
9. One school in the Chicago area achieved 120 average words a minute in dictation. These accelerated classes met twice daily.
10. The average increase in dictation rates during the second year was 30 words a minute, and the average increase in transcription was from 27 words a minute in the first year to 32 words a minute in the second year.
11. Of the 35 schools responding to the number of weeks of transcription taught in first year shorthand, 16 differ transcription completely until the second year.

Conclusions:

1. Apparently speed as such is not all important in shorthand, but the cumulative total of ability to take dictation and transcribe which compliments the teacher.

2. In order to be able to give shorthand training for vocational use in one year, only those students who have the ability and desire to succeed should be in the shorthand class.

3. Objectives and educational philosophy have to be considered in evaluating a shorthand program. This includes availability and types of positions in the community. In training for vocational competency psychological and sound teaching methods are necessary, and there must be a guidance program.

4. The term "dropout" should be defined by those using the term so that others know the context of the meaning. Does it include those who do not take two full years when it is offered, or does it simply mean those who failed shorthand or who were advised to drop because of low grades?

5. If an accelerated shorthand program is to be successful, progressive, competent teachers must teach the course.

6. Unless the students show a significantly higher degree of skill and efficiency after the second year of instruction, the course cannot be justified.

7. A more effective accelerated shorthand course can be taught in 55 minute periods than if shorter periods are used.

Recommendations:

1. That a similar survey be made to determine what can be done, not what is being done.

2. That students be made aware of the role of shorthand in the business curriculum and to inform administrators of its usefulness.

3. That shorthand teachers take an active part in planning the curricula.

4. That business teachers praise the work of the business education department to create a better image of business education.

5. That business teachers become better informed on the core curriculum so that they can take their place in the core program.

6. That business teachers become prepared to teach accelerated shorthand courses.

7. That studies be made to determine the causes of the lag in transcription skill and how this lag can be corrected.

Abstractor's Comments:

1. If one year of shorthand is to be sufficient, we must analyze techniques and procedures in teaching shorthand.

2. All 65 schools did not report on all the questions, and this may have affected the outcome of the study.

3. The writer stated in the study that a majority of the schools operated on a 40-minute schedule. However, 25 of the 65 schools sent surveys or 25 of the 58 responding to this question should not be considered a majority.

4. The study further pointed out that about 25 percent of the schools surveyed differ transcription until the second year of instruction. However, only 35 schools answered this part of the survey and 16 of those differ transcription until second year of instruction.

5. This study presents a suggestive one-year shorthand course. This chapter might prove helpful for a teacher planning an accelerated shorthand course. It not only suggests a curriculum, course, suggestions, and objectives, but also gives a suggested grading plan for both first and second semesters.

6. The abstractor believes that some biases of the investigator entered into the study occasionally; however, the study does contain some good information concerning an accelerated shorthand course.

Abstract 131

Lois Irene Meyer, "A Test of the Validity of a Measure of Difficulty of Shorthand Dictation Materials" (unpublished Ph.D. dissertation, University of Minnesota, 1967), p. 107.

Problem:

"The problem of this study was to determine

whether significant differences existed in the accuracy of students' transcripts of 12 letters selected from the 100 used by Uthe and classified by her formula into different levels of difficulty."

Procedure:

1. On the basis of Uthe's formula, 12 letters were selected from the 100 used in her study. Four letters each were selected from "easy," "medium," and "difficult." Her formula considered three factors: brief forms, vocabulary level, and word endings.

2. The final analysis of this study consisted of 95 students enrolled in fourth-semester shorthand classes in 8 Colorado high schools. Each student transcribed 12 letters for a total of 1140 transcripts.

3. The 12 letters were recorded on 4 tapes each containing three letters--one "easy," one "medium," and one "difficult." All letters were recorded at 80 words a minute. One tape was to be dictated and transcribed each day.

4. In scoring the tests, only incorrectly transcribed words or omitted words were counted. Errors such as spelling, punctuation, and typing were not scored. A random sample of 24 students was selected making a total of 288 papers scored.

5. Comparisons between shorthand and transcription errors were made by means of correlation coefficients and differences were compared using an analysis of variance.

Findings:

1. A comparison of mean error scores did not indicate distinct divisions of the letters into "easy," "medium," and "difficult," e.g., letter number six appeared extremely easy and letter number nine appeared extremely difficult.

2. Of the 88.9 percent correctly written words, only 1.9 percent were transcribed incorrectly or omitted from the transcripts.

3. Of the incorrectly written words, 75 percent were transcribed correctly.

4. The correlation coefficient between shorthand and transcription errors of the twelve letters ranged from .17 to .74. The overall correlation coefficient for all twelve letters combined was .53. Ten of these correlations were significant--five at the 5 percent level and five at the 1 percent level. Except for letter number 9, the correlations did not seem to follow any particular pattern as far as total errors or difficulty of the letter was concerned. Letter 9 had by far the most errors and was most likely the most difficult.

Conclusions:

1. On the basis of the findings of this study, no sound conclusions can be drawn. Apparently Uthe's formula may identify the extremely easy or difficult material, but does not seem to make a distinct division between other levels of difficulty.

2. Types of errors which did not seem to affect transcription accuracy were: (a) outlines written in full and (b) addition of vowels omitted from theoretically correct shorthand.

3. When difficulty of dictation materials are considered from the standpoint of transcription, factors other than those Uthe selected seem to be involved. Possible considerations are: (a) awkward wording of sentences, (b) extremely high syllabic intensity, (c) curvilinear relationship of syllabic intensity and difficulty, (d) types of words--"connector" or "idea" words, and (e) subject matter and its meaning or interest to the student.

Recommendations:

1. Further research is needed to determine the factors that make dictation material difficult. Perhaps emphasis should be placed on transcription factors.

2. Further research is needed using dictation material from dictation books and test materials.

3. Further research should be directed toward analyzing readability, sentence structure, and contextual clarity of dictation material.

4. Further research is needed in which the affect of extremely high or low syllabic intensity is determined.

Implications:

1. Since many of the written correctly but transcribed incorrectly were due to penmanship and proportion, these should be stressed along with theory.
2. More emphasis should be placed on plurals, past tenses, and completion of long outlines.
3. A further analysis of the transcripts, although not a part of the study, indicated that students should insert punctuation as the material is dictated.

Abstractor's Comments:

The findings of this study should be made aware to all shorthand teachers, and they could be used very effectively in graduate and undergraduate methods courses.

Abstract 132

Ola Jean Miller, "An Analysis of Unsuccessful First-Semester Shorthand Students at Sidney Lanier High School, Montgomery, Alabama, During 1962, 1963, and 1964" (unpublished Master's thesis, Auburn University, 1966), p. 53.

Problem:

The problem of this study was to make a study of unsuccessful first-semester shorthand students at Sidney Lanier High School, Montgomery, Alabama, during 1962, 1963, and 1964 in order to discover possible causes of failure.

Procedure:

1. A list was compiled of factors considered to be important in shorthand success. These factors gleaned from past experience, professional literature, and research reports included student's reason for taking shorthand, homework practice, physical problems, absences, IQ, number of courses failed, English grades, typewriting grades, and overall grade-point averages.
2. Teachers' record books were used to determine those who failed or dropped out during the first

semester. Other information was collected from permanent record cards and the students themselves.

3. An interview guide was used in interviewing those students who had failed or dropped the first semester of shorthand. This interview was held before or after school or during study hall, and the students were assured the information would be kept confidential.

4. In addition to those interviewed, questionnaires and a cover letter were mailed to 29 students. A total of 51 inquiries were attempted and 30 were completed. Only 8 of these were returned questionnaires and the other 22 were interviews.

Findings:

1. No single cause for failure in shorthand could be determined. However, several factors such as physical problems, poor attendance, lack of homework, low IQ, poor English background, and tendency to fail in school influenced the lack of success for many of these students.

2. Reasons for taking shorthand, for the most part, could not be determined. The data found in the permanent records often did not agree with that found during the interviews or on questionnaires.

3. Fourteen of the 30 students interviewed and returning questionnaires had physical defects which more than likely affected their achievement in shorthand.

4. There did appear to be a relationship between attendance and success in school; however, attendance alone did not guarantee success. Of those included in the study, 22 percent were absent from school 10 or more days during the semester, and at least 36.7 percent spent too little time on shorthand homework.

5. Since only 17.7 percent of those included in the study had IQ scores below 90, intelligence cannot be considered a primary cause of failure.

6. Overall grade averages and English grades had a more direct bearing on shorthand success than any of the other factors.

7. Students who had failed other courses also tended to fail shorthand. Forty-seven of the 50 included in the study had failed two or more courses previously.

8. Of those included in the study, 80 percent had below average grades in typewriting.

Recommendations:

1. That an attempt be made to counsel with students so that those likely to fail are counseled into classes other than shorthand.

2. That students be made aware of the effects of physical problems upon success in shorthand.

3. That research continue to be made of successful and unsuccessful students in shorthand to determine those factors which contribute most to shorthand success.

4. That shorthand students be tested early in the course so that remedial work can be offered in areas where students are weak.

Abstractor's Comments:

1. Nearly one-half of the students failing or dropping out of shorthand had physical defects such as seeing, hearing, and coordination. This would account for the high failure rate of high school classes, typewriting, and lack of interest in extra curricular activities. This would also account for high correlation between poor grades and lack of shorthand success, since they were almost doomed to failure.

2. The abstractor would disagree with the statement made several times by the investigator that limited or no participation in extracurricular activities influenced lack of success for many of these students. Research has not shown a relationship between these variables. Furthermore, how could the students described in this study have participated in these activities if they had wanted to.

3. This study indicates, as many others have, that often those students failing or dropping shorthand or any other skilled subject should not have ever been allowed to enroll in the course. This is why we must persuade those responsible for enrolling students that shorthand students should be selected for the course.

4. The conclusions in this report were combined with the summary of findings.

5. Some of the findings were based on 51 students and some were based on 30, and it was not always clear which one.

6. The duty of the shorthand teacher should not be to teach remedial work, as recommended in number 4 by the writer, but rather to teach shorthand and transcription. These other knowledges should be received in specific courses.

Abstract 133

Barbara Joy Minnick, "An Evaluation of Systematic Repetition of Brief Forms Through Specially Constructed Dictation Material for Gregg Shorthand Diamond Jubilee Series" (unpublished Ed.D. dissertation, The University of Tennessee, 1967), p. 171.

Problem:

The problem of this study was to evaluate the worth of the principle of spaced review in shorthand by evaluating the effectiveness of dictation material when the dictation material is constructed according to a predetermined pattern designed to provide a systematic recurrence of brief forms and brief form derivatives.

Hypotheses:

There is no significant differences between the control group and the experimental group in the following:

1. "Accuracy of brief form outlines in dictation notes at the completion of the experimental material."

2. "Accuracy of brief form outlines in dictation notes approximately six calendar weeks after the completion of the experimental material."

3. "Accuracy of brief forms in transcripts at the completion of the experimental material."

4. "Accuracy of brief forms in transcripts approximately six calendar weeks after the completion of the experimental material."

5. "Accuracy of principles in dictation notes approximately six calendar weeks after the completion of the experimental material."

6. "Accuracy of principles in transcripts approximately six calendar weeks after the completion of the experimental material."

7. "Attained speed levels approximately six calendar weeks after the completion of the experimental material."

Procedure:

1. The materials used in this study begin with Lesson 20 and ended with Lesson 57 of the text, Gregg Shorthand, Diamond Jubilee Series.

2. The materials for Lessons 20 through 38 had already been constructed according to a predetermined plan. The materials for Lessons 39 through 57 were constructed according to the same plan. These materials stress the 69 brief forms presented after Lesson 17.

3. Some brief forms appeared in the material as many as 22 times. Therefore, the materials were revised to eliminate some of the occurrences not required by the pattern. After the revision, the highest number of occurrences was 19.

4. The material was then checked by three faculty members for grammar, punctuation, and ease of reading. After this final check, the final revisions were made and the multilith masters were prepared.

5. After several mailings were made, 64 teachers in 64 different schools in 9 states had indicated a willingness to participate in the study. Six of these dropped out later leaving 58; 29 control classes and 29 experimental classes.

6. Of the 69 brief forms presented after Lesson, 21 fell outside the first 1,000 high frequency words. Using a table of random numbers, 10 more were selected. Thus, 31 brief forms were incorporated into Test A. Test A contained two 120-word letters to be dictated at 40 words a minute. Twenty-five minutes were allowed to transcribe. Two forms, Form A and Form B, were constructed and the reliability was tested using the alternate-form method. The correlation indicated the two forms

were equivalent and Form B was selected for use by flipping a coin.

7. Test B was constructed to test retention of brief forms and accuracy with which principles were written. The same brief forms were used as in Test A. Fifteen principles were randomly selected from the 66 listed by Sewell (61b). The test consisted of two 150 word letters to be dictated at 50 words a minute. Twenty-five minutes were allowed for transcription. The reliability of the test was tested in the same manner as Test A. Again, Form B was selected for use in the study.

8. Test C was constructed to determine attained speed levels of the two groups. The test contained three 3-minute takes to be dictated at 50, 60, and 70 words a minute. Eighteen minutes were allowed to transcribe one take. These takes were selected from the 1962-63 issues of the Business Teacher.

9. The IQ test was taken by 1,197 students. Test A was taken by 944 of these same students; Test B, by 822 of the 944; and Test C, by 760 of the 822. Eighteen of the original 58 schools were dropped for various reasons. Using a table of random numbers, 10 students were selected from each of the remaining 40 schools. Thus, the final sample consisted of papers of 200 experimental students and 200 control students.

10. In scoring the brief forms, all proper strokes in the proper places were considered. Proportion, slant, and position on the line were not checked. Only the portion of each outline using the principle involved was considered in scoring the accuracy of the outlines.

11. Verbatim transcripts were desired in scoring the transcripts. Deviations from this were scored; however, punctuation, spelling, and paragraphing were not scored.

12. All of the data collected were punched on IBM cards for each student. These data were used in making the following computations: correlation coefficients, analysis of variance, T-test, and analysis of covariance.

Findings:

1. The experimental students performed significantly better in regard to accuracy of brief forms in dictation notes at the completion of the experimental

material and again approximately six calendar weeks following the completion of the material.

2. Although the experimental students performed significantly better in regard to accuracy of brief forms in transcripts at the completion of the experimental material, the difference was not significant approximately six calendar weeks after completion of the material.

3. The control students did not show a significant difference between scores on Test A and Test B on either brief forms or brief form transcripts.

4. Although the experimental students showed no significant difference between scores on Test A and Test B on brief form outlines, they did show a difference on brief form transcripts.

5. The experimental students and control students did not differ significantly with regard to accuracy of principles in dictation and accuracy of transcripts approximately six calendar weeks after completion of the material.

6. The two groups did not differ significantly on speed levels achieved approximately six calendar weeks after completion of the experimental material.

Conclusions:

1. The special constructed material enables students to record and transcribe brief forms more accurately.

2. Six weeks after completion of the material its effectiveness was still present in regard to accuracy of recording brief forms but not in accuracy of brief form transcripts.

3. The higher degree of brief form accuracy achieved by the experimental students did not seem to affect their speed achievement.

4. The use of the specially prepared material did not seem to affect the students' learning of the principles.

Recommendations:

1. The investigator recommended that Gregg Shorthand teachers use the material tested in this study to provide better instruction on brief forms.

2. Research is needed using these materials under more controlled conditions.

3. Since these materials were used in the place of part of the textbook material, a similar study is needed using these materials as a supplement to the textbook.

4. Research is needed to determine the relationship between accuracy of dictation notes and accuracy of transcripts.

5. Research is needed in which brief form frequency is controlled in order to determine the relative difficulty of the brief forms.

6. Since a relationship was found between the Silverthorn (63b) rank and the number of errors made on selected brief forms, a more comprehensive study is needed to determine if such a relationship exists for all brief forms.

Abstractor's Comment:

The materials constructed for use in this study and other similar studies at the University of Tennessee should be made available to Gregg shorthand teachers.

Abstract 134

Donald E. Moore, "The Effect of Enrichment Material on the Accuracy of Writing Brief Forms in Gregg Shorthand" (unpublished Master's thesis, Mankato State College, 1963), p. 75.

Problem:

The problem of this study was to determine whether the use of enrichment material might aid in mastering brief forms in Gregg Shorthand.

Procedure:

1. Enrichment material was prepared to supplement twenty lessons, and seven teachers consented to use

the materials. Both words and sentences were included in the materials.

2. The test letters used in this study were the same as those used by Roger Kalstrom (43b) in his study. The shortening of one letter was the only change. The dictation varied from three and one-half minutes to five and one-quarter minutes.

3. During the week of February 18, the test letters were dictated at 40 words a minute to 220 students. All test results were returned to the investigator. A sample of 100 papers was selected for the final analysis.

4. The students' shorthand, as written from dictation, was checked for accuracy. Records were kept of (a) total frequency and percentage of accuracy and (b) patterns of incorrect responses. The incorrect responses recorded were: written as an outline of another brief form, written in full, written as a similar pattern, or written as a random pattern. The accuracy of the brief forms and derivatives was checked with the Gregg Shorthand Dictionary Simplified (30b).

5. The results of this study were compared with those of the Kalstrom study, which had not had the enrichment materials, to determine if a significant difference existed between the means of the students.

Findings:

When the findings of this study were compared with those of the Kalstrom study, a t value of -2.444 revealed a significant difference at the 1 percent level, with those students not subjected to the enrichment materials performing better.

Conclusion:

Although the teachers using the enrichment materials said that those materials helped, those students not using them performed better than those students who had used them.

Recommendation:

A similar study is needed in which more of the variables are controlled.

Abstractor's Comments:

1. As the investigator pointed out, there were six years between the two compared studies, possibly accounting for some of the difference.

2. The abstractor feels that a similar study should be made using two groups--one group in which the enrichment materials are used and one group in which they are not. The two groups should be taught at the same time and by the same teacher in order to control many of the variables, which were not controlled in this study.

3. The results of this study may have been affected because a selected sample was used rather than a random sample.

4. The findings of this study tend to indicate that repetition of brief forms and derivatives really isn't important for mastering brief forms.

Abstract 135

Charlene Mordy, "The Effect on Transcription Speed When Typewriting is Taught by Means of Shorthand Outlines" (unpublished Master's thesis, University of Wisconsin, 1960), p. 44.

Problem:

The problem of this study was an attempt to determine the effect on transcription speed when beginning typewriting is taught from shorthand outlines.

Procedure:

Method Used in the Teaching of Typewriting by
Means of Shorthand Outlines

1. The experiment included 20 students enrolled in beginning shorthand, and all but 1 were enrolled in beginning typewriting. The students were paired using IQ scores and 10th grade English test.

2. The control group was taught typewriting by the conventional method and the experimental group was taught typewriting from shorthand outlines. The methods

used for teaching beginning shorthand were the same as usual. All 20 students were taught by the reading approach.

3. Some class time was used to learn the operative parts of the machine, insertion of paper, use of shift key, etc., but most of the time was used for typing directly from shorthand notes.

4. Other students were in the typing class along with the experimental students; therefore, occasionally they were brought together and given timed writings.

5. At the beginning of the 6th week, the students began taking 5-minute typing tests from the typing textbook. About 1/2 of the period was spent typing from shorthand textbook.

6. During the second, third, and fourth six-week periods, the experimental students devoted about 1/2 of the class period to typing of straight copy, tabulations, letter placement, composition at the typewriter; and the other 1/2 was devoted to typing from shorthand outlines.

7. During the fifth and sixth week periods, the classroom procedure for the experimental group was not much different from the ordinary typing class. Most of the time was spent on speed development, tabulations, manuscript typing, and other phases of typewriting.

Procedure of Teaching the Three Skills Involved in the Experiment

1. The first shorthand transcription test was given at the end of the sixth week. Textbook plate material was used and the students were asked to transcribe as much as they could in three minutes. The same type of test was given at the end of the 12th week.

2. At the end of the 18th week, another comparison test was given. This time the students were asked to transcribe in longhand from dictation given at 45 words a minute on practiced material.

3. At the end of the 24th week, they transcribed in longhand from 40 words a minute dictation on new material. Typewritten transcription was introduced in the 27th week of shorthand instruction.

4. At the end of the 30th week, the first type-written transcription test was given. On typewritten transcription the students were asked to transcribe as many letters as possible in 15 minutes. The students were not allowed to erase and correct errors or use a dictionary. After the test they went through and circled all the errors they would have corrected had they been allowed to do so. The use of erasers and dictionaries was postponed since these are skills within themselves, and it was the desire of the experimenter to make transcription as easy as possible.

5. New material was used on all tests from the 20th week on. The tests were given at speeds that all students could write. Since it was necessary for students to be able to read their notes to check transcription ability, dictation speed for tests was slower than their present shorthand speed.

6. Similar transcription tests were given at the end of the 32nd, 34th, and 36th week; however, the students were allowed to use dictionaries and correct their own errors. The transcription rate on these tests was found by taking total words transcribed and dividing by the length of time allowed.

7. Shorthand speed tests were given at the end of the 18th, 24th, 27th, 30th, and 36th week. These tests were taken from the Business Teacher and Progressive Dictation by Zoubek. These tests were either 3- or 5-minutes in length. They were required to keep their accuracy above 95 percent to pass.

8. Five minute timed writings were given in type-writing classes at the end of each six-week period beginning with the 12th week.

Findings:

1. At the end of the first semester, the transcription rate of the two groups of students was exactly the same. Furthermore, both groups transcribed at a slower rate when transcribing from their notes than when transcribing from the textbook.

2. On the shorthand speed test given at the end of the 18th week, scores showed that the two groups both averaged 60 words a minute; however, the control group percent of error was only 1/2 that of the experimental group.

3. At the end of the 18th week, the control group had a higher typewriting speed with fewer errors.

4. The 30th week was a significant testing period because the first typewritten transcription test was given. The findings revealed the following:

The average transcription speed was very similar for the two groups, but the experimental group had a slightly lower error rate.

The average shorthand speed of the two groups was 70 or slightly above for both groups, but the average error rate for the control group was 5.4 compared to 1.7 for the experimental group.

The average typewriting speed and accuracy was 45.9 with 6.7 average error rate of the experimental group compared to 45.1 with a 6.6 average error rate for the control group.

5. During the 36th week of school, similar tests were given to those given the 30th week. These tests showed the following results:

The average transcription rate and average error rate was 11.9 and .6 for the experimental group compared to 11.1 and .37 for the control group.

The average shorthand speed per minute and error rate per minute was 91 and 3 for the experimental group, and 89 and 3.3 for the control group.

The average typewriting speed and accuracy based on 5-minute writings was 49.7 and 3.8 for the experimental group, and 49.1 and 4.4 for the control group.

Conclusions:

1. The experimental group was slightly better in transcription than the control group.

2. There was very little difference between the two groups in accuracy of transcription.

3. Any differences that existed in IQ and 10th grade English was in favor of the control group.

4. There seemed to be no significant difference in their shorthand speed; however, the experimental group had a slight edge in the accuracy department.

5. There appeared no significant difference in the typewriting speeds of the two groups; however, again the experimental group was slightly superior in the accuracy department.

6. The results of this study are significant enough to warrant additional study and experimentation.

Recommendations:

1. The writer recommended that shorthand and typewriting be taught during two consecutive periods, by the same teacher, and that typewriting be taught from shorthand outlines. The writer believes that this eliminates the necessity of teaching transcription as such.

2. The investigator revealed that spelling is a significant influence on transcription speed; therefore, he recommends that a larger and more depth study be made pairing the students on the basis of IQ, English grade, and spelling.

3. The two groups should be compared on typewriting speed in the following manner: the experimental group typing from shorthand transcripts set up in straight copy form and the control group typing from straight copy material in longhand print.

Abstractor's Comments:

1. The investigator realized that broad statements cannot be drawn from this study. Further studies need to be made involving more students to determine the feasibility of teaching typewriting from shorthand outlines.

2. The study did point out that there is possibly some merit in this method of teaching for the above average student.

Abstract 136

Nancy Ann Morrell, "The Effect the Time of Day Has on Terminal Achievement in Intermediate and Advanced Shorthand" (unpublished Master's thesis, Brigham Young University, 1964), p. 69.

Problem:

"The problem of this study was to determine whether the time of day a student took the course might have an effect on achievement in the speed building, intermediate and advanced shorthand classes at Brigham Young University."

Hypothesis:

"The time of day a student takes shorthand does not make a significant difference in terminal achievement."

Procedure:

1. The students participating in this study were enrolled in one of three sections of intermediate shorthand or one of the three sections of advanced shorthand at Brigham Young University during the spring semester of 1964. The classes met daily at 8:00 a.m., 12:00 noon, and 2:00 p.m. No attempt was made to assign the students to a specific class.

2. Each class was divided into three sections according to shorthand speeds. One room was used for those working on 80 words a minute, one room for 100 words a minute, and one room for 120 words a minute. As the students achieved one speed they moved to the next room.

3. Each class met 77 fifty-minute class periods. To assure consistence all shorthand instruction was presented on magnetic tapes. These tapes were prepared by a team of instructors in the Business Education Department and were designed to reinforce the material studied in the previous day's homework. The only variable in the study was the time of day which each class met.

4. The study involved 51 matched groups for a total of 153 students in the three groups. The students were paired according to their scores on the pre-testing instrument, ACT score, and HSGPA score. Since all the students in the six classes were not in the study, no indication was made as to who was and who was not.

5. Statistical calculations were made to determine the difference among the groups on the basis of (a) the number of correct words on the testing instrument, (b) the ACT scores, (c) the HSGPA scores, (d) the post-test on the testing instrument, and (e) the difference between the scores made on the pretest and post-test.

6. The letter to Mr. Raymond Coleman, page 614 was selected from the text, Shorthand Dictation Studies, Third Edition, by Bowman and Oliverio, for use as the testing instrument. This letter was subjected to the difficulty formula derived by Mildred Hillestad (38b) and was found to be of average difficulty. The reliability of the test was determined by the test-retest method.

7. Near the end of the course, the students were given a questionnaire to determine their eating habits, classes met before and after shorthand, time spent on homework and the time of day it was completed, and the time they preferred to take shorthand.

Findings:

1. The reliability of the testing instrument was determined by the test-retest method. A correlation of .70 was found between these scores which was significant at the 1 percent level.

2. An F ratio of .72 was found for the ACT scores, which was not significant.

3. An F ratio of .37 was found for the HSGPA, which was not significant.

4. When the pretest scores were subjected to the analysis of variance, an F ratio of .19 was revealed. This value was not significant.

5. An F ratio of 1.56 was found for the post-test scores, which was not significant.

6. When the differences between the pretest and post-test were subjected to the analysis of variance, an F ratio of .11 was revealed. This value was not significant.

7. The student questionnaire revealed that it made no difference whether or not the student met a class period to the shorthand class.

8. Approximately one hour per day was spent doing homework. Students preferred doing their homework in the afternoon or early evening.

9. The 10:00 a.m. lab was attended more regularly than the lab at 7:00 a.m. or 4:00 p.m. The hours 8:00 a.m. and 9:00 a.m. were preferred for taking shorthand.

10. Eating habits may have an effect on the terminal achievement, especially at the 8:00 a.m. section since many of the students did not eat breakfast.

Conclusions:

1. Based on the findings of this study, the time of day did not seem to affect the students' terminal achievement.

2. The time of day a course meets may affect terminal achievement, but it seems to have little affect on shorthand.

3. Based on the findings of this study, the null hypothesis that there is no significant difference in terminal achievement caused by the time of day shorthand was taken was accepted.

Recommendations:

That similar studies be conducted along the following lines:

1. Investigate other times, such as 7:00 a.m. or evening classes, that might affect terminal achievement.

2. Investigations in other business subjects, such as typing.

3. Investigation at the high school level to find out if the lack of time periods between classes would have an affect on learning rate.

4. Investigate whether or not eating breakfast before the 8:00 a.m. shorthand class would affect the learning rate.

Abstract 137

L. Michael Moskovis, "An Identification of Certain Similarities and Differences between Successful and Unsuccessful College Level Beginning Shorthand Students and Transcription Students" (unpublished Ph.D. dissertation, Michigan State University, 1967), p. 188.

Problem:

The problem of this study was to identify certain significant similarities and differences in successful and unsuccessful college level beginning shorthand and transcription students.

Hypotheses:

1. "There is a difference between successful and unsuccessful college level beginning shorthand students, as measured by the variables employed in this study."
2. "There is a difference between successful and unsuccessful college level transcription students as measured by the variables employed in this study."

Procedure:

1. This study included seven post-secondary institutions in Michigan, offering classes in both beginning shorthand and transcription during the 1966-67 school year. This included three junior colleges, one four-year college, and three universities. Six of these used Diamond Jubilee in all classes and one used Simplified.
2. The students participating were those who received a grade of A or B, classified as successful, or those receiving grade of D or E, classified unsuccessful.
3. From 224 beginning shorthand students, 82 successful and 61 unsuccessful were selected. Also, from 207 transcription students, 67 successful and 64 unsuccessful were selected.
4. Data for this study were gathered by four methods: (a) five standardized tests; (b) skill achievement

tests for the beginning shorthand classes and transcription classes; (c) two student questionnaires; and (d) student records at each participating institution.

5. The standardized tests used were:

- a. Brown-Holtzman Survey of Study Habits and Attitudes
- b. California Psychological Inventory
- c. Minnesota Clerical Test
- d. Watson-Glaser Critical Thinking Appraisal, Form YM
- e. Wellesley Spelling Scale, Form 1

6. Three tests were given to measure achievement in beginning shorthand: (a) a theory test, (b) a brief form test, and (c) a reading test.

7. The tests used to measure transcription achievement were: (a) four letters were dictated and transcribed on the typewriter, and (b) a straight-copy typing test.

8. The tests were administered by the teacher in charge of each class and each paper was scored by two different people.

9. Information obtained from the questionnaires and the student records included: (a) job title, length of employment, and hours spent each week typing and writing and transcribing shorthand; (b) college major and class; number, place, and duration of previously taken shorthand and typing classes; and (c) grade-point average in high school, college English grade, and verification of typing and shorthand classes.

10. A total of 31 variables was tested for the beginning shorthand classes and 34 for the transcription classes.

11. The data gathered for use in this study were subjected to the t-test, Chi-square, and point-biserial correlation.

12. A total of 31 sub-hypotheses were tested for hypothesis one and 34 sub-hypotheses were tested for hypothesis two.

Findings--Beginning Shorthand:

A significant difference was found between successful and unsuccessful college level beginning shorthand students in 20 of the 31 variables tested. Those which were significantly different at the indicated were:

1. college major (.01)
2. college English composition grade (.001)
3. brief form knowledge (.001)
4. theory knowledge (.001)
5. reading ability (.001)
6. name checking (.001)
7. study habits and attitudes (.001)
8. spelling ability (.001)
9. critical thinking (.001)
10. status capacity (.02)
11. sense of well-being (.05)
12. responsibility (.001)
13. socialization (.02)
14. communality (.01)
15. self control (.05)
16. achievement via conformance (.001)
17. achievement via independence (.05)
18. intellectual efficiency (.01)
19. psychological-mindedness (.02)
20. college grade-point average (.001)

No significant difference was found in the following:

1. year in college
2. number of weeks previous study of shorthand
3. number checking
4. dominance
5. socialibility
6. social presence
7. self acceptance
8. tolerance
9. good impression.
10. flexibility
11. femininity

Implications:

1. Although college grade-point average and college English grades are good prognostic measures, counselors must use other factors because many students enroll in beginning shorthand before the above are available.

2. Since past research indicates that high school English grades are good predictors, collegiate counselors should consider high school English grades when other factors are not available.

3. Standardized English and spelling tests may be used to locate deficiencies and may help in counseling students.

4. Since there is a strong relationship between achievement in shorthand and brief form and theory tests, these factors should be stressed throughout the course.

5. Study habits and attitudes are closely related to shorthand success; therefore, the Brown-Holtzman Survey of Study Habits and Attitudes can be used effectively as part of a prognostic team.

6. The findings also indicate the usefulness of the name checking subtest of the Minnesota Clerical Test as a predictive measure of shorthand success.

Findings--Transcription:

A significant difference was found between the successful and unsuccessful transcription students in only 9 of the 34 variables studied. Those showing a significant difference were:

1. college major (.01)
2. number of weeks of previous shorthand instruction (.01)
3. college English composition grade (.01)
4. transcription achievement on letters dictated at 80, 100, and 120 words a minute (.001)
5. spelling (.001)
6. critical thinking (.01)
7. college grade-point average (.001)
8. typewriting accuracy (.05)
9. typewriting speed (.001)

Those variables showing no significant difference were:

1. year in college
2. place of previous shorthand training
3. number of weeks of previous typing instruction
4. number of hours of office work experience using the typewriter
5. transcription achievement on letters dictated at 60 words a minute

6. number checking
7. name
8. study habits and attitudes
9. dominance
10. status capacity
11. socialibility
12. social presence
13. self acceptance
14. sense of well-being
15. responsibility
16. socialization
17. self-control
18. tolerance
19. good impression
20. communality
21. achievement via conformance
22. achievement via independence
23. intellectual efficiency
24. psychological-mindedness
25. flexibility
26. femininity

Implications:

1. In all but a few factors, successful transcription achievement was based on factors directly related to classroom achievement.

2. Although college English grade and college grade-point average are good predictors, these factors often are available too late for use in counseling students who are enrolling in transcription. Therefore, high school English grades and high school grade-point average should be considered when the others are unavailable.

3. Standardized English and spelling tests may also be used in determining areas of deficiencies and may help in counseling students who are planning to enroll in transcription.

4. Since there was a significant difference in the mean score of typewriting accuracy and speed of the successful and unsuccessful students, typewriting tests may also be used as part of a predictive team in shorthand prognosis.

Recommendations :

1. That a group of students with poor study habits and attitudes be subjected to special teaching methods to determine if these poor study habits and attitudes can be overcome.
2. That research be conducted to determine if quantity and quality of previous office experience affects achievement in transcription.
3. That a study be conducted to determine the similarities and differences of successful shorthand students and successful students in programs not related to shorthand.
4. That a study be conducted to determine the relationship between critical thinking and transcription success and success on the job.
5. That research be conducted to determine the affect spelling emphasis in the classroom would have on achievement in beginning shorthand and transcription.
6. That research be conducted to determine the affect a required remedial English course would have on the achievement in beginning shorthand and transcription.
7. That a follow-up study be made to determine the degree of job success of the successful and unsuccessful students.

Abstractor's Comments:

1. The findings of this study should be made known to all college counselors and shorthand and transcription teachers.
2. This study emphasizes that there are factors which can be used effectively in counseling future shorthand enrolees. If more institutions would make use of these predictive factors, the dropout and failure rates could be lowered considerably.

Abstract 138

Ruth Charlotte Moyer, "An Experiment to Determine the Effectiveness and Efficiency of Using Programmed Material to Review Punctuation in Transcription Classes" (unpublished Ed.D. dissertation, Oklahoma State University, 1967), p. 267.

Problem:

The problem of this study was to determine the effectiveness and efficiency of reviewing punctuation, using programmed materials.

Hypotheses:

1. "Review of punctuation by means of programmed instruction will be significantly more effective than the conventional methods of review used during the transcription course."

2. "Review of punctuation by means of programmed instruction will be significantly more efficient than the conventional methods of review used during the transcription course."

Procedure:

1. This experiment was conducted at Colorado State University during the winter and spring quarters of 1966. The two control classes met during the winter quarter of 1966 and contained a total of 40 students. The two experimental classes contained a total of 34 students and met during the spring quarter of 1966. No attempt was made to assign the students to a particular class.

2. All classes were given a pretest and a post-test. The two standardized tests chosen were the New Purdue Placement Test in English, Form E for the pretest and Form D for the post-test; and the Cooperative English Test, Form T for the pretest and Form Y for the post-test. Each form of each test has 45 punctuation checkpoints.

3. A mailable copy test was also given to measure the transfer of student knowledge to the transcription process. Three letters were constructed ranging in syllabic intensity from 1.5 to 1.7 and containing from 149 to 255 words. The same test was used for both the pretest and post-test.

4. The programmed materials used in this study were prepared, reviewed, and revised before actually being pretested. The program was reviewed by a programming specialist and two transcription teachers and revised before being pretested. The materials were then pretested with three students of high, medium, and low abilities, according to subjective teacher evaluation, who came to the office at regularly scheduled intervals and worked through the materials. A fourth pretested student came at regularly scheduled intervals and worked through the program as far as it had been revised. The material was further revised on the basis of the suggestions made by each student. At each review session both new frames and revised frames were evaluated by the students.

5. There were two instructors involved in the experiment and each instructor taught a control class and an experimental class. Both had approximately the same number of years teaching in college and were interested in the experiment. The instructor designated as A had eight years college teaching experience and the one designated B had approximately 4 years college teaching experience.

6. The pretests were given early in the second week of the quarter and the post-tests were given during the last week of the quarter. The punctuation rules were reviewed in a systematic manner by instructor A, and instructor B reviewed them when the student transcripts indicated a need for it. The major variable in this study was the method used for reviewing punctuation rules. The traditional method was used in the control classes, while in the experimental classes the programmed materials were used. These programmed materials were completed outside of class. The amount of time required to complete each assignment was recorded on the answer sheets submitted to the instructors.

7. To assure consistency, the investigator and participating instructors agreed to use the manual by Gavin and Hutchinson (24b). All punctuation usages in this manual were included in the review sometime during the course. Review sentences were constructed for each punctuation usage to be used in the control classes.

These same sentences were incorporated into the programmed materials for the experimental classes.

8. The following information was gleaned from the student records by the investigator: total score on the College Entrance Examination Board; Verbal score on the College Entrance Examination Board; English Composition grade; ST11 grade; previous shorthand grade; and ST 22, previous Business Communications grade, if course had been taken.

9. The pretests and post-tests were scored by the researcher and double checked by a student assistant. These scores along with the student's College Entrance Examination Board scores and his selected grades were recorded on a data card. These scores provided the necessary information for the machine statistical computations to be used in comparing the two groups.

Findings:

1. The difference between groups in mental ability, verbal ability, and knowledge of subject matter was not significant at the 5 percent level as revealed by the analysis of variance.

2. When using the analysis of covariance, the difference between groups was not significant at the 5 percent level on the Cooperative English Test and the mailable copy test; however, the New Purdue Placement Test did show a difference at the 5 percent level in favor of the experimental group. A further analysis revealed that only 1 point separated the adjusted means of the program class of Instructor A and the program class of Instructor B. Thus, it may be assumed that this difference was insignificant.

3. In reviewing punctuation by traditional methods, Instructor A spent 240 minutes of class time and 150 minutes were used by Instructor B. When using programmed materials, the time spent outside of class ranged from 100 minutes to 240 minutes, with no more than 10 minutes being spent in class by each instructor.

4. As Instructor B's class used considerably less time on the programmed materials, the difference between the two programmed classes was significant at the 3 percent level.

Conclusions:

1. Students using programmed materials appear to do as well in punctuating printed matter and transcripts as those students subjected to the traditional method.

2. On the basis of the findings of this study, it may be concluded that programmed review of punctuation is more efficient than the traditional method.

Implications:

1. The facts of this study tend to indicate that programmed instruction not only provides as good a review as the instructor who reviews punctuation intensively, but provides a better review than the instructor that does not review punctuation intensively.

2. Since the programmed reviews seem to be as effective and considerably more efficient, the programmed materials could be used in order to allow more time for the instructor to pursue the primary goal of each class.

3. Programmed materials may be used to review punctuation effectively in business communications classes where review is necessary but time-consuming.

Recommendations:

Further research is recommended using the methods and materials used in the present study in the following ways: (a) that similar studies be made involving both beginning and advanced shorthand classes at other colleges; (b) that similar studies be made involving both beginning and advanced shorthand at several high schools; (c) that similar studies be done involving business communications at several colleges; (d) that similar studies be done involving other areas of related learnings, such as word usage.

Abstractor's Comment:

Shorthand and transcription teachers should make use of programmed materials and other aids in order to have more time available in which to spend pursuing the primary objective and helping individual students.

Abstract 139

Ronald C. Mrachek, "Status and Achievement in One-Year Shorthand Classes in the State of Wisconsin" (unpublished Master's thesis, University of Minnesota, 1963), p. 41.

Problem:

The problem of this study was to determine the status and achievement of the one-year shorthand course in small high schools in Wisconsin.

Procedure:

1. A questionnaire was constructed and mailed to 100 schools. All but five were mailed to schools having an enrollment of 200 or less.
2. The schools were divided into four groups according to enrollment. Those groups were as follows: Group A, over 200, 5 schools; Group B, 151-200, 30 schools; Group C, 101-150, 40 schools; and Group D, less than 100, 25 schools.
3. Only 58 of the 100 were returned and 4 of those were incomplete. Therefore, the results of 54 questionnaires were included in the final analysis.

Findings:

1. Of the 54 schools filling out the questionnaires, 48 offer one year of shorthand, 12 believe shorthand enrollment was decreasing, and 6 indicated one year of shorthand was not as good as two.
2. Bookkeeping was the favorite subject of 32 of the teachers teaching shorthand.
3. Seventeen of the schools indicated that students were screened for enrolling in shorthand. The methods used were: counselor, English and/or typing, and scholastic average. The dropout rate in all schools was 11 percent or below.

4. The IQ of those students in shorthand ranged from 90 to 120 and above. They were as follows: 90-100, 30 students; 101-110, 39 students; 111-120, 34 students; above 120, 21 students.

5. Approximately 20 percent or less of those in shorthand went on to college. Furthermore, 35 percent or less of all students enrolled in college.

6. Approximately 65 percent of the shorthand teachers began dictation from the textbook between the 3rd and 6th week of school. New matter dictation material was previewed by 48 schools during the first semester and 43 schools during the second semester.

7. Ability grouping was done using records, tape recorders, and student dictation in 32 of the schools.

8. The number of schools whose students attained each speed were as follows: 60 words a minute, 39; 70 words a minute, 26; 80 words a minute, 42; 90 words a minute, 22; 100 words a minute, 20; and 120 words a minute, 3.

9. Five schools began transcription as early as 1st-5th week of school, while 21 postponed it until the second semester. Transcription was begun from 6th-10th week by 15 schools and from 11th-15th week by 11 schools.

10. Transcription rates on mailable copy ranged from 5 to 25 words a minute and above, with the largest number falling from 15 to 19 words a minute.

11. Various comments were received from the teachers regarding the one-year shorthand program. The main criticism was that there was not enough time to develop the overall transcription process.

Recommendations:

1. Study is needed investigating the possibility of a one-year shorthand textbook.

2. Ways need to be studied for improving the transcription process of a one-year shorthand course.

3. A study is needed comparing the time transcription was started with achievements obtained.

Abstractor's Comments:

1. The results of this study may have been different had the sample been larger. Fifty-four may not be considered adequate. Furthermore, not all items on the questionnaire were completed by all 54.

2. As the investigator pointed out, some of the questionnaires were mailed too early and, thus, contained subjective ambitions rather than goals actually achieved.

3. Very few of the teachers teaching shorthand listed it as their favorite subject. This, too, may have affected the results of the study.

Abstract 140

Gloria Marie Natale, "Measurement Aspects of the Stenographic and Typewriting Tests of the National Business Entrance Test" (unpublished Ed.D. dissertation, Teachers College, Columbia University, 1963), p. 92.

Problem:

The problem of this study was to determine the reliability and validity of the stenographic test, form 18-45, and the typewriting test, form 18-46, of the National Business Entrance Tests, Official Series.

Procedure:

1. The test-retest method was chosen as the procedure for determining reliability of the National Business Entrance Test. A sample of 200 students was selected of seven teachers in the New York-New Jersey area. The stenographic test was taken by 100 students and 100 students took the typewriting test.
2. The same students took the same tests a second time ten days after the first administering. These tests were obtained from the United Business Education Association. The tests were scored by the investigator according to the manual which accompanies the tests.
3. Each test was scored twice--once by the investigator and once by another business education teacher. On the first testing, all but seven were scored the same by both scorers. The same procedure was followed for the retests.
4. The ideal method to check validity is by studying its relationship to a suitable criterion measure which in this case would be "on-the-job performance." Therefore, the names of 556 students were secured who had taken the National Business Entrance Test in 1958-1959 in Cleveland, Ohio. Of the 556 students, 402 had taken the stenographic tests. A further check revealed that 157 were employed as stenographers.
5. Using information gathered from related literature, a rating scale was developed and pre-tested. Numerical scores were determined by assigning one to acceptable,

two to fair, three to good, four to excellent, and five to superior.

6. Test scores were received from the United Business Education Association and compared to the average rating scale scores by means of the Pearson product-moment formula. Correlation coefficients were also used to compare scores on the test-retest method of determining reliability.

7. The scores received from the validity survey were plotted with the average rating scale score. Critical scores were then determined in order to show effectiveness of the tests.

Findings:

1. A correlation coefficient of .97 was determined between the test-retest scores on the stenographic test. The estimate of errors was .243 which means the predictive efficiency of 76 percent better than a guess.

2. On the stenographic test, the range was from a low of 7 to a high of 211 points; whereas, on the retest it was from a low of 10 to a high of 215 points.

3. Of 123 stenographers, 72 spent more than 50 percent of their day taking dictation and transcribing. A further analysis revealed that all 123 spend less than 25 percent of their day answering the telephone and answering letters using their own judgement. The duty of typing office forms and general correspondence was performed by 65 employees, 26-50 percent of the day and by 47, 51-75 percent of the day.

4. A validity coefficient of .60 was calculated for the stenographic test, with an estimate of error of .800. This means that predictive efficiency is only 20 percent better than a guess. There did seem to be a linear correlation between scores on the rating scale and scores made on the stenographic tests.

Conclusions:

1. The reliability coefficient of the stenographic test (form 18-45) does indicate that the test measures consistently.

2. The validity coefficient indicated that the

stenographic test is not a good predictor of stenographic success on-the-job.

3. The test scores were ineffective in terms of critical scores in this study because of the nature of the sample.

4. Based on a job analysis, careful examination of literature, and judgement of business educators, the investigator states that the stenographic test does possess high content validity.

Recommendations:

1. Since these tests are reliable and valid, their use should be encouraged.

2. Although reliability was established in this study, other measures of reliability should be determined. Also, further research is needed in the area of validity of these tests.

3. The stenographic test of the National Business Entrance Test seems to have value for both education and industry.

4. A similar study is needed covering a larger geographic area.

Abstractor's Comments:

1. As the investigator pointed out several times, this study was limited because the validity sample was restricted to employees who had earned proficiency certificates.

2. The findings of this study may be used effectively in an undergraduate methods course for business education teachers.

3. Only those findings, conclusions, and recommendations related to the stenographic test were included in this abstract.

Abstract 141

Beverly Nelson, "Professional Characteristics of Shorthand Teachers in the Secondary Schools in Tennessee" (unpublished Master's thesis, The University of Tennessee, 1966), p. 158.

Problem:

"The problem was a study of the professional characteristics of the shorthand teachers in Tennessee during the school year 1965-1966 in relation to the desirable professional characteristics of a shorthand teacher, as determined from the opinions of business educators and from recommendations of professional associations."

Procedure:

1. A thorough study was made of the related literature from 1926 to 1965 and pertinent information was classified as educational background, work experience, and professional aspects of the shorthand teachers. From this list of pertinent information, questionnaire items were developed.

2. On February 16, 1966, a pilot study was conducted with three shorthand teachers in the Knoxville area. The questionnaire was revised as a result of their suggestions and a careful study of the answers given by them. The final draft contained 18 questions concerning characteristics and one allowed them to request a copy of the findings of the study. Some questions had several parts and were broken down into areas.

3. On March 25, 1966, the questionnaire and a cover letter were mailed to a random sample of 75 shorthand teachers selected from a population of 355. After two follow-up letters and one personal telephone call, all 75 questionnaires were returned. The teacher to whom the call was made had not received any of the earlier mailings and was most anxious to cooperate.

4. From the files of the State Department of Education in Nashville, all available transcripts of the 75 shorthand teachers were reviewed. This review furnished information regarding general education, professional

education, and business and related subject matter content taken in their undergraduate and graduate degrees. Ten transcripts were unavailable and, therefore, were not studied by the investigator.

5. The data gathered were recorded on IBM cards for making the desired analysis.

Findings:

1. Although the average number of years teaching experience was 13.4 years, the average for shorthand was 9.64 years.

2. A bachelor's degree was held by all teachers, 18 percent had master's degrees, and 1 percent had doctor's degrees. Forty-nine percent do not have hours above their highest degree; however, 91 percent plan to take additional courses within the next four years. Nine percent of the sample indicated no plans for taking additional courses. This 9 percent were teachers with over 10 years experience.

3. Fifty-one of the 75 had received their degrees from in-state institutions, 14 received their degrees from out-of-state institutions, and records were unavailable for the other 10.

4. An average of 1.6 shorthand classes were taught each day by the teachers, with an average of 22.9 students per class. Each teacher had an average of 135 students per day in all their classes.

5. Shorthand I was taught by all 75; 80 percent taught Typing I; Typing II was taught by 57 percent; Book-keeping, 30 percent; and Shorthand II, 24 percent. Less than 10 percent taught other business courses or courses other than business, and 8 percent of those teaching shorthand were uncertified.

6. General education consumed an average of 107 quarter-hours, nearly 55 percent, of the 196 quarter-hour program. General professional made up another 23.4 quarter-hours, or 12 percent of the 196; special professional, 12 quarter-hours, or 6 percent, of the 196 quarter-hour program; and an average of 63 quarter-hours were taken in business or business related courses.

7. Although 38 percent did their student teaching in only skilled subjects, 22 percent did no student teaching in any business subject.

8. Methods courses were frequently taken in shorthand, skill subjects, or a general methods course was taken.

9. An average of 12.4 quarter-hours of shorthand instruction was received by the 59 teachers on whom the information was available, while four had no shorthand training at all.

10. Only 1 of the 75 teachers included in this study had no work experience of any type other than teaching, and 82 percent had visited an office within the last 4 years.

11. Seventy-one had worked in a business office, school office, or both. Duties most frequently performed included typing, filing, telephone, dictation, mail, office machines, confidential matters, reports and records, personal duties. Work experience not considered office experience included bookkeeper, sales clerk, nurse, funeral home assistant, and aviation, metalsmith. This work experience was received within the last four years by 43 percent and before that by nearly 57 percent, and the average time period covered was 36.4 months for part-time work and 24.3 months for full-time work.

12. Each teacher received an average of 4.9 magazines. Other business and news magazines read included Business Week, Newsweek, Time, and Nation's Business, with 1.7 being read regularly by each teacher.

13. Approximately 3, or 4 percent, had submitted articles for publication and approximately 70 percent had taken part in a study within the last four years.

14. The Tennessee Education Association was joined by 95 percent of the teachers and 85 percent belonged to the National Education Association; whereas, only 19 percent were members of the National Business Education Association. Of the 75 surveyed, 56 percent have been an officer or committee member of a professional organization at some time.

15. Within the last four years, 66 percent had attended a meeting of a local organization; a state meeting, 46 percent; regional meeting, 24 percent; local college meeting, 39 percent; and 4 percent had attended a national meeting.

16. Each teacher sponsored an average of 1.4 groups or activities which included glee club, cheerleaders, FBLA, FTA, advisor for yearbook, and school bookstore to mention only a few.

17. Anniversary Shorthand had been taught by 34 percent, Simplified had been taught by 98 percent, and 13 percent had taught Diamond Jubilee. The 1916 edition of the Gregg Manual had been taught by 1 percent. A workshop or course for teaching Diamond Jubilee had been taken by about 18 percent of the 75 teachers.

18. Various courses related and non-related to business had been taken since certification. A methods course in shorthand was taken by 25 percent of the teachers and a methods course for other subjects was taken by 31 percent. Approximately 34 percent had taken general professional education course, while 22 percent had taken additional courses in business administration and economics.

Observations:

1. Since only about one-half the teachers took their last course within the last five years and about one-fourth took their last course more than ten years ago, apparently more teachers need to update their course work within each five-year period.

2. The findings tended to indicate that shorthand teachers were deficient in business and related subject matter course.

3. Most shorthand teachers did student teaching in skill subjects or basic business; however, only about one-third did student teaching in both areas. Furthermore, about one-fourth did no student teaching in any business subject. Since most business teachers will probably teach in both skilled areas and basic business areas some time during their career business teachers should have training in both areas.

4. Although the average number of hours in shorthand instruction for the teachers was approximately 12 quarter hours, some shorthand teachers had no formal shorthand training. The amount of college training in shorthand should vary according to high school training; however, all shorthand teachers should have enough training to facilitate their teaching it.

5. From the findings, it was apparent that most of the teachers had worked both in a business office and a school office and had performed various office duties. This type of training should aid in teaching others about job environments, demands, and pressures made on new workers, and the value of human behavior.

6. Since less than one-half of the teachers had work experience in the last four years, more shorthand teachers should update their work experience.

7. Teachers should be encouraged to write more professionally, since less than 5 percent had ever submitted an article for publication.

8. A large percent had read current research and had participated in some type of community survey within the last four years. Community surveys are valuable since they make information available concerning job openings, equipment being used in businesses, and ways students can be helped who are employed, as well as those seeking employment in the future.

9. Although a very high percent of the teachers belonged to the state organization for business teachers, less than 20 percent belonged to the national organization. Teachers should be made aware of the advantages of these organizations, as well as other business, civic, or social organizations.

10. Although nearly two-thirds had attended a local meeting within the last four years, less than one-half have attended a national meeting in the last four years. You would think that teachers who are professionally minded would go to more professional meetings.

11. The findings pointed out that while some teachers were engaged in many school activities others were not involved at all.

12. Since less than 20 percent of the teachers had taken a course or workshop in the teaching of Diamond Jubilee Gregg Shorthand, perhaps more teachers should take such a class before Diamond Jubilee is adopted state-wide.

13. Since receiving their certification, only a small percent of the teachers had taken business methods courses or other business related courses. If teachers are to remain updated in order to better instruct their students, additional courses should be taken to enable them to teach in different areas and with a wider scope.

14. An average of 6.6 professional magazines and business or news magazines per teacher were received and read regularly.

15. The amount of work experience varied from an average of two years full-time to three years part-time

for the teachers. The amount of time to be spent in obtaining work experience has not been determined; however, at least one year for experienced teachers and two for new teachers would seem feasible.

Abstractor's Comments:

1. As a result of the nature of the study, the investigator combined the conclusions and recommendations and called them observations. The same pattern was followed by the abstractor.

2. Similar studies in other areas of the United States should be done in order to see how teachers in different areas compare.

3. Chapter II of the study entitled "Desirable Characteristics of the Business Teacher" may possibly present some valuable information which could be used very effectively in a shorthand methods course.

Abstract 142

Marion E. Nixdorf, "A Study to Determine the Effect of Using the Skill-BUILDER Controlled Reader in the Teaching of Beginning Shorthand" (unpublished Master's thesis, University of Wisconsin, 1962), p. 44.

Problem:

This study was an attempt to determine the effectiveness of the Skill-BUILDER Controlled Reader as an aid in teaching beginning shorthand as compared with the traditional methods of teaching in which the machine is not used.

Procedure:

1. Two sections of beginning shorthand were taught by the writer. Some adjustments were made in student programs to provide for approximate normal and equal abilities in the two sections. There were 22 students in each class making a total of 44 students. One of the classes met the first period of the day and the other class met the fifth period, immediately after lunch. By necessity the first period was selected as the experimental group and the fifth period class the control group. Both

classes used the text, Gregg Shorthand Manual Simplified, Functional Method.

2. Instruction using the Skill-Builder was not begun until the seventh lesson. This instrument was used for approximately 15 minutes during each class period. Sometimes the class read in unison, but as the students gained in confidence they were asked to read individually. The Skill-Builder was used daily through lesson 60. Other than the use of the Skill-Builder in the experimental class, the two classes were taught the same way.

3. At the beginning of the second semester, all dictation was on new material, generously previewed, and dictated on the Pyramid Plan for building speed. Testing consisted of new-matter material dictated for three-minutes and transcribed in longhand. During the last quarter of the school year, dictation for testing was five-minutes in length rather than three.

Findings:

1. On the first transcription test given at the end of lesson six, the median score of the experimental group was 15.5 and the median score of the control group was 20.5. The training instrument had not been used prior to this point.

2. Both classes were asked to transcribe from textbook plate material for three minutes after completing lessons 12, 18, and 24. At the end of lesson 12, the median scores were 20.5 for the experimental group and 27.0 for the control group. After completing lesson 18, the median scores were 24.5 for the control group and 20.0 for the experimental group. The median scores at the end of lesson 24 were 23.5 for the experimental group and 25.0 for the control group. In all cases the median score was lower for the experimental group than for the control group.

3. Transcription tests were given from homework assignments following completion of lessons 36, 42, and 54. At the end of lesson 36, the median scores were 25.5 for the experimental group and 26 for the control group. After completion of lesson 42, the median scores were control group 27 and the experimental group 26.5. For the first time, the experimental median score was higher than that of the control group upon completion of lesson 54. At this point, the experimental median score was 26 and the median score of the control group was 24.

4. As the material became increasingly more difficult, the experimental group showed more improvement than did the control group. The experimental group showed an increase in median score of 11 words per minute or approximately 100 percent increase, while the control group showed an increase of only 6.5 words per minute in the median score or a 32 percent increase.

5. Beginning with the second semester all dictation tests were given over new-matter material for three-minutes and accuracy required for transcription was 95 percent.

During the third quarter of work, 85 percent of the experimental students achieved 70 words per minute, but only 65 percent of the control group reached 70 words per minute. Five percent of the experimental group achieved 90 words per minute, while none of the control group was able to reach this goal. The point averages on these tests show that the experimental group scored 4 points higher on the 3-minute dictations than did the control class.

6. When the classes reached the last 9-weeks of school, dictation was given on new-matter material for 5-minutes. The data shows that the experimental class was again superior to the control class. This was evident by the fact that 55 percent of the experimental class achieved 80 words per minute, but only 30 percent of the control class reached this goal. When comparing the points scored by both classes, it was found that the experimental class scored 25 percent higher on the 5-minute dictations than did the control class.

7. The anonymous questionnaire filled out by the students revealed that they enjoyed using the Skill-Builder. They pointed out that the machine forced them to read and write shorthand faster.

Conclusions:

1. The improvement made during the first semester of transcription by the experimental class over that of the control class would tend to support the use of the Skill-Builder.

2. The ability of the experimental group also to achieve higher dictation scores than the control class would also tend to support its use. This substantiates the theory held by many shorthand experts that the ability

to read shorthand well also effects the ability to write shorthand.

3. Even though this study shows that shorthand skill can be improved through the use of the Skill-BUILDER, it did appear that the rate of transcription can be increased even more through the use of the Controlled Reader. This would be due to the fact that the maximum rate of the Controlled Reader is 1,000 words per minute and that of the Skill Builder is only 144 words per minute.

4. The forced reading of the shorthand notes in the beginning stages had a positive effect upon the speed at which the beginning student was able to transcribe his own shorthand notes and those also from shorthand plate material.

5. The forced reading of shorthand outlines in the early stages and the forced writing speeds when dictation is introduced has a positive effect on the speed at which the beginning student is able to take new-matter dictation.

6. A pace setting instrument, such as the Skill-BUILDER is a valuable tool in pacing the students' reading from shorthand plate material.

7. From the opinions of the students, the device is definitely valuable as a motivating device.

8. The instrument does not teach nor does it replace the textbook. It is a tool to be used in conjunction with the basic textbook and as an aid to the teacher.

Recommendations:

1. That further research be done along this line involving a larger number of students before drawing definite conclusions.

2. That an instrument, such as the Skill-BUILDER can be used effectively for 15 minutes a day in the shorthand classroom.

3. If the instrument is going to be used, it should be in position and adjusted each day before the class begins. Class time should not be spent in adjusting or threading the machine.

4. That the Controlled Reader be used in the reading phases of shorthand instruction, since the Skill-Builder is limited in projection speed. The ideal situation would be to have both machines and two sets of filmstrips.

5. That the teaching methods involved and the use of the training instrument be practiced before using it in the classroom.

Abstractor's Comments:

1. Shorthand is the type of class that can become boring if the teacher is not alert; therefore, an aid such as the Skill-Builder or the Controlled Reader can be used effectively as a motivational device.

2. As the writer indicated, these machines are not to be used for long periods of time; and more research is needed involving the use of these machines before definite conclusions can be drawn.

Abstract 143

Mary Margaret O'Connell, "An Experimental Study to Determine the Effectiveness of Programmed Gregg Shorthand Materials" (unpublished Ph.D. dissertation, University of Wisconsin, 1967), p. 197.

Problem:

"This study is an attempt to measure the effectiveness of the programmed materials in as favorable an experimental situation as possible."

Procedure:

1. All beginning shorthand students at Custer High School of the 1965-66 school year were included in this study. The students were assigned to various sections through a table of random numbers, and the classes were equated on the basis of overall grade-point average of each student.

2. Two teachers participated in the study and neither had previous experience using programmed materials. Both of the teachers were women and on the staff at Custer

High School. Each taught four sections of beginning shorthand.

3. Four different treatments were used in teaching the eight sections. One of the four treatments was used in each of her classes by both Teacher A and Teacher B. A total of forty-seven lessons were covered in the experiment.

4. Sections 1 and 5 used the programmed materials and the students completed the lessons in unison.

5. Sections 2 and 6 also used the programmed materials, but the students in these two classes progressed at their own rate.

6. Standard textbook material was used in Section 3 and 7, but took part of their dictation practice from tapes. These tapes had been prepared for the students using the programmed materials.

7. Students in sections 4 and 8 used standard textbook material and took all dictation from their teacher.

8. A "t" test was used to determine if there was any significant difference between the programmed and nonprogrammed sections and also between groups taught by Teacher A and those taught by Teacher B. Neither "t" score showed a significant difference at the 5 percent level of confidence with 214 degrees of freedom.

9. Due to various reasons, such as drops, transfers, or additions the final number in the eight sections at the end of the first semester was 210. These changes resulted in the classes not being equal on the basis of overall grade-point average.

10. Only those students remaining from the original assignment in each section were retained and only those students who entered with grade-point average similar to those who dropped were used in the final analysis.

11. An analysis was made at the end of the second semester to determine if any differences existed in achievement in taking dictation between students who learned shorthand theory from programmed materials and students who learned shorthand theory by textbook instruction. There were 117 students involved in the analysis made at the end of the second semester.

12. Students in all eight sections were given three achievement tests following completion of lesson 47. A

fourth achievement test was given at the end of the first semester and a fifth test was given to those students completing two semesters. Each of these tests is described in detail in the study.

13. The five achievement tests included Theory Test 1, Theory Test 2, Dictation Test 1, Dictation Test 2, and Dictation Test 3. The two Theory Tests each contained 100 words. Both theory tests measured the students' ability to write correct shorthand outlines for longhand words. On the first test, shorthand outlines were written from longhand words; and on the second test, the outlines were written from dictation which was prerecorded on tape.

14. Dictation Test 1 contained three short letters 1½ minutes in length dictated at 40, 50, and 60 words per minute. Two of the three letters dictated were to be transcribed in longhand. All of the Dictation Tests were prerecorded on tape along with instructions and a "warmup".

15. The students were given points on the letters transcribed. The higher the speed transcribed the higher the points providing the material was transcribed with a "reasonable" degree of accuracy. Errors were deducted from the base points, thus giving a positive score for each test.

16. Dictation Test 2 contained three short letters also dictated at 40, 50, and 60 words per minute. Each letter was 2 minutes in length.

17. Dictation Test 3 was given at the end of the second semester. Four tapes were prepared at the following speeds: (a) 40, 50, 60; (b) 50, 60, 70; (c) 60, 70, 80; (d) 70, 80, 90 words per minute. Each letter was three minutes in length. Since Custer High School had multiple-channel dictation equipment, it was possible to use all four tapes at the same time.

18. Coefficient of correlations were run on the following variables:

- a. Theory Test 1
- b. Theory Test 2
- c. Dictation Test 1
- d. Dictation Test 2
- e. Overall grade-point from high school subjects prior to enrollment in shorthand.
- f. Grade-point average for all subjects during first semester of the study.

- g. Grade-point average for all subjects except shorthand during the first semester of the study.
- h. Shorthand grade for first semester of the study.
- i. Turse Aptitude Test.

19. Coefficient of correlations were also run between one of the above variables and each of the other eight variables within the following:

- a. Programmed sections combined.
- b. Nonprogrammed sections combined.
- c. Sections taught by Teacher A.
- d. Sections taught by Teacher B.
- e. Programmed sections taught by Teacher A.
- f. Programmed sections taught by Teacher B.
- g. Nonprogrammed sections taught by Teacher A.
- h. Nonprogrammed sections taught by Teacher B.

20. All but three students enrolled in shorthand at Custer High School completed the Turse Aptitude Test during the first week of shorthand instruction. The non-programmed sections had a slightly higher mean score than the programmed sections.

21. A questionnaire containing 24 questions was given near the end of the first semester. The questionnaire contained 12 questions on programmed instruction and 12 on dictation from tapes on multi-channel equipment.

Findings:

1. Both Teachers A and B achieved higher scores on Theory Test 1 with their programmed sections. Teacher A achieved better results in the programmed classes that completed lessons in unison and Teacher B achieved better results in the programmed classes that worked at individual rates.

2. Also, on Theory Test 2, higher mean scores were achieved in the programmed classes of both teachers.

3. When the programmed classes and textbook classes were compared on Dictation Test 1, the mean scores were almost identical--programmed sections 51.8 and textbook sections 51.3. Teacher A's students were almost identical in mean score achievement to those of Teacher B's students.

4. A mean score of 48.2 was achieved when all students in the programmed sections were combined and a mean score of 57.3 was achieved by students in combined textbook sections. The analysis of variance shows a significant difference at the 5 percent level in favor of the students in the textbook classes.

5. The mean score on Dictation Test 3 for all students in the programmed sections combined, was 98.6 and for the textbook students combined, was 105.3. The analysis of variance showed no significant difference.

6. The 12 questions on the questionnaire referring to programmed instruction revealed that a majority of the students enjoyed using the materials and that they did not miss praise or criticism from the teacher. Some of the students missed having the teacher around and indicated they would rather work on their own only part of the time. Many of the students felt that the element of competition had been removed and, thus, reduced motivation for learning. However, in Section 6, nearly 40 percent of the students felt that the competition element had not been removed through programmed instruction.

7. A majority of the students indicated they enjoyed using multiple-channel dictation equipment. Only a small percent indicated a negative response.

8. When the entire population of the study was grouped, the final grade in shorthand had the highest correlation (.68) with overall grade-point average. The final shorthand grade and the Turse scores had a correlation of coefficient of .54.

9. When all the programmed students were grouped, the correlation of the coefficient between final shorthand grade and overall grade-point was also .68. When the programmed students and textbook students were grouped, the correlation of coefficients were .49 and .58, respectively, between Turse scores and the shorthand grade.

Conclusions:

1. The students in the programmed sections could write shorthand outlines from word lists and from dictation more effectively than students in the textbook sections. The programmed students scored significantly higher on both theory tests than did the students from the textbook sections.

2. While the programmed students did achieve higher scores on theory, this was not true on the final dictation test at the end of the semester. This might indicate that programmed instruction does not build as good a foundation for dictation as the textbook procedure.

3. Completion of theory lessons took longer through programmed instruction than with textbook materials. The result of these were not good at all by the group completing the programmed materials at their individual pace. Too much time was wasted even though the teachers attempted to motivate all students to finish as soon as possible.

4. Both teachers pointed out that while poor students failed in both programmed and nonprogrammed sections, they failed more completely in the programmed sections. Fewer of the poor and marginal students were able to meet minimal standards in the programmed sections; therefore, the dropout rate between first and second semester was higher.

5. No evidence was found in this study that would indicate that higher dictation skill was reached by students using multi-channel equipment.

6. The data in this study supports the idea that overall grade-point average is a good predictor of success in learning shorthand and is more valid than the Turse Shorthand Aptitude Test.

7. The findings of this study with the population studied, does indicate that programmed instruction procedure was not as effective in teaching shorthand as the textbook procedure. There is evidence, however, that the better quality students can and do learn shorthand effectively through programmed materials.

Recommendations:

1. That further study be made experimenting with programmed materials as a method of teaching Gregg shorthand theory, and that students with a higher aptitude for shorthand be used than was used in this study.

2. That a study be made using lower ability students in which they are given more time. Also that smaller groups be used so that teachers can give more individual assistance.

3. That further experimentation be done involving students whose schedule will not permit them to enroll in

shorthand. This procedure would suggest an "open lab" policy for these students to be able to secure dictation practice when their schedule will permit.

4. That further experimentation be done with taped dictation materials and programmed instruction in order to determine best time for introducing dictation.

5. That overall grade-point be a criterion for recommending students to enroll or not enroll in shorthand. The results of this investigation indicated that students with an overall grade-point of lower than a C should be discouraged from shorthand.

Abstractor's Comments:

1. This study further emphasizes that one of our best predictors of success in shorthand is grade-point average.

2. I would like to see a study done using programmed materials for remedial work homework assignments.

3. Through the use of programmed instruction and taped materials, it may be possible to offer more courses in home-study programs.

Abstract 144

Sister Teresa Miriam O'Connor, O.P., "A Comparative Vocabulary Analysis of Modern Business Dictation, The New York State Transcription Regents Test, and The Basic Vocabulary of Business Letters" (unpublished Master's thesis, The Catholic University of America, 1960), p. 73.

Problem:

"A Comparative Vocabulary Analysis of Modern Business Dictation, the New York State Transcription Regents Test and the Basic Vocabulary of Business Letters."

Procedure:

1. Words from the test and text used in this study were tabulated according to the principles set down in the Horn-Peterson list (40b). For proof-reading purposes, three copies were made--one original and two carbons.

2. Each word from lesson 50 to 140 in the textbook Modern Business Dictation, published by Pitman, was typed on an index card. There were 35,070 cards representing total running words. The number of cards for each word was then totaled and indicated in the respective column "textbook".

3. The New York State Transcription Regents Test for a ten year period was used. Each word from 60 letters (six from each year) was typed on yellow index cards. These totaled 7,134 running words. The number of cards for each word was then indicated in the column "Regents Test".

4. Percentages of words common and uncommon to the Test and Text were calculated.

Conclusions:

1. The Horn-Peterson Basic Vocabulary of Business Letters announces a listing of 14,834 words. The investigator by actual count found it to contain only 14,721 and this number was found in 1945 by Cobb (10b).

2. From the investigation of lessons 50 to 140 of Modern Business Dictation, the investigator found 35,070 running words, of which 22,491 were omitted according to the principles set down by Horn and Peterson. This leaves only 12,579 words that would suggest any difficulty, great or small.

3. From ten tests of the New York State Transcription Regents Test, 7,134 words were counted. After the omission of words that apply to the same principles used for the text, there remained only 3,261 words to be investigated.

4. In comparing these words to the Horn-Peterson list, it was determined that 3,081 words of the Text were common to the list and 106 were uncommon, and 1,423 words of the Test were common to the list and 53 were uncommon.

5. A further analysis revealed that 1,095 words of both materials were common to each other and also to the Horn-Peterson list, which represents a small proportion of similarity.

6. Only 2.6 percent of the words of the Test did not appear in the Text. This would indicate that the Text

does meet the vocabulary requirements of the Test by a very high percent.

Recommendations:

1. Further research and study needs to be done to determine the mortality rate on the New York State Transcription Regents Test.
2. The writer would like to see more research in the area of Pitman Shorthand.
3. Shorthand and transcription teachers should be aware of the advantages and disadvantages of vocabulary lists.
4. Those words included in the letters of the Test but not already included in the Text should be incorporated into Modern Business Dictation.
5. Since there were many words which are not apparent to the Horn-Peterson list, it would indicate the need for this publication to be revised.

Abstractor's Comments:

1. There is need to point out that a more recent vocabulary does exist by James E. Silverthorn (65b).
2. The findings and conclusions were the same in this study.
3. There were several places in the study that were difficult to interpret the meaning of the writer.

Abstract 145

Alice N. Page, "Conflicting Opinions in the Development of Transcription Skill as Revealed in the Literature from 1949-1960" (unpublished Master's thesis, University of North Dakota, 1960), p. 148.

Problem:

The problem of this study was to:

1. Evaluate and classify conflicting opinions in

the development of transcription skill according to four major classifications:

- a. Prerequisites for transcription
 - b. Introduction to transcription
 - c. Specific classroom activities
 - d. Standards
2. Present a brief account of the nature and history of transcription.
 3. Disclose methods of incorporating transcription into the curriculum.

Procedure:

1. All the articles suggesting transcription were read from the following magazines for a 10 year period: Business Education Forum, The Balance Sheet, The Business Education World, The Business Teacher, The Journal of Business Education.
2. The card catalogue was checked to locate books written during this ten year period.
3. A total of 66 articles, 5 books, and one thesis were reviewed and typewritten summaries were made on 3 x 5 cards. The cards were alphabetized by author. Any topic on a card in conflict with that same topic on another was listed.
4. The areas of conflict were classified under the following four major areas: prerequisites for transcription, introduction to transcription, specific classroom activities, and standards. These four areas were then subdivided using 3 x 5 cards, notes were then taken from the literature pertaining to the specific topic. The note cards were then classified under one or more of the subdivisions of the main areas of conflict.

Summary:

1. Transcription as a scheduled course is offered in very few high schools. Usually transcription is incorporated into the curriculum in one of the following ways: (a) in the last few weeks of first-year shorthand, (b) as a part of the secretarial practice class, (c) in the third and fourth semesters of shorthand alternating one day of shorthand with one day of transcription, (d) in a double

period for advanced shorthand, using one period for shorthand skill development and one period for transcription, or (e) as the fourth semester of shorthand training.

2. These various plans have resulted from the fact that time as well as teachers for vocational business educations differs from school to school. The number of hours for electives in the high school curriculum of the future will possibly be limited to a greater degree than at the present time.

3. Apparently the two-year course is regarded as the most satisfactory by the writers in the field. If only one year is offered, then arrangements should be made for additional time to build transcription skill. This extra time sometimes comes from having a secretarial course in which some training in transcription can be given. Other schools solve the problem by allowing shorthand students who are also in second year typewriting to spend part of the period working on transcription.

4. Some writers believe that there should be prerequisites for shorthand, while others feel there should not. For some authors, transcription is a fusion of the three basic skills--typewriting, shorthand, and English. If one of the skills is weak, it will surely break down under the impact of transcription for mailable copy. Some teachers believe that these skills can be developed at the same time and, therefore, there is no need for prerequisites.

5. Authors agree that the main objective in transcription is to develop correct techniques, but they do not agree on how this should be accomplished. Several plans were chosen and discussed in this study.

6. Familiar-matter dictation: The authors agree that familiar-matter dictation is an essential activity for transcription, but they tend to disagree on when to use it, the kind, and how much.

7. Office-Style Dictation: There is a wide variety of differences on this subject. Some believe that very little or none should be used, while others stress the importance of office-style dictation. They are not only in disagreement as to the amount of office-style dictation, but when it should be introduced as well.

8. Teaching Transcription: All writers in the area of transcription are in agreement concerning the necessity of reviewing and teaching the basics of written

English in the transcription classroom; however, they do not agree on the procedure. Several different approaches to accomplish this were discussed in the study.

9. Erasing: The primary discussion on erasing is whether erasing should be allowed early in the course or delayed until the final stages.

10. Letter Placement: The disagreement on letter placement does not come on whether it should be taught, but rather how letter placement should be taught. Several different methods and viewpoints were presented in the study.

11. Homework Assignments: Several authors recommended that a lesson per day should be assigned. However, most of them believe that this should really be left up to the individual teacher to determine how much homework to be assigned.

12. There is considerable disagreement in this area. Many authors believe that transcription rates should be based on periods of 30 minutes in length or longer rather than on the basis of one or two letters. Some authors feel that it is difficult to determine what standards businessmen actually have. They often pull standards out of thin air and many times they are high because they are trying to impress the teacher. Therefore, standards desired by businessmen are difficult to determine.

13. Mailability: The main problem with setting standards for mailability comes in defining what is meant by mailable. As some of the authors have said: "It is either mailable or unmailable." Surveys have been made of businessmen to determine what is mailable and little, if any, agreement is found among businessmen.

Recommendations:

1. That research be done to compare studies of the relative merits of each method of teaching transcription under pure research conditions to determine the most effective method.

2. That research be done to determine the ratio of transcription training to the overall shorthand training process that is necessary for successful stenographic employment of an average shorthand student.

3. That research be done to determine the optimum amount of time that should be devoted to transcription training in a one-year stenographic program.

Abstractor's Comment:

Only a brief description has been given in this abstract of the many items discussed in this study concerning transcription. The abstractor would suggest that anyone interested in what has been presented here consult the original document.

Abstract 146

Elise Douglass Palmer, "Development and Evaluation of Multiple-Channel Dictation Tapes in Beginning Shorthand Classes" (unpublished Ed.D. dissertation, The University of Tennessee, 1963), p. 265.

Purposes:

The purposes for conducting this study were as follows:

1. "To determine which of the selected background factors, if any, have significant bearing on terminal achievement in shorthand and could possibly be used as predictive measures with future beginning shorthand classes."

2. "To test the effectiveness of taped dictation compared with teacher dictation on the basis of criteria previously established in first-quarter shorthand classes at The University of Tennessee."

3. "To determine the attitudes of students toward the methods of instruction common to both the control and experimental groups and the attitudes of the students in the experimental groups toward procedures used in taped dictation."

Hypotheses:

The following hypotheses were stated in this study:

1. "There is no significant difference at the 5 percent level of confidence between the predicted terminal achievement scores (departmental vocabulary test

average, departmental vocabulary test D, and dictation speed level) of the classes receiving taped dictation and the class receiving 'live' dictation."

2. "There is no significant difference at the 5 percent level between the actual terminal measures (departmental vocabulary test average, departmental vocabulary test D, and dictation speed level) of the classes receiving taped dictation and the class receiving 'live' dictation."

3. "There is no significant difference at the 5 percent level between the intermediate achievement measures (four programmed material quizzes, and six vocabulary quizzes) of the students receiving taped dictation and the ones receiving 'live' dictation."

4. "There is no significant difference at the 5 percent level of confidence between the attitudes towards classroom methods and procedures of the students receiving taped dictation and those receiving 'live' dictation."

5. "There is a consensus of attitude between the two classes receiving taped dictation concerning various aspects of the instructional program."

Procedure:

1. Six beginning shorthand classes, two control and two experimental classes during the fall quarter and two additional experimental classes during the winter quarter, at The University of Tennessee participated in two shorthand experimental studies during the 1962-63 school year.

2. Forty-seven students took part in this study; the fall quarter class, Experimental Class I, contained 17 students; the fall quarter class, Control Class, 18 students; and the winter quarter class, Experimental Class II, 12 students. Only 1 boy participated in the study.

3. The following information was gathered on all students to assist in comparing the experimental and control groups:

- a. Cumulative Gradepoint Average Excluding English and Shorthand.
- b. Current Quarter Gradepoint Average Excluding English and Shorthand.

- c. Cumulative College Freshman English Grade.
- d. First Quarter (111) College Freshman English Grade.
- e. Act Test, Part 1: English
- f. Act Test, Part 2: Mathematics
- g. Act Test, Part 3: Social Studies
- h. Act Test, Part 4: Natural Sciences
- i. Act Test, Composite Score

4. All five parts of the Byers' Aptitude Test were given to all beginning shorthand students during the first week of instruction. The parts of the Byers' Aptitude Test used in the final analysis were as follows:

- a. Test 1: Phonetic Perception
- b. Test 2: Retention Ability
- c. Test 3: Observation Aptitude
- d. Test 4: Pattern From Parts
- e. Test 5: Hand Dexterity
- f. Composite Test Results

5. The first nine days of instruction for all students was received from programmed materials prepared, tested and revised at the University of Tennessee. At the end of the first nine days, the students were randomly divided into an experimental or a control group.

6. Throughout the remainder of the term, the following factors remained constant for both groups: presentation of theory, time utilized for presenting theory, dictation material, time used for dictation exercises, homework assignments, student teams for reading, teacher factor, number and types of tests, and the classroom factor. The major variable in this study was the use of multiple-channel dictation tapes to replace teacher dictation in the experimental group.

7. All groups participating in the two experimental studies were given 16 quizzes to be used for comparing the groups. Other tests included 4 theory tests covering lessons 1 through 40 and ten dictation tests given in the last three weeks of the quarter. The weights assigned to these tests in calculating the final grade were as follows: quizzes, 10 percent; vocabulary tests, 20 percent; and dictation tests, 70 percent.

8. Each of the four staff members, involved in one way or the other with the two experimental studies, graded 25 designated words on all papers. This was to insure consistency in grading. Each of these tests contained 100 words to be dictated in 15 minutes.

9. The dictation tests were dictated at 50 and 60 words a minute. The students were allowed 12 minutes to transcribe each test in longhand, and a 2 percent error allowance was permitted for passing a test.

10. The students in the experimental classes were asked to fill out an evaluation sheet during the last week of each term in order to obtain their reactions to the equipment, tapes for dictation practice, preview sheets, teacher activities, tapes for testing, and overall procedures used in the class throughout the term.

11. The STRAP (11b) computer program was used in determining the relationship between the background factors and the four terminal achievement scores. The t-test was applied to determine if a significant difference existed between groups based on both the predicted achievement and actual achievement and a Chi-square test was used to compare attitudes in both the control and experimental classes.

There were 47 students in this study and 46 in the companion study by Taylor (70b) for a total of 93. Some of the calculations were the same for both studies and were based on 93 students. Other calculations were made separately.

12. The findings, conclusions, and recommendations in this study were divided according to the three major purpose of the study.

SIGNIFICANT BACKGROUND FACTORS

Findings:

1. From the STRAP analysis involving the ten background factors on which information was available for all 93 students and the three dependent variables (departmental vocabulary test average, departmental vocabulary test D, and dictation speed level), it was revealed that those factors significant at the 5 percent level of confidence were Cumulative Gradepoint Average Excluding English and Shorthand, Byers' Aptitude--Phonetic Perception, and Byers' Aptitude--Retention Ability.

2. The STRAP analysis of the departmental vocabulary test and all fifteen background factors on which information was available for 75 students revealed that those background factors significant at the 5 percent level were Cumulative Gradepoint Average Excluding English and

Shorthand, Byers' Aptitude--Phonetic Perception, Act Test--Natural Sciences, and Act Test--Mathematics.

3. The STRAP analysis of the departmental vocabulary test D and the dictation speed level and the fifteen background factors on which information was available for 75 students revealed that those background factors significant at the 5 percent level of confidence include Cumulative Gradepoint Average Excluding English and Shorthand and Byers' Aptitude--Phonetic Perception.

Conclusion:

Cumulative Gradepoint Average Excluding English and Shorthand and Byers' Aptitude--Phonetic Perception had a significant bearing on terminal achievement in beginning shorthand.

Recommendations:

A similar study is needed involving a larger population in both beginning and advanced shorthand.

EFFECTIVENESS OF TAPED DICTATION

Findings:

1. The predicted terminal achievement scores indicated no significant difference at the 5 percent level of confidence between the experimental class and the control class.

2. The actual terminal achievement scores indicated no significant difference at the 5 percent level of confidence between the control class and the experimental class.

3. There was no significant difference between those receiving taped dictation and those receiving "live" on a majority of the intermediate measures.

Conclusions:

1. The method of instruction did not cause a significant difference on the predicted and the actual achievement scores.

2. A significant difference in the intermediate achievement scores was not caused by the method.

Recommendations:

1. Both intermediate and terminal measures should be used to evaluate a shorthand program.

2. Even though the difference between the two groups was not significant, multiple-channel equipment can be used to free the teacher of routine dictation and provide time to assist students individually.

3. A study is needed using the programmed dictation tapes in selected high schools which have laboratory equipment.

4. Further studies are needed investigating methods of increasing student motivation.

5. That research be conducted to determine whether the conventional classroom creates motivation growing out of awareness of progress of fellow students outweighs distractions not present in the laboratory setting.

6. Since the teacher was able to give more individual help in the small control class (16), a similar study needs to be made involving larger classes.

STUDENT EVALUATION

Findings:

1. There was no significant difference between the experimental groups and the control groups on the seventeen student evaluation questions.

2. On the questionnaire given to the experimental groups, 50 percent made favorable responses on 21, or 91 percent, of the 23 questions; 75 percent made favorable responses on 16, or 70 percent, of the 23 questions; and only 2 questions received below a 50 percent favorable response.

Conclusions:

The use of multiple-channel dictation tapes for instructional and testing purposes was highly favored by the experimental students.

Recommendations:

1. Further research is needed in advanced shorthand classes comparing synchronized multiple-channel taped dictation with "live" teacher dictation.

2. Further research is needed to determine techniques resulting in increased efficiency in the shorthand writing skill.

Abstractor's Comments:

1. A detailed description is given in the study concerning the preparation of the dictation tapes, the equipment used, and the carrying out of the experiment.

2. This study, like other similar studies, points out the effective use that can be made of multiple-channel dictation equipment and makes suggestions for its use.

3. Research such as this study has proven that through the use of audio-visual aids more students can be given shorthand instruction by fewer teachers and do a more effective job at the same time.

4. No problem statement was given in the original document.

Abstract 147

Rose Palmer, "A Comparison Between Two Groups of Shorthand Writers: An Analytical Study of the Shorthand Writing Habits of Students Under Pressure of Dictation at 80 Words a Minute as Compared with the Habits of Students Writing at 120 Words a Minute" (unpublished Ph.D. dissertation, New York University, 1964), p. 157.

Problem:

The problem of this study was to compare the shorthand writing habits of two groups of students working under pressure.

Hypotheses:

1. There is a significant decrease in hesitation time in construction of new outlines and writing automated shortcuts for students writing at 120 words a minute.

2. There is a significant decrease in hesitation time in writing new words and unpreviewed words for students writing 120 words a minute compared to students writing 80 words a minute.

3. There is a significant decrease in writing time of students writing 120 words a minute for which shortcuts have been learned compared to students writing 80 words a minute who have not learned the shortcuts.

4. There is little or no significant decrease in writing time of unfamiliar and unpreviewed words of students writing 120 words a minute compared to students writing 80 words a minute.

5. Students writing 120 words a minute will construct a higher percentage of correct outlines for unfamiliar, unpreviewed words than students writing 80 words a minute.

6. The speed and accuracy of both groups will be significantly affected by fatigue, with those students writing 120 words a minute being affected the greatest.

Procedure:

1. The investigator constructed two dictation takes containing basically the same context. The take at 120 words a minute contained 720 words, while the 80 words a minute take contained 480 words. This means that each take was six minutes in length. Both articles were 1.4 in syllabic intensity.

2. The words were selected from the 5,000 high frequency words of the Horn-Peterson (40b) and Silverthorn (65b) lists. The unfamiliar, unpreviewed words were chosen from words outside these lists, with the second and sixth minutes being loaded with infrequently used words. These times were chosen in order to observe the writers when they were fresh and also when they were beginning to tire.

3. The shortcuts used in this study were selected from the more than 500 shortcuts taught in the advanced shorthand classes at the institution under survey.

4. The two groups of students studied were enrolled in shorthand classes at the New York City Community College. The one-year students had attained a speed goal of 80 words a minute, and the two-year students

had attained a speed goal of 120 words a minute. Each group consisted of 12 students--1 outstanding, 2 very good, 5 average, and 1 poor. The students were also equated according to IQ.

5. The students were observed by means of a high-speed motion picture camera. Each student was photographed 3 minutes or 9,000 frames at 50 frames per second.

6. The motion pictures were carefully analyzed by the investigator to determine the length of time necessary to construct unfamiliar and unpreviewed words or shortcuts. Each reading was taken at least three times to insure accuracy.

7. At the end of the dictation and transcription, the shorthand notes and transcripts were collected. A chart was prepared for each student on which was recorded transcription errors, hesitation time, and writing time. Only those errors which indicated inability to read the outline were considered. When the shorthand outline was written instead of the shortcut, it was indicated by an x.

8. Statistical computations were made using the data gathered for this study. The significance of differences between groups was tested by means of the t-test.

Findings:

1. The second and the sixth hypotheses were the only ones found to be valid. A significant decrease was noted in hesitation time in writing unfamiliar, unpreviewed words of students writing 120 words a minute.

2. Although there was not a significant difference in hesitation time in writing words for which shortcuts had been learned, the t-score of 1.6 suggests that further research is needed using a larger sample.

3. Error percentages on notes and transcripts were almost identical for both groups of students.

4. The students writing at 120 words a minute frequently wrote the opposite character, e.g., p was frequently written as the f. Errors also increased on familiar words at higher speed, which tends to indicate that students have difficulty reading outlines written at high speeds.

5. Fatigue did not seem to affect the writing a great deal of those who had achieved a given writing speed.

However, construction of unfamiliar words did produce longer hesitations and slower writing time.

6. Although it was not a part of this study, IQ showed no correlation to stenographic achievement.

7. Also noted was that students often came to a complete stop in the middle of a word and often would retrace part or all of the outline. Sometimes they would mark out the outline and start over.

8. Familiar words which followed difficult words frequently caused a hesitation. The word due caused a hesitation of a second or more five different times. In some instances this hesitation was caused by changing pages.

Conclusion:

The only valid conclusion, if any, which could be drawn from this study was that the high speeds achieved by second-year students was not accompanied by a corresponding degree of accuracy of either shorthand notes or transcripts.

Recommendations:

1. Longer periods of dictation are needed in order to be able to determine affects fatigue might have on shorthand writing.

2. A study is needed analyzing the areas of difficulty to determine if Diamond Jubilee eliminated any of these areas.

3. Research is needed to determine the affect of speed by simpler systems such as Diamond Jubilee.

4. A similar study needs to be done using high school students.

5. A study needs to be made comparing two groups of advanced students--one group in which speed has been emphasized and the other in which accuracy has been emphasized.

6. A study needs to be made analyzing those factors which cause students to stop within a word. Also, the effect of several difficult words dictated close together.

Abstractor's Comments:

1. A similar study is needed using a larger and random sample.
2. Assuming that the findings of this study are valid, accuracy of outlines seems to be more important than high speeds.
3. Since hesitations seemed to be caused by difficult and unfamiliar words, more practice dictation should be given containing a wider vocabulary.
4. A similar study of the hesitations on high frequency words and brief forms would be beneficial.

Abstract 148

Alfred Lloyd Patrick, "An Error Analysis of Selected Brief Forms and Principles in Shorthand Notes of Beginning Gregg Diamond Jubilee Shorthand Students" (unpublished Ed.D. dissertation, The University of Tennessee, 1965), p. 192.

Problem:

The problem of this study was to make an analysis of errors made in shorthand outlines written from dictation using selected brief forms and principles.

Hypotheses:

1. "There is no significant difference among the four categories in the error rates on writing brief-form outlines from dictation."
2. "There is no significant difference among the four categories in the error rates on writing from dictation outlines containing the principles."
3. "For the brief forms there is no significant relationship between the errors made in the shorthand notes and the errors made in transcribing these outlines."
4. "For outlines written according to principles, there is no significant relationship between the errors made in the shorthand notes and the errors made in transcribing these outlines."

5. "There is no significant relationship between the error rate on the brief forms and the error rate on the derivatives of the brief forms."

6. "For brief forms there is no significant relationship between frequency of occurrence in the textbooks and the error rate in writing."

7. "For principles there is no significant relationship between frequency of occurrence in the textbooks and the error rate in writing."

8. "There is no significant relationship between the error rates on principles and the extent to which the principles were used in different words in the textbook material."

Procedure:

1. This study involved 35 schools randomly selected from a population of 158 high schools in five states. The schools were selected on the following: (a) students enrolled in first-year Diamond Jubilee during the 1964-65 school year; (b) would have completed at least 50 lessons at the time the tests were given; and (c) this was not the first year Diamond Jubilee had been taught.

2. Six letters of 150 words each were constructed to be dictated at 50 words a minute. Each letter contained one-half of the brief forms and one-half of the principles. The derivatives were tested only one time. The reliability of these tests was checked using 33 second-year high school shorthand students.

3. The six letters were divided into parts. Part A contained letters 1, 2, and 3; and Part B contained letters 4, 5, and 6. The 35 schools were divided into two groups. Group I took Part A on the first test day and Part B on the second test day. Group II reversed the order. All 35 schools returned the shorthand notes and transcripts.

4. Using a table of random numbers, papers for 10 students were selected from 20 schools. This made a total of 200 sets of papers for the final analysis.

5. Scorer reliability of the test was checked and revealed reliability coefficients of .79, .83, and .87. After adding additional criteria for scoring, the sample checked revealed coefficients of .98, .98, and .97.

6. Test reliability was determined by correlating the results of letters 1, 2, and 3 with those of letters 4, 5, and 6. This revealed a reliability coefficient of .93.

7. The data gathered were subjected to correlation coefficients, t-tests, and analysis of variance.

Conclusions:

1. The relationship between frequency of occurrence of the selected brief forms and the shorthand error rate was a negative but significant correlation of $-.65$.

2. The relationship between accuracy of brief forms and accuracy of transcription was a positive significant correlation of $.55$ and $.99$.

3. The relationship between accuracy of brief forms and brief form derivatives was a significant positive correlation of $.61$.

4. The brief forms changed in the Diamond Jubilee Series that showed higher error rates than in previous studies on Simplified brief forms were: desire, doctor, go, house, and usual.

5. The relationship between accuracy of outlines containing principles and accuracy of transcription was a positive significant correlation of $.58$ and $.97$.

6. The relationship between frequency of occurrence of the principles and shorthand error rate on writing the principles was a significant negative correlation of $-.34$.

7. The relationship between the number of different words in which the principles appeared and the shorthand error rate was a significant negative correlation of $-.39$.

8. The principles changed in the Diamond Jubilee Series that showed a higher error rate than in previous studies on Simplified principles were: ally, illy, pro, and ship, short.

9. The principles changed in the Diamond Jubilee Series that showed a decrease in error rates from previous studies on Simplified were: ify and less.

Recommendations:

1. More study is needed with regard to the o and oo hook.
2. Brief forms that need further study are: experience, instant, nevertheless, acknowledge, progress, and house.
3. Principles that need further study are: super, electr, electric, cient, tient, ical, icle, ification, lity, rity, ulate, ulation, ally, illy, pose, position, ship, short, ng, and ngk.
4. Research is needed to determine the correlation between accuracy of brief forms, derivatives, and principles and the speed and accuracy of transcription.
5. Research is needed comparing the achievement of two groups of students when the experimental students are subjected to supplementary material that increases the frequency of occurrence of brief forms and principles in homework and classroom dictation. The control students would use only the textbook material.
6. Research is needed to determine the reason for the low correlation between the frequency of occurrence of principles and shorthand error rates on principles.

Abstractor's Comments:

1. The high correlation between accuracy of outlines written for brief forms and principles and the accuracy of transcription indicates a need for stressing the writing of accurate outlines.
2. The findings of this study should be of interest to shorthand teachers and authors of Gregg Shorthand textbooks.

Abstract 149

Dorothy Donohue Patterson, "Teaching of Notehand Utilizing Programmed Instruction" (unpublished Master's thesis, The University of Michigan, 1964), p. 87.

Problem:

The problem of this study was to determine whether or not teacher time required for teaching theory could be decreased through the use of programmed materials, and if this time could be utilized by the teacher to conduct other worthwhile learning activities.

Procedure:

1. The materials used in this study were prepared by the investigator and were to cover the last half of the notehand theory, contained between chapters 23 and 42. A total of 186 frames was required to present the last half of the theory. The first half of the notehand theory had been covered prior to this study. These programmed materials were designed to free the teacher for other activities.

2. The materials prepared were used in a pilot study involving 12 of the teacher's students in another class.

3. The experiment began the twelfth week of the first semester and lasted for 62 teaching days. Each period was 55 minutes long, with the last five minutes used for working on homework assignments.

4. The experiment involved three classes--one experimental and two control. The 1964 group contained 4 boys and 17 girls who elected to take the experimental class. The 1962 control group contained 13 boys and 19 girls, and the 1963 control group contained 4 boys and 15 girls. All were following a college preparatory curriculum.

5. A test was given at the end of the experiment. The test was given in two sections: one included the "Frequently Used Word," as well as brief forms; and the second section contained 110 isolated words representing typical theory vocabulary. The same test was used for all three classes.

6. Three questionnaires were used during the experiment to gather information concerning student opinions of the experiment.

Findings:

1. Through the use of the programmed materials prepared for the experimental class, several learning activities were inserted during the 62 fifty-minute periods. Those activities were: (a) lectures concerning notemaking experiences, (b) post-lecture activities. (c) utilization of How to Study, (d) use of other books on study habits, (e) showing films, (f) preparation of a library term paper, (g) class session in outdoor laboratory, (h) improved dictionary usage, (i) study of Christian names, (j) consideration of etymology of words, (k) use of a thesaurus, (l) teaching of basic words, (m) learned Greek alphabet, (n) introduced "bluebooks", (o) reference to college catalogs, and (p) the "question box".

2. The analysis of variance showed no significant difference between the groups on intelligence quotients.

3. The final examination showed a significant difference between groups at the 5 percent level, in favor of the 1964 experimental group.

4. When the effects of the intelligence quotient were controlled by the analysis of covariance, a significance existed at the 1 percent level, in favor of the 1964 experimental group.

5. The adjusted mean on the final test was significantly larger at the 5 percent level, for the 1964 group over the 1963 group. Furthermore, the 1962 group was significantly larger at the 5 percent level than the 1963 group. However, no significant difference existed between the 1964 and 1962 groups.

6. An overwhelming majority of the experimental students believed the activities used in their class should be continued. Four indicated that the homework was too heavy, while 17 felt that it was not. All but one felt they had learned how to make improved notes from lectures, and all 21 believed their study habits had been improved.

Conclusions:

1. On the basis of the limited findings of this report, the conclusion can be made that as much learning

took place with students using the programmed materials as with the 1962 group taught by the same teacher.

2. The use of programmed materials provided not only extra time for worthwhile learning activities but also without affecting students' learning of notehand.

Recommendations:

1. Research is needed to determine the effect of presenting all theory by programmed materials.

2. Research needs to be done to determine the best grade level for offering notehand.

Abstractor's Comments:

1. On page 14 the writer refers to five minute periods but apparently she meant fifty-minute periods.

2. The organization of the report made interpretation difficult, e.g., the procedures, findings, and conclusions were not all presented together.

Abstract 150

Catherine M. Pawelski, "An Experimental Study to Determine the Effectiveness of Fast-to-Slow Dictation in Building Speed in Second Semester Gregg Shorthand" (unpublished Master's thesis, The Catholic University of America, 1965), p. 97.

Problem:

The problem of this study was to test the procedure of fast-to-slow dictation in building shorthand speed in a classroom situation with a typical group of shorthand students.

Procedure:

1. The study consisted of 36 girls enrolled in two sections of beginning shorthand at Kaukauna High School, Kaukauna, Wisconsin, during the second semester of the school year 1963-64. No one was refused admission to enroll; however, students are advised to the likelihood of passing on the basis of scholastic aptitude, English

achievement, overall grade-point average, and the results of the Turse Shorthand Aptitude Test. The students were paired according to IQ and grade-point averages and divided into a control group and experimental group.

2. The lesson plans were identical for both groups the first semester. The only variable during the second semester was the dictation method. Students in the experimental class were given dictation from fast-to-slow, and the control group received the traditional method of dictation from slow-to-fast.

3. Second semester testing consisted of 3- and 5-minute takes dictated at appropriate speeds about every two or three weeks. The tests were taken from Progressive Dictation with Previews and Speed Dictation with Previews in Gregg Shorthand both by Zoubek. Two takes at the same speed were often used so students in the morning class could not pass information along to the afternoon class. Vocabulary and brief form tests were also given.

4. Each student transcribed only one take and 95 percent accuracy was required for passing. A maximum of 45 minutes was allowed to transcribe 5-minute takes, and 30 minutes was allowed for transcribing 3-minute takes.

5. Statistical calculations were made including means, standard deviations, and t-ratios.

Findings:

1. The t-ratios of .662 and .601 indicated that the means for the two groups were not significantly different.

2. There were four people in each group who transcribed no takes within the 5 percent error limit. These people were in the lower third in the control group, but were scattered more in the experimental group. A further analysis revealed that pairs 5 and 10 of the control group showed marked underachievement, while pair 13 of the experimental group showed marked overachievement. Six members of both groups passed higher 5-minute takes than their partners.

3. Although the mean score of the control group was slightly higher than that of the experimental group for theory and brief form tests, the difference of .013 was not significant.

4. Although the two groups were not significantly different in mean transcribing rates, the experimental group was 1.02 words higher than the control group.

5. Although the differences were small between groups, a larger number of control members excelled their partners in both semesters than the number of experimental members who excelled their partners.

6. The rank correlation of paired data and achievement showed a significant or high significant correlation coefficient for all tests in both the experimental and control group except for second semester transcribing speed for the control group on all takes attempted.

Conclusions:

1. Although the experimental method of dictation from fast-to-slow for speed building did not produce marked achievement over the traditional method of slow-to-fast, the conclusion may be drawn that this procedure may be used without detrimental effect on the outcome of the achievement of students.

2. A general observation of the teacher was that this method of fast-to-slow dictation did not lead to discouragement and frustration any more than the traditional method, if as much.

3. Another observation was that the experimental method automatically ends with writing for control; whereas, the traditional method ends with writing for speed.

Recommendations:

1. Research is needed to determine the cumulative effect of the experimental method over two, three, or four semesters.

2. Research needs to be done to find out if the experimental method has any significant influence on number and duration of speed plateaus in shorthand.

3. The fast-to-slow procedure was recommended as a change-of-pace device.

Abstractor's Comments:

1. Since the fast-to-slow method ends with writing for control, it would seem to be feasible to employ this device occasionally to improve legibility.

2. As the investigator indicated, the sample size was too small from which to draw sound conclusions.

Abstract 151

Francis Marian Pearce, "The Development of American Shorthand Textbooks" (unpublished Ed.D. dissertation, The University of Southern California, 1965), p. 312.

In this study an analysis was made of 213 textbooks published in the United States between the years 1792 and 1955, which presented a basic course for a manual shorthand symbol system. This study was conducted to determine the following: (1) the characteristic physical properties of the books of each period, (2) what changes have been made in these characteristics over the 163 year period, (3) how both learning and teaching was to be undertaken, and (4) the similarities and differences apparent in the textbooks for each period by subjecting each book to a detailed checklist.

Summary of years 1792 to 1863. Systems of short writing have existed since earliest times, and shorthand systems of this period reflected earlier systems. There were only a few shorthand teachers during this period and the skill was desired more for personal use than business use, therefore, accuracy was more important than speed. Earlier textbooks tended to be small and sometimes included advertising, testimonials, or propaganda in defense of the book or shorthand in general. The majority of these books were copyrighted and were published by publishers, printers, or the authors themselves. Most of the earlier textbooks lacked evidence of a definite pattern to accomplish the objectives. Authors very seldom indicated the grade level on which the textbook should be used. Some of the textbooks gave pointers, such as how many times to write the lesson, when to begin writing, whether to use a pen or pencil, and whether or not to use ruled paper. Very little attention was given to transcription. During this period, shorthand began to emerge as a recognized part of formal education.

Summary of years 1864 to 1899. Numerous changes were reflected in business education during these years. The demand grew for office workers and women responded to this cry. Typewriting became a sister skill for shorthand and emphases were placed on vocational competency rather than personal use. The titles of textbooks were changed to include names of authors who had established schools for shorthand training. A larger number of the textbooks were copyrighted and more of them were published by firms skilled in this area. Many of the physical aspects remained unchanged. However, more books were printed on glossy paper and were larger in number of pages. The print also tended to be larger. Less extraneous material was included, especially of a philosophical, historical, or advertising nature. Authors began to strive for better organization of the materials and a specific level for use was indicated. More emphasis began to be placed on learning under instruction rather than self-teaching. Emphasis in transcription changed from speed of transcription in longhand to speed of transcription on the typewriter. Accuracy in writing was still stressed; however, fluency of movement was recognized as being important. More information on how to teach appeared in some books. Detailed instructions were given on use of pens, pencils, paper, and ink. How to turn the pages of the notebook while taking notes was also given. This period indicated that changes were occurring everywhere and that shorthand authors were attempting to keep pace.

Summary of years 1900 to 1955. Titles were changed on revisions to reflect the new, the practical, the complete, and simplicity of learning shorthand. These titles often included the name of the author of the system. Textbooks most frequently were written by teachers and many had advanced degrees. In general these textbooks contained more and larger pages and were bound in heavier covers. Although the length of line and the distance between lines was approximately the same as previous periods, the print was often larger. Some changes made included less advertising, more pages in the appendix, the inclusion of dedication pages, and the index and table of contents became more important. More pictures were included and continued use of flyleaves, prefaces, and title pages attested to their importance. The most important claim for improvement over previous periods was simplification. Other important claims were modernization and the previous testing of materials and improved presentations and illustrations free from error. The lesson continued to be the most important instructional division. The following organizational pattern was predominant:

(1) presentation of new material, (2) illustration, (3) transcript, and (4) practice exercise. All books analyzed in this period were copyrighted; however, authors seldom claimed originality and named earlier authors as the basis for theirs. Writing was still favored as the learning approach; however, fluency and speed along with transcription skill became recognized factors for success in shorthand. More emphasis was placed on aids for the teacher and student. This emphasis was evident in the directions, suggestions made for teaching and learning, the arrangement of learning materials, preparation of a key to the plates, and provision of teachers' manuals and other aids.

Summary of common elements. Common elements which appeared in all textbooks analyzed included capitalization, punctuation, abbreviation, phrasing, stroke size, and position writing. Capitalization of words or letters was the most consistent of the common elements. Abbreviations tended to diminish throughout the period, especially in the later systems. Phrasing was considered important; however, there was a great deal of difference in the method used to teach phrasing. Emphasis decreased throughout the period on exact stroke size. Rigid adherence to an exact measurement was replaced by a recognizable, correctly proportioned outline of individualistic size. Vowel position became less important in a majority of the later systems. Only a brief summary has been given in the foregoing paragraphs concerning the vast analysis that was made by the investigator of 213 textbooks. The abstractor would suggest that the original document be consulted if more detailed information is needed.

Abstract 152

Marjorie Lamont Pedersen, "A Survey of the Use of Shorthand and Typewriting by the Graduates of Jackson College, Department of Women in Tufts University" (unpublished Master's thesis, Boston University, 1957), p. 52.

Problem:

The problem of this report was to make a follow-up study of the 1954, 1955, and 1956 graduates of Jackson College, Department of Women in Tufts University, to determine the extent that shorthand and typewriting have been used by the graduates in their jobs and to study the implications of the findings for revision of the program at Tufts University.

Procedure:

1. Permission was obtained from the Provost of the University to make a survey of the graduates in the 1954, 1955, and 1956 classes of Jackson College.

2. A study was made of the related literature to provide a background for the study, and to aid in the forming of important questions for the survey.

3. The questionnaire to obtain information concerning shorthand and typewriting and the letter of transmittal were written, revised, and then written in final form.

4. The questionnaire and letter of transmittal was mailed to 330 graduates. Lack of forwarding addresses caused 15 of them to be returned. Replies were received from 176, which represented 56 percent of those who received the questionnaire.

5. The data received were tabulated and summarized.

Findings:

1. About one-half of the respondents to the survey studied shorthand and typewriting at Tufts University.

2. Shorthand and typewriting were valuable to the graduates in obtaining positions in business.

3. In general, shorthand and typewriting speeds were considered adequate for the positions sought by the graduates. Many of the graduates indicated that they had advanced into junior executive positions where the skills were no longer in demand.

4. One-half of those responding, reported that they used manual typewriters completely. Only 21 percent use electric either part- or full-time. The 1956 graduates were using electric typewriters more than the earlier graduates.

5. Of those responding, 75 percent were employed at the time of the survey. About 50 percent were engaged in some form of business as a career.

6. Sixty-nine percent of those answering believed that some academic credit should be given for typewriting

and 80 percent felt that credit should be given for shorthand.

7. If credit had been allowed for typewriting and shorthand, 112 of the respondents indicated that they would have taken more courses in these areas.

8. Letters of application, friends, and private employment agencies were the best sources of employment.

9. Those respondents who had had shorthand and typewriting felt that their choice of jobs was wider because of their ability in shorthand and typewriting.

10. Most of the graduates were satisfied with their present jobs.

11. The initial jobs were divided equally from three months before graduation to three months after graduation. Some had traveled for the summer, others had summer jobs after graduation, and several had taken a vacation before starting on their careers.

12. Fifty percent indicated that they used typewriters less than 10 hours per week on the job, and the same percent indicated that they used the typewriter from 10 to 20 hours per week on the job.

13. Most of those answering used the typewriter less than 5 hours per week for personal use.

Recommendations:

1. Undergraduates should be encouraged to enroll in shorthand and typewriting early in their college term to allow for at least two years training in these areas for all women preparing for employment in business.

2. The faculty should be made aware of the number who feel that some credit should be allowed for courses in shorthand and typewriting.

3. More practice should be given in typewriting in dictation at the typewriter.

4. Future teachers should be given more practice in mimeographing or other methods of reproducing tests.

5. Future graduate students need more work in footnotes, references, and bibliographies in typewriting.

Abstractor's Comments:

1. This study is the type of survey that business teachers should find useful. If for no other reason, it helps to assure us that we are providing a worthwhile service.

2. No conclusions were drawn from the findings.

Abstract 153

Bobbie Sorrels Persing, "A Classroom Investigation of When to Begin New-Matter Dictation in Gregg Shorthand" (unpublished Ed.D. dissertation, The University of Oklahoma, 1966), p. 119.

Problem:

"The problem of this study was to determine whether new-material dictation should be introduced early or delayed until the theory of shorthand has been completed."

Hypotheses:

1. "There is no significant difference in the mastery of theory in beginning shorthand when new-material dictation has been delayed until theory has been completed and when new-material dictation has been initiated before theory has been completed."

2. "There is no significant difference in familiar-material dictation attainment in beginning shorthand when new-material dictation has been delayed until theory has been completed and when new-material dictation has been initiated before theory has been completed."

3. "There is no significant difference in new-material dictation attainment in beginning shorthand when new-material dictation has been delayed until theory has been completed and when new-material dictation has been initiated before theory has been completed."

Procedure:

1. An interpretation was made of psychological theories of learning as to when to introduce new-material dictation.

2. Business education literature was searched to determine the kinds and extent of verification for both the early introduction and the delay of new-material dictation.

3. Two classes of beginning shorthand each semester for three semesters at Central State College, Edmond, Oklahoma, were conducted to study results obtained with both the early introduction and the delay of new-material dictation. The two classes were designated as Group A and Group B. Group A was the experimental group and Group B was the control group. There was a total of 91 students included in the analysis: 43 in Group A and 48 in Group B.

4. The two groups met for 50-minute periods, five days a week, for an 18-week semester. However, because of enrollment, final-examination week, and holidays the classes actually met for 16 weeks or 80 days.

5. Gregg Shorthand for Colleges, Volume I, was used as the text. The students were also asked to purchase the student transcript. The same teaching procedure was used for both Groups A and B. Neither class was told that the two classes were being taught differently or that their performance would be the subject of analysis. Furthermore, the students were not told that they would be tested over both new and practiced material until the 15th week. This way those not given practice on new-material could not practice outside of class.

6. A student was required to pass any three of the 3-minute takes at that speed or higher in order to establish a given speed on either new-material dictation or practiced-material dictation. The student was required to transcribe in longhand at 95 percent accuracy in order to pass the test.

7. Since the enrollment at Central State will not preclude predetermined matched groups, the two groups were compared statistically to determine if a significant difference between the two groups exists. The two groups were not significantly different in respect to ages, grade-point average, ACT composite percentile ranks, and ACT English percentile ranks.

8. A theory test was administered after each chapter. The test included 25 representative words and phrases and all of the brief forms. The students wrote one word on a line as they were dictated. After they were dictated, the students wrote in the longhand for each

outline on the line beside it. Each theory test was assigned two scores: one for the 25 words and phrases and one for the brief forms. Equal weight was assigned to the shorthand outline and longhand word. Since there were 25 outlines and 25 longhand words, each was worth 2 points. The brief forms were scored separately.

9. The groups were submitted to Chi-square and Fisher exact probability testing of significance for each of the three tests given in tests of theory, familiar-material dictation, and new-material dictation.

10. After the learning theories were applied to the issue, the findings of procedures 1, 2, and 3 were put into the written form found in the study.

Findings:

1. Neither the delay nor the early introduction of new-material dictation affected achievement in theory, familiar-material dictation and transcription, or new-material dictation and transcription.

2. Additional practice on familiar material dictation for one group did not lead to a higher performance on familiar-material dictation by that group.

3. The new-material dictation practice given to the one group did not lead to a higher performance on new-matter dictation by that group.

4. The early introduction of new-matter dictation was not damaging to motivation.

Conclusion:

From the evidence revealed by this study, there is no basis on which to build a recommendation for either early introduction or delay of new-matter dictation. Therefore, the conclusion was drawn that each teacher of Gregg shorthand should be aware of the arguments for and against and select and apply those procedures which prove best for him.

Recommendation:

That perhaps methodologists and shorthand teachers should turn their energies from the new-matter dictation

debate to other, more pertinent aspects of the shorthand learning process.

Abstractor's Comments:

1. Perhaps the time at which the new-material dictation was introduced was a determining factor in the outcome of the study.

2. Also, the new-matter chosen by the researcher is closely related to the textbook material and, therefore, would not have the same affect on students as nonrelated new-matter dictation.

3. Perhaps this study points out the importance of using discretion in choosing the correct time to introduce new-material dictation and the material used.

Abstract 154

Robert Morgan Peters, "The Effect of Inconsistencies in Shorthand on Transcription" (unpublished Master's thesis, Mankato State College, 1958), p. 42.

Problem:

The problem of this study was to determine the effect of inaccuracies in shorthand outlines on transcription and to determine the correlation existing between incorrectly written shorthand and words transcribed incorrectly.

Procedure:

1. The words used in this study were selected from the Fox (22b) and Kalstrom (43b) studies. This study does not include all the words used in those two studies. Only the words missed most frequently were used. The words falling below the 75 percent of accuracy in the Kalstrom study were used and those missed more than 100 times were taken from the Fox study.

2. A representative sample of 33 second-year shorthand classes were selected from public schools in Southern Minnesota. An estimate was made that each class would contain an average of 10 students.

3. Double postal cards were sent to the business teachers in the schools selected asking for their cooperation. They were asked to indicate on the return card the number of second-year shorthand students. Twenty-eight cards were returned and three indicated that there were no second-year shorthand students.

4. Three letters were constructed containing the selected words. The test letters and instructions were mailed on November 6, 1957. The letters were to be dictated by the end of the second week in November. There were 26 sets of test letters mailed and 24 were included in the study making a 92 percent return.

5. The 90 percent level of accuracy was dogmatically chosen for this study. Any words transcribed correctly by 90 percent or more of the students pose little or no difficulty. If the 75 percent level had been chosen, only six words in the study presented difficulty so far as transcription was concerned. Words transcribed correctly but not written in shorthand were omitted.

6. Letter number one contained 250 standard words, letter number two 125 standard words, and letter number three was the shortest of the three. They were all dictated at 50 words a minute and the syllabic intensity was 1.4.

Findings:

1. Twenty-four of the words used in this study were transcribed correctly by 90 percent or more of the students.

2. On letter one, 33 students had mailable transcripts, 73 had mailable letters on letter two, and 186 had mailable letters on letter three. This would seem to indicate that students make fewer errors proportionately on shorter letters.

3. The coefficient of rank correlation between shorthand outlines and incorrect transcription was .381. A coefficient of rank correlation of greater than .364 indicates significance at the .05 level of confidence.

4. When comparing the percentage of errors in shorthand outlines and the percentage of errors in transcription, as the percentage of inaccuracy in shorthand increased the percentage of inaccuracy in transcription also tended to increase. At no time did the inaccuracy in transcription equal the percentage of inaccuracy in shorthand outlines.

5. When making a comparison of the trends of the percentage rankings in the tables, apparently the inconsistencies in shorthand might have some measurable effect on the accuracy of transcription.

6. Patterns of incorrect shorthand outlines fall into the following four general categories: Fifteen outlines were written using incorrect symbols, 34 outlines were written out in full, correct symbols written backwards were used in 3 outlines, and essential outlines were omitted in 16 words. Approximately one-half of the incorrect outlines were those written in full.

7. Omission. In several cases, the shorthand words were omitted but the transcription was correct. However, omitted words tend to lessen the probability of transcription and, if transcribed, it is likely to be incorrect.

8. Legibility. If outlines noted in previous tabulations as incorrect outlines had been transcribed correctly, the outline was considered legible. If the outline was completely incorrect in form, the outline was considered illegible. Proportions were not considered.

9. Of the total outlines tabulated, 237 were considered legible and 459 were illegible. This would seem to indicate that illegible outlines accounted for a major portion of the omissions in transcription.

Conclusions:

1. Using 90 percent as a criterion, over 33 percent of the words ranked above this level in terms of accuracy in transcription.

2. There was some evidence to substantiate the belief that fewer errors proportionately are made in transcribing shorter letters.

3. Errors made writing incorrect shorthand outlines tended to group themselves into general patterns.

4. When shorthand outlines were omitted, the transcript tended to be omitted also.

5. Illegible shorthand outlines tended to increase the possibility of omission in the transcript.

Recommendations:

1. That a more comprehensive study be made to determine the effect of the length of the letter on the accuracy of the transcription.
2. That a study be made to determine specific causes of transcription errors.
3. That a study be made of errors made in shorthand outlines of words constituting applications of principles and their relationship to transcription.
4. That a study be made to establish relative degrees of difficulty so far as principles and inconsistencies are concerned.

Abstractor's Comments:

1. This study tended to prove that an outline written incorrectly is better than no outline at all, since omitted outlines tend to cause omissions in the transcript. However, completely incorrect outlines also tend to cause omissions in the transcript.
2. This study also indicated that the most common error in writing shorthand outlines was writing the outline in full. This was one of the strong selling points of the Diamond Jubilee Series.
3. Proportions were not considered in this report; however, the abstractor believes that ill proportions can cause an outline to be illegible and cause omission in the transcript.

Abstract 155

David Richard Peterson, "Critical Nature of Certain Types of Errors Found in Shorthand Outlines" (unpublished Master's thesis, Mankato State College, 1966), p. 120.

Problem:

The problem was to determine the types of errors in shorthand outlines which lead to errors in transcription. A further intent was to make a comparison of the relationship of speed to errors.

Procedure:

1. The population of this study included 65 students from six schools from the Winnebago, Minnesota area. All students were tested during the month of February, 1966, and the instructors collected both shorthand notes and transcripts.
2. Ordinary business letters were used in the study and were taken from the text, Gregg Dictation Simplified. Four letters were dictated--two at 60 words a minute and two at 80 words a minute. The syllabic intensity of all letters was 1.35, and the word frequency was 85.42 for the dictation at 60 words a minute and 92.38 for the dictation at 80 words a minute.
3. The findings of the experiment were tabulated on a worksheet. The worksheet contained each incorrectly written shorthand word, the part of the incorrectly written theory was recorded, and the effect made on the transcript by each error.
4. The errors were classified as follows: Strokes Omitted, Unnecessary Strokes Added, Substitution of Strokes, Proportion, Incorrect Joining of Strokes, Incorrectly Formed Strokes, and Unrecognizable Outlines.

Findings:

1. On the two takes dictated at 60 words a minute, a total of 1,543 errors were made and 97, or 6.29 percent, of these were transcribed incorrectly.
2. On the two takes dictated at 80 words a minute, there was a total of 2,175 errors and 180, or 8.28 percent, of these were transcribed incorrectly.
3. Of the seven categories for type of error, unrecognizable outlines caused the most frequent error in the transcripts at both levels.
4. The most frequent errors in dictated material at both rates were: omission of strokes, addition of unnecessary strokes, incorrect proportion, and unrecognizable outlines. Although all four of these increased with increase in dictation rate, proportion increased the most.
5. On material dictated at 60 words a minute, the percent of incorrect transcript caused by omitted strokes

was more than twice that caused by unnecessary strokes added; and at 80 words a minute, the percent of incorrect transcript was only two to one for the same two types of error, with the larger increase being in unnecessary strokes added.

Conclusions:

1. The writing of correct outlines with more control should be stressed so that a smaller percent of the outlines will be unrecognizable.

2. The findings tend to indicate that more emphasis should be placed on writing words according to principle, since more transcription errors were caused by omission of strokes rather than the addition of unnecessary strokes.

3. Since proportion errors tended to increase with increase in dictation rate, greater emphasis should be placed on building control and speed together.

4. As the dictation speed increases, errors made in recording shorthand notes and transcription also tend to increase.

Recommendation:

That a similar study be conducted comparing student results on dictation at more than two rates.

Abstractor's Comments:

1. This study indicated that proportion and control are important when transcribing from shorthand notes and that their importance increases with dictation rates.

2. The findings of this study may be used in a shorthand methods course.

3. The findings of this study indicated that the writing of too many strokes does not affect the accuracy of transcripts as much as the omission of strokes. This would favor the Diamond Jubilee revision.

Abstract 156

Richard B. Peterson, "An Investigation of the Validity and Reliability of a Formula for Determining Difficulty of Shorthand Dictation Materials" (unpublished Master's thesis, Mankato State College, 1964), p. 84.

Problem:

The problem was to make a study of the validity and reliability of the formula developed by Mildred Hillestad (38b) for predicting the difficulty of shorthand dictation materials.

Procedure:

1. This study consisted of 864 Shorthand I and 353 Shorthand II students in 35 business education departments in high schools in Minnesota. Both large and small schools were included in the sample.

2. Eight letters were constructed in which the Y' was gradually increased by increasing the syllabic intensity and the number of words not on the first 1,500 words of the Silverthorn (63b) list. The Y' ranged from a high of 1657 to a low of 93 and the word count was held constant at 1.4.

3. The eight letters were constructed as follows: Letter 1 was comprised of words mainly from the first 400 words on the Silverthorn list; Letter 2, the second 400; Letter 3, the third 400; Letter 4, the fourth group ending at 1,500; Letter 5, the words from 2,100 to 2,500; Letter 6, from 3,100 to 3,500; Letter 7, 4,100 to 4,500; and Letter 8, over 5,000. Letters 9 and 10 were constructed from words mainly from the first 1,000 words on the Thorndike-Lorge (74b) list.

4. The letters were all dictated in the second semester of the school year for both Shorthand I and Shorthand II students. Speed was not a variable; therefore, the dictation was held at 50 words a minute for both classes. The letters were transcribed during the same period as that dictated, were either typed or in longhand, and were not timed. No previews were given.

5. The same variables were provided as used in Hillestad's formula. Other variables controlled included time of school year, rate of dictation, and transcription period. Variables not taken into account were scholastic aptitude, motivation, teacher qualities, and ability of students to take a high rate of dictation.

6. Random samples of 100 papers were selected for both Shorthand I and Shorthand II students. Transcripts were to be verbatim and errors were classified as word omissions and word substitutions. Errors made by second-year students were further classified to possible causes of incorrect transcripts as follows: proportion, word choice, legibility, plurals, and word endings.

7. These data were compared using the Pearson product-moment correlation and the t-test was used to determine significance of difference.

Findings:

1. When the entire sample of 200 was considered, the correlation coefficient for Y' and percent of error was .444. This was too low for predictive measures.

2. For the Shorthand I students, the correlation coefficient was .295 between Y' and percent of error and it was .664 for Shorthand II students.

3. The means between large and small schools showed a significant difference. Fewer errors were made by students from large schools.

4. Second-year students in large schools revealed a correlation coefficient between percent of error and Y' of .655 as compared to .654 for students in small schools. These were too low for predictive measures.

5. Correlation coefficient between percent of error and Y' were .029 for first-year students in large schools compared to .256 for students in small schools.

6. For the entire sample using the first eight letters, the correlation coefficient between Y' and percent of error was .408; for syllabic intensity and percent of error, the correlation coefficient was .633. This would seem to indicate that syllabic intensity is closer related to percent of error than Y'.

7. Although the Y' increased from Letter 1 to Letter 7, the percent of error fluctuated considerably.

This indicates that the formula is not entirely reliable in measuring small differences between Y'.

Conclusion:

The percent of error and Y' does seem to bear a significant relationship to each other; however, the findings of this study tend to indicate that this formula could not be used in predicting degrees of difficulty consistently.

Recommendation:

1. Further research is needed to refine the Hillestad formula in order to increase its reliability.
2. Further research is needed using present word lists, words in shorthand texts, and other courses containing a business vocabulary.

Abstractor's Comments:

This study indicates, as Hillestad's did, that syllabic intensity is closely related to difficulty of dictation materials. Furthermore, syllabic intensity can be obtained much more easily than Y'.

Abstract 157

Alice Florence Liabe Phillips, "A Study of Shorthand Dictation Laboratories in the Colleges and Universities of Illinois, Indiana, Michigan, and Wisconsin" (unpublished Master's thesis, Northern Illinois University, 1964), p. 86.

Problem:

"The purpose of this study is to gather data pertinent to the electronic dictation laboratories from colleges and universities which will be of assistance to school business departments that have laboratories or are contemplating an installation of the laboratories for the teaching of shorthand."

Procedure:

1. A questionnaire was prepared and submitted to the research class and thesis advisor for suggestions and approval. The questionnaire was referred to as Forms A, B, C, and D.

2. The questionnaire and a cover letter were mailed to the Business Department Heads of the colleges and universities in Illinois, Indiana, Michigan, and Wisconsin. Form A was completed by schools not having an electronic lab; Form B was filled in by schools having either manufactured or school-constructed lab; Form C was completed by those schools having a manufactured lab; and Form D was completed by those teachers using the labs in conjunction with their teaching.

3. The responses were grouped in three groups: colleges not having lab equipment, colleges having manufactured lab equipment, and colleges having school-constructed labs. The data were tabulated and analyzed for writing the report.

Summary:

1. A total of 144 forms was mailed to colleges and universities in the four states. Of the 110 replies, 97, or 88.18 percent, did not have electronic shorthand laboratories and 13, or 11.82 percent, do have electronic shorthand laboratories. The number having labs may appear small for two reasons: (a) not all colleges teach shorthand, and (b) electronic lab equipment was rather new at the time this study was made.

2. Of those 110 that replied, 25.45 percent plan to have an electronic dictation laboratory within five years. However, most teachers believed that lab equipment should be a tool, not a crutch.

3. Each laboratory is different and variables such as use, number of students, and channels desired will help determine the quantity of tapes that will be needed. Time is needed to develop good material and this material must be reevaluated often.

4. Taped material that is needed for a laboratory includes beginning lessons in shorthand, brief forms, phrases, tests, speed-building material, office-style dictation, and some specialized material. The amount and variety would depend on the individual teacher's needs.

5. The physical limits are basically the same for all schools and most educators feel that 3, 4, or 5 channels are sufficient. This enables the student to control the volume and select the channel he desires. Some schools equipped each listening station with a typewriter.

6. Those educators who have used electronic equipment agree that it provides the teacher with more free time for assisting individual students. Students are able to work at their own level of ability and students using electronic equipment seem to show more enthusiasm, interest, and concentrate better when taking dictation from tapes.

7. More research is needed in various areas relating to shorthand and electronic laboratory equipment, e.g., can learning time be shortened, failures be reduced among slower students, and is homework done from tapes more valuable?

8. Most educators who have used electronic equipment indicated they are looking forward to their college having electronic equipment because they believed laboratories to be an effective device for teaching and learning.

Conclusions:

1. Before 1961 electronic equipment was not used for teaching and learning shorthand.

2. Because of the advantages and benefits of electronic equipment, more colleges will have them in the future.

3. Those schools planning to purchase electronic equipment to determine their objectives, uses, and funds before contacting companies about purchasing equipment.

4. Those responding to the questionnaire that had used the electronic dictation equipment for teaching tended to agree on the following:

- a. More time is available for individual assistance.
- b. Preparation and use of tapes should become part of the methods courses in shorthand.
- c. Tapes meet individual differences.
- d. Students show more enthusiasm, interest, and concentration.

- e. Specialized dictation such as medical, chemical, and engineering should be provided.
- f. Homework is far more valuable when done from tapes.
- g. Higher achievements are attained.

5. These same teachers tended equally to agree and disagree that each student should furnish his own ear-plugs and that tests should be provided on tapes so that students can take a test when they feel ready for it.

6. These same teachers tended to disagree totally that professionally prepared tapes should always be purchased and that the electronic dictation lab is only a status symbol.

Recommendations:

1. Teachers should determine their objectives and uses of the lab before estimating type and amount of material needed. Maximum use should be made of the laboratory equipment.

2. Abundant materials to supply students should be prepared well in advance. These tapes should be evaluated each term.

3. If professionally prepared tapes are purchased, these should be supplemented with teacher prepared tapes.

4. When a school is prepared to purchase electronic lab equipment, several companies should be contacted in order to get the best price and the equipment best suited to each individual situation.

5. Shorthand teachers should become aware of all the advantages and disadvantages of the electronic dictation lab.

6. Experiments should be made to compare the terminal achievement of students using the electronic dictation lab and students using the traditional method of dictation.

7. Further research needs to be done to determine if the learning time for shorthand can be shortened using electronic lab equipment and whether the failure rate of slow students can be reduced.

8. Further research is needed involving office-style dictation.

Abstractor's Comments:

1. Some of the conclusion statements were merely repeats of the summary statements and, therefore, were not included in this abstract.

2. Similar studies are needed involving colleges, universities, and high schools, since more schools now have labs than when this study was made. Considerably more research has been done involving the uses of electronic dictation equipment since 1964.

3. Also, a similar study is needed using a larger, random sample.

4. Several studies have been made similar to recommendation 7 in the abstract.

Abstract 158

Priscilla M. Phillips, "The Development and Validation of an Objective Shorthand-Transcription Achievement Test" (unpublished Ed.D. dissertation, Boston University, 1964), p. 169.

Problem:

The problem of this study was to develop a valid and reliable machine-scorable achievement test to measure the mastery of shorthand and transcription which could be administered any time after the completion of the basic theory.

Procedures:

1. The original plan called for two forms--Form A and B, each containing five letters. The letters would be transcribed verbatim and then revised for an objective shorthand-transcription achievement test.

2. The original ten letters were dictated at 80 words a minute to 238 second-year students. The ten letters were then revised according to the findings for the Objective Test, which included multiple-choice and alternate-responses for a machine-scorable answer sheet.

3. The revised letters for the Objective Test, Form A and B, contained the same number of words, same

syllabic intensity, and the letters were matched according to word frequency based on the Silverthorn list (63b). The Objective Test was administered to 304 second-year students during April and May, 1964. The letters were dictated at 80 words a minute and the students recorded their answers in IBM sheets.

4. An item analysis was made on the 27 highest and 27 lowest cases. Those items, which had an index of 19 percent or higher, were considered for another revision of the test. Those items, with a difficulty rank approximately 40-70 percent, were used in the final form. A criterion of moderate difficulty level was used, i.e., 40-70 percent passing, because if too many items fall outside this rank the test would be considered too difficult or too easy for second-year students.

5. After analyzing the data in both forms of the Objective Test, the writer decided to prepare one strong form rather than two. The revised Objective Test was referred to as Form C. Form C was made up of 9 letters including 126 test items. Each letter contained the syllabic intensity of 1.4. Seventy-five percent of the words used in each letter were taken from the first 500 most frequently used words in business from the Silverthorn list.

6. Form C was administered first in December, 1964, to 433 high school shorthand students. The letters were dictated at 60 words a minute. The letters were dictated in order of word difficulty from the easiest to the most difficult. Approximately two weeks later, 415 of the same students were given the test a second time. The test was administered by 27 classroom teachers from 20 different schools. The Turse-Durost Test was taken by 361 of the students who also took Administering I and II of Form C. An analysis was made of the scores of those students taking all three tests.

7. Words were selected from the Silverthorn word list as the basis for the controlled vocabulary for the business letters in the test.

8. Each time the shorthand-transcription achievement test was administered, the following materials were distributed to the teachers:

- a. Directions to the teachers
- b. Dictation letters counted off in groups of 20 standard words for accuracy in dictation
- c. Directions to the students

- d. Transcripts for the students
- e. IBM answer sheets for the students

9. Time was called when approximately 90 percent of the group had finished. The average time needed for the test was approximately 60-65 minutes.

Findings:

1. The correlation coefficient between the Turse-Durost Test and Administration I of Form C was .69. This is considered evidence that this test is measuring shorthand-transcription achievement skill acceptably.

2. The correlation coefficient between Administration I and II of Form C was .84 based on a population of 361. This indicates consistency of Form C.

3. Only items with a discrimination index of .19 or higher and with a difficulty rank approximately 40-70 percent passing were considered for Form C. The average difficulty level of the test was 39 percent.

4. The mean score of the Turse-Durost Test was 83.3 compared with 97.4 of Administration I of Form C. The standard deviation was 26 for the Turse-Durost and 16.3 for Administration I of Form C. Administration II showed a standard deviation of 14.9 and a mean score of 103.4.

5. A grade on either the Turse-Durost Test or Form C is an absolute value but cannot be directly compared.

Conclusions:

1. The results of this study suggest that objective machine-scorable tests can be used for measuring shorthand-transcription skills.

2. The reliability coefficient of .84 was determined by the test-retest procedure. This is in the same general area of acceptance as the Turse-Durost reliability coefficient of .88.

Recommendations:

1. To conduct further study to determine the advisability of increasing the dictation speed. This

would, no doubt, be more of a challenge for the more capable students.

2. To make a study of the errors in relation to word frequency. This would show if there tends to be a higher error rate for words in the fourth thousand in comparison to words in the first thousand.

3. To make a comparable study using larger, random sampling.

4. To research further the administering of the Turse-Durost Test twice to reveal the reliability coefficient with a particular population.

Abstractor's Comments:

1. The results of this study indicate that shorthand-transcription skills such as theory, punctuation, and spelling can be measured by an objective achievement test. Form C was developed by the test-retest correlation as evidence of reliability.

2. As the writer recommended, an additional study using a larger, random sample would prove or disprove the findings of this study. A study using random sampling would provide a broader base for generalizations and conclusions.

3. Also, as recommended by the writer, faster dictation speeds would prevent the more capable students from writing some of the dictation in longhand.

Abstract 159

Georgia Faye Powell, "An Analysis of Shorthand Dropouts at Ottawa Township High School" (unpublished Master's thesis, Illinois State Normal University, 1961), p. 95.

Problem:

"The problem was to analyze the shorthand dropouts at Ottawa Township High School for two typical years, 1959-60 and 1960-61."

Procedure:

1. The following three national test scores were chosen with the aid of the counselor:

A. Science Research Associates Primary Mental Abilities Tests

1. Verbal Meaning
2. Reasoning
3. Word Fluency

B. Science Research Associates Reading Record

1. Reading Rate
2. Reading Comprehension
3. Paragraph Meaning
4. Sentence Meaning
5. Vocabulary
6. Total

C. Iowa Tests of Educational Development

1. Test 3: Correctness in Writing
2. Test 5: Reading--Social Studies
3. Test 6: Reading--Natural Science
4. Test 7: Reading--Literature
5. Test 8: General Vocabulary

2. Personality factors of dropouts and those continuing shorthand were gathered from the homeroom teacher, the English teacher, and the physical education teacher. An average of personality ratings was then determined for each student.

3. The student's permanent record was used for securing grades in English, foreign language, and type-writing. Shorthand grades were obtained from the teachers' grade books. The attendance record for each student was obtained from the office files.

4. A student questionnaire was used to gather information concerning work activities, educational and vocational plans, and the reasons for dropping shorthand. These questionnaires were completed by 45 of the 47 who dropped and were supplemented by interviews of 23 selected shorthand dropouts.

5. Those students who were in the investigator's class were interviewed by another member of the Business Department at Ottawa Township High School.

6. This study was conducted at Ottawa High School from 1959 to 1961 and consisted of 129 first-year shorthand students. As a result of transfers, withdrawals, and graduates at the end of the year, 113 students were included in the study.

Findings:

1. Those tests which showed a significant difference at the 1 percent level between the dropouts and those continuing were: verbal meaning, with a critical ratio of 3.74; sentence meaning, with 3.84; vocabulary, with 3.03; total reading score, with 4.52; and correctness in writing, with 3.37.

2. A significant difference at the 5 percent level, but not at the 1 percent level, was found between the dropouts and those continuing on the following tests: word fluency, with a critical ratio of 2.02; paragraph meaning, with 1.98; reading--natural sciences, with 2.18; and general vocabulary, with 2.32.

3. Since the personality ratings were from high to low, the higher the numerical rating the lower the personality rating. Keeping this in mind, 62 percent of the dropouts rated above 2.5; whereas, 64 percent of those continuing rated 2.5 or below.

4. Those students continuing shorthand study had the following grade averages: English, 2.39; foreign language, 2.39; typewriting, 2.65; and shorthand, 2.74.

5. Those students dropping shorthand study revealed the following grade averages: English, 1.94; foreign language, 1.87; typewriting, 1.63; and shorthand, 1.42.

6. Of those students who dropped shorthand at the end of the first year, 78 percent had a C or better grade; whereas, only 52 percent had a C or better grade for the second semester. Furthermore, 44 percent of the dropouts lowered at least one letter grade from the first to the second semester average.

7. A D or F grade was received by 72 percent of the students for the last grading period prior to dropping. Only 28 percent were carrying a C or better grade at the time of dropping and none were making an A.

8. Of those dropping shorthand, 18 percent were working part-time and 69 percent planned to continue their schooling after high school graduation.

9. The following five reasons were the most frequently given for dropping shorthand: (a) could not keep up in dictation, 44 percent; (b) did not work hard enough, 40 percent; (c) did not have enough time to study, 37.8 percent; (d) changed their vocation, 35.6 percent; and (e) would not use shorthand on the job, 33 percent.

10. Those reasons given by the teachers for students dropping shorthand were nearly in complete agreement with those reasons expressed by the students.

Conclusions:

1. The findings of the specific 'national test scores used in this study tend to show favorable consent toward their use as part of a predictive team for the prognosis of success in shorthand at Ottawa High School.

2. Those students who possess a low personality rating in industry, initiative, and responsibility should be successful in shorthand.

3. On the basis of the findings of this study, English, typewriting, and foreign language grades may be used as measures in predicting shorthand success.

4. Poor grades seem to be an indication to why students drop shorthand.

5. Attendance did not seem to be a contributing factor to shorthand failure or dropout.

6. Those dropping shorthand did not seem to think shorthand had any relationship to future education.

7. The findings of this study tend to indicate that students recognize the reasons for dropping shorthand and must be able to see a need for shorthand. Furthermore, they need to experience success in shorthand and learn correct procedures from the beginning.

Recommendations:

1. National test scores found to be significant to shorthand success should be used by homeroom teachers and counselors in counseling students for enrollment in shorthand.

2. Students continuing shorthand should be made aware of personality traits which are important to success in shorthand.

3. Past performance in English, foreign language, and typewriting should be used in determining shorthand success.

4. Shorthand teachers should emphasize the importance of getting off on the right track, keeping up, and working hard.

5. All students whether college-bound or not should be informed of the part-time and full-time future use of shorthand. Perhaps a personal use course is needed for college-bound students who want shorthand primarily for personal use.

6. Since a large percent of the students who dropped shorthand felt the dictation was too fast, additional practice should have been given by tapes and/or records.

7. Motivational devices and teaching methods should be analyzed by shorthand teachers in order to improve shorthand instruction.

8. Shorthand teachers should provide individual assistance to those students making low grades.

Abstractor's Comment:

This study indicates that measures are available which can be valuable aids in counseling future enrollees in shorthand. These factors should be determined in all schools and used discreetly in counseling students. In this manner failure and dropout rates may be decreased.

Abstract 160

Joe Milton Pullis, "The Relationship Between Competency in Shorthand and Achievement in Shorthand Dictation" (unpublished Ed.D. dissertation, North Texas State University, 1966), p. 104.

Problem:

The problem of this study was to determine the relationship between competency in shorthand accuracy and achievement in shorthand dictation and competency in shorthand accuracy and measured intelligence.

Hypotheses:

1. "There will be a significant positive relationship between the ability of the student to write accurate shorthand outlines and his ability to transcribe the outlines."

2. "There will be a significant positive relationship between the ability of the student to transcribe shorthand outlines and his achievement in shorthand dictation."

3. "There will be a nonsignificant relationship between the student's IQ and his (a) ability to write accurate outlines, (b) ability to transcribe shorthand outlines, and (c) achievement in shorthand dictation."

Procedure:

1. This study consisted of 135 shorthand students in four different level courses at North Texas State University. Those four levels were: Principles of Shorthand, First Course and Second Course and Intermediate Shorthand-Transcription, First Course and Second Course.

2. Beginning with the ninth week of the semester, a 40-word test was given every three weeks. The 40-words were selected from every 1,000 words in Silverthorn's high frequency list (63b), making a total of 200 words.

3. The word tests were administered by taped recordings. At the end of the dictation, the students transcribed the words in longhand. Both the shorthand and longhand were graded and a score was given for each correct item.

4. Beginning with the twelfth week, a three-minute non-previewed test was given over new-matter material at the end of each week. These tests were recorded on tapes at speeds ranging from 50 to 140 words a minute. The students were asked to transcribe the highest speed they could with 97 percent accuracy or higher. This constituted each student's dictation rate.

5. Correlation coefficients were calculated using the Product-Moment Correlation Coefficient. If the correlation coefficient was significant at the 5 percent level, the coefficients of determination were calculated.

6. The dictation rates were then classified into dictation-rate levels. Each dictation-rate level was used

to calculate means and standard deviations of the shorthand accuracy index, transcription index, and IQ. An analysis of variance and t-test were used to determine significant difference between the means of the groups.

Findings:

1. The relationship between ability of the student to write accurate outlines and shorthand achievement was a significant positive correlation of .8326. This produced a coefficient of determinant of approximately 69 percent, which means that around 69 percent of shorthand dictation achievement was associated to shorthand accuracy.

2. The relationship between the student's ability to write accurate outlines and ability to transcribe outlines was a significant positive correlation of .9305. This produced a coefficient of determinant of approximately 87 percent, which means that nearly 87 percent of transcription ability was related to shorthand dictation accuracy.

3. The relationship between the student's ability to transcribe isolated words and shorthand dictation achievement was a significant positive correlation coefficient of .8056. This produced a coefficient determinant of about 65 percent, which means that nearly 65 percent of shorthand achievement was associated to ability to transcribe isolated words.

4. The relationship between IQ and student's (a) ability to write accurate outlines, (b) ability to transcribe, and (c) shorthand dictation achievement was nonsignificant.

5. There was a significant difference between the means of shorthand accuracy at the following levels of dictation: 130 and 110; 130 and 100; 130 and 90; 130 and 80; 130 and 70; 130 and 60; 130 and 50; 120 and 90; 120 and 80; 120 and 70; 120 and 60; 120 and 50; 110 and 90; 110 and 80; 110 and 70; 110 and 60; 110 and 50; 100 and 90; 100 and 70; 100 and 60; 100 and 50; 90 and 70; 90 and 60; 90 and 50; 80 and 70; 80 and 60; 80 and 50; 70 and 50; and 60 and 50.

6. At every speed level except 90, shorthand dictation achievement increased with accuracy in shorthand outlines.

7. There was a significant difference between shorthand transcription means at the following levels of dictation: 130 and 100; 130 and 90; 130 and 80; 130 and 70; 130 and 60; 130 and 50; 120 and 90; 120 and 80; 120 and 70; 120 and 60; 120 and 50; 110 and 100; 110 and 90; 110 and 80; 110 and 70; 110 and 60; 110 and 50; 100 and 70; 100 and 60; 100 and 50; 90 and 70; 90 and 60; 90 and 50; 80 and 70; 80 and 60; 80 and 50; 70 and 60; 70 and 50; and 60 and 50.

8. At all speed levels except 120 and 90, shorthand dictation achievement increased with competency in shorthand transcription.

9. When competency in shorthand accuracy increased, competency in shorthand transcription also tended to increase.

10. Student's ability to transcribe the shorthand outlines was affected the greatest by accuracy in shorthand.

Conclusions:

1. Student transcription ability and achievement in shorthand dictation are directly related to ability to construct accurate shorthand outlines.

2. Achievement in shorthand dictation is directly related to transcription ability.

3. The student's IQ is not related to shorthand accuracy, shorthand transcription, nor shorthand achievement at the college level.

Recommendations and Implications:

1. Further research is needed investigating the relationship between student's ability to write accurate outlines and shorthand dictation achievement. If the two are related as shown by the findings of this study, more classroom emphasis should be placed on the writing of correct shorthand outlines.

2. Since there was a high correlation in this study between correctly written shorthand outlines and shorthand dictation achievement, at least nine of the practices recommended by the authors of Gregg Shorthand textbooks should be examined critically. Answers to the

following questions should be sought after by all concerned shorthand teachers:

- a. Are shorthand word-lists detrimental?
- b. Should writing be postponed until Lesson 19?
- c. Should new-matter dictation be postponed until the second semester?
- d. Should homework assignments be written only once?
- e. Is copying from print into shorthand harmful?
- f. Are reading rates really of little importance?
- g. Should textbooks remain open during all dictation for the first semester?
- h. Can any shorthand outline read within the hour be read later?

Abstractor's Comments:

1. The findings of this study should be of interest to all shorthand teachers and authors of shorthand textbooks.
2. These findings may be used effectively in undergraduate and graduate methods courses.
3. This study indicates a definite need for theory mastery in order to be successful in shorthand.

Abstract 161

Pearl M. Rankin, "The Development of Transcribing Skill in Shorthand Instruction, 1900-1960" (unpublished Ph.D. dissertation, University of Pittsburgh, 1963), p. 483.

Problem:

The problem of this study was to trace the development of the methods and materials used by shorthand teachers in building transcription skill.

Procedure:

1. A thorough survey was made of professional literature, bibliographies, and indexes to locate materials pertaining to this survey.

2. On the basis of the following criteria, a list of interviewees was compiled: (a) "Is the person recognized as an authority in business education? (b) Has he exhibited an interest in problems of teaching transcription by his contribution of articles on this topic to business education yearbooks and/or periodicals? (c) Has he been in educational work long enough to have observed trends in teaching methods?" A one page questionnaire was mailed to those inaccessible due to time and expense.

3. The period 1900 to 1960 was divided into three periods of approximately 20 years each: the Early, the Informative, and the Transcription.

Findings:

1. Pretranscription materials were not incorporated into shorthand theory texts until the Gregg Simplified Series was published in 1949. Marginal reminders were so popular that they were more strongly emphasized in the second edition published in 1955.

2. In the early 1900's, advanced shorthand texts were designed for building high speeds in shorthand. In the first edition of Reigner's Dictation Course in Business Literature published in 1916, English was correlated with advanced shorthand practice.

3. The texts, Transcription Drills (1930) by Ross and an Introduction to Transcription (1936) by Adams and Skimin were the first textbooks designed specifically for teaching transcription. These books were both supplementary texts of the Gregg Publishing Company. A third book was the full-length text, A Course in Transcription (1936), by Riemer. The correlation of shorthand, typewriting, and English was evident in all three books.

4. Renshaw and Leslie's book published in 1937, Gregg Dictation and Transcription, was the first full-length Gregg book for developing transcription skill.

5. By 1945, several other texts with integrated speed building plans for transcription were on the market. One of these was Wanous and Whitmore's Shorthand Transcription Studies which emphasized reading in "thought units."

6. The first methods book in shorthand was published by Pitman in 1913 and written by McNamara. Not until 1949 was a methods textbook devoted exclusively to transcription.

7. Periodicals for teachers and students of the Gregg and the Pitman systems have been published since the early 1900's.

8. Workbooks and student transcripts are recent innovations in shorthand instruction.

9. Dictation records and tapes began to appear on the scene in the early 1950's and have rapidly become popular teacher aides.

10. Pretranscription training began to be recognized as being necessary in the late 1930's and the trend toward increased use of these drills was accelerated in 1949 by the marginal reminders of the Gregg Simplified Series.

11. Principles formulated by authorities in the 1920's and early 1930's began to affect methods by the middle of the 1930's. Although some schools provided periods for typewriter transcription, most schools had little or no planned teaching of transcription.

12. The trend toward introduction of transcription late in the shorthand program has been evident since the late 1930's; however, shortly before 1960, this was reversed with introduction of an accelerated one-year course.

13. Leslie's fusion method of transcription has greatly influenced methods in advanced transcription. This was first explained in detail in Gregg Dictation and Transcription, Teacher's Manual (1937).

14. Methods in transcription have been greatly influenced since 1940 by Wanous and Whitmore.

15. In the early 1900's, little emphasis was placed on transcription.

16. The term "mailable letter" was introduced in the 1920's, but did not become recognized as the standard of transcription until the 1930's.

17. The only widely used standardized test in transcription was introduced by Gregg in 1924.

18. Since 1950, there has been a trend away from the shorthand speed test as the sole criterion of measurement of skill in advanced shorthand.

19. Strong parental pressure caused stenographic training to be put in the high school curriculum in the early 1900's.

20. In 1900, the Pitmanic systems were the most widely used; however, since 1910 Gregg has been more widely used. Since 1925, more than 90 percent of all schools have taught the Gregg system.

21. Four semesters of shorthand has been the typical offering of schools teaching shorthand since 1910.

22. Before 1920, shorthand became more frequently offered in the 11th and 12th grades.

23. The trend to teach transcription as a separate course has been evident since the early 1950's.

24. In the early 1900's, most shorthand teachers came from private business colleges.

25. During the period 1920 to 1940, shorthand teacher training was upgraded considerably.

Conclusions:

1. The prevalence of one system of shorthand being taught since 1920 had a salutary affect upon methods and materials in shorthand and transcription.

2. Methods in shorthand-transcription have been responsible for development of methods in other areas of secondary education.

3. Most changes in shorthand-transcription materials have been gradual.

4. The labeling of a text as a transcription book does not necessarily make it one.

5. The procedures recommended in many instances by authors and publishers have not been based upon valid research.

Recommendations:

1. Procedures and materials which have been based on opinions should be subjected to research. A few of the many questions which need to be investigated include:

- a. How effective are marginal reminders as preparation for introduction to transcription?
 - b. How much carry-over is there from rules and problem sentences in the textbook to the actual transcription situation?
 - c. What is the difference in transcription rate between the class which is drilled in transcription from textbook plate material and the class which transcribes completely from their own notes?
 - d. When is the optimum time to begin typewriter transcription?
 - e. What procedures and materials build transcription skill most rapidly?
2. Instructional materials need to be constructed for various phases of transcription and then tested through research.
3. Classroom teachers should be encouraged to conduct informal research in their classes to deepen their insight into the entire transcription process and to become more effective teachers.

Abstract 162

Arsicel C. Reese, "A Study of the Official Circuit Court Reporters in the Twenty Judicial Districts of Illinois for the Vocational Guidance of Students" (unpublished Master's thesis, Southern Illinois University, 1960), p. 104.

Problem:

The problem of this study was to analyze the professional status of the official circuit court reporters in the twenty judicial districts of Illinois.

Procedure:

1. The names and addresses of the circuit court judges in the twenty Judicial Districts were found in the Illinois Blue Book. A list of the names and addresses of the circuit clerks was received from the County Clerk of Union County along with a map showing the location of the twenty Judicial Districts.
2. A letter was mailed to the circuit clerks asking for the names and address of the official circuit

court reporters. A complete response was received from 16 of the circuit clerks and another clerk sent in the name of one reporter. A follow-up letter was sent but the other three still did not respond.

3. Letters were then sent to the nine circuit court judges of the three districts asking for the names and addresses of the court reporters. Replies were received from all nine judges.

4. Questionnaires with a self-addressed stamped envelope were mailed to 63 official circuit court reporters. Of the 63 mailed out, 46, or 73 percent, were returned.

5. Information pertaining to the appointment, duties, salaries, substitute reporters, and pensions were stated from the Annotated Statutes of Illinois and Statutes of Illinois.

6. Personal interviews were held with two attorneys to find out about extra fees charged by reporters. Mr. John Paul Davis, States Attorney of Union County, was interviewed to determine how many arrangements were recorded and transcribed by the reporters. Mr. Paul D. Reese, County Judge of Union County, was interviewed to determine fees paid to the reporters for uncontested divorces and taking depositions.

Findings:

1. The official circuit court reporter is appointed by the circuit court judge and can be dismissed at his discretion. The reporter may be appointed not only for his ability to do the job and his skill but also because of his political affiliation.

2. The reporter does not have to take an examination to qualify in Illinois.

3. The duties of an official circuit court reporter are as follows: the reporter takes full stenographic notes of all the evidence, takes stenographic notes of arraignments, and transcribes notes taken at arraignments and files a transcript, and performs secretarial services as the judge may direct.

4. The reporter needs a broad background of information and experience to enable him to take the evidence and transcribe his notes.

5. Gregg shorthand is used by 80.4 percent of the 46 who responded. The court reporters notebook is preferred to the stenographic notebook by those who use manual shorthand.

6. There is a variety of number of days per week and number of hours per day that the circuit court reporters work. The average number of hours per day was 7 hours and 17 minutes. This does not include time spent in transcribing.

7. If the district has fewer than 225,000 population, the court reporter is paid \$6,000. If there are 225,000 or more inhabitants, they are paid \$6,500 per year. In addition the reporter may charge 20 cents per 100 words for the original page of the transcript and 10 cents per 100 words for each carbon copy. When the reporter needs help, he pays a substitute reporter at his rate of pay from his own salary.

8. Tenure is not provided for the court reporters. The average length of service for the 46 who responded was 14.3 years.

9. The reporters indicated that court reporting is varied, interesting, rewarding, and never dull. They also indicated that it is essential that the reporter be emotionally stable, honest, patient, and have good health.

Conclusions:

1. The court reporting profession provides excellent employment opportunities for young people, and the salary is equal to or higher than that earned by many professional people. There is also the opportunity to earn extra fees.

2. There are no education requirements to be met, and vacation periods are longer than stenographic or typists jobs.

3. Men and women are equal in regard to job and salary opportunities.

4. Court reporters must be able to handle pressures because there are many deadline pressures placed on them.

5. Based on the answers of the questionnaires, manual writers seem to be able to take testimony as rapidly as the machine shorthand writers.

6. There seems to be a trend for the court reporter to use a tape recording device to supplement shorthand.

7. Official court reporters enjoy excellent pensions plans.

8. The demand for court reporters today is greater than the available supply.

Recommendations:

1. A Certified Shorthand Reporters Law be enacted in Illinois to accomplish the following:

- a. Eliminate political influences in the appointment of court reporters.
- b. Raise the court reporting profession to the level of other professions.
- c. Assure competent court reporters of tenure in their position.
- d. Insure the litigant an accurate, true record of his case.
- e. Establish definite and specific requirements for the position.

2. That more guidance information be made available to the high school pupil concerning court reporting as a career.

3. That more attention and publicity be given court reporting in professional literature and convention programs.

4. That the prospective court reporter be advised to secure as broad a background as possible through extensive reading, traveling, getting a college education and choose work experiences carefully which will enhance his legal background.

5. That additional studies of court reporters in Illinois and throughout the nation be made from time to time to maintain a true picture of the professional status of court reporting.

Abstractor's Comment:

This study indicates that there is a need for the above average student in shorthand.

Abstract 163

Nancy S. Revak, "The Evolution of Shorthand to 1967" (unpublished Master's thesis, Kent State University, 1967), p. 242.

Problem:

The problem of this study was to make a study of the evolution of shorthand from its beginning to 1967.

Procedure:

1. Data which pertained to the evolution of shorthand were gleaned from research studies, textbooks, reference books, and professional literature. The data were organized and classified into The Early Period, The Modern Period, and The Contemporary Period.

2. Other sources of data included such authorities as: Marion Angus, Thomas Burton, Godfrey Dewey, Handen Forkner, Delores Jones, Louis Leslie, R. B. Sexton, Gertrude Webster, and David Zinman.

Summary:

Shorthand has been used as a method of writing for several thousand years. This art did not gain much popularity until the days of early Rome. The first author of shorthand has been generally accepted as Marcus Tullius Tiro. During the fall of the Roman Empire, this art was lost and was not reborn until the Renaissance. Timothy Bright was the person who really built the fire which has lasted for hundreds of years. Bright's system was published in 1588. Although many systems of shorthand had been developed, the 19th century saw the first phonetic system of shorthand invented by Isaac Pitman. This system saw heavier sounds written with heavier strokes and vowels and diphthongs paired. Gregg's system, published in 1888, also paired consonants and all sounds were written with the same weight stroke. Gregg showed the difference in sound by varying the length of various strokes. Both Pitman and Gregg shorthand systems have seen several revisions over the years and are by far the more popular of all methods invented.

In the early Roman era shorthand was used only by the people who were scholarly, prominent, and wealthy. Shorthand was used to record orations of the Roman Senators or for recording secret, personal correspondence. For centuries following the Roman Era, shorthand was used by ministers to record sermons and later it was used to record Shakespeare's plays. Although shorthand became important in the 1600's to record governmental proceedings and eventually spread into law, not until the 19th century did shorthand become a useful tool in business, industry, and medicine. As its usefulness to business increased, shorthand became less important to the church. At first, shorthand was self-invented and self-taught. Shorthand was not taught as an art until the early Roman era. This was done mostly through private tutoring. As business and industry began to grow, the need for shorthand writers also grew. Thus, there became a need for shorthand to be a part of the high school curriculum. Shorthand was taught in the early years strictly from the vocational point of view. However, during the depression years, schools could only justify teaching shorthand by emphasizing its personal-use as well as its vocational use.

The material presented in this study indicates that certain similarities and differences are present not only between early systems and presently used systems, but also among presently used systems.

Conclusions:

1. Shorthand was first used as a personal tool, then for vocational use. In public schools, shorthand was first stressed for vocational use and later personal-use.
2. Early teaching of shorthand was done by private tutors; whereas, today shorthand is taught in public schools.
3. Shorthand did not gain wide popularity until the 19th century and this demand was brought about by the Industrial Revolution.
4. Present-day shorthand systems tend to show a trend toward simplicity rather than brevity.

Abstract 164

Ralph J. Richards, "A Comparison of Current Shorthand Systems, Using Silverthorn's High-Frequency Word List" (unpublished Master's thesis, Utah State University, 1966), p. 115.

Problem:

The problem of this study was to investigate the extent to which thirteen current systems include the most-used words early in their basic course.

Hypothesis:

"Basic courses of shorthand are unnecessarily encumbered with words which are rarely used in business communications."

Procedure:

1. Letters were written to 17 publishers of shorthand textbooks requesting information concerning the shorthand system and a copy of the first-year textbook. Finally, 14 textbooks were received. Since one did not fit the study, the final analysis included 13 of the textbooks.

2. Those textbooks included in the study were: Carter Briefhand; Forkner Alphabet Shorthand; Gregg Shorthand, Diamond Jubilee; Hy-Speed Longhand; Pitman Shorthand; Quickhand; Rapid Writing; Shortrite; Speedwriting; Stenoscrypt ABC Shorthand; Stenospeed ABC Shorthand; Stenotype; and Thomas Natural Shorthand. Each one was described briefly in the study.

3. The basis for the study was the first 1,000 most-used words on the Silverthorn (63b) list. Since 27 words had the frequency rank of 991, the study actually included 1,017 words.

4. Each word and rank order of the word was typed on a card and the cards were alphabetized. As each text was received, the first 1,000 different words presented in the text were compared with the rank order of the 1,000

high-frequency words of Silverthorn's list. The order of their appearance was marked on the card in a column for that course.

5. If the 1,000 words did not appear on the prepared list, a card was prepared showing the order of appearance in the text. A check was made to determine if these words appeared in the balance of 3,149 high-frequency words on the Silverthorn list.

Findings and Conclusions:

1. Rapid Writing was the highest ranking system with 295, or 59 percent of the first 500 words included in the first 1,000 words of the Silverthorn list. Quick-hand ranked the lowest with 152, or 30.4 percent.

Conclusion: In the Rapid Writing system, 41 percent of the first 500 words learned are of little value to the student. Furthermore, the other 12 systems are even more limited in value.

2. When the first 1,000 words were compared, Rapid Writing still ranked highest; but only 449, or 44.9 percent, were in the first 1,000 high-frequency words.

Conclusion: Thus, the student must learn 551 words among the first 1,000 presented which will not be used in 80 percent of the dictation given.

3. When the 1,000 words of each system were compared to the total 4,949 high-frequency list, the systems ranged from 856 to 628 of the first 1,000 words common to the list.

Conclusion: Thus, from 144 to 372 of the first 1,000 words of the 13 systems are not found among 95 percent of all running words in business communication.

On the basis of the findings in this study, apparently high-frequency words are not included in each course as early as their frequency of use justifies. Many of the words presented should be postponed until later in the course. More than 5,000 words must be learned in order to learn the first 1,000 high-frequency words.

Recommendations:

1. Textbooks should be revised so the most frequently used words in business communication are presented according to their frequency of use.

2. This study indicates that business language should be reviewed periodically. Since many shorthand systems are based on outdated word studies, these word studies and systems both should be updated.

Abstractor's Comments:

1. Since Gregg shorthand is the most widely used, the abstractor believes it is significant to show where Gregg falls within the 13 systems studied.

When the first 1,000 words were compared to the high-frequency list, only 381, or 38.1 percent were in the first 1,000 high-frequency words. Furthermore, Gregg ranked tenth out of thirteen. Gregg ranked seventh when the first 1,000 words were compared to the total 4,949 high-frequency list.

2. Studies such as this one should be read and studied by authors of shorthand textbooks in order to decrease the memory load of future editions of their text.

3. Supplementary materials need to be developed to fill the gaps left by shorthand textbooks.

4. The findings of this study should be of interest to all shorthand teachers and may be used effectively in a shorthand methods course.

Abstract 165

Mary Katherine Ricketts, "Preparation and Evaluation of Programmed Materials for Introductory Lessons in Beginning Shorthand" (unpublished Master's thesis, The University of Tennessee, 1962), p. 150.

Problem:

The problem of this study was to develop, test, and evaluate lessons of programmed instructional materials in beginning shorthand.

Procedure:

1. The first program written contained 70-80 frames prepared separately by three groups of graduate

students. After further study and trial of the first program, each of the three groups wrote a program of the first four assignments, which contained approximately 500 frames. The material was then placed on 4 x 6 index cards. Certain information was given and required a certain response on one side of the card. The desired response was given on the reverse side of the card.

2. After the material was tested again, it was revised and combined into one set of instructional materials. At this time, assignment five was added to the program.

3. The material was tested again, revised, and then typed on regular typing paper. After the preparation on regular typing paper, the material was tested and revised again. Any part of the program containing a low percentage error or more was considered for revision.

4. The program was next subjected to 58 beginning shorthand students. Then an error analysis was made of the program for reviewing and revising again.

5. During the spring and summer quarters of 1962, the program was given to 46 beginning shorthand students. An error analysis was then made of the results.

6. Each programmed lesson had three sections that were labeled 1A, 1B, 1C, etc. The materials were divided into what was considered to be 40-50 minute periods. The programmed lessons were not in the same sequence as the assignments in the Gregg text. At the end of each section 1A, 1B, 1C, 2A, etc., a review quiz was given covering the material in that section. The students were told that if their score was below a specified number of errors, that they were doing quite well.

7. During the winter quarter, separate tests to determine learning were given after completion of sections 3C and 4C; but in the spring and summer quarters a separate timed test was given at the end of each lesson. The tests were evaluated by a group of experienced teachers. These teachers were asked to estimate the scores they did expect their own students to make. The scores made on the tests were used later to compare with the students' scores.

8. Most of the students involved had not had previous training in shorthand. A few, however, had taken shorthand but had failed. Others had taken only a few days and dropped.

Findings:

1. The programmed materials made up of 1,022 frames and covering approximately 10 hours of the students time were prepared with resulting extreme variation in error rates of responses.

2. Only the error rates on lessons 1 and 2 were low enough to justify detailed tabulation of errors and revisions based on these tabulations.

3. In lessons 1 and 2, 126 frames were considered for revision because the error rates were over 10 percent.

4. No changes were made in 34.1 percent of the 126 frames considered for revision. In those frames not revised, the error percentage increased 58.2.

5. Changes were made in the remaining 65.9 percent of the 126 frames and were classified into nine classifications. Those classifications were as follows: Category 0, made no change in frame; Category 1, omitted a word from response; Category 2, substituted word in response; Category 3, added a word in response; Category 4, gave more explanation in frame or changed wording of frame; Category 5, used different format for frame; Category 6, inserted more frames previous to the one with 10 percent error or more; Category 7, made several frames from original frame; Category 8, changed frame completely; sometimes a combination of categories was used in revision.

6. In 65.1 percent of the frames revised in lessons 1 and 2, the revisions were effective. If the frames, on which no revisions were made, were excluded and only the frames which were revised were considered, the revisions were 77.1 percent effective.

7. The teachers' estimated median scores were considerably lower than those actually made by the students. The teachers estimated scores and students' scores were: Quiz 1, 17 and 25; Quiz 2, 18 and 24; Quiz 3, 30 and 47; Quiz 4, 17 and 24; Quiz 5, 15 and 49, respectively.

8. The category revisions increased the time required per frame in five sections, decreased the time in two sections, and remained unchanged in four sections. The median time to complete an entire section was 35-minutes and for a frame, 33 seconds.

Conclusions:

1. Many revisions were necessary to obtain an effective program with minimal errors.
2. If frames needing revision are scattered throughout the program, revisions are easier to make than when the errors occur in consecutive frames.
3. Error rates were decreased in most revisions. (Finding 4 and 5)
4. Better results can be obtained in teaching the first five lessons of beginning shorthand with programmed materials. (Finding 8)
5. The time needed to complete a section or frame was not affected greatly by revision. (Finding 9)

Recommendations:

1. The introductory lessons in beginning shorthand should be taught by programmed instructional materials.
2. All shorthand programs should be thoroughly reviewed and revised before being administered regularly to a class of beginning shorthand students.
3. Post-tests should be used to evaluate the results of programmed materials.
4. Research needs to be done using the programmed materials in a teaching machine, rather than in a text.
5. Research is needed for determining whether an experimental class is superior to a control class.
6. Further study should be made extending the use of programmed materials beyond the orientation lessons throughout the entire shorthand theory.

Abstractor's Comments:

1. Prior to this study in 1962, no research had been done in shorthand with the use of programmed materials. This study should open up an entire new field for shorthand research.

2. Further research is needed in this area to determine the effectiveness of programmed learning in shorthand; however, if programmed teaching in shorthand theory proves effective, it would give the shorthand teacher more time for individual instruction.

3. One big advantage of programmed instruction is that it allows the student to progress at his own speed. However, at some point, the students will need to be pulled together.

Abstract 166

Lawrence H. Richter, "Conflicting Opinions Concerning Facets of Shorthand Training as Revealed in the Professional Business Education Literature from 1951-1960" (unpublished Master's thesis, University of North Dakota, 1961), p. 109.

Problem:

The problem of this study was to determine the conflicting opinions concerning shorthand in the high school curriculum as revealed in the professional literature.

Procedure:

1. The information gathered for use in this study was confined to the following five magazines: The Balance Sheet, The Journal of Business Education, Business Education Forum, Business Education World, and Business Teacher. Only those issues from 1951-1960 available at the Department of Business Education and library at the University were read.

2. A 6 x 10 bibliography card was prepared for each article pertaining to shorthand. Information on the card included author's name, title of the article, name and date of publication, the page number, and the information taken from the article.

3. Seven areas of conflict were determined and all material was classified under one of the seven. These areas were: (a) shorthand dropouts, (b) aptitude tests as a measure of shorthand success, (c) standards of shorthand proficiency, (d) teaching methods in shorthand, (e) time required for mastery of shorthand, (f) recruitment

of shorthand students, and (g) skills necessary for stenographic school work.

4. The data were studied and that relevant to one of the seven areas was used in writing the final report.

Summary:

1. Dropouts. Even though students are counseled before enrollment in shorthand, the dropout rate still remains high. However, the dropouts often include passing students who fail to take the second year for one reason or another.

Shorthand should be made available to all who want it, whether college-bound or not. Shorthand can be invaluable and can increase their potential earning power.

2. Aptitude Tests as a Measure of Success in Shorthand. Although several screening devices have been developed for predicting shorthand success, none of them should be used as a sole predictor. They are not 100 percent accurate and should be used only as tools or instrument with which to guide students.

3. Standards of Shorthand Proficiency. Standards are vital to shorthand, but the standards required for completion seldom agree with those required by employers. Employers often set unrealistic standards, e.g., they sometimes require a dictation rate of 120 for employment but never dictate over 60 words a minute in the office.

Business teachers and businessmen need to set realistic standards which are agreeable to both sides. This would enable shorthand teachers to train students in competencies required by business.

At the present time, there is very little agreement between teachers or businessmen about what is an acceptable stenographic skill.

4. Shorthand Teaching Methods. Since classroom procedures determine primarily the outcome of their students, these should be evaluated periodically in order to develop the highest skill possible in the shortest time. Different methods should be tried until the method is developed which gives the best results.

5. Time Required to Master Shorthand. Some teachers believe that the ability to transcribe a usable

copy from shorthand notes just cannot be accomplished in one year, while others believe it can. Also, some believe that if the learning time was shortened to one-year, more capable students would be attracted to shorthand.

6. Recruitment of Shorthand Students. The push in areas such as science and mathematics has decreased the number of students enrolling in skilled subjects. Many good jobs are available in this area and some businesses have been forced to provide on-the-job training to help fill the gap. Thus, business teachers should be recruiting capable students to supply employees for the positions which exist in this area.

7. Skills Necessary for Stenographic Competency. The skills needed are those necessary to get and hold a job or advance to a higher level. Many graduates lack these skills; therefore, in-service training is necessary in order to prepare qualified personnel for existing positions.

In addition to skills, graduates need a broad background in general education. Employees must understand more about the functions of a business than just the stenographic. The employee who has this knowledge will have an excellent opportunity for advancement.

Recommendations:

1. A follow-up be made of graduates with one-year of shorthand training to determine their success.
2. A study is needed to determine shorthand recruitment policies of Business Education Departments.
3. A study is needed comparing teaching methodology with shorthand drop-out rates.
4. A study is needed determining the nature and characteristics of shorthand drop-outs.
5. A study is needed to determine the general education courses which are of most worth to the stenographer.

Abstractor's Comments:

1. Other recommendations were made in regard to other studies needed; however, many of these or similar studies have already been done. Therefore, these recommendations were omitted from this abstract.

2. The present study would be a good way for interested shorthand teachers to review the literature from 1951 to 1960.

3. A similar study is needed bringing this study up to date.

Abstract 167

John Allen Rider, "A History of the Male Stenographer in the United States" (unpublished Ed.D. dissertation, The University of Nebraska, 1966), p. 273.

Problem:

The problem of this study was to determine the historical development of the male stenographer in the United States.

Procedure:

1. Sample surveys were made of many groups related in any way to male stenographers. These included private concerns, governmental groups, secretarial organizations, etc. In all cases, the data received was limited.

2. Private collections in the Newberry Library in Chicago and the New York Public Library in New York City were reviewed. These collections included contributions by Charles Currier Beale, David H. O'Keefe, Norman P. Heffley, Jerome B. Howard, Julius Ensign Rockwell, William Dawson Bridge, and John Robert Gregg.

3. Autobiographies were also obtained from some of the male stenographers and secretaries of the present day.

Summary:

Shorthand was first used by ministers and learned men. Shorthand became the art by which sermons were

prepared and preserved. As newspapers developed, shorthand became more useful for court reporting, reporting legislative operations and public speakers. The male stenography developed primarily from necessity brought on by the Industrial Revolution. Businessmen soon learned to dictate their correspondence and, thus, provide more time for other duties. The male stenographer reached his height during the period from 1870 to the early 1890's. The development of the typewriter and the changing attitude concerning woman's work in the business world, had a great deal to do with women stenographers replacing the male stenographer. Young men have entered stenography in small numbers; therefore, businessmen are forced to seek women, who might otherwise hire men. Stenography is still used as a steppingstone and male secretaries often become administrative assistants and junior executives.

Conclusions:

1. Shorthand was used in the early civilizations but was confined to religious use in the Middle Ages.
2. Shorthand was revived in England and came to the United States with the early English settlers.
3. Although men have made personal use of shorthand throughout history, the newspapers were among the earlier employers of male stenographers, which brought about the use of shorthand in courts, legislature, and conferences.
4. Stenography entered the business office in the early 1870's and was dominated by men.
5. Although some firms still prefer and employ male stenographers over women, women far outnumber men in the stenography field.
6. Men use stenography as a steppingstone to higher positions; furthermore, there still seem to be opportunities for the young male stenographer.

Abstractor's Comments:

1. This study points out that skill in shorthand can and has been used as effectively by men as women. Many shorthand teachers, administrators, counselors, and others have believed and taught that shorthand is for

women. Thus, rarely has a young man taken an interest in shorthand.

2. The findings of this study should be made available to counselors, administrators, and business teachers and articles should be published to change the stigma that shorthand is only for girls.

3. A study showing available positions, salary, and other incentives offered to the young male stenographer may be beneficial in encouraging more young men into the field. Perhaps this is one method of closing the gap between supply and demand for qualified office personnel.

Abstract 168

G. Elizabeth Ripka, "The Development of a Standardized Test of Stenographic Information and Skills for Use in the High School Level" (unpublished Ed.D. dissertation, Temple University, 1963), p. 154.

Problem:

"This study was designed to develop an instrument to be used at the end of the senior year of high school with business education students for the purpose of measuring achievement in stenographic skills and general information in office practices."

Procedure:

1. The first step was to determine the use of the test.
2. Construction of the information test included:
 - a. Prepare an outline of the test content.
 - b. Determine the percentage of space for each subject.
 - c. Plan for item construction.
 - d. Draft the items in preliminary form.
 - e. Edit and select the items.
 - f. Reproduce the test.
3. Construction of Performance Tests. These tests are usually divided into three parts: recognition, simulation, and work sample.

4. Selection of Performance Test Content.

Specific areas of performance measured were transcription production rate, accuracy, and ability to set up the transcribed letters in an acceptable style.

5. The letters used for dictation material were received from the National Office Management Association. Six letters were chosen from those received. Each contained from 75 to 196 standard words and had a syllabic intensity of 1.4. Letters of different lengths were chosen to give varying degrees of difficulty.

6. The time needed for distributing the materials, giving the directions, and dictating was 15 minutes. The students were given 40 minutes to transcribe their material.

7. The first letter dictated was for practicing. After the five test letters were dictated, the examinee was allowed 5 minutes to become acquainted with the typewriter, but this time could not be used to review shorthand notes. After that the examinee evidently understood the mechanical aspects of the typewriter, directions were given for the transcription of the letters and the examinee was directed to begin. When the test was completed, the examiner immediately recorded the time of termination, compared the time with the speed chart in the manual, and wrote the number of words a minute transcribed on the score sheet. Then the letters were evaluated and rated according to appearance and accuracy.

8. The first test was administered to eight persons who were within one week of completing a one-year course in Office Practice. The information test was administered in two consecutive class periods and 7 of these students took the performance test in one class period the following day. Those students taking the test, as well as businessmen, were consulted before revising the test.

9. Four high schools in the Philadelphia School District were chosen to take the revised test. The test was administered to 135 seniors within two weeks of completing their senior year and preparing for stenographic jobs.

10. An item analysis was made to determine the number answering each item correctly. As items 49 and 67 on Form A, and items 51 and 93 on Form B were answered by all the students, these items were discarded.

11. The discrimination index used for this study was .20. When this index was applied, items 10, 18, 21, 50, 51, 66, 86, 99, 108, 109, and 141 on Form A and items 4, 107, 118, and 126 on Form B were eliminated. Other items that did not contribute to the validity of the test were also eliminated. The original test was reduced from 300 to 150 items.

12. The reliability of the test was established by correlation between the odd- and even-numbered items. The reliability determined was .87, with an S.E. \pm .021. Upon applying the Spearman-Brown formula, the reliability of the entire test was .93 with S.E. \pm .012.

13. The revised test was administered to 134 students in Office Practice courses in five suburban Philadelphia high schools within two or three weeks of their graduation. Since 7 of the students did not take the performance test, the final number was reduced to 127.

14. In ten minutes, 6 letters containing 705 standard words were dictated at the rate of 80 words a minute. The first letter was considered as practice. The examinees were asked to transcribe letters 1, 3, and 5, totaling 440 standard words.

15. The letters were assigned percentage points of 26 percent, 31 percent, and 43 percent. One point was deducted from these amounts for each misspelling, faulty punctuation, words incorrectly transcribed or omitted, wrong word division, obvious erasing, poor letter placement, very uneven right margins, margins too wide or too narrow, smudges or other marks, and unconventional letter style. Total points deducted were not to exceed the percentage allotted to the letter.

Findings:

1. The reliability coefficient on the revised test, after applying the Spearman-Brown formula, was .82 with a S.E. \pm .03. This did indicate that the test is adequate to judge levels of group accomplishments, although its use for evaluating individual achievement is questionable, because of its being below the desired level.

2. Each test may be administered in 50 minutes.

3. The test is economical in time and cost of materials.

4. This test of information and stenographic proficiency may be used as an achievement test and as a diagnostic measure.

Recommendation:

Further research is needed to determine the values of the test as devised in this study.

Abstractor's Comments:

1. Further research needs to be done toward random sampling to assure more general results from the test. If a wider random sample had been used, the reliability coefficient may have been higher and, on the other hand, it may have been lower. Broad statements cannot be made as to its use on the basis of the sample selected.

2. The materials prepared in this study certainly can be put to a worthwhile purpose. As the writer indicated, the test probably has more possibility for use by employment agencies or guidance personnel who are determining the employability of students who plan to secure work in offices.

3. The abstractor was unable to find in the writer's procedure that the original test would be in two parts--Form A and Form B each containing 150 items.

4. No conclusions were given in this study.

Abstract 169

Kay Rydalch, "An Analysis and Comparison of the Anniversary, Simplified, and Diamond Jubilee Editions of Gregg Shorthand" (unpublished Master's thesis, Brigham Young University, 1965), p. 75.

Problem:

This study was conducted to determine the changes made in outlines of the three editions, the nature of these changes, and how these changes affected the weight of the student writing load in shorthand.

Procedure:

The frequency of the use of the 1,500 most frequently used words according to the Silverthorn list was determined, as well as how these words were written in each of the three methods. The words were coded, punched on IBM cards, and a program written for the needed calculations.

Summary:

From the Anniversary edition to the Simplified edition, 16 rule variations resulted in 504 outline changes of the 1,500 words. This represented a 713 stroke increase. The Diamond Jubilee revision resulted in 279 outline changes through 12 rule changes, which resulted in a 349 stroke increase. The three most frequently written characters remained the same throughout all three editions.

The writing weight per stroke increased more from Simplified to Diamond Jubilee editions than from Anniversary to Simplified. Changes in brief forms were responsible for outline changes, increased strokes, and increased writing weight.

Abstractor's Comment:

Since this report was unavailable through inter-library loan, this summary was taken from the 1966 Fall issue of the National Business Education Quarterly.

Abstract 170

Doris Summers Scates, "Construction of Three-Minute and Five-Minute Shorthand Speed Tests at Speed Levels Ranging From 100-140 Words a Minute" (unpublished Master's thesis, The University of Tennessee, 1961), p. 141.

Problem:

The problem of this study was to construct three- and five-minute shorthand speed tests from business correspondence using a predetermined, organized plan for including selected punctuation rules and spelling words.

Procedure:

1. Original letters were collected from businessmen and educational consultants. In addition to these, five letters were prepared on the subject of professional secretaries.
2. Twelve punctuation rules were selected from the marginal reminders in Shorthand Simplified for Colleges, Volume I and II. The other two rules were selected because of their frequent use in business correspondence. The punctuation rules were used 973 times in the 40 letters. The rules most commonly used were the introductory words and phrases, independent clauses joined by a comma, and parenthetical elements. These rules were used 125, 112, and 100 times, respectively; and the remaining 11 rules were used within the range of 50-62 times each in the letters. The syllabic intensity of the tests ranged from 1.38 to 1.52.
3. A published list of 220 words was dictated to 100 high school students in Louisville, Kentucky. The 100 words missed most frequently were checked by four business educators to select the 50 words they considered to be the most commonly misspelled by high school shorthand students. From these 50 words, a list of 15 was chosen. Each letter contained at least 6 words, and each word appeared in at least 16 letters.
4. The punctuation rules were presented in an organized manner. The number of rules included in each letter was equal to 1/10 the speed of the letter. The

rule usages for each letter equalled twice the number of rules used plus or minus two usages, and each rule was used a minimum number of times at each speed level.

5. Five tests were constructed at speeds of 100 and 110 words a minute, and ten tests were constructed at each speed level from 120 to 140 words a minute. The original letters were revised to change the wording, to include plans for punctuation and spelling words, and to provide for a sentence break at the end of three minutes.

Recommendations:

1. That the tests prepared in this study be used in shorthand classes after material containing numerous occurrences of the 14 punctuation rules has been dictated. The teaching of punctuation should begin early in the shorthand course.

2. That a similar study be made in which mailable letters are constructed using a more comprehensive list of punctuation rules and spelling words.

3. That a similar study be made to construct other three- and five-minute speed tests over phases--of business activity not included in this study.

4. That a detailed record of errors be made as these tests are used in class, so that revisions can be made to eliminate factors that were not intended to be tested.

Abstractor's Comments:

1. The material constructed in this study can only be beneficial if it is published and made available to shorthand teachers.

2. Teachers do not always have time to construct their own testing letters to include the factors they desire on a systematic basis; therefore, they select a "get by" from some other source. Most shorthand teachers would make use of these test materials if they were available.

3. As was recommended by the writer of this study, similar materials covering other phases of business activities would be beneficial.

4. Since the material constructed was not tested, no findings or conclusions were given.

5. The material needs to be tested in order to determine whether or not it accomplishes the desired results.

Abstract 171

Sister Ann Regis Scheve, "An Analysis of Transcription Errors and Procedures Reported by Selected Employers of the 1956-1959 Graduates of the Stenographic Curriculum of Seton High School, Baltimore, Maryland" (unpublished Master's thesis, The Catholic University of America, 1961), p. 89.

Problem:

The problem of this study was to determine the errors made by graduates of Seton High School during the years of 1956, 1957, 1958, and 1959 employed in the Baltimore area.

Procedure:

1. Several sources were used for gathering data for this study. Sources used included related research, individual and telephone contacts, and carbon copies of former students' work.

2. From the files on former students, letters were mailed to 102 selected businessmen. The letters were followed-up with personal telephone calls in an attempt to find out if the employers were satisfied with the Seton graduates.

3. If a company employed six or more Seton graduates, a personal interview was requested with the supervisor.

4. From handbooks and textbooks, evaluation criteria were developed. Errors were classified as follows: use of the comma, miscellaneous punctuation, sentence structure, figures, spelling, and typographical.

5. Of the 102 contacted, 98 made comments concerning the work of their employees; 50 submitted carbon copies; and 52 gave suggestions on how to improve the stenographic course.

6. The papers submitted for the 50 graduates were divided into two groups, each containing 25 students. The

1956, 1957, and 1958 graduates were grouped because they had received one semester of training in business English and one semester of training in office practice. Their performance was compared with the 25 graduates of 1959, who received limited training in the areas in Typewriting II and Shorthand II.

7. The data collected were analyzed and tabulated for use in writing this study.

Summary:

Carbon copies of material typed by the employees were submitted by 50 of the employers, or a total of 2,010 carbon copies. An analysis of these materials revealed the following:

1. Comma. A total of 98 comma errors were made, with the 11 graduates of 1959 making 89 and the 6 graduates of 1956-58 making 9. Parenthetical expressions caused the most frequent errors.

2. Miscellaneous punctuation. Sixty-three errors involving punctuation other than the comma were tabulated. Of these 63 the graduates of 1959, 14 errors; and the 7 graduates of 1956-1958, 10 errors. The interrogation mark caused the most difficulty.

3. Sentence structure. A total of 95 deviations in grammatical rules were recorded in the papers of 18 graduates, 13 from the 1959 and 5 from the 1956-1958. Good paragraphing rules were violated 38 times by 10 girls, of which 32 were made by the 1959 graduates.

4. Figures. Fifty-three mistakes were made typing figures. Of the 53 errors, 39 were made by 11 graduates of 1959; and 14 were made by 6 graduates of 1956-1958. The most trouble seemed to be encountered with dates.

5. Spelling. Thirty-eight girls made a total of 180 spelling errors. The 22 graduates of 1959 made 123 of these, while the 16 graduates of 1956-1958 made 57 of the errors. Hyphenations seemed to cause the greatest difficulty.

6. Typewriting. Forty-seven of the 50 graduates made a total of 452 typographical errors. The 1959 graduates made 314 errors, while the 1956-1958 group accounted for 138. The 1956-1958 group made considerably fewer

errors in this category. Poor letter arrangement was made on 66 letters, and 182 deviations were made in placing typewritten material on the letterhead.

7. An average of .64 errors per paper were recorded for the 1959 graduates compared to .26 for the 1956-1958 group. The 1958 graduates had the lowest average of .22 and seemed to be the best prepared for the office.

8. Comments on Deficiencies. The supervisors indicated deficiencies in typing ability, English grammar, character traits, and miscellaneous techniques.

Areas suggested by the employers for improvement included erasing ability, more emphasis on spelling, telephone techniques should be improved, and more arithmetic.

Conclusions:

1. Although not much difference between the two groups was indicated by the employers, the 1959 group was inferior to the 1956-1958 group.

2. The limited training in office practice and business English received by the 1959 graduates was not as sufficient as the training received by the 1956-1958 graduates.

Recommendations:

1. More emphasis should be placed in Business English on use of comma, sentence structure, and paragraphing.

2. Accuracy in typewriting should be stressed. Also, more emphasis should be placed on correct letter placement.

3. Time should be devoted to reading notes for meaning and judging letter length.

4. In office practice, more emphasis should be placed on correct use of the telephone, arithmetic, alphabetical filing, and business relations.

5. The business English course and the office practice course should be returned to the business curriculum at Seton High School.

Abstractor's Comment:

Studies similar to this are needed in all communities in order to help business teachers plan their course work.

Abstract 172

John R. Schillak, "An Experimental Program Integrating Personal Typing and Gregg Notehand Into a One-Year High School Course" (unpublished Master's thesis, University of Wisconsin, 1962), p. 76.

Problem:

"The major problem in teaching the course was how to present the typing and notehand so as to be the most beneficial to the students."

Procedure:

1. Two sections of a combined typing-notehand course were taught at the Wisconsin High School, Madison, Wisconsin, during the 1961-62 school year. One section was taught by the writer of this paper and one section by Mrs. Patricia Keck Fredrickson. There were 40 students in the two classes--19 boys and 21 girls. No attempt was made to divide the students according to age, sex, intelligence, or grade level.
2. The two textbooks Personal Typing, Second Edition and Gregg Notehand were used in the typing-notehand course. These textbooks were chosen because each is designed for a one-semester course.
3. Weekly meetings were held by the writer of this paper, Mrs. Fredrickson, and Dr. Russell J. Hosler of the University of Wisconsin to coordinate the work of the two sections of typing-notehand.
4. The essential parts of the machine and keyboard presentation were completed in the first nine class meetings. The eleventh class period was used for presenting notehand, which was the beginning of the third week of class. The amount of time devoted to typewriting or notehand exclusively varied from one week to another.
5. Progress in typewriting was measured by timed writings scored according to the "gross speed-percent

error" method. Various notetaking and typewritten transcription exercises were used to measure progress in note-hand.

Conclusions:

1. That it is feasible to combine personal type-writing and Gregg Notehand into a one-year high school course.
2. That the two textbooks used in this course can be combined effectively for the presentation of a course of this nature.
3. That the students are not hindered in developing an acceptable typing skill by combining personal typing with notehand.
4. It appears possible to teach a symbol-shorthand system with personal-use objectives.
5. Notehand seems to attract boys and girls in approximately equal numbers.

Recommendations:

The following recommendations were made by the writer of the report and Mrs. Fredrickson in order to assist further programs similar to the one reported in this paper:

1. That all notehand be introduced by the end of the first semester so those students dropping the course at that time will have received a working knowledge of notehand principles.
2. That the course be offered early during the student's formal schooling so he can make use of both skills.
3. That the students be given ample opportunities during the learning process to use their acquired skills in typing and notehand.
4. That a final project be given employing the various skills and knowledges learned in the course.

Abstractor's Comments:

1. The procedures used in the typing-notehand course were described in great detail in this report.
2. No findings were given in the report on which the conclusions and recommendations could be based. Therefore, the conclusions given should be accepted as personal judgements.

Abstract 173

Sister Mary Joan Schlegel, S.S.N.D., (A Study of the Problem Involved and the Techniques Used in Teaching Transcription in Selected Catholic Secondary Schools in New England" (unpublished Master's thesis, The Catholic University of America, 1960), p. 81.

Problem:

The problem of this study was to study the problems and techniques used in teaching transcription in selected Catholic schools in New England to determine to what extent the business curriculums of these schools are giving recognition to shorthand transcription as part of the stenographic training.

Procedure:

1. Check lists and a letter of transmittal were sent to 225 teachers of shorthand-transcription in 120 schools in the states of Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont. After a follow-up letter was sent, a 68 percent return was finally received.
2. The check lists data were subdivided both qualitatively and quantitatively in order to present a more detailed picture and for comparison purposes.
3. The responding schools represented three types of schools: the diocesan high school, which draws students from different parishes; parochial schools, which draw students mainly from one parish; and private high schools conducted independently of parishes, churches, and usually by religious orders.

Findings:

1. Responses were received from 89 schools and 152 teachers. Of these 89 schools responding, 67 used some correlation with school marks as a basis for predicting success in shorthand and transcription. The 40 schools which used IQ and average marks as predictors of success in shorthand showed a 11 percent failure rate. The only other schools showing a higher failure rate used no standards for predicting success.

2. Gregg Simplified Shorthand was used in 82 of the schools and seven of the schools were still using Gregg Anniversary.

3. For the teaching of Shorthand I, 14 schools devoted one semester and 75 schools devoted two semesters. Twenty-eight schools devoted one semester to the teaching of Shorthand II and 61 schools used two semesters for teaching Shorthand II. An equal number of schools, 20, teach transcription for one and two semesters. Transcription is taught in Shorthand II in 49 of the schools.

4. From those teachers responding, apparently 68 had taken courses in improvement of instruction in shorthand, 54 had taken methods of teaching transcription, and 60 had taken methods courses of teaching business subjects.

5. Techniques were employed to increase dictation speeds. The Pyramid Plan was used by 57 percent of the teachers; 44 percent had the students practice easy or familiar material; 37 percent had the students copy from shorthand plates; 31 percent used tapes and records outside of class, and 31 percent had each student set speed goals.

6. To increase speed of reading notes, 93 teachers had the students read extensively from shorthand plates, and 92 teachers had them spell shorthand words that they could not read. Other methods were used, but these were the most common.

7. The most common technique used to help students read their notes was the stressing of proportion. This was done daily by 57 percent, of the teachers responding to the questionnaire. The next most common technique was to have the students copy from shorthand plates, which was used by 42 percent, of the teachers.

8. The techniques used to help students with difficulty in spelling were practice the spelling of difficult

words used by 102, or 66 percent, of the teachers and penalizing heavily for spelling errors was used by 77, or 51 percent, of the teachers.

9. Review rules of punctuation were used by 63 percent of the teachers and having students supply the punctuation when reading back from dictation was used by 62 percent of the teachers to help students who have difficulty with punctuation.

10. Various techniques were used in teaching proof-reading. Having students check their work as the teacher reads the material was used by 64 percent of the teachers, 51 percent of the teachers gave the students a penalty for not finding their errors, and 37 percent had the students read each other's notes. These seemed to be the most common.

11. Of the teachers responding, transcription goals were changed once a month by 55 percent of the teachers, every week by 25 percent, every two weeks by 17 percent, two teachers changed them each quarter, and three teachers did not set goals.

12. One carbon copy of all letters was required by a majority, or 72 percent, of the teachers. Two carbon copies were required by 10 percent, 2 percent required three carbons, and 16 percent did not require any carbons.

13. When asked about the transcription rate, 30 percent replied that they required 20 words a minute, 26 percent required 25 words a minute, 11 percent required 30 words a minute, between 35-40 words a minute was required by 3 percent, and 8 percent required 15 words a minute.

14. It was reported by 62 percent of the teachers that their biggest problem in transcription is students with a poor background in English. Another major problem indicated by 42 percent of the teachers was that the time for transcription is too limited.

15. Classes were grouped by 59 percent so that they could give slow students extra help. Failing students were guided into their classes by 39 percent of the teachers.

16. Envelopes were required to be typed for each letter by 43 percent of those responding, but 57 percent did not require envelopes.

Conclusions:

1. A strong guidance program for selecting students for shorthand and transcription should be set up.
2. A good background in English grammar is important to success in shorthand and transcription.
3. The time spent for producing professional stenographers is too limited.
4. Since the high demand for stenographers is going to increase for some time, we must teach our students, with the abilities they have, to produce transcripts in the quality and quantity the businessman requires.
5. Students must develop the ability to read notes rapidly and accurately.
6. All dictation should be previewed in the learning stages. Dictation rates should be lower for mailable copy.
7. Opportunity should be made available for students to transcribe occasionally from cold notes.
8. Students should be taught to consult a dictionary for spelling difficult words.
9. Punctuation must become automatic.
10. Accurate work must be stressed.
11. Individual and realistic goals should be set by the teacher for each student.
12. Since nearly all offices require a carbon copy of every letter, students should use carbon paper in transcription.

Recommendations:

1. Students should be counseled before selecting stenographic courses. Minimum requirements for transcription should be set and adhered to. There are factors which can determine probable failures, if not accurately predict success in shorthand.
2. The transcription course should have a definite place in the curriculum. The transcription course can be

taught as part of the secretarial practice course, if transcription cannot be given separately. The transcription class should follow the Shorthand II class and should be taught by the same teacher.

3. A modern demonstration desk should be provided, if the secretarial room is not equipped with secretarial desks.

4. Typewriting speed should be at least 40 words a minute, a shorthand speed of 80 words a minute for 5 minutes, and a good background in English. During this time the students should be taught to use the dictionary, reference books, good form, neatness, setup, and correct organization of work and materials.

5. Standards should include accuracy, mailability, a production rate, and speed. Only letters that an employer would not hesitate to send out should be acceptable.

The production rate should include handling of papers, including carbon and envelope, operation of the machine, proofreading, and erasing and correcting all errors.

The minimum standard at the end of the course should be: three letters, a total of not less than 400 words, dictated at 80 words a minute, typed in mailable form in not more than 30 minutes. Articles should be produced approximately the same time in accepted transcripts depending on the difficulty of the material.

Production standards should be individual. Each student should increase as much as possible beyond the minimum standard set.

The accuracy standard does not mean verbatim, but rather correctness of meaning and detail. This must never be sacrificed for speed.

6. Teachers must test their own standards as measured by the standards of the most exacting businessman. "Transcription teaching and transcription standards in the Catholic secondary schools in New England must meet the growing demand for more intelligent, capable, and demonstrably-skilled stenographers."

Abstract 174

Carolyn O. Schloemer, "A Study to Compare the Achievements Attained in Two Methods of Teaching Gregg Shorthand--the Theory Approach Versus the Nontheory Approach" (unpublished Master's thesis, University of Wisconsin, 1964), p. 54.

Problem:

The problem of this study was to compare the achievements attained in two methods of teaching beginning shorthand: placing a great deal of emphasis on shorthand theory and accurate outlines or emphasizing completely reading and writing, with little or no attention given to formal instruction of shorthand theory.

Procedure:

1. Two classes were involved in the experiment conducted at Watertown High School, Watertown, Wisconsin, during the 1962-63 school year. Both classes were taught by the writer of this study. The theory class contained 22 students and the nontheory class 24 students.
2. The nontheory class was not introduced to writing until after lesson 20. No word-list tests were given in this class. Students in this class were told that their entire grade would be based on longhand transcripts.
3. The theory class began writing with the first lesson. These students were given frequent unannounced check tests. Students' grades in this class were based 60 percent on theory tests and 40 percent on longhand transcripts. For the second semester, the grade was 50-50 for each.
4. At the end of the first semester, the two classes were compared in achievement on a 100-word theory test and speeds achieved on three-minutes of practiced material. At the end of the second semester, the students were compared on a 100-word theory test, speeds achieved on three minutes of new-matter dictation, and accuracy of outlines written during dictation.

Findings:

1. At the end of the first semester, speeds attained were very similar. Every student in both classes

achieved 60 words a minute, 92 percent of the nontheory students and 86 percent of the theory students achieved 70 words a minute, and 80 words a minute was achieved by 58 percent of the nontheory students and 55 percent of the theory students.

2. As would be expected, the theory class did much better on the 100-word theory test. The median number of theory errors was 54.5 for the nontheory class and 31.5 for the theory class. The theory class had a median number of transcription errors of 6.5; whereas, the median for the nontheory class was 13.5. However, the paper with the least theory errors was in the nontheory class.

3. By the end of the second semester, approximately three-fourths of all the students had passed 80 words a minute, 64 percent of the theory class had passed 90 words a minute, and 54 percent of the nontheory class had passed 90 words a minute. However, 100 words a minute was achieved by 25 percent of the nontheory class and only 18 percent of the theory class. Also, the nontheory class had a higher percent of students who passed 110 words a minute, with 13 percent compared to only 5 percent for the theory class.

4. The theory class wrote more accurate outlines on the 100-word test than did the nontheory class. However, the nontheory class had a median number of transcription errors of 3.5 compared to 4.5 for the theory class.

5. On the final examination consisting of three minutes of dictation at 60, 80, and 100 words a minute, students were to transcribe two of the three speeds and 95 percent accuracy was required to pass. An analysis of these papers revealed that the dictation tests were passed by 19 nontheory students and 15 theory students. Although the four best papers, from the standpoint of shorthand notes, were found in the nontheory class, the theory class had the best overall results in accuracy of outlines.

6. While more accurate outlines were written on the 100-word theory tests, the survey did not show any significant difference in achievement between the two groups in any other phase of the year's work.

Conclusions:

1. The two groups were almost identical on practiced material at the end of the first semester.

2. No significant difference was found between the two groups in achievement on new-matter material at the end of the second semester.

3. High dictation speeds were achieved by students in both classes. There were six nontheory students and four theory students who reached 100 words a minute.

4. One person in each class was unable to take new-matter dictation at 60 words a minute and transcribe the material with 95 percent accuracy.

5. A majority of the students, 75 percent in the nontheory class and 73 percent in the theory class, attained a speed of 80 words a minute.

6. The theory students were able to write more accurate outlines on both of the 100-word theory tests; whereas, the nontheory students made fewer transcription errors. However, the least number of theory errors on each test was made by a nontheory student.

7. The analysis made of the dictation notes revealed that the theory students wrote more accurate notes. Since the four best papers came from the nontheory class, apparently accuracy can be achieved without a great deal of emphasis on theory.

8. The findings of this study tend to indicate that when two classes are taught by the same teacher, neither approach, theory or nontheory, seems to be superior. Apparently neither approach is harmful to the students' achievement as believed by some people.

9. The investigator observed that most average and above average students achieved acceptable results in both classes and less than average students found it difficult to achieve acceptable standards regardless of the approach. This would tend to indicate that the approach used in teaching beginning shorthand is not as important as the ability of the students enrolled in shorthand.

Recommendations:

1. That a similar study be made involving more students.

2. That research be conducted using the theory and nontheory approaches in advanced shorthand classes.

3. That research be done using Diamond Jubilee to determine whether or not use of the nontheory or theory approach has any effect on the ability of students to write dictionary--correct outlines under pressure of speed or on the dictation speeds achieved.

4. That each teacher use the method or combination of methods which give them the best results and that they experiment to determine which method gives them the best results.

5. That students of average and above average ability are able to achieve acceptable standards in shorthand; therefore, teachers should strive to attract students of average and above average ability into shorthand.

Abstract 175

Marzetta Whitlock Schmidt, "An Evaluation of the Shorthand Curricula of Nemaha County, Kansas, High School" (unpublished Master's thesis, Illinois State Normal University, 1962), p. 149.

Problem:

The problem of this study was to determine how successfully the high school shorthand curricula have been in meeting the dictation and transcription needs of shorthand graduates of Nemaha County, Kansas, from 1957 through 1961.

Procedure:

Questionnaires were mailed to 239 graduates of Nemaha County and 111 employers of these graduates. The calculations presented in this study are based on 132, or 55.2 percent, returned by the graduates and 67, or 60.4 percent returned by the employers.

Findings and Conclusions:

Extent of High School Training for the Shorthand Graduates:

1. Courses taken in high school were: shorthand, typing, bookkeeping, clerical practice, office practice,

secretarial practice, business English, business math, economics, commercial geography, and business law.

2. Of the students who use shorthand very much on the job, 57.1 percent had four semesters of high school shorthand and 77.1 had at least four semesters of high school typewriting.

3. Two semesters of secretarial practice was taken by 60 percent of the graduates who use shorthand very much on the job.

4. The graduates with four semesters of shorthand were employed in the following positions: stenographer, secretary, bookkeeper, clerk, and typist.

5. The graduates with four semesters of typewriting were employed as stenographers, secretaries, bookkeepers, clerks, typists, and receptionists.

6. Graduates with two semesters of secretarial practice were employed in the following positions: stenographer, secretary, bookkeeper, clerk, and typist.

The findings indicate that the secretarial and stenographic positions were held by the graduates with four semesters each of typewriting and shorthand and two semesters of secretarial practice. Those interested in the secretarial and stenographic positions should take the prescribed amounts of shorthand, typewriting, and secretarial practice.

Value of Business Courses Taken in High School to Job Application:

1. Of the graduates who use shorthand very much on the job, 100 percent believed shorthand was very valuable, 100 percent believed typewriting was very valuable, 57 percent indicated secretarial practice was very valuable, and 14 percent indicated bookkeeping was very valuable.

2. Of those graduates that use shorthand very little on the job, 100 percent indicated shorthand was of little value, 75 percent still believed typewriting was very valuable, 21 percent believed secretarial practice was very valuable, and nearly 39 percent indicated bookkeeping was very valuable.

3. For the graduates who use shorthand some on the job, 100 percent, shorthand was of some value; 81 percent, typewriting was valuable; 26 percent, secretarial

practice was very valuable; and 27 percent, bookkeeping was very valuable.

For the students employed who use shorthand very much, shorthand, typewriting, and secretarial practice are of most importance. Typewriting, secretarial practice, and bookkeeping are most valuable to those using shorthand some or very little on-the-job. As the use of shorthand on the job decreased, bookkeeping became more important.

Levels of Education and Specific Courses Required for Positions:

1. Of the 62 businesses responding, 65 percent required a high school education, while only 2 percent required a college degree.

2. For stenographic positions, shorthand, typewriting, English, business English, office practice, and secretarial practice courses were required.

3. Stenographic and secretarial positions were held more by people with advanced training than other business positions.

The findings tend to indicate that a high school education is sufficient for most stenographic and secretarial positions.

Experience Required for Stenographic and Secretarial Positions:

Nearly 41 percent required typewriting; 33 percent, shorthand; and 28 percent, filing.

Experience is not a must for a large percent of the available positions.

Adequacy of Performance of Dictation and Transcription Skills Upon High School Graduation:

The graduates who use shorthand on-the-job were well prepared in the following dictation and transcription skills upon graduation from high school: making changes in dictation, making deletions in dictation, syllabication, and preparing copy in good form.

Adequacy of Performance of Dictation and Transcription Skills at the Present Time:

The graduates who use shorthand on-the-job could perform the following skills to an adequate or excellent degree: taking verbatim dictation, making changes in dictation, filling in omissions, verbatim transcripts, spelling, and neatness in work.

Performance of Other Office Duties:

1. The graduates who use shorthand very much perform the following jobs most frequently: typing letters; typing envelopes; typing rough drafts; filling in forms; using telephone--making calls, receiving calls, taking messages, relaying messages, filing, and collating and stapling materials.

2. Those duties performed least frequently by those using shorthand very much were: operating switchboard; preparing inventories; proving cash; marking merchandise; selling merchandise; and operating the check writer, cash register, multigraph, verifax, proving machine, and picturing machine.

On the basis of these findings, typewriting and telephone techniques need to be emphasized and those duties performed least should be emphasized less.

Amount of Time Spent in Performing Other Office Duties:

Whether shorthand is used very much or some, the most time is spent on the following duties other than dictation and transcription: typing letters, filling in forms on the typewriter, operation of standard and electric typewriters, and telephoning.

Therefore, it may be concluded that these items should be stressed in the high school business curriculum.

Degree Personality Characteristics Were Developed in High School:

Of those using shorthand a great deal, 85 percent felt their personality traits were developed to an adequate or above average degree. Those using shorthand some or very little, 100 and 80 percent respectively felt their personality traits were developed to an adequate or above average degree.

Therefore, the majority believed that their high school education was sufficient in developing personality traits.

Improvement of Personality Characteristics Through Experience in Business:

Nearly 75 percent of those who use shorthand a great deal, 100 percent of those who use it some, and 80 percent of those who make very little use of shorthand believed that their experiences in business improved their personality traits some or a great deal.

Employers' Rating of Job Performance Skills in Dictation and Transcription:

1. Approximately 50 percent of the 67 employers responding rated the graduates either adequate or excellent in dictation and transcription skills.

2. The graduates were rated insufficient or very poor by 10 percent of the employers in the following transcription areas: spelling, punctuation, sentence structure, verbatim transcription, typographical errors, and neatness.

Therefore, more emphasis is needed in the transcription skills rated very poor or insufficient by 10 percent of the employers.

The Degree to Which Graduates Perform Common Office Duties:

1. Nearly 50 percent of those employers responding rated the graduates adequate or excellent in using the telephone and using office machines.

2. Typing direct dictation, composing letters, performing selling duties, using voice recording machines, and using the telephone were rated insufficient or very poor by nearly 10 percent of the 67 employers.

The findings indicate that fewer duties are performed adequately than are performed insufficiently. Therefore, more emphasis is needed in the insufficient areas.

Employers' Rating of Graduates' Personality Traits, Job Responsibilities and Ability to Hold a Job:

1. The graduates were rated above average or superior in personality traits and job responsibilities by about 60 percent of the 67 employers.

2. Areas of weakness included posture, self-confidence, sense of humor, ability to take criticism, initiative judgement, and self-discipline.

3. Significant reasons for dismissal were: poor office conduct, lack of skill, neatness in work, lack of trustworthiness, and the most frequent reported was lack of accuracy.

These findings reveal that more emphasis needs to be placed on certain personality traits.

Degree of Personal Use of Shorthand:

Shorthand was used personally by 50 percent of those using shorthand on the job a great deal; 45 percent, some use-on-the job; and 21 percent, very little use on-the-job. The most frequent personal use made of shorthand was to prepare shopping lists.

Therefore, graduates who use shorthand more on-the-job also use it more for personal use.

Recommendations:

1. Four semesters each in typewriting and shorthand and two in secretarial practice are needed to prepare students for stenographic and secretarial positions.

2. There is a need for more emphasis to be placed on developing personality characteristics in high school.

3. Since students seemed to be weak in spelling, punctuation, and sentence structure, a business English course should be added or continued.

4. More emphasis should be placed on drill in transcribing from direct dictation, composition of letters, performing selling jobs, using transcribing machines, and telephoning.

5. A follow-up study is needed in Nemaha County within the next few years to determine if any progress has been made in the shorthand curricula and to obtain data that will aid in training stenographers and secretaries.

Abstractor's Comments:

1. Very few procedures were given concerning the development and use of the questionnaire in this study.

2. Many of the employers indicated the questionnaire was too detailed and time consuming. Several returned the questionnaire and indicated they did not have time to fill it out.

Abstract 176

Marie Z. Schreiber, "Evaluating First-Year Shorthand Teaching Techniques in the Secondary School" (unpublished Master's thesis, Southern Illinois University, 1964), p. 123.

Procedures:

1. A comprehensive survey was made of current writing and research from which the writer gathered the best of thought and practices, guiding principles and concepts, motivational devices, problem areas of instruction, and outstanding and selective techniques pertaining to shorthand teaching and skill development. From this study and analysis, criteria were selected which were adequate and useful in measuring the effectiveness of shorthand teaching techniques.

2. These techniques were placed in categories which were compiled into an opinionnaire. This opinionnaire was given to 21 teachers as a "dry-run." After revising the instrument on the basis of these replies, the opinionnaire and a cover letter were mailed to 100 first-year shorthand teachers in 18 counties in the southern section of Illinois. Replies were received from 81 of the teachers. Five of the opinionnaires were not usable for one reason or another; therefore, 76 opinionnaires were analyzed.

3. The data collected were classified, analyzed, and evaluated from which were drawn recommendations concerning outstanding shorthand teaching techniques for the secondary school. Unusual trends were also cited.

Findings:

1. Of those teachers involved in this study, 43 percent had their Master's compared to 57 percent who

did not; and 64 percent of them had less than 10 years of experience. A further analysis revealed that the mean of the experience of the group was 9 years, the median was 5 years, and the mode was 3 years. A correlation did exist between an increase in experience and an increase in education.

2. The order in which the techniques were presented on the opinionnaire had no affect upon the frequency ratings. Of the five techniques having the highest "superior" frequency ratings, three appeared in Part I of the opinionnaire and two appeared in Part II. Over one-half of the techniques listed on Part I were rated "superior" by over one-half of the respondents. When the "superior" and "average" ratings were combined, only five of the techniques (2, 8, 10, 12, and 16) received less than a majority of the teachers' approval.

3. Those techniques in the top quartile were: (in the order of importance) Number 5, demonstrating the ease of writing shorthand as compared to longhand; Number 7, demonstrating the importance of proportion in shorthand and longhand; Number 19, keeping an up-to-date file of teaching techniques; Number 13, indication of direction of strokes, "t-up" and "ish-down"; and Number 9, introduce writing by dictating a small amount of familiar contextual material.

4. The second quartile contained the following techniques: Number 6, Relation of shorthand letters to longhand letters; Number 15, Use of tapes and/or records in order to free teacher for observational purposes; Number 17, allowing class time occasionally for homework so teacher may give assistance; Number 11, postpone writing until students have read for two weeks; Number 40, have students trace outlines as they spell them.

5. A list of 24 techniques pertaining to theory development was given in Part II of the opinionnaire. Only 4 of these techniques--4, 19, 20, and 22--received less than a majority of the teachers' approval when the superior and average ratings were combined.

6. Those techniques in the top quartile were: Number 1, using blackboard for reviewing and presenting shorthand theory; Number 13, individual reading from homework notes; Number 6, having students spell outlines; Number 14, individual reading from shorthand plates; Number 7, dictation of phrases, sentences, paragraphs, and letters for review; and Number 9, have students write the

shorthand word dictated as many times as possible before the next word is dictated.

7. Those techniques listed in the second quartile were: Number 8, dictation of words followed by a student check; Number 11, theory tests; Number 10, writing several words of a word family when student asks for a word; Number 15, reading shorthand plates in concert; Number 17, keeping record of students' reading rates; and Number 18, call on another to read if one reading hesitates.

8. Part III of the opinionnaire contained 24 techniques relative to dictation. Only 5 of the 24 techniques received less than a majority of the teachers' approval when the "superior" and "average" ratings were combined.

9. Those techniques listed in the first quartile were: Number 12, using intensive dictation; Number 6, having students "postview" difficult words after each dictation; Number 5, making a list beforehand of difficult words, to be previewed; Number 23, taking notes in other classes and from radio, television, etc.; Number 18, use of one-minute speed forcing plan; Number 4, emphasize phrases in beginning shorthand; and Number 29, having students use tapes and records at home.

10. Techniques ranking in the second quartile included: Number 14, giving a warmup from the day's dictation; Number 9, having students read back about one out of 4 or 5 dictations; Number 17, using the pyramid plan for building speed; Number 1, demonstrating writing on board from tape or records; Number 25, using tapes and records for individuals at extreme top and bottom of speed range; Number 2, give dictation rate before giving the dictation; and Number 24, dividing class into groups for different rates of dictation.

11. The IV section of the opinionnaire was related to motivation. Only two of the seven techniques did not receive a majority of the teachers' approval when the "superior" and "average" ratings were combined. However, only one technique, Number 6, using awards and honor rolls, received a "superior" rating from a majority of teachers.

Conclusions:

1. Those techniques ranked in the first quartile were considered the most fundamental by both authorities and teachers participating in this study.

2. Those techniques ranked in the second quartile by the respondents were also regarded second highest by most authorities included in this study or considered outstanding by almost all of them.

3. On the whole, teachers and authorities opinions agree.

4. For the most part, those techniques ranked highest by experienced teachers were also the techniques approved most highly by most authorities participating in this study.

5. On the other hand, those techniques ranked highest by less experienced teachers were not sanctioned by some of the authorities consulted for this study.

6. There was a noticeable similarity in the opinions of the respondents with varying years of experience regarding the techniques in all sections of the opinionnaire.

Recommendations:

1. Guiding principles of learning should be implemented into teaching techniques of shorthand teachers in order for their teaching to be more successful.

2. All shorthand teachers should strive to improve their instruction through periodic evaluation.

3. A technique which does not provide maximum benefit for the amount of time consumed should be discarded.

Abstractor's Comments:

1. No problem statement was given in this study.

2. Since there seemed to be an overlapping of conclusions, they were not all given in the abstract. Furthermore, some of the conclusions seemed to be stated as a finding and one conclusion was a personal opinion.

3. This study could be used very effectively in a shorthand methods course and/or an improvement of shorthand instruction course.

Abstract 177

Eileen Pauline Schutte, "Personality Characteristics of Typewriting and Shorthand Teachers" (unpublished Ed.D. dissertation, Northern Illinois University, 1967), p. 248.

Problem:

The problem of this study was to examine the values, needs, and personality traits of in-service typewriting and shorthand teachers in selected schools near a large midwestern city to determine whether differences existed between teachers ranked at the extremes of teaching ability by their department chairmen.

Hypotheses:

1. "The mean scores for values, needs, and other personality factors as measured by standard inventories will not differ significantly between the in-service group of typewriting and shorthand teachers ranked highest by their department chairman and the group ranked lowest."

2. "The mean scores for values, needs, and other personality factors as measured by standard inventories will not differ significantly between groups selected according to certain personal and professional characteristics of in-service typewriting and shorthand teachers."

Procedure:

1. This study contained a total of 189 typewriting and shorthand teachers from 44 selected high schools in the Chicago suburban area. The study was limited to those schools whose chairmen were 1965-66 members of CSABEDCA and which had three or more teachers in the business department.

2. The following five instruments were used in gathering data:

- a. The Allport-Vernon-Lindzey Study of Values
- b. The Edwards Personal Preference Schedule
- c. The Minnesota Multiphasic Personality Inventory

- d. A personal data sheet
- e. A criteria sheet for evaluating teachers

3. The teachers were compared on the basis of the criteria sheet used by the chairmen. Each teacher filled out a personal data sheet which was used in comparing the teachers by sex, age, marital status, highest degree earned, number of professional memberships, number of courses taken in the last three years, subjects taught, subjects preferred, and beliefs concerning skill required to teach typewriting and shorthand.

4. A packet was made up for each participating teacher and mailed to the department chairman. A separate packet was included for the chairman. When these materials were completed, they were returned to the chairman who returned them to the investigator.

5. The data gathered by means of the various instruments were then placed on cards for computer processing. Frequency distributions and percentages were calculated for each item on the personal data sheet and the criteria sheet. The F-test and t-test were calculated using the scores from the psychological tests in order to determine if any significant differences existed.

Findings:

1. When the means were compared for the three groups (high, medium, and low), three total group comparisons and three mean group comparisons were significantly different.

2. When the mean scores of men and women were compared, they were significantly different in 16 characteristics. The men were significantly higher on economic values, political values, achievement, autonomy, dominance, aggression, and ego strength. The men were significantly lower on aesthetic values, affiliation, suc-
corance, change, depression, masculinity-femininity, low back pain, dependency, and EPPS consistency score.

3. When the three age groups were compared, 14 characteristics were significantly different in the total group comparison. Furthermore, two significant differences were revealed in the men's group and eight in the women's group.

4. When the teachers were compared on marital status, six significant differences were found in total

comparisons, one in the men's group and four in the women's group.

5. Nine significant differences were found in total group comparisons between the means of bachelor's degree and master's degree. The teachers with a bachelor's degree were higher on exhibition, change, masculinity-femininity, and hypomonism and lower on religious values, deference, order, endurance, and social introversion.

6. Four significant differences in total group comparisons were found between the means of the three groups according to number of professional memberships. Furthermore, there were two significant differences in the men's group and five in the women's group.

7. When compared on the number of courses taken the past three years, the total group showed one significant difference, the men's group showed two, and the women's group none.

8. Six significant differences were found in the total group comparisons when the three groups were compared according to subjects taught. The men's group showed two, while the women's group showed one.

9. Four significant differences were found in the total group comparisons when compared according to teaching preference. The women's group revealed no differences, while the men's group revealed seven differences.

10. When compared on beliefs concerning the skill needed to teach typewriting and shorthand, three significant differences were revealed in the total group comparisons, the men's group showed one and the women's group two.

11. The rankings showed a larger percent of women ranked first than men. Of those ranked first, 70 percent were women; however, only 60 percent of all those surveyed were women. Those teachers ranked first tended to be older and have more experience.

12. The men were found to have more teaching experience and a larger percent were married. Furthermore, 80 percent of the men were not teaching shorthand and taught typewriting only. Only 43 percent of the women did not teach shorthand and 39 percent taught typewriting only.

Conclusions and Implications:

1. On the basis of the findings of this study, both hypotheses would be rejected.
2. Only four of the thirty characteristics compared supported the hypotheses.
3. In interpreting the findings keep in mind that the proportion of men and women varied in each group being compared.
4. The only personality variable which distinguished between the groups on all three comparisons was deference.
5. The personality instruments used in this study did not distinguish between teachers ranked first or lowest by their department chairman.
6. The findings of this study tend to indicate minor differences in personalities of those teachers surveyed.
7. The findings of this study should be helpful to administrators in hiring new faculty for their staff.
8. The findings may also be used by administrators and teachers in analyzing the actions of those with whom they associate. Thus, they may understand their co-workers better and promote better working conditions.

Recommendations:

1. That similar studies be made in other geographic areas.
2. That similar studies be made comparing typewriting and shorthand teachers with other business teachers.
3. That research be made studying the personality characteristics of those preparing to become typewriting and shorthand teachers.

Abstractor's Comment:

In finding number four, the writer stated that six differences were found when comparing total groups; however, later he lists only five differences.

Abstract 178

Kent Herbert Scott, "An Experiment to Determine the Value of Teaching Briefhand to High School Students as a Note-Taking Device" (unpublished Master's thesis, The Ohio State University, 1960), p. 110.

Problem:

The problem of this study was to determine if a one-semester course in Briefhand would be valuable to students as a note-taking device.

Procedure:

1. Each student who wished to enter the Briefhand class was to be a senior "college-preparatory" student. The school records were used to obtain the age, IQ, and 11th grade average of the 10 students who enrolled in the class.

2. The class met in the bookkeeping room on Monday, Wednesday, and Friday for a 45-minute period. On Tuesday and Thursday, the class met before school for 10-25 minutes. Forty-four lessons were covered in all.

3. At the end of the course and again the last week of school, the following tests were given: brief form test, theory test, and phonetic abbreviation and theory rules.

4. Two spelling tests were given--one from dictation and one from Briefhand plate. The words selected were words that are spelled differently in Briefhand.

5. The normal and fastest longhand speeds of the students were measured at the beginning and again at the end of the course in order to determine if longhand writing speeds were increased or decreased.

6. The amount of time spent on homework was checked to determine the correlation between the homework and skill obtained.

7. Junior and senior grade averages of experimental students were compared with those of non-Briefhand students to determine which group did better work in

school. The students taking Briefhand were asked for their overall reaction to the learning system and their recommendations for including the course in the high school curriculum.

Findings:

1. On the test at the end of the course, the group scored highest on the brief form test and lowest on the theory word test. When the tests were given again, 35 days later, the group retention was 98.91 percent on the brief form test, 94.94 percent on the theory test, and 94.15 percent on the phonetic abbreviations and theory rules test.

2. A total of 55 words was misspelled at the beginning of the course and 48 words were misspelled at the end of the course. The students spelled better when spelling from dictation than they did when transcribing from Briefhand plates.

3. Eight students wrote faster at their "normal" rate and two students wrote slower at their "normal" rate at the end of the course than they did at the beginning of the course. At the end of the course, two students wrote faster at their "fastest" rate and eight students wrote slower at their "fastest" rate than they did at the beginning of the course.

4. The handwriting specimens taken at the beginning and again at the end of the course indicated no significant difference in the quality and legibility of the students' handwriting.

5. The total number of minutes spent doing homework for the course ranged from 430 minutes to 15 minutes. More time was spent in homework during the first three-week period than during any other three-week period in the course. The students who did the most homework did not necessarily learn the most.

Conclusions:

1. The degree was high to which the Briefhand students retained their knowledge.

2. The researcher was unable to determine if writing rates of the students changed.

3. The study failed to prove that Briefhand skill will contribute to an improvement in high school graduates.

4. Briefhand does not cause one to lose his ability to spell, when spelling from dictation.

5. Spelling ability seems to lower when students are spelling from Briefhand rather than from dictation.

6. Briefhand does not appear to damage the quality of the students' handwriting.

7. Including Briefhand as a course in the high school curriculum cannot be justified.

Recommendations:

1. Teach the course for a full semester and for a full class period each day.

2. Integrate opportunity for improving technique of notetaking in the course.

3. Do a follow-up to determine the use students make of Briefhand.

4. Compare Briefhand as a note-taking device with other alphabetic systems.

5. Conduct a study similar to this using students of lower ability to determine if Briefhand will improve their school work.

6. Compare the results of a regularly scheduled class with those obtained in this study to determine if the difference will justify the longer period of instruction.

7. A follow-up study of these same students to find out the retention of Briefhand and the uses they have made of the skill.

Abstractor's Comments:

1. Briefhand can be useful for note-taking purposes, but I question the possibility of using it as an employable skill. This, however, was not suggested in this report.

2. A study is needed comparing Briefhand with symbol shorthand to determine if one is superior to the other taught as a one semester course for note-taking purposes.

Abstract 179

Mary Louise Sellers, "A Study of the Current Practices in the Teaching of Transcription Based upon Periodical Literature, 1950-1956" (unpublished Master's thesis, State University of Iowa, 1958), p. 146.

Procedure:

1. All articles that could be found at the libraries of the State University of Iowa were read and summarized on note cards. The note cards were alphabetized according to authors and each card was numbered.

2. Each article was classified according to content. Separate cards were prepared for each problem confronting transcription teachers.

3. Each summary card was reviewed and placed under the classification that best described the content of the article. The card was listed under the topic card or cards that it pertained to. Some of the cards were classified under more than one topic.

4. Topic classifications used for this study were as follows:

- a. Pretranscription skills
- b. When to introduce transcription
- c. How to introduce transcription
- d. Testing in transcription
- e. Grading in transcription
- f. Standards
- g. Miscellaneous

Summary:

1. Transcription is usually recognized as a new skill in which shorthand, typewriting, and English are put together. Therefore, these skills must be developed before they can be used in a new skill. This would tend to indicate that transcription should not be introduced early in shorthand.

2. The references sighted in this study tend to agree that transcription should be introduced in steps going from the simple to the complex. Items to be reviewed in beginning transcription would include the following:

- a. Previewing difficult phrases and words
- b. Reading the notes before transcribing
- c. Reviewing punctuation rules
- d. Word spellings that might cause trouble
- e. Letter placement
- f. Correct use of words or figures in expressing numbers

3. Speed tests or takes should be given on the average of once a week. Even though a trend is noted to 3-minute takes, 5-minute takes are still preferred for the issuing of award certificates.

4. Tests should also be given to measure the students ability to turn out mailable transcripts. The usual procedure is to assign points to each letter. The major difference in grading transcription tests is determining what is meant by "mailable." The interpretation of this term varies from writer to writer.

5. Standards seem to vary from school to school, with 90 to 125 words a minute required at the end of two years of shorthand with 95 percent accuracy. The transcription rate is usually $\frac{3}{4}$ or $\frac{2}{3}$ of the straight-copy rate. The requirements on mailable transcripts will vary from school to school.

Abstractor's Comments:

1. No problem statement was given in the section Statement of Problem; furthermore, no conclusions were reached nor recommendations made.

2. An annotated bibliography was presented at the end of the study, which shorthand teachers may find helpful.

Abstract 180

Inez Couch Sells, "The First-Year Shorthand Drop-Outs of John McDonogh Senior High School, New Orleans, for the Year 1957-58" (unpublished Master's thesis, The Ohio State University, 1959), p. 91.

Problem:

The problem of this study was to determine why students drop-out of shorthand classes before they reach occupational competency.

Procedure:

1. The names of the students enrolled in beginning shorthand were obtained from the class records of the five first-year shorthand classes for the school year 1957-58. The records in the office were checked to verify this list. The names of 127 students were obtained.

2. During the school year 1958-59, these names were checked against the class records of the second-year shorthand teachers. There were 85 of the 127 enrolled in advanced shorthand.

3. After excluding those students who had moved, there were 32 students left in school who had taken Shorthand I, but did not enroll in Shorthand II. These 32 students were considered as the dropout cases for this study.

4. The records in the counselors' offices were studied to determine the following information: intelligence quotient; academic average; grade in shorthand, typewriting, and English; high school attendance record; work experience; and health record.

5. A questionnaire was prepared and administered to the students in the library by an English teacher. Only one teacher questionnaire was filled out. This teacher had taught 17 of the 32 students. The other teacher returned the questionnaire not completed with no reason or explanation.

6. A case record sheet was filled out on each dropout. This record sheet contained the information

received from the counselor's record, students' answers to the student questionnaire, and the teacher's answers to the teacher questionnaire.

Findings:

1. All 32 dropouts were girls. They were all in the 11th grade when they took beginning shorthand.
2. Of the 127 students taking beginning shorthand, 85 enrolled in the second year of shorthand.
3. Of the 42 who did not enroll in second-year shorthand, 32 students participated in this study. Of the 10 cases not used, 4 dropped out of school, 5 moved to another school, and one student had to drop because of illness.
4. The three teachers' reasons given for students taking beginning shorthand were as follows: (a) a parent, counselor, or friend had advised them to take shorthand; (b) shorthand was going to be used in getting a job; (c) the student wanted to see if she liked shorthand.
5. The three teacher reasons given for not taking second-year shorthand were: (a) the student did not like shorthand; (b) the student changed her vocational plans; (c) the shorthand class moved too fast for the student to keep up.
6. The reaction of the students varied greatly for the two teachers who taught the beginning shorthand classes in which these 32 students were enrolled.
7. An analysis of the personal records revealed the following for the dropouts: (a) an average IQ of 95.42; (b) an academic average of 82.17; (c) a mean grade in beginning shorthand of 82; (d) a mean grade in typewriting of 85.63; (e) a mean grade in English of 80.08; (f) there was no relationship between class standing and dropping beginning shorthand.
8. In general, the records of one teacher were lower than had been indicated by mean IQ's, shorthand grade, typewriting grade, English grade, academic average, rank in class, and health.
9. One teacher's viewpoint on reasons for students dropping shorthand was an inability to the students

to work under pressure and their inability to keep up in class.

Conclusions:

1. This study confirmed the findings of earlier studies that shorthand is dropped for many reasons.

2. There was a difference between the reasons for dropping shorthand given by the two classes. However, perhaps one group found it easier to rationalize by placing the blame on the teacher, and the other group held positive feelings toward their teacher and had to look to other sources for dropping shorthand.

3. This study pointed out the importance of the interrelationships between the classroom teacher and the reasons given by the pupils for discontinuing shorthand.

Abstractor's Comments:

1. No recommendations were made by the writer of this study.

2. Twelve out of 17 of the students who did not take second year shorthand were students who were capable of passing the course. These students became discouraged for various reasons; however, a more enthusiastic approach by the teacher may have encouraged them to continue.

3. The cases also pointed out that 4 out of 17 of the students did not have the aptitude for shorthand and should not have been in shorthand in the beginning. Therefore, a good guidance program could have prevented the unfortunate experience these students had with shorthand.

4. Eight of the 9 students who indicated that they dropped shorthand because the class moved too rapidly for them to keep up came from the class of Teacher B. All 7 of the students who dropped shorthand because they did not like shorthand came from the class of Teacher B. This points out very vividly that the teacher does create interest in her classes.

Abstract 181

Kenneth B. Settle, "The Relative Effectiveness of Two Methods of Teaching Gregg Shorthand" (unpublished Ed.D. dissertation, University of Cincinnati, 1961), p. 212.

Problem:

The problem of this study was to determine the relative effectiveness of the Reading Approach Method versus the Writing Approach Method of teaching first-year Gregg shorthand.

Procedure:

1. Two groups of students participated in this study. The control group was taught using the Writing Approach Method and writing began with the third lesson. The experimental group was taught using the Reading Approach Method and writing was delayed until the twenty-first class meeting. The primary variable in this study was the time writing was introduced in each class.

2. This experiment covered three years--1957-58, 1958-59, and 1959-60. The two groups participating each year were equated on the basis of two freshman entrance tests given at the University of Cincinnati. The enrollment procedure in the secretarial science area at the University precluded direct selection of the students. A toss of a coin determined whether each student in each pair would be in the experimental or control class. All classes were taught by the investigator.

3. Achievement in shorthand dictation was measured at two different times--once at the end of the 14th week and again during the 21st week. Each test consisted of two sets of three letters. These tests were constructed and administered by the investigator. The reliability of both tests was established by administering the tests to 210 college students.

4. The shorthand theory test contained 100-words and was administered during the final week of instruction. These 100-words covered all major principles in the first-year text. The reliability of this test was established by the test-retest method with 112 college students.

5. Statistical computations were made in order to compare the two methods of teaching shorthand.

Findings:

1. On the achievement test given after 14 weeks of instruction, the control class, Writing Approach Method, was significantly higher in all three experiments at all three dictation levels.

2. The control classes had spent 96.9 percent of their time in writing shorthand as compared to 68.8 percent for the experimental classes.

3. On the second achievement test given during the 21st week, the experimental classes for all three years achieved higher means at all three speed levels. The small differences, however, may have happened by chance.

4. The experimental classes showed greater increases, in all instances, between the two achievement tests than did the control classes.

5. When the control classes were combined into one group and the experimental classes were combined into one group, the experimental group was significantly higher than the control group at all dictation levels.

6. Although the high-ability students achieved higher results through the use of the Reading Approach Method, the low-ability and the medium-ability students achieved equally using either method.

7. On the shorthand theory test, the experimental class performed better than the control class twice, while the control class performed better on one theory test. However, none of the differences were significant.

8. When the experiments were combined, the experimental classes achieved slightly higher results than the control classes. However, none of the differences were significant.

9. A further analysis showed a positive linear correlation between scores made on the theory test and the second achievement test.

Conclusions:

1. The Reading Approach Method achieved slightly higher results than the Writing Approach Method. Furthermore, the differences were only significant when classes for all three years were combined.
2. The performances on the theory test were not significant for either method of instruction.
3. Advantages were noticed that favor each method of instruction.
4. The findings of this study do not indicate strong endorsement of either method over the other.

Recommendations:

1. Research is needed comparing the transcription ability of students taught by the two methods.
2. Research is needed to determine the affect achievement in the first year of shorthand has on achievement in second year shorthand.
3. Research is needed to determine which factor affects shorthand achievement the most--teacher influence or method of teaching.

Abstractor's Comments:

1. As the investigator indicated, the findings of this study should be of interest to all shorthand teachers.
2. This study emphasizes once again that the shorthand teacher has as much or more to do with student success in shorthand as the method of instruction.
3. This study may be used effectively in graduate and undergraduate methods courses.

Abstract 182

Rebecca U. Sewell, "Construction of Dictation Materials for Application of Principles in the Gregg Shorthand System, Diamond Jubilee Series" (unpublished Master's thesis, The University of Tennessee, 1964), p. 99.

Problem:

The problem of this study was to construct dictation materials for applying shorthand theory principles according to a pattern of review to be used with the Gregg Shorthand, Functional Method, Diamond Jubilee.

Procedure:

1. The list of principles used by Shell (62b) was reviewed and revised to fit the plan of presentation followed in the Gregg Shorthand, Diamond Jubilee Series. A total of 76 principles was considered in this study.
2. An analysis was made to determine whether any pattern was followed as to the amount and space of repetition of principles. This analysis showed that there was no apparent plan for the systematic presentation of principles.
3. Literature was reviewed to find out if anything had been done concerning patterns of repetition; but this too revealed that, though many authors agree that repetition leads to learning, only one reference could be found regarding patterns of repetition.
4. Six applications of a principle were built into the lesson following the presentation lesson. The next lesson contained four applications, two in the next and one in the next. After this sequence, one lesson was completed before another application of the principle was made. Then, two lessons were omitted. This procedure continued until five lessons were completed between applications of a particular principle.
5. The pattern for repetition of principles seemed more nearly sufficient in the first three chapters than in the remainder of the text; therefore, the plan devised for this study was developed for lessons 20 through 39.

6. Two letters of 150 words were developed for each lesson. Sullivan's companion study on brief forms, contained three letters of 100 words each. Thus, 600 words of material are available for use with each lesson.

7. The syllabic intensity for these materials was kept within a range of 1.32 to 1.48.

8. A comparison of principles was made between the 1949 Gregg Shorthand Simplified and the 1963 Gregg Shorthand, Diamond Jubilee Series. Only 69 of the 76 principles could be compared.

9. In the construction of the materials, each word applying a particular principle was different whenever possible. The number of principles in the prepared lessons ranged from 19 to 47.

Findings:

1. Of the seven lessons compared between the two texts, six or more lessons in the 1949 edition showed 44 principles; whereas, the 1963 edition showed only 29 lessons. Furthermore, four or more lessons showed 58 principles in the 1949 edition; but only 46 principles were shown in the 1963 edition. From these findings, the 1949 edition had a better coverage of principles than the 1963 edition, strongly pointing out the reason for the preparation of the materials in this study.

Recommendations:

The materials prepared in this study can be used in the following ways:

1. One of the lessons prepared in this study could be used on the day following the corresponding lesson in the text.
2. The lesson prepared in this study and the corresponding lesson in the text could be given at the same time.
3. Lessons in this study could be used to strengthen the student's knowledge of certain principles.
4. The materials prepared in this study could be used on an experimental basis without the textbook.

Abstractor's Comments:

1. These materials can be beneficial to shorthand teachers only if they are published and made available for use. Shorthand teachers can always find use for good dictation materials which correlate with the text.

2. An experiment needs to be conducted with an experimental group and a control group to find out whether shorthand students actually learn principles efficiently and more rapidly than when the materials are not used.

3. This study pointed out that principles are stressed more in the 1949 edition than in the 1963 edition. Since the learning load has been reduced in the 1963 edition, the authors possibly feel that there is no need to repeat principles as frequently now as before.

4. No conclusions were given in this study.

Abstract 183

Carolyn Shankel, "A Study of the Status of Certified Shorthand Reporters in the State of Kansas" (unpublished Master's thesis, Kansas State College of Pittsburg, 1960), p. 50.

Problem:

The problem of this study was to determine the status of Certified Shorthand Reporters in the State of Kansas.

Procedure:

1. A questionnaire was sent to 69 active Certified Shorthand Reporters in Kansas; 52 office district court reporters, and 17 free lance or general reporters.

2. The court reporter of the Sixth District court of Kansas supplied the names and addresses of the office reporters, and the president of the Kansas Shorthand Reporters Association supplied the names and addresses of the free lance reporters.

3. Of the questionnaires sent out, 45, or 65.2 percent, were returned.

Office District Court Reporters	52	37	71.1
Free lance or general reporters	17	8	47
	<hr/>	<hr/>	<hr/>
	69	45	65.2

Of those responding, 28 were machine writers and 17 pen writers.

Findings:

1. The average age of the 25 who responded to the questionnaire was 37.8, and the average age of the 13 pen writers was 54.

2. Of the 45 respondents, only one had a college degree. The average number of college hours was 24.6, with 27, or 60 percent, having no college work.

3. A majority of the respondents have had two to three years special training for shorthand reporting. Business colleges are the most common source for this special training.

4. It was found that 13, or 28.8 percent, of the respondents have had 5 years or less experience as Certified Shorthand Reporters, and the same number have had 16 years or more experience. Eleven, or 40 percent, were machine writers and only 2 were shorthand writers.

5. Verbatim reporting is the highest rank as the type of experience gained prior to certification.

6. The speeds on straight material ranged from 175 to 200 words a minute for a majority of both machine and pen writers. For medical question and answer material, the most frequently listed speed for machine writers was 200 words a minute and 150 words a minute for pen writers. For non-technical question and answer material, the most frequently listed speed for machine operators was 225 words a minute and 200 words a minute for pen writers.

7. Gregg Anniversary shorthand was used by 64.7 percent of the pen writers.

8. Most of both the machine writers and the pen writers transcribe their own notes.

9. Of the responding machine writers, 8 indicated they had been pen writers prior to changing to the machine method. Reasons given for changing were: less

tiring for long periods of writing, more accurate, easier for others to read your notes, easier to read and write, has a high speed potential, and is more interesting, though less flexible.

10. The top ranking personal qualities listed most frequently by the respondents as important to success as a shorthand reporter were: honesty, loyalty, impartiality, stamina and endurance, integrity, dexterity, perseverance, and amiability.

11. The top ranking job competencies listed most frequently were: writing speed, extensive vocabulary, typewriting speed and accuracy, mastery of English fundamentals, ability to write the vernacular of many trades and businesses, knowledge of law terminology, complete mastery of shorthand system, and continued effort to improve.

12. Advantages of the shorthand reporting profession include good remuneration, association with high skilled professional people, interesting and varied work, and recognition as a profession.

13. Most frequently listed disadvantages were: physical and nervous strain, long working hours, inadequate compensation, and little chance for advancement.

14. The type of jobs done most frequently were Kansas district court hearings and trials, depositions, insurance statements, court secretarial duties, and probate court hearings.

15. The opinions of the respondents indicated that a small majority feel that Kansas does need more Certified Shorthand Reporters, and this training should be offered by some Kansas colleges and universities.

Conclusions:

1. The findings indicated that newcomers to the profession are machine writers, and that more men than women are entering the profession in recent years.

2. A college degree is not essential to success; however, a broad educational background is.

3. Their duties are many and varied which further emphasizes the need for a broad background.

4. Business colleges offer an adequate training for the necessary skills needed for shorthand reporting, but the knowledge needed in law and the various arts and sciences must come from some other source.

5. The respondents consider the requirements of the Kansas Supreme Court for certification as being adequate.

Recommendations:

1. Those planning to enter the shorthand reporting profession should give careful consideration to the machine writing method.

2. Some Kansas colleges and universities should give some thought to offering a pre-reporting curriculum.

3. Further study should be made to determine the demand for shorthand reporters throughout the country, to investigate those planning to enter the field to determine if they have the ability to develop the necessary skills, and to determine what particular area of study would be most applicable in developing the background desirable for shorthand reporters.

Abstractor's Comments:

1. The writer did not mention in her conclusions the need for a high rate of speed that was indicated by the respondents.

2. This study points out further proof that machine shorthand has a place in business, and therefore, should be part of the curriculum.

3. A large percent of shorthand court reporters are men.

4. A more comprehensive study is needed sampling the United States.

Abstract 184

Wilma W. Sharp, "The Effect of the Study of Shorthand on Student Improvement in English" (unpublished Master's thesis, Southern Illinois University, 1967), p. 47.

Problem:

"The problem of the study was to determine whether there was a significant improvement in the English skills through the study of shorthand."

Hypothesis:

"The study of shorthand provides an effective means for significant improvement in the knowledge and application of English."

Procedure:

1. This experimental study was conducted at the O'Fallon Technical High School of St. Louis, Missouri. Tests were given to six classes of 11th grade students. The experiment covered one semester of school work.

2. The study contained 152 pupils; 75 were enrolled in three English classes to comprise the control group and 77 were enrolled in three beginning shorthand classes to comprise the experimental group. The experimental students were also enrolled in the same English classes as the control group.

3. Two standardized tests, prepared by Ernest W. Tiegs, Professor of Education at Los Angeles State College and Willis W. Clark, Executive Vice President of the California Test Bureau, were chosen to give validity to the study. Forms 1 and 2 of Survey of Language Achievement were selected and each test contained 122 multiple-choice type questions.

4. The tests were administered by the three English and three shorthand teachers. Form 1 was given in September, 1965 and Form 2 was given in January, 1966. Thirty-one minutes were allowed for each test.

5. The test questions were scored individually and were divided into four categories as follows: 44, Word Usage; 4, Sentence Recognition; 20, Capitalization; 24, Punctuation; and 30, Spelling.

6. Scores were determined by determining correct responses and these scores were compared for both experimental and control groups in order to determine improvement in English achievement through shorthand instruction.

7. The t-test was used as the statistical means for determining difference between scores.

Findings:

1. The mean scores on the pre-test was 84.25 for the experimental group compared to 78.17 for the control group. The difference between the two scores revealed a t-score of 2.45, which was significant at the 1 percent Level.

2. The mean score on the post-test was 88.86 for the experimental group compared to 84.56 for the control group. The difference between scores revealed a t-score of 1.96, which was significant at the 1 percent Level.

3. Although the experimental group began and concluded with a higher mean score, the experimental group showed a gain of 4.61 compared to a gain of 6.38 for the control group.

Conclusions:

1. The findings revealed that the control group made a greater gain from the pretest to the post-test than the experimental group.

2. On the basis of the findings, the hypothesis must be rejected.

Recommendations:

1. A similar study could be made covering a longer period of time or a more advanced shorthand group.

2. A similar study could be made covering a larger geographical area using a random sample.

3. A similar study could be made using other tests or means of measurement to replace the pre-tests and post-tests.

Abstractor's Comment:

Since very little English enters into the picture in beginning shorthand, the findings of a similar study involving an advanced shorthand class may be more revealing.

Abstract 185

Winifred A. Shealor, "A Study of the Utilization of Programmed Gregg Shorthand in an Adult Beginning Shorthand Class" (unpublished Master's thesis, Virginia Polytechnic Institute, 1966), p. 88.

Problem:

The problem of this study was to explore the possibilities of programmed shorthand instruction in a class of adults taking beginning shorthand in an adult evening-school class.

Procedure:

1. The experiment was conducted in the George Wythe Evening School, Richmond, Virginia, during the 1964-65 school year and consisted of 32 adult students enrolled in beginning shorthand. Seventeen withdrew from the class leaving 15 students, 1 male and 14 females, in the final analysis of which 9 had taken prior shorthand training.

2. The programmed materials were prepared by faculty members of University of Wisconsin, Illinois, Pittsburgh, and Virginia Polytechnic Institute. They were correlated with the lessons in Gregg Shorthand, Diamond Jubilee Series, and contained 1,067 frames, with each lesson varying from 15 to 69 frames. The class was conducted for one semester, or a total of 60 classroom hours.

3. Dictation began with the 16th lesson. About 30 minutes each night was recommended for dictation practice. Beginning with the 21st lesson the time was increased

to one hour, and dictation on new material was begun with word previews.

4. Each student was asked to record his time spent completing the lesson on each day's papers. At the end of the course these times were totaled.

5. A short vocabulary test was given upon completion of each day's assignment. Each test contained words presented in the material and words similar but not actually given in the material. The words were written in shorthand as they were dictated and then transcribed in longhand. In addition to these tests, three review tests were given during the semester on combined groups of lessons.

6. The final test consisted of two vocabulary tests, 100 words each, and three dictation tests. Each dictation test contained three letters to be dictated at 40, 50, and 60 words a minute, requiring slightly more than one minute to give each letter.

7. Two questionnaires were given to the students --one at mid-term and the other upon completion of the course.

8. Eight of the 15 completing the first semester continued the second semester. During the second semester, these 8 students were tested weekly or bi-weekly over the shorthand principles learned the first semester. These tests contained 50 words each and were taken from The Business Teacher.

Conclusions:

1. The 15 students required from 63 to 112 hours to complete the 40 programmed lessons, with a mean time of 90.7 hours. Each separate lesson required from 99 to 207 minutes, with a mean time of 136 minutes.

2. The relationship between IQ scores of the students and the total time required to complete the 40 lessons was slightly negative.

3. There was no relationship between total time required to complete the materials and average scores made on the vocabulary tests for the 15 students in this study. On the duplicated tests given at the end of the first semester and total time required for completing the 40 lessons, there was a slight negative relationship.

However, this was not true for the dictated vocabulary test given at the end of the semester.

4. There was a definite positive relationship between the average scores made on the vocabulary tests and the IQ scores of the students, as shown by the scattergram. The students with the higher IQ's generally made the higher vocabulary test scores.

5. Dictation speeds at the end of the first semester ranged from 40 to 60 words a minute, with 8 of the 15 taking 60 words a minute; 4 at 50 words a minute; and 3 at 40 words a minute.

6. The questionnaires revealed that the students were in favor of the method of learning through programmed materials.

7. The mean score of 85.4 was made by the eight students on the eleven dictated tests given throughout the second semester.

8. There was a positive relationship between the scores made on the tests given during the first semester with those given during the second semester.

9. A further analysis revealed that only a slight positive relationship existed between average scores on first semester vocabulary tests and average scores on second semester vocabulary tests. This tends to suggest that only a few students held the same position for both semesters.

Recommendations:

1. Further research is needed involving other adult classes using programmed materials in beginning shorthand.

2. Further research is needed similar to this where both experimental and control groups are used.

3. Shorthand teachers should become familiar with programmed materials and the possibilities of these materials.

Abstractor's Comments:

1. The findings and conclusions were given together in the summary of the report under the heading of conclusions.

2. The sample used in this study was insufficient for drawing sound conclusions. Therefore, additional research is needed in this area.

Abstract 186

Sister M. Jane Andrew Silvoy, "A Survey of Short-hand Transcription Standards of Business Offices Employing Stenographic Graduates of Our Lady of Good Counsel High School, Newark, New Jersey, 1955-1959" (unpublished Master's thesis, The Catholic University of America, 1962), p. 73.

Problem:

1. This study involved 85 business offices in Newark, New Jersey, to which questionnaires and a cover letter were sent. Private interviews were held with the business executives, if possible.

2. Experienced teachers made suggestions for the questionnaire and a pilot study was conducted with eight business firms. Questionnaires were answered by persons in the following positions: district manager, employment specialists, supervising stenographer, commercial staff supervisor, assistant treasurer, employment department manager, assistant secretary, and warehouse manager.

3. The data gathered by the 65 returned questionnaires were classified, tabulated, and analyzed and conclusions were drawn.

Findings:

1. Of the 65 firms responding, 20 were insurance; 18, miscellaneous; 13, manufacturing; 4, transportation and communication; and 3, banking and retail. Furthermore, 61.5 percent of the responses were from personnel managers.

2. When asked about orientation programs, 11 indicated they had them and 47 indicated no, while 7 did not respond.

3. Spelling ability was listed most frequently as a deficient skill by 45, or 72.8 percent, of the

respondents. Poor punctuation and failure to check accuracy of their work ranked second with 62.7 percent, and incorrect grammar and composition of letters ranked third with 50.8 percent.

4. Of 59 respondents, accuracy in transcription was ranked first by 54, or 91.5 percent, of the employers as the skill which contributes most significantly to the success of stenographers. Other factors listed in rank order were: ability to work with others, 86.3 percent; reasonable speed in production, 81.3 percent; proofreading, 71.2 percent; organization of work, 59.3 percent; and speed in transcribing was ninth with 38.8 percent.

5. Only 36 respondents indicated a speed requirement for recording dictation. The most frequent speed was 70-80 words a minute reported by 44.4 percent of those responding. The lowest required was 50 words per minute, while the highest was 130 words a minute.

6. Of those responding to various competencies and incompetencies of the stenographers, knowledge of business language was the most frequently listed incompetency with 77.5 percent. Other incompetencies listed were: reading "cold" notes, 69.6 percent; editing dictation, 69.7 percent; typewriter dictation, 61.5 percent; use of reference books, 53.4 percent; telephone dictation, 47.6 percent; and taking sustained dictation, 46.3 percent.

7. Of the 65 respondents, 91 percent give pre-employment tests, while only 9 percent did not. A further analysis revealed that dictation and transcription tests are the most frequently given.

8. Fifty-two of the respondents indicated deficient personality traits and carelessness were ranked first by 28 employers. Lack of initiative and failure to use common sense ranked second and third, respectively.

9. Of the positions available for beginners, 81 percent are for stenographers.

Conclusions:

1. A majority of the firms offer no orientation periods for new employees.

2. More emphasis is needed in spelling, grammar, and letter composition for future stenographers.

3. Additional classroom emphasis is needed in reading "cold" notes, use of reference books, telephone dictation, and sustained dictation.

4. According to the findings, employers are more interested in accuracy than speed in transcription.

5. A large percent of the firms surveyed give pre-employment tests, with 70-80 words a minute being the most frequently required dictation speeds.

6. Undesirable personality traits to be overcome in the classroom are: carelessness, initiative, common sense, wasted time, and failure to follow directions.

Recommendations:

1. The findings of this study should be made available to counselors, business teachers, and administrators.

2. Curriculum revisions need to be made at Our Lady of Good Counsel High School in order to better prepare stenographers for initial employment.

3. The shorthand course should include a planned program of technical business vocabulary presented monthly through Today's Secretary.

Abstract 187

Rita Ann Sloan, "An Application of the Micromolar Behavior Theory to the Instruction of Beginning Shorthand" (unpublished Ph.D. dissertation, University of Minnesota, 1967), p. 178.

Problem:

"The problem of this study was to determine whether a method which required rapid dictation practice at a constant rate of speed from the beginning of shorthand instruction was a more effective method of training shorthand writers than a traditional method of building dictation skill."

Procedure:

1. The sample of this study included 101 beginning shorthand students in five high schools in Minneapolis and St. Paul, Minnesota during the fall of 1966.

The schools were selected on the following criteria:

(a) A beginning class using the Diamond Jubilee Series textbook. (b) Possesses electronic dictation equipment. (c) Class periods of 50 minutes each day. (d) The teacher is favorable toward teaching beginning shorthand by means of the speed approach.

2. Three schools not having electronic dictation equipment were included in the study. Each of these schools had two beginning classes of shorthand taught by the same teacher, making a total of 151 students.

3. Each teacher was allowed four days in which to cover the first two lessons in any manner they chose. On the sixth day, lesson 4 was taught and a tape covering lesson 3 was used. From this point on, a tape was provided each day throughout the 12-week experiment.

4. Dictation tapes were prepared for lessons 3 through 56 for the experimental students recording all dictation at 100 words a minute. The same material was used in preparing tapes for the control classes; however, varying dictation speeds were used. The speed at which the practice material and tests were dictated was the major variable in the study.

5. Interim tests were given in place of the review lessons. Each test included all the principles covered up to that point and the vocabulary was restricted to the first 1,500 high frequency words. The practice letters and test letters were all dictated at 100 words a minute for the experimental group. For the control group, the practice letter was dictated 20 words faster than the test letter. The test letters were dictated at 50, 60, 70, and 80 words a minute. Test I contained 100 words and each letter increased by 50 words thereafter. The syllable intensity ranged from 1.32 to 1.45.

6. Upon completion of lesson 56, a series of 3-minute tests were given at speeds ranging from 60 to 110 words a minute. They were all administered by tape. Since the experimental students had taken dictation at 100 words a minute only, the 100 words a minute tests were dictated first in all schools. Two speeds were dictated each day for three days and the highest speed was always dictated first. For each student, a ratio of correct

words transcribed to the actual number of words dictated was determined.

7. An analysis of variance was used to determine if any significant difference in means existed.

Findings:

1. A significant difference was found between the experimental and traditional treatments on all of the interim tests except Test 4. On all schools except school 2, the difference was in favor of the traditional method. The findings of the three-school investigation generally supported the findings of the five-school experiment.

2. On the final tests, the experimental treatment resulted in higher means for schools two and five; whereas, the traditional treatment resulted in higher means in schools one, three, and four. The experimental treatment also produced higher means in school two of the three-school experiment. However, none of the differences were significant.

Conclusions:

1. The traditional method of dictating was superior in the first three of four interim tests. Neither method was superior on test four.

2. On the basis of the means calculated on the final tests, neither method of dictation was superior to the other.

3. Since only eight students achieved 60 words a minute with 95 percent accuracy, five in the experimental group and three in the control group, there was nothing in the study to indicate that either method was superior over the other.

Recommendations:

1. A similar study needs to be made covering the entire first year of shorthand instruction.

2. A similar study may be made using a Controlled Reader or a similar machine in order to control the development of rapid response.

3. A similar study may be made using a lower speed as the constant rate.

4. A similar study might be done using the micro-molar technique in typewriting.

5. A similar study might be done evaluating students' accuracy of shorthand outlines as well as transcription accuracy.

Abstractor's Comments:

1. The findings of this study should be made known to all shorthand teachers. These findings may be used in both graduate and undergraduate methods courses.

2. From the findings of this study and the comments made by the participating teachers, apparently there are certain advantages to both methods.

3. This study emphasizes the point that slow dictation in shorthand is unnecessary.

Abstract 188

Edgar Ray Smith, "A Comparison of the Learning Difficulty of Forkner Alphabet Shorthand and Gregg Shorthand (DJ)" (unpublished Ph.D. dissertation, The Ohio State University, 1966), p. 156.

Purpose:

"The purpose of this study was to determine the learning difficulty of the Forkner Alphabet Shorthand System as compared with the Gregg Shorthand System, Diamond Jubilee Series, as measured by the dictation speed and standard words correctly transcribed of eleventh- and twelfth-grade high school students."

Procedure:

1. The data used in this study were collected from eight schools teaching Forkner Shorthand and 10 schools teaching Gregg Shorthand. In all cases, first-year shorthand students were included.

2. Three sets of letters containing six letters each were constructed from actual business letters. The

letters were 3-minutes in length and were to be dictated at 50, 60, 70, 80, 90, and 100 words a minute. The syllabic intensity was held constant at 1.4.

3. After the letters were constructed, they were examined by three persons. Revisions were made and the letters were dictated to a first-year college class. Further revisions were made after examining the transcripts of these students. A further examination revealed that each letter contained approximately the same number of Gregg brief forms and Forkner abbreviating words.

4. All testing for gathering data was done during the second semester. The first set was given on March 3 and 4, with speeds of 50, 60, and 70 words a minute given the first day and letters at speeds of 80, 90, and 100 words a minute given the second day. There was a period of five weeks between each set. All transcription was done in longhand and thirty minutes were provided for transcribing.

5. For Sets II and III, the procedure was changed. Three days were allowed for testing and two letters were given each day. On the first day, speeds of 50 and 100 words a minute were given; second day, 60 and 90 words a minute were given; and the third day, 70 and 80 words a minute were given. This provided for the same amount of dictation and transcription time each day.

6. In checking the transcripts, only omissions and incorrectly transcribed words were counted. Spelling, punctuation, and paragraphing were not considered. Transposed words were counted as correctly transcribed if the meaning was not changed.

7. After all transcripts had been checked, the total number of words correctly transcribed by each student was determined for each letter.

8. Since grade-point average was to be considered, student information forms were divided into three groups--Above Average, Average, and Below Average. Using a table of random numbers, 10 students were selected for each group from the Gregg students and also from the Forkner students. The process was the same for Sets I, II, and III.

9. The data were checked and punched on IBM cards for statistical computation. The IBM 7094 was used in processing the data.

Findings:

1. The Forkner students achieved significantly higher levels than the Gregg students. The F-ratio of 66.63 was significant at the 5 percent level.
2. At each speed level, the Forkner students performed better than the Gregg students.
3. At each grade-point level, the Forkner students performed better than the Gregg students.
4. In each of the sets of dictation, the Forkner students performed better than the Gregg students.
5. The Average group of the Forkner students transcribed correctly 94 percent or more of the words in each letter dictated at 50, 60, and 70 words a minute. The Above Average group correctly transcribed 89 percent of the dictation at 80 words a minute but 89 percent or less of the dictation at 90 and 100 words a minute. The Average and Below Average group correctly transcribed 82 percent or less of the dictation at 80 words a minute or higher.
6. The Above Average group of Gregg students correctly transcribed 90 percent or more of the dictation at 50, 60, and 70 words a minute but 69 percent or less of the dictation at 80 words a minute or higher. The Average group of Gregg students correctly transcribed 81 percent or more of the dictation at 50, 60, and 70 words a minute but 53 percent or less of the dictation at 80 words a minute or higher. The Below Average group correctly transcribed 72 percent or more of the dictation at 50, 60, and 70 words a minute but 40 percent or less of the dictation at 80 words a minute or higher.

Conclusions:

1. The Forkner Shorthand System is easier to learn than Gregg Shorthand, Diamond Jubilee. Furthermore, the learning progress is greater during the first year of shorthand for Forkner students.
2. The Forkner System can be adapted better to all three levels of achievers--Above Average, Average, and Below Average.
3. As a one-year shorthand course, Forkner Shorthand is superior to Gregg Shorthand.

4. Neither shorthand system can meet a minimum vocational requirement of 80 words a minute in one year of instruction.

Recommendations:

1. Research needs to be made comparing the two systems using second year students.

2. Research is needed to determine the dictation and transcription speeds needed to be called vocationally competent.

3. Research is needed to determine more accurately the difficulty level of dictation materials.

4. Research needs to be made of other abbreviated shorthand systems.

Abstractor's Comments:

1. Since neither Forkner or Gregg Shorthand meet a minimum vocational requirement of 80 words a minute, the two need to be compared at the second year level to determine which is superior for vocational use.

2. The findings of his study should be made known to all shorthand teachers and may be used in graduate and undergraduate methods courses.

Abstract 189

Edgar Ray Smith, "An Error Analysis of Thirty-one Selected Brief Forms in Dictation Notes of Second-Semester High School Students" (unpublished Master's thesis, The University of Tennessee, 1960), p. 121.

Problem:

The purposes of this study were as follows:

- (1) to determine the frequency of selected brief forms of the Gregg Shorthand Simplified system in business communications; (2) to determine the types of errors most frequently made, from a classification of errors made in selected brief forms; (3) to determine the types of errors made in transcription of these selected brief forms; and (4) to determine whether any patterns of errors were discovered in the writing of the selected brief forms.

Procedure:

1. A list of 31 low frequency brief forms was selected for the study. The frequency of these brief forms was obtained from the Horn-Peterson (40b) word list and the Silverthorn (65b) word list. These frequencies were compared to determine if frequencies had increased or decreased. All but six had decreased in frequency.

2. "Check" words, with a high frequency count, were used to determine whether a substantial difference existed between the accuracy of writing words of high frequency and the accuracy of writing words of low frequency. Five words were chosen which had a 0-5 percent error rate and five words which had a 10-20 percent error rate.

3. Dictation materials were prepared containing the 31 selected brief forms. These dictation materials were prepared in three sets. Each set contained a warm-up letter, two 3-minute letters, and the instructions for the set. The sets contained dictation speeds at 50 and 60 words'a minute. They were allowed 18 minutes to transcribe the letter.

4. The materials were used in 19 schools and were dictated by the teacher in each individual school. The students' shorthand notes and transcripts were collected and returned to the investigator. The students had received about 7 months of shorthand instruction prior to the beginning of the study, and about three weeks lapsed between each dictation test.

5. Ten papers were selected from each of the 19 schools for tabulation. Papers of the same 10 students, which were selected from each school, were used for each set for error analysis. Five additional names were drawn to replace those students who were absent during the study. Three schools did not have 10 students that completed all 3 sets of papers and were omitted from the study. Sixteen schools were used for the error analysis.

6. The error analysis was made in the following manner:

- a. A master copy of the dictation material was prepared and the selected brief forms were underscored in red.
- b. The notes from each school were read and the brief forms written correctly were circled with a lead pencil. Incorrect outlines were circled in red. Errors in the transcript were

also circled in red.

- c. "Check" words were written in the margin, as the reading was done.

7. All the shorthand notes and transcripts were read and analyzed, and work sheets were prepared to record the necessary information.

8. "A test of significance of variance was applied to determine whether or not there was any variance among the sets and among the 16 schools."

Summary:

1. Of the 31 selected brief forms, 26 are beyond the 1,000 most commonly used words.

2. In 18 of the brief forms, the error rate was at least 50 percent.

3. At least 50 percent of the errors in writing brief forms were classified as too many strokes.

4. Patterns showed that the students tried to write the word in full or did not write the word according to the principle.

5. Conclude and conclusion, etc. and yesterday were frequently interchanged.

6. Six brief forms were frequently written as another brief form.

7. Likewise was written with too few strokes in just over 50 percent of the errors made in writing the outline.

8. Twenty-five of the selected brief forms had higher percentages of error than the "check" words.

9. In at least 60 percent of the cases, all 31 selected brief forms were transcribed correctly.

10. Eleven of the 31 brief forms were written correctly in at least 50 percent of the cases where the brief form was transcribed correctly.

11. For 11 of the selected brief forms, the error rate showed no significant difference among the sets of papers.

12. For 20 of the words, there was a significant difference in the error rate among the sets of papers.

13. The error rate showed no significant difference among the schools for 4 words but did show a significant difference for 27 words.

Recommendations:

1. The brief forms circle, correspondence, likewise, merchant, nevertheless, object, present, prosecute, recognize, remember, remittance, speak, and throughout should be eliminated and should be written according to principles. These brief forms had a high error rate and their frequencies according to the Silverthorn word list were beyond the 3,000 most commonly used words.

2. A further study needs to be done to decide whether to eliminate or revise the brief forms else, etc., otherwise, correspondence, and progress.

3. The outline used for etc. and yesterday should be revised.

4. A further study should be made with a controlled group and experimental group to determine the factors that are the major causes of errors in writing brief forms and principles.

Abstract 190

Sherry Barnes Spann, "A Study of the Relation Between Selected Prognostic Factors and Achievement in First-Year Shorthand at the University Level" (unpublished Master's thesis, The University of Tennessee, 1966), p. 139.

Problem:

"The problem was a study of the relation between selected prognostic factors and achievement in first-year shorthand at the university level."

Procedure:

1. The study consisted of 235 of 437 first-quarter shorthand students at the University of Tennessee. Number

of students eliminated and basis for elimination were as follows: 49 students, lack of ACT scores; 74 students, prior training in shorthand; 79 students, entered after test was given or dropped before end of first-quarter.

2. The dependent variables used included shorthand grades for first-, second-, and third-quarter shorthand. The independent variables were the scores on the five subtests and composite scores on the Byers' Aptitude Test, ACT English, ACT Composite score, and grades in typewriting.

3. A code was developed and these data were recorded on IBM cards for compiling the data. Besides the above data, the cards included student's name and number and the quarter and year the tests were taken. A different color card was printed for each student which contained the student's name, the quarter and year enrolled in typewriting and shorthand, the course number, and grades received.

4. After determining the number of times each student was enrolled for each quarter of shorthand, the students were divided into seven groups. Group I, 68 students, completed one quarter of shorthand; Group II, 44 students, completed two quarters; Group III, 66 students, completed three quarters; Group IV, 26 students, repeated second quarter; Group V, 13 students, repeated first quarter before enrolling in second quarter; Group VI, 10 students, repeated third quarter; and Group VII, 8 students, discontinued the study of shorthand after repeating first quarter.

5. Relationship between the background factors and the grade components throughout the study of shorthand were determined by using the IBM 1620 Computer and the stepwise regression formula. Final analyses were made on 235 first-quarter students, 145 second-quarter students, and 76 third-quarter students.

6. Testing. All dictation-transcription tests were over new material for all three quarters and ranged from two- to five-minutes in length.

The first-quarter final grade was based 70 percent on dictation-transcription tests and 30 percent on vocabulary tests and quizzes. The dictation tests were two- and three-minutes long and were transcribed in longhand. Dictation speeds ranged from 50 to 70 words a minute.

The second-quarter final grade was based on dictation tests, vocabulary tests, and mailable letters, with

speed counting two-thirds. Dictation tests were five-minutes long, ranged from 50 to 90 words a minute, and were transcribed on the typewriter.

The third-quarter grades were based 50 percent on speed, 10 percent on vocabulary tests, and mailable letters were 40 percent. Dictation tests were five-minutes long, ranged from 70 to 110 words a minute, and were transcribed on the typewriter.

Ninety-eight percent accuracy was required on the dictation tests in both second- and third-quarters. No errors were allowed on mailable letters. Errors included deviations from dictated material, spelling, punctuation taught in class, poor erasures, incorrect word division, and typographical errors.

Findings:

1. Those factors significant in final achievement in first-quarter shorthand (from high to low) were Part 1 of the Byers' Test, Phonetic Perception; ACT English score; and Part 3 of the Byers' Test, Observation Aptitude.

2. Typewriting was the highest factor in achievement in both second- and third-quarters. ACT Composite score was also significant for both quarters, and Part 2 of the Byers' Test, Retention Ability, and typewriting tabulation were significant in third-quarter.

3. The predicted grades were the same as the actual grades for 100, or 42.55 percent, of the first-quarter students. Another 100 were only off one letter grade. Therefore, grades for 85.10 percent of the students were within one letter grade.

4. The predicted grades were the same as the actual grades for 45.51 percent of the second-quarter students. Another 46.2 percent were predicted within one letter grade. Therefore, 91.71 percent of the grades were predicted within one letter grade.

5. The predicted grades were the same as actual grades for 53.94 of the third-quarter students. Another 35.52 percent were predicted within one letter grade. Therefore, 89.46 percent were predicted within one letter grade.

6. When the regression equation was applied to a total of 235 first-quarter students, an accurate prediction was made for 206 students, or 87.6 percent.

7. When the regression equation was applied to a total of 145 students in second-quarter shorthand, the prediction was accurate for 128 students, or 88.8 percent.

8. The significant predictors for Group I were Part 1 of the Byers' Test, Phonetic Perception, and Part 3 of the Byers' Test, Observation Aptitude.

9. The significant predictors for Group II were the ACT English score and Byers' Test, parts 1 and 3. The final in typewriting and straight copy were also significant in the second quarter.

10. The significant predictors for Group III were Byers' Test, Part 1, and ACT English score, first quarter; Typewriting straight copy and final grade, second quarter; and typewriting tabulation and final grade, third quarter.

11. For students in Group IV, Byers' Test, Part 1 and the ACT English scores were significant in the first quarter; whereas, Byers' Test, Part 5, and typing tabulation were significant in the second quarter.

12. For Group V, significant factors in the first quarter were Part 1 of the Byers' Test and the ACT English score, while typewriting, final grade and straight copy, were significant second quarter.

13. The significant factors for Group VI in the first quarter were Byers' Test, Part I and the ACT English score, and significant factors second quarter were typing straight copy and final grade. Significant factors third quarter included typing tabulation and final grade.

14. The significant factors for Group VII in first quarter were ACT English score and Byers' Test, Part 2. Only the Byers' Test, Part 1 was significant when the first quarter was repeated.

15. Of the 235 students, 20 percent did not make a minimum grade of C- the first time. This grade was needed to be considered successful in shorthand.

16. Of the 145 who enrolled in second-quarter shorthand, 32.4 percent did not make a C- minimum grade the first time through the course.

17. There were 76 who enrolled in third-quarter shorthand, and 28.9 percent failed to make a C- minimum grade the first time through the course.

18. A correlation coefficient of .61 was revealed between Byers' Test, Part 1 and Part 3; ACT English scores; and final grade in shorthand.

The following correlation coefficients were revealed by other studies involving aptitude tests in shorthand:

Turse Test and final achievement	.58
ERC Test and final achievement	.39
ERC Test and speed	.74
Byers' Test (Phonetic) and final achievement	.68
Byers' Test (Phonetic) and shorthand vocabulary	.56

Conclusions:

1. Parts 1 and 3 of the Byers' Test and the ACT English score may predict final achievement in first-quarter shorthand within one letter grade 85 percent of the time.
2. In second-quarter shorthand final achievement may be predicted within one letter grade 91 percent of the time by using ACT Composite score and final grade in typewriting.
3. By using Part 2 of the Byers' Test, ACT Composite score, and typing tabulation, final achievement in third-quarter shorthand may be predicted within one letter grade 89 percent of the time.
4. With the use of the regression equation, student success in first-quarter shorthand (C- minimum grade) may be predicted with 87 percent accuracy.
5. With the use of the regression equation, student success in second-quarter shorthand may be predicted with 89 percent accuracy.
6. Although typewriting did not become an element in shorthand instruction until the second quarter, its recurrence as a significant factor indicates how important it really is.
7. This study, as well as others, tends to substantiate the belief that the test was constructed for prognostic purposes in beginning shorthand and that a phonetic perception test was a valid predictive measure for different samples of students.

Recommendations:

1. The Byers' Aptitude Test should be used for ability grouping in shorthand.
2. The student's typewriting grade should be used by the teachers for counseling students enrolling in first- and second-quarter shorthand.
3. Since typewriter manipulation, spelling, English, and punctuation are vital factors in predicting shorthand success, these factors should be evaluated before enrolling the student in shorthand.
4. The Byers' Test should be shortened and tested for predicting shorthand success.
5. Similar studies are needed to validate the findings of the present study.
6. A similar study is needed using a larger sample.
7. That an experimental study be done with those students that the predictive factors show to be unsuccessful. This would enable methods and materials to be developed which may enable these students to reach the minimum level of success.
8. A similar study is needed using high school students.

Abstractor's Comments:

1. A detailed grading scale for all three quarters of shorthand was given in the study.
2. Since some of the conclusions appear to say the same thing, the abstract does not include all those listed in the study.
3. This study pointed out that various predictive measures can be used very effectively for predicting success in shorthand. English grades and test scores seem to be among some of the best predictive measures. If this is true, every school could select shorthand students and, thus, lower failure and dropout rates.
4. The findings of this study and other similar studies should be made available to all shorthand teachers, counselors, and administrators.

5. This and other similar studies would be of value for use in any shorthand methods course or improvement of instruction course.

Abstract 191

Sister Rose Clement Stalter, O.P., "A Study of the Vocational Usage of Shorthand by the 1955, 1956, and 1957 Graduates of St. Vincent Ferrer High School, New York City" (unpublished Master's thesis, The Catholic University of America, 1960), p. 76.

Problem:

This study was conducted in order to find out what use is being made of shorthand by the 1955, 1956, and 1957 graduates of St. Vincent Ferrer High School, New York City.

Procedure:

1. Related studies were reviewed to determine the scope of the questionnaire. The questionnaires were reviewed by members of the summer school faculty in business education and by members of the seminar class in business education. The questionnaire was also presented to Charles Zoubek of the Gregg Publishing Company for suggestions.

2. The school records were studied to determine those students who had completed two years of shorthand and to secure the addresses of these students. These addresses were checked with the telephone directory as much as possible.

3. A pilot study was made to locate questions that were misleading. After minor revision, 286 questionnaires were mailed, of which 25 were returned because of unknown addresses. A total of 214 responses were received for an 82 percent return.

4. The questionnaires were studied to determine those graduates who were currently using shorthand on the job. Questionnaires were then mailed to 95 of the graduates and 93, or 97.9 percent, were returned.

Findings:

1. Of those responding, 50 percent were required to have shorthand training for initial employment. Also learned was that 115 of the respondents use shorthand on the job although it was not a prerequisite in all cases for employment.
2. Although 39.3 percent of them used shorthand on their second job, it was only required for employment by 36.9 percent.
3. Shorthand skill was used by 67.3 percent of the graduates who responded to the questionnaire. However there were 32.7 percent who have never used shorthand in a paying job since graduation.
4. Of those responding. 47.2 percent of the graduates considered shorthand a stepping stone to a better position.
5. The study pointed out that 44.4 percent of 171 respondents were using shorthand at the time of the survey.
6. Shorthand training was received beyond high school graduation by 22 percent; 68.7 percent received no additional training, and 9.3 percent gave no answer to the question.
7. The questionnaire revealed that 30.6 percent of the 144 who used shorthand vocationally had difficulty in adjusting to office-style dictation from classroom-style dictation. Still a larger percent, 45.8 percent, found difficulty with frequent use of unfamiliar words.
8. Transcription difficulties of the 144 who used shorthand vocationally indicated that spelling caused the biggest problem, being indicated by 30.6 percent. Punctuation was the next most common, with 25.7 percent. Further indications were: syllabication, 17.4 percent; transcription speed, 15.3 percent; accuracy in typewriting, 14.6 percent; and proofreading, 12.5 percent.
9. All the students were asked what areas in shorthand and transcription need more stressing. This accounts for the larger numbers than occurred in previous findings. The area mentioned most frequently was a wider vocabulary mentioned by 52.8 percent of the 214 respondents. Greater use of office-style dictation was suggested by 49.1 percent, and a higher speed development was suggested by 17.3 percent.

10. The graduates indicated that more emphasis should be placed on accuracy in typewriting. This was indicated by 41.4 percent of the 124 respondents. More stress on spelling was indicated by 37.4 percent and punctuation was suggested by 34.1 percent. Other areas needing more emphasis included proofreading, syllabication, and transcription speed.

11. When asked if the time spent on shorthand could have been better spent on something else, 80.4 percent said no.

12. Those not using shorthand on-the-job gave as their reasons: lack of efficiency, dislike for shorthand, lack of confidence, and entrance into other vocations.

13. The responses given by the employers indicated that 47.3 percent were employed as secretaries and 31.2 percent as stenographers.

14. The work of the employees was considered satisfactory by 51.6 percent of the employers and 33.7 percent considered their work very satisfactory.

15. The shorthand weakness most frequently checked was difficulty in writing unfamiliar words, 33.3 percent. Dictator has to stop and wait for stenographer to catch up was checked by 18.3 percent.

16. Transcription weaknesses were listed as follows: spelling, 26.9 percent; punctuation, 25.8 percent; proofreading and syllabication, 20.4 percent; transcription speed, 19.4 percent; and accuracy in typewriting, 16.1 percent.

17. When asked whether or not they did recommend the employees for a better position based on shorthand ability, 61.3 percent said yes; 22.6 percent said no. Of those answering no, 7 claimed lack of experience as their reason. Also, on those answering yes, 6 indicated that lack of experience was their reason they had not. Fourteen did refuse to recommend their employees and 15 did not respond to the question.

18. Suggestions by the employers for areas of improvement included greater emphasis on English (especially spelling, vocabulary, and punctuation) and on better attitudes toward duty, including such intangibles as loyalty and integrity.

Conclusions:

1. The findings of this study indicate that shorthand has an important place in the curriculum of St. Vincent Ferrer High School, New York City.
2. The shorthand training that they are receiving at St. Vincent is adequate, as indicated by the large percent of employers who indicated that the shorthand and transcription ability of their employees was satisfactory.
3. Lack of use of shorthand by nearly 1/3 of the graduates in this study indicates that guidance practices need to be improved.
4. A deficiency in the areas of spelling, punctuation, and vocabulary is evident by the graduates of St. Vincent Ferrer High School.
5. The shorthand speed attained by the graduates in this study, who had used their shorthand vocationally, in most cases was sufficient for their job.
6. Office-style dictation should be stressed.

Recommendations:

1. Because of the great demand for office workers in the New York City area, St. Vincent Ferrer High School should continue stenographic training.
2. Shorthand students at St. Vincent should be screened more closely before enrolling in the shorthand course.
3. A course in Business English should be offered to stenographic majors in the 12th year.
4. More office-style dictation should be given in the final semester of the secretarial practice course.
5. Greater emphasis should be placed on intangibles such as integrity and loyalty.

Abstractor's Comments:

1. More studies of this nature should be done to determine what is true for each teacher's own area.

2. The data gathered from both the employees and employers was amazingly similar in nature.

Abstract 192

Ethel Stone Starbuck, "An Investigation to Determine if Higher Speeds are Obtained with the Diamond Jubilee Gregg Shorthand Method" (unpublished Master's thesis, Western State College of Colorado, 1965), p. 68.

Problem:

The problem of this study was to determine whether higher speeds in shorthand can be achieved by the students in the one-year course at Meeker High School through the study of Simplified Gregg Shorthand or through the study of Diamond Jubilee Gregg Shorthand.

Procedure:

1. The control group for this study was the shorthand classes for the years September, 1957 through May, 1963, and the experimental group was the shorthand classes from September, 1963 through May, 1965. There were 75 students in the control classes and 45 in the experimental classes or a total of 120 students. These students were compared on the basis of general intelligence, achievement as shown by the freshman and sophomore grade averages, and English grade averages.

2. The two groups were both given the Gregg Awards Test each month from January through May, and those papers with an accuracy of 95 percent or better were listed on a Shorthand Honor Roll. From these data, the percent of students qualifying with Simplified Shorthand and the percent of students qualifying with Diamond Jubilee Shorthand were determined. The summary, conclusions, and recommendations were made from these comparisons.

3. Other than the textbook used in the control and experimental groups, all other factors were the same.

Findings:

1. The Diamond Jubilee group was found to be significantly lower than the Simplified group in IQ, as measured by the Lorge-Thorndike Intelligence Test (74b).

2. When the Freshman and Sophomore grade averages were compared, the Diamond Jubilee Group was again found significantly lower than the Simplified Group. The Diamond Jubilee Group was also found to be lower than the Simplified Group, when compared on the basis of English Grade Averages.

3. Except for the month of February and March, the Diamond Jubilee Groups showed a higher percentage of performance. The Simplified Shorthand Group had a higher percentage of performance in April. None of these differences were statistically significant.

4. When cumulative percentages were compared between the two methods, the Diamond Jubilee Group was higher. The differences, however, were only significant at the end of March.

Conclusion:

On the basis of the findings of this study, it may be concluded that an inferior group using Diamond Jubilee Shorthand will perform as well as a superior group using Simplified Shorthand.

Recommendations:

1. Research is needed to determine if the learning load of Simplified Shorthand has been reduced in the Diamond Jubilee Shorthand Revision.

2. Research is needed to find out if new-matter material can be given earlier in the year and successfully taken and transcribed by the students, since the theory can be mastered in a shorter time.

3. Research is needed to investigate the speeds achieved by the use of the two methods on the advanced levels of shorthand study.

4. Research is needed comparing Diamond Jubilee Shorthand and Simplified Shorthand using groups of similar ability to determine whether or not those using Diamond Jubilee Shorthand will perform better.

Abstractor's Comments:

1. If the learning load is reduced through Diamond Jubilee Shorthand, the failure rate in shorthand should be reduced and a better shorthand skill in a shorter period of time should be possible.

2. Perhaps the above average students would find one system of shorthand as easy as the other. Diamond Jubilee Shorthand may only benefit the average and below average student; therefore, research is needed involving students of similar abilities at above average, average, and below average. This would help prove what level of student can benefit most from Diamond Jubilee Shorthand.

Abstract 193

Tedd Dee Stoddard, "An Experimental Study in the Utilization of Staff and Equipment for the Teaching of Intermediate Collegiate Shorthand" (unpublished Ed.D. dissertation, Arizona State University, 1967), p. 206.

Problem:

The problem of this study was to determine if any significant differences exist in terminal achievement among three groups of intermediate collegiate shorthand students who studied under three different methods of shorthand instruction.

Hypotheses:

1. "There is no significant difference in shorthand achievement among the methods of teaching."

2. "Students with one year of course work in high school shorthand and students with two years of course work in high school shorthand do not differ significantly in shorthand achievement in intermediate collegiate shorthand."

3. "Students with one year of course work in high school shorthand and students with two years of course work in shorthand do not react differently in shorthand achievement among the different methods of teaching intermediate collegiate shorthand."

4. "Students of high, medium, and low abilities do not differ significantly in shorthand achievement in intermediate collegiate shorthand."

5. "Students of high, medium, and low abilities do not react differently in shorthand achievement among different methods of teaching intermediate collegiate shorthand."

6. "No significant differences exist between the observed frequencies and the expected frequencies of student reactions to statements on an opinionnaire."

Procedure:

1. The experiment for this study was conducted at Brigham Young University during the fall semester of the 1965-66 school year. The population for the study was made up of all freshman girls registering for Business Education 112 at 8 o'clock. During registration each girl registering for the class was asked to fill out a card. On the card she was asked to give her name, student number, number of semesters of shorthand studied in high school, and edition of Gregg shorthand studied.

2. Using a table of random numbers, three classes of 40 students each were selected from the population. The students were selected so an equal number was placed in each group having one and two semesters of Gregg Simplified and one and two semesters of Diamond Jubilee.

3. Three different teachers were used in three different methods--Dictation Group, Dictation-Transcription Group, and Recorded-Instruction Group. One teacher was a regularly assigned faculty and the other two were graduate assistants. The teachers rotated from one class to another on a randomly assigned basis. The major variable was the use of "live" instruction in the first two groups and no "live" instruction in the Recorded-Instruction Group. The instruction was the same in the Dictation Group and Dictation-Transcription Group except the Dictation Group transcribed in longhand, and the Dictation-Transcription Group transcribed on the typewriter.

4. The text for the course was Shorthand Dictation Studies, Third Edition and all students also were required to buy a copy of Dictaprint for Shorthand Skill Improvement. All shorthand classes met for 75 fifty-minute class periods.

5. All shorthand students were required to attend a testing laboratory at an hour other than a regular class period. The tests in the testing laboratory consisted of three-minute dictation tests on new-matter material. Different labs were scheduled for different periods. Students were given 25 minutes to transcribe, and all transcribing was done on the typewriter. Students were required to check their own transcripts and then hand in both the shorthand notes and transcript.

6. Total points for grading came entirely from the tests taken in the testing laboratory. Deductions were made from total points for being absent from testing laboratory, being absent more than 5 times from class, failing to turn in homework, and falling below a set standard on the thirty words. Total points were based on the three best scores from the testing laboratory.

7. An opinionnaire concerning the Intermediate Shorthand course was prepared and given at the end of the semester. Students could indicate their acceptance or rejection on a five-level scale: (a) complete rejection; (b) tendency to reject; (c) tendency to reject and accept equally; (d) tendency to accept; and (e) complete acceptance.

8. Scores on a pretest, high school grade-point averages, and grade-point average on high school English were used to equate the three groups. An analysis of variance was used to test for significance of difference among the three groups both at the beginning of the experiment and at the end. The National Business Entrance Test was used as the criterion.

9. The Hillestad (37b) equation was used in constructing the pretest. The reliability coefficient of the test was determined on the basis of test-retest.

10. A Chi-square statistic was used to compare responses made on the student opinionnaire.

Findings:

1. The three groups were statistically found to be equal at the beginning of the course.

2. No significant differences were found in achievement of students among the three methods of teaching. However, students with two years of high school training did significantly better than students with one

year of high school training. The Dictation methods and the Recorded-Instruction method were better for students with two years of high school training, and the Dictation-Transcription was equally effective for all students. Although the top one-third in ability did significantly better than the middle third, no evidence was found to indicate that students of high, medium, or low abilities react differently among the three teaching methods.

3. Students in the Dictation Group agreed that more typewriter transcription should be given; however, they believed the course could be taught adequately without any typewriter transcription. The other two groups significantly agreed that transcription on the typewriter must be included if the course is to be properly taught.

4. Each group significantly agreed that the dictation method used in their class was better than that used in another.

5. The students in the Recorded-Instruction Group did not significantly agree that they had received adequate instructor attention, while the other groups agreed significantly that they had.

6. The three instructors agreed that the Dictation group was more difficult to teach, and that the Dictation-Transcription group provided the best learning experience for the students.

Conclusions:

1. The findings of this study supported the hypothesis that there is no significant difference among the three methods of teaching.

2. Students with two years of high school training do significantly better in intermediate shorthand than students having one year.

3. Students with two years of high school training and students with one year of high school training do react differently in achievement among different methods of teaching in intermediate shorthand.

4. Students of high ability at the beginning of intermediate shorthand do significantly better than students of medium ability, who in turn do better than students of low ability.

5. Students are influenced in their opinions toward procedures which are used in their class.

6. Instructors generally agree that taped instruction can be used effectively in teaching intermediate shorthand. However, close teacher supervision is more necessary than under traditional methods.

Recommendations:

1. Similar studies are needed on other levels such as high schools, junior colleges, technical schools, and colleges to determine the effectiveness of the three methods when employed in other educational settings.

2. Research is needed to determine those activities most appropriate and beneficial for use with taped instruction.

3. Research is needed studying variety and change with all three methods to determine how important they are and limit to which they can be used effectively.

4. Research is needed where transcription is introduced at typewriters in one class and in longhand to the other and all classroom instruction is taped.

5. Research is needed to determine the extent to which "live" instruction can be replaced effectively by taped instruction.

6. Research should be conducted to determine optimum and maximum numbers of students which can be effectively taught by taped instruction.

7. Research similar to this one needs to be done comparing achievement of students at the end of one year rather than one semester.

8. Research is needed to determine if schools can operate more efficiently in terms of staff, teaching load, and salary expense by using taped instruction to substitute "live" instruction.

Abstract 194

Esther Hedges Strickland, "Criteria for Predicting Success in Shorthand at East High School, Columbus, Ohio" (unpublished Master's thesis, The Ohio State University, 1957), p. 133.

Purpose:

The purpose of this study was to determine criteria for predicting achievement of shorthand students at East High School and to make recommendations for improvement in guidance services.

Procedure:

The criteria for predicting success in shorthand was obtained from the examination of cumulative records of 75 shorthand students and each of these criteria was correlated with semester shorthand grades. The criteria selected included 9th and 10th grade English scores, scholastic averages, attendance, scores on the Henmon-Nelson Tests of Mental Ability, Turse Shorthand Aptitude Test, California Reading Test, Differential Aptitude Test, and Reader's Digest Reading Test.

Findings:

(1) Students who scored high in intelligence, English grades, scholastic averages, Turse shorthand aptitude test, and language spelling and sentence tests also received high grades in shorthand. (2) The Reader's Digest Reading and the California Reading Tests did not produce correlations as high as the other measures. (3) The coefficients of correlations found between the criteria and the first semester shorthand grades were as follows: scholastic average, .660; 9th and 10th grade English scores, .620; Turse Shorthand Aptitude Test, .616; language usage spelling test, .606; language usage sentence test, .540; and the intelligence quotient, .590. (4) The California Reading Test and third- and fourth-semester shorthand grades revealed correlation coefficients of .603 and .659. (5) Students who had a vocational objective had a lower failure rate than the other students in the shorthand classes.

Abstractor's Comment:

Since the circulating copy of this thesis had been lost from the library of the Ohio State University, this summary was taken from the National Business Education Quarterly, 1958 Fall Issue.

Abstract 195

Nancy Ellen Sullivan, "Construction of Dictation Material According to Planned Repetition of Brief Forms in the Gregg Shorthand System, Diamond Jubilee Series" (unpublished Master's thesis, the University of Tennessee, 1964), p. 97.

Problem:

The problem of this study was to develop dictation materials for the introductory lessons of Gregg Shorthand, Diamond Jubilee Series, according to a pre-determined pattern.

Procedure:

1. An analysis was made of the text Gregg Shorthand, Functional Method, Diamond Jubilee Series concerning presentation and occurrences of fifteen brief forms and derivatives in fourteen lessons. This analysis revealed that no systematic plan was used in presenting and reviewing brief forms in this text.

2. A systematic plan was devised for repeating brief forms and/or derivatives. The plan used was as follows: Provisions were made for first lesson after presentation, twice in the second lesson, once in the third and fourth lessons, once one lesson later, once two lessons later, once three lessons later, once four lessons later, and then once every five lessons thereafter. The review pattern began with the first lesson after the presentation lesson, since the presentation lesson contained sufficient usage of brief forms.

3. Using this pattern of repetition of brief forms and derivatives, three 100-word letters were constructed to be used with Lessons 20-38 of Gregg Shorthand, Functional Method, Diamond Jubilee Series.

4. There was a total of 57 letters prepared and each contained 100 words marked off in 28 syllables or 20 standard words to facilitate in dictation of the letters. The brief form and derivatives were double underscored in the first and second letters in a series. One planned occurrence was indicated by a single underscore. The material in this study ranged from 1.36 to 1.48 in syllabic intensity.

5. The subject matter does not follow any particular pattern, but was constructed to include as many brief forms and derivatives as possible. The brief forms to be included in each letter determined the content in each letter.

6. The letters were read by the investigator and several other shorthand teachers to check for sentence structure, smoothness, and technical words. Most of the letters were also dictated to students in a beginning shorthand class to check vocabulary and smoothness further.

7. The number of occurrences of brief forms and/or derivatives was tabulated by letter for each lesson. This tabulation was made on a special worksheet. The fewest number of occurrences was in brief forms which have two meanings. For the brief forms with one meaning, the fewest number of occurrences was seven and the largest number was 18.

Recommendations:

1. That the following suggestions be considered for using the materials prepared in this study: (a) that every double-underscored brief forms or derivatives be previewed the first time it appears in a lesson, (b) that the letter is first dictated at a speed students feel comfortable with and then used for speed building, (c) that the letter be used for a two minute take after practiced, and (d) that the brief forms and derivatives be included in these materials on vocabulary tests.

If time is not available in class for use of all 300 words, the material should be taped for outside use or that some of the materials be duplicated for homework.

2. That research be conducted experimenting with these materials and that the results of the control and experimental groups be compared.

3. That preparation of these materials be continued until established pattern is completed on late occurring brief forms.

Abstractor's Comments;

1. A chapter is included in this study which gives system changes from Simplified to Diamond Jubilee and five methods of teaching shorthand. This information could be used effectively in an undergraduate shorthand methods course and an improvement of shorthand instruction course.

2. The materials prepared in this study need to be tested for determining if the materials accomplish the intended purpose, and whether they facilitate learning of brief forms and derivatives

3. No findings or conclusions were presented in this study.

4. These materials should be published and made available for use by shorthand teachers. In this way they can be beneficial to the shorthand field.

Abstract 196

Renee Y. Swenson, "Conflicting Opinions in the Teaching of Selected Aspects of Gregg Shorthand Theory as Revealed in the Professional Business Education Literature from 1953 to 1962" (unpublished Master's thesis, University of North Dakota, 1963), p. 73.

Problem:

"This study was undertaken because of the conflicting opinions in the teaching of theory in Gregg shorthand."

Procedure:

1. Articles related to this study were located through the use of the Business Education Index. These articles were read and the desired information was recorded on 3 x 5 index cards. A total of 42 articles, 7 books, and 2 theses were reviewed for the years 1953-1962.

2. The cards were placed in alphabetical order according to author. They were then sorted into seven areas of conflicting opinions, and a number corresponding to the area was placed in the top right hand corner. These areas included: (a) a theory presentation, (b) learning brief forms, (c) use of phrases, (d) homework preparation, (e) introduction to writing, (f) penmanship drills, and (g) testing procedures.

Summary:

Theory Presentation

1. The reading approach was favored by a majority of the teaching authorities. One authority believed that shorthand students should read in unison from the beginning. He said this was more interesting for the class and that it would help the weak students.

2. The chalkboard should be used extensively in presenting theory. The teacher should write words on the board rapidly and fluently, watching proportion. Outlines should be arranged on the board so they can easily pointed to during drilling.

3. Spelling of shorthand words is not favored by some authorities. They believe the whole word should be read rather than spelling and then pronouncing the word. Some authorities further recommend that short sentences be read in preference to isolated words.

4. Although a few authorities favor the learning of rules, they are disapproved of by a majority of the authorities.

Learning Brief Forms

1. Brief form drills must be more intensive than word drills. Only one brief form should be presented at a time and all previously presented brief forms should be recalled. Repetition should be rapid, random, unaided, and concerted.

2. Most authorities agree that brief forms can be mastered by reading and writing pages of shorthand and that those not frequently used just as well be written out in full. Shorthand speed can be hampered through an attempt to master all brief forms.

Use of Phrases

Only two writers had made comments on phrasing. One said they were not a speed factor, while the other one said they were. They also disagreed on the procedure for learning phrases.

Homework Preparation

1. Homework should be done free of distractions and with complete concentration.

2. When assignments are reading only, they should be read two or three times if possible. Any words not recognized should be spelled out and, if difficulty still exists, the key should be consulted.

3. When the assignment includes shorthand writing, the lesson should be read first and then copied from the shorthand plate. This aides the student in writing shorthand instantly and without hesitation. Other authorities believe that plates should be read two or three times and then shorthand should be written from the printed key.

Introduction to Writing

1. Some authorities recommend that writing not be introduced until after the 18th assignment. At first, writing should proceed slowly and the entire lesson is not written until lesson 22. Still other authorities recommend that writing begin with the first lesson.

2. Two authorities recommended that writing be delayed until lesson 6 which contains connected matter containing brief forms and phrases.

Penmanship Drills

1. Those authorities favoring the reading approach believed that penmanship need not be stressed and that it will improve automatically. A good outline is one which can be transcribed correctly. On the other hand, those authorities recommending that writing begin with the first lesson believed that penmanship should be stressed.

2. A few authorities recommended that students write shorthand outlines on the board so the teacher can observe the student's penmanship.

3. Longhand penmanship drills were recommended by one authority to help improve shorthand penmanship.

Testing Procedures

1. One authority expressed his belief that formal tests were not needed. When a test is given, it should measure the student's ability to read and write shorthand and not the ability to verbalize rules and construct perfect outlines.

2. There was agreement on using timed longhand transcription. For the first few weeks, transcription should come from shorthand plates, and later transcription is from dictation on practiced materials and from homework notes.

3. Brief form and word tests to be transcribed in longhand were favored by some authorities, while others preferred dictating the tests and have students write them in shorthand.

4. Self-appraisal tests were recommended by one person. This test, given the last four weeks of the first semester, included dictation of words and brief forms and the dictation of previously practiced letters. These would then be transcribed into longhand.

Recommendations:

1. That a study be made of teaching methods used by classroom teachers to determine the most effective method in achieving the best results.

2. That a study be made to determine the affect individual differences have on their learning.

3. That a study be made to compare the results received in the Diamond Jubilee Shorthand and those received in Simplified Shorthand.

Abstractor's Comments:

1. It seems to the abstractor that the achievement of the desired objective (ability to record and acceptably transcribe) is the important factor rather than how.

2. There should be differing opinions, since the same procedure will not accomplish the same results for all teachers. Therefore, we must choose the method that will accomplish our objective.

Abstract 197

Dorothy Okamoto Takasugi, "The Relationship Between Certain Psychological Tests and Other Selected Factors With Shorthand Achievement" (unpublished Master's thesis, The University of Southern California, 1961), p. 108.

Problem:

The problem was to make a comprehensive study of the value of certain psychological tests in predicting shorthand achievement of high school students enrolled in a special six-week summer session.

Procedure:

1. The students involved in this study were enrolled in two beginning shorthand courses offered in two public high schools in Burbank, California, during the summer of 1960. The class met two hours each day for a period of six-weeks. Both schools used the manual approach to teaching shorthand.

2. No attempt was made to equate the two groups, since the enrollment was small. Of the 65 originally enrolled, 53 were used in the final analysis. The following reasons were given for dropping the other 12: one failed to take at least one of the tests, three missed at least one of the tests, three missed at least one of the final tests, and eight didn't have a foreign language background.

3.. Various tests and criteria were used in this study in order to calculate correlations. A list with brief description is as follows.

a. Otis Mental Ability Test (55b). This test was used to measure each student's intelligence quotient. This test contains 80 items and takes 30 minutes to administer.

b. Byers' First Year Shorthand Aptitude Test (9b). The various parts of the test include phonetic perception, retention ability, observation aptitude, pattern from parts, and hand dexterity. This test requires 70 minutes to administer.

c. Turse Shorthand Aptitude Test (75b). This test requires 40 minutes to administer and has seven parts. These parts include stroking, spelling, phonetic association, symbol

transcription, word discrimination, dictation, and word sense.

d. Tenth grade English grade average.

e.. First year foreign language grade average.

f. Shorthand grades after one semester.

g. Theory Tests. Two tests were given of 75 words each. On one test the shorthand word was written for the longhand word and on the other the longhand words were written for the shorthand word. Each test required about 15 minutes.

h. Brief Forms Tests. All 184 brief forms were dictated at the rate of about 20 per minute. Both the correct outline and longhand spelling were graded in this test.

i. Dictation-transcription. This test was given on new-matter materials at the rate of 50 words a minute for two minutes. The students were allowed approximately 25 minutes for transcribing.

4. Spearman's Rank Difference Correlation Method was used to determine the correlation coefficients, since the samples were small.

Findings:

1. The correlations between IQ and shorthand grades, theory, brief forms, and dictation revealed the following: shorthand grades, .435; theory, .527; brief forms, .228; and dictation, .064.

2. The following correlations were revealed between the Turse Shorthand Aptitude Test and shorthand grades, theory, brief forms, and dictation: shorthand grades, .537; theory, .441; brief forms, .279; and dictation, .367..

3. An analysis of the relationship between the Byers' First Year Shorthand Aptitude Test and shorthand grades, theory, brief forms, and dictation revealed the following correlations: shorthand grades, .603; theory, .498; brief forms, .347; and dictation, -.510.

4. The analysis of the relationship between English grade average and foreign language grade average and shorthand grades, theory, brief forms, and dictation revealed the

following correlations: shorthand grades, .35 and .34; theory, .111 and .231; brief forms, .153 and .194; and dictation, .21 and .091..

Conclusions:

1. Theory, as well as shorthand grades, showed a moderate correlation with IQ scores.
2. The findings indicate that IQ alone should not be used for predicting success in shorthand.
3. The correlations were higher with the Turse Shorthand Aptitude Test than the IQ test; however, they were only moderate to substantial correlations and could not be used alone for predicting shorthand success.
4. The correlations were only slightly higher with the Byers' First Year Shorthand Aptitude Test than the Turse and, therefore, could not be used as the only device for predicting shorthand success.
5. The correlations between English grades and foreign language grades and shorthand grades, theory, brief forms, and dictation revealed a low, if not negligible correlation. These correlations in this study were considerably lower than those reported in previous studies.

Recommendations:

1. On the basis of the findings of this study the writer recommended that the Turse and Byers' tests be used in conjunction with other variables in predicting shorthand success.
2. Further research is needed involving student motivational and emotional factors.

Abstractor's Comments:

1. This study tends to point out that the same predicting factors will not produce the same results everywhere. Therefore, each school needs to determine those factors which are most reliable for their own situation.
2. The writer states in the summary of Chapter IV that no favorable relationship was found between IQ and

theory.. Yet, according to the table on page 56, theory and IQ had a higher relationship, .527, than IQ and shorthand grades, which were considered a reasonable correlation .435.

3. Only a few figures were given in the material; therefore calculations could not be verified..

Abstract 198

Helen Williams Taylor, "Development and Evaluation of Programmed Materials in the Presentation of Theory in Beginning Shorthand Classes" (unpublished Ed.D. dissertation, The University of Tennessee, 1963), p. 306.

Problem:

The problem of this study was to develop, construct, and evaluate programmed materials in the presentation of theory in beginning shorthand classes.

Hypotheses:

1. Relative to the fifteen background factors considered, there is no significant difference at the 5 percent level between the control class and the experimental classes..
2. There is no significant difference at the 5 percent level between the control and experimental groups on final achievement.
3. There is no significant difference at the 5 percent level between the control and experimental groups on intermediate achievement.
4. There is no significant difference between the time required for completion of the programmed lessons and corresponding achievement scores.
5. Relative to over-all procedures used in the shorthand classes, there is no significant difference in the attitudes of the control class and the experimental classes.
6. From the tenth day of class and the last day of the quarter, there is no significant change in the student's attitude in the experimental classes.

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The problem of this study was to develop, construct, and evaluate programmed materials in the presentation of theory in beginning shorthand classes.

Hypotheses:

1. Relative to the fifteen background factors considered, there is no significant difference at the 5 percent level between the control class and the experimental classes..

2. There is no significant difference at the 5 percent level between the control and experimental groups on final achievement.

3. There is no significant difference at the 5 percent level between the control and experimental groups on intermediate achievement.

4. There is no significant difference between the time required for completion of the programmed lessons and corresponding achievement scores.

5. Relative to over-all procedures used in the shorthand classes, there is no significant difference in the attitudes of the control class and the experimental classes.

6. From the tenth day of class and the last day of the quarter, there is no significant change in the student's attitude in the experimental classes.

Procedure:

1. Programmed materials were constructed for the first 40 lessons of Gregg Shorthand Simplified for Colleges, Second Edition. Included in these lessons are 28 characters, 107 principles, 132 brief forms, and 6 review lessons.. The six review lessons present penmanship rules and, therefore, these were incorporated into the other lessons.

2. Lessons 1-14 were tested, revised, and tested again prior to using them in the experiment. Lessons 15-43 were not tested prior to being used.

3. The tests for the two studies were the same and consisted of three parts: (a) tests given at the end of each completed lesson, Lessons 1-4; (b) six 50-word vocabulary tests and one 100-word test and six transcription tests given at the end of each fifth lesson; (c) the vocabulary and dictation tests given at the end of the quarter.

4. The STRAP (Stepwise Regression Analysis Program) was used to determine significant background factors, and "t" tests were used to compare the control and experimental classes. The relationship between the time required for completing the programmed materials and the actual achievement scores on corresponding tests was determined through the use of the Pearson Product-Moment Correlation.

5. During the fall quarter of 1962-63, 69 students enrolled in beginning shorthand at The University of Tennessee. Thirty-five students registered for the nine o'clock section and thirty-four for the one o'clock section.

6. Using a table of random numbers, the two sections were divided and the students were assigned to a control class or an experimental class--making a total of four classes. Two of these classes were used in the Palmer study and two in this study. The experimental group of the Palmer study was at nine, which was the same hour that the control class for this study met. At one o'clock the control class for the Palmer study and the experimental class for this study met.

7. The fifteen background factors used in this study were identical to those used in the Palmer study (56b).

8. The control and experimental classes in this study were conducted the same except for the use of programmed materials in the experimental group. Since the two classes were taught by different teachers, it was necessary for them to meet to be sure that the dictation and amount of time

spent on each phase of the class period were identical. All class activities were timed in both classes.

9. Both classes during the fall quarter met 53 fifty-minute class periods. In addition to class time, the experimental group was assigned a minimum of one laboratory period each day to replace the homework assignments.

10. During the winter quarter a second experimental group met 50 fifty-minute periods. This experiment was conducted identical to the fall experiment.

Summary:

1. The difference between the control group and the experimental group based on concomitant factors was not significant at the 5 percent level of confidence. A further analysis revealed that there was a slight significant difference between Experimental Class I and II on one of three criterion measures.

2. The difference between the control group and experimental groups on final achievement score was not significant at the 5 percent level. A further analysis between Experimental Class II and the Control Class revealed there was a significant difference at the 5 percent level on two of three final achievement measures.

3. When combined achievement scores were considered, there was no significant difference between the control class and experimental class on intermediate achievement scores. However, the experimental class was significantly higher on four of the sixteen intermediate measures. Factors showing a significant difference were: (a) Cumulative Grade Point Average Excluding English and Shorthand; (b) Byers' Shorthand Aptitude Test--Phonetic Perception; (c) Byers' Shorthand Aptitude Test--Retention Ability; and (d) Act Test--Mathematics.

4. The correlation between the time required for completion of the programmed lessons and the corresponding achievement scores was insignificant at the 5 percent level of confidence.

5. Relative to over-all procedures, there was no significant difference at the 5 percent level between attitude of the students in the control class and those in the experimental classes. However, the Chi-square did reveal a significant difference on items 3 and 13. This difference favored the experimental classes.

6. The change in student attitude from the tenth day to the end of the quarter was insignificant at the 5 percent level. Five of the 12 questions had 75 percent of the responses checked "Strongly Agree" or "Agree" and one response in the category "Disagree" or "Strongly Disagree" which were in favor of programmed instruction.

Recommendations:

1. Further use should be made of programming elements in revising and rewriting material for beginning shorthand.

2. Material should be developed which vary more from the text, e.g., in following the lessons in the text, some of the lessons became too long and lost their effectiveness.

3. Material needs to be prepared which meets individual differences more effectively.

4. Students should be provided schedules indicating certain check-points, so students will be able to pace themselves.

5. Materials need to be prepared with accompanying tapes, so students can hear both vowel and consonant sounds as well as sounds characteristic to certain shorthand principles.

6. A study is needed to determine value of the frames developed for speeding up reading and writing responses of the student.

7. Programmed materials are needed based upon the 1963 revision of Gregg shorthand.

8. Supplementary dictation material are needed for speed building purposes, which correlate with the programmed materials.

9. Research is needed using programmed materials on the high school level and also in an adult education program.

10.. A study is needed in which the theory is presented by programmed instruction and dictation is given through multiple-channel dictation equipment.

Abstractor's Comments:

1. Chapter VI of the study gives a detailed description of the preparation of the programmed materials prepared in this study.

2. Studies similar to recommendations 7, 9, and 10 have been done. Perhaps the recommendations in this study prompted the research.

3. The findings and conclusions were presented together in the summary of this study.

4. It should be pointed out that differences in achievement scores were in favor of the experimental students.

Abstract 199

Helen Williams Taylor, "Determination of Tentative Objectives and Evaluation of Achievement in First Year Shorthand in High Schools of Georgia" (unpublished Master's thesis, The University of Tennessee, 1961), p. 135.

Problem:

The problem of this study was to establish some tentative objectives for first-year shorthand and determine how well these objectives have been achieved by some selected high schools of Georgia.

Procedure:

1. The objectives and standards used in this study were derived on the basis of information obtained from 22 state handbooks and 7 professional articles. These objectives were primarily related to vocabulary, transcription, and mailable letters. Then the proposed objectives were presented to the Vocational Services Division, State Department of Education, State of Georgia and upon their recommendations deletions and additions were made.

2. A letter, questionnaire, purpose of the study, and a description of the types of tests to be used were sent to 56 schools in the First and Second Districts of Georgia which had at least one business education teacher. Replies were received from 29 which indicated a desire to participate in the study.

3. On the basis of the returned questionnaires, five different tests were constructed to measure (a) vocabulary, (b) transcription from shorthand plates, (c) dictation and transcription on familiar material, (d) dictation and transcription on unfamiliar material, and (e) mailable letter production.

4. There were four dictation-transcription tests constructed--two on familiar material and two on unfamiliar material. The two tests on familiar material were dictated at 50 and 60 words a minute, while the two tests on unfamiliar material were dictated at 50, 60, 70, and 80 words a minute. Material for these tests was taken from The Business Teacher, Previewed Dictation, and Progressive Dictation. Errors were classified according to: (a) word omission, (b) punctuation, (c) word additions, (d) incorrect words, and (e) spelling. All dictation-transcription tests were 3-minute in length and a maximum of 18 minutes were allowed for transcription.

5. Five vocabulary tests were given--four, 50 word tests and one, 100 word test. These tests were based on principles and brief forms presented in the first 54 chapters of Gregg Shorthand Simplified. Brief forms and brief form derivatives comprised 10 percent of each test. Errors were classified according to: (a) principles, (b) placement, (c) proportion, and (d) other. The longhand words were duplicated on sheets and 10 minutes was allowed for writing the correct outlines on the 50-word tests and 20 minutes were allowed on the 100-word test.

6. One Mailable Letter Test was given in 11 of the 20 classes. This test contained 4 letters containing approximately 135 words and were to be dictated at 60 words a minute. The students were to transcribe as many letters as possible within 30 minutes. This test was given as a part of Test Five. Those schools not transcribing on typewriters did not give this part of the test.

7. The tests were given by the participating teachers according to the following schedule: Test I, November 18, 1959; Test II, December 8, 1959; Test III, February 12, 1960; Test IV, March 25, 1960; and Test V, May 6, 1960. Upon completion of each test, the participating teachers returned the shorthand notes and transcription and the vocabulary tests to the investigator.

8. Only papers of students who had taken all tests in the series were selected for use in this study. Ten cases were randomly selected from each school. If a school had fewer than ten students participating in the test series,

the school was eliminated from the study. Twenty classes qualified for the study.

9. The F-test was used to determine the difference among the schools. An F-score of 1.57 was necessary to be significant at the 5 percent level. The differences in means of samples were determined by using the Duncan Multiple Range Test. Based on these tests, the 20 classes were divided into four homogeneous groups: Group 1, 2, 3, and 4.

10. The following objectives were set for use in the study:

- a. A minimum of 75 percent on all five of the theory tests.
- b. A minimum dictation speed of 70 words a minute on familiar material.
- c. A minimum dictation speed of 60 words a minute on unfamiliar material.
- d. A minimum accuracy requirement in all transcription of 95 percent.
- e. A maximum transcription requirement of 25 minutes on all 5-minute takes and 18 minutes on all 3-minute takes transcribed in either longhand or at the typewriter.
- f. To develop the ability to transcribe mailable letters.

Findings and Conclusions:

Vocabulary Tests

1. The minimum accuracy requirement of 75 percent was met on Test 5 by 80 percent of Group I, 45 percent of Group II, 11.6 percent of Group III, and 6 percent of Group IV.

2. When all five vocabulary tests were combined, 18 percent of Group I was below the minimum requirement. Other percentages below the minimum were Group II, 58 percent; Group III, 74.6 percent; and Group IV, 88.8 percent.

3. Conclusion: On the basis of these findings, the writer concluded that only a very small percentage of the students had sufficient background in theory to meet the minimum requirement of 75 percent.

Dictation Tests

1. Tests Two and Three contained familiar material dictated at 50 and 60 words a minute. Of the 400 papers scored for 200 students on these tests, 72 students were above the 90 percent accuracy and 20 papers, or 27.7 percent, were above the 97 percent accuracy level.

2. Word omissions ranked first in types of errors made by transcribers in all cases but one. Incorrect words ranked second.

3. Only 131 papers, or 32.8 percent, of the 400 papers scored for 200 students on Tests Four and Five were above the 90 percent accuracy level. Furthermore, only 43, or 32.8 percent, were above the 97 percent accuracy level.

4. Conclusion: On the basis of the findings in this study, it is concluded that a small percent of the students were above the 90 percent level of accuracy on dictation and transcription. Furthermore, an extremely small percentage ~~was~~ above the 97 percent accuracy level.

Mailable Letter Test

1. Of the 272 letters turned in as mailable, only 40, or 14.7 percent, were mailable and 232, or 85.3 percent were unmailable.

2. Approximately eight months had been completed in studying shorthand prior to the test given by Anderson and Bright (3b), which corresponds favorably to this study. The 89 percent found in their study is only slightly more than the 85.3 percent revealed by this study.

3. Incomplete transcripts ranked first in reason for letters being unmailable. Others in rank order were incorrect transcripts; spelling and incorrect transcripts; punctuation, spelling, and incorrect transcripts; punctuation and incorrect transcripts; spelling; punctuation and spelling; and punctuation.

4. Conclusion: On the basis of the findings in this study, only slight progress has been made in the area of mailable letters since the Anderson and Bright study.

Recommendations:

1. The State Department of Education, Atlanta, Georgia, should accept standards for first-year shorthand on a trial basis.

2. Teachers should keep systematic records, so that these tentative standards can be discussed and revised.

3. Terminal achievement should be tested by 50 and 60 word a minute dictation except in cases in which these goals are met by most of the students prior to the end of the course.

4. Similar studies are needed in other sections of Georgia which would include the type of criteria being used in each test school, with the investigator selecting the dictation speeds for various phases of testing rather than letting the student select.

Abstractor's Comments:

1. Chapter II of this study presents a summary of the analysis of standards gleaned from 22 state handbooks.

2. In the Findings the investigator states that 131 students were above the 90 percent level of accuracy. However, according to the table on page 70, 126 students, not 131, were above the 90 percent accuracy level.

3. The findings of this study on the Mailable Letter Test were compared to those of the Anderson and Bright study. However, it should be kept in mind that they involved different teachers and schools in a different area of the country. Therefore, the conclusion that slight progress has been made in the area of mailable letters, since the Anderson and Bright study is not a valid conclusion.

Abstract 200

Delilah Michelson Thornton, "The Validation of Terminology Peculiar to the Teaching of Gregg Shorthand and Transcription Based upon a Work Count of the Articles in Professional Literature, Shorthand Methods Textbooks, and Teachers' Manuals" (unpublished Master's thesis, University of North Dakota, 1960), p. 105..

Problem:

The problem of this study was to compile a list of terms peculiar to the teaching of shorthand and transcription as found in the professional literature, teaching methods books, and teacher's manuals..

Procedure:

1. The first task was to read the professional literature pertaining to methods of teaching shorthand and transcription published over a ten year period from 1947 through 1956 and to determine which terms and words were peculiar to shorthand and transcription methodology. The professional literature included periodicals, quarterlies, yearbooks, four methods textbooks, and three teachers' manuals.

2. An alphabetical list was made containing the words and terms selected. Each time a word reappeared, a vertical mark was placed following the word. Mastersheets were then prepared to use in summarizing the alphabetical lists.

3. After these master sheets were completed, a 3 x 5 card was prepared for each word or term. After careful consideration, a definition was constructed and placed on the card.

Summary:

1. The findings of this study presented the words and terms peculiar to shorthand and transcription methodology and the frequency for that word or term. A definition was also given following the word or term.

2. The final list of words and terms peculiar to methodology in shorthand and transcription contained 533 words. These terms and words should be helpful to prospective teachers in shorthand and transcription in providing descriptive information from which to choose in presenting the subject to the students to broaden their understanding of the subject.

Recommendations:

1. That studies similar to this be done in all other areas of business education taught on the high school and college levels.

2. That this glossary be used by business educators to reduce the number of words and terms used to refer to the same thing.

3. That prospective teachers in the field of business education familiarize themselves with the basic terminology used in teaching shorthand and transcription.

4. That this glossary be used by in-service teachers in order to become acquainted with the basic terminology essential for well-trained teachers.

Abstractor's Comments:

1. The glossary presented in this study should be used, as the author suggested, to reduce the number of words and terms used by business educators when referring to the same thing.

2. This glossary could be used very effectively in an undergraduate shorthand methods course and possibly would be beneficial in an improvement of shorthand instruction course.

3. Before this glossary can be beneficial, it must be published and made available for teachers in shorthand and transcription. There are probably many teachers that do not know that such a glossary exists.

Abstract 201

Gerald L. Timm, "Criteria in Establishing an Undergraduate Shorthand Methods Course--A Prospectus" (unpublished Master's Thesis, University of North Dakota, 1960), p. 144.

Problem:

The purposes of this study were:

1. "To establish criteria for determining content for an undergraduate shorthand methods course, and

2. To apply the criteria obtained to the development of a course of study that, in turn, could be used by colleges either to help justify a present course or aid in determining the content of a new course."

Procedure:

1. A questionnaire was decided upon for gathering the information for this study.

2. Teachers' handbooks for high school and college shorthand textbooks, existing methods books devoted entirely

to shorthand, and methods books which contained chapters concerning methods of teaching shorthand and transcription were read to obtain topics that should be included on the questionnaire. Included in this review were eight teachers manuals, three shorthand methods books, and many magazine articles, pamphlets, and monographs pertinent to the study. In addition, several interviews were held with college teachers of undergraduate methods courses, high school supervisors in business education, and beginning high school shorthand teachers.

3. The questionnaire was submitted to a jury of 28 graduate students. The questionnaire was revised and submitted to the same group to insure clarity. Final approval of the questionnaire came from the writer's graduate advisory committee.

4. The writer decided to survey the following groups: college teachers of undergraduate methods in shorthand, high school supervisors of business education, and beginning shorthand teachers.

5. The questionnaire, with a cover letter, was mailed to 63 teachers of undergraduate methods in shorthand, 54 high school supervisors of business education, and 67 second-year shorthand teachers. These participants were selected from the 50 states, the District of Columbia, and Puerto Rico.

6. The responses from these three groups were recorded, analyzed, and interpreted for presentation in the report.

Findings:

The following table shows the number included in each mailing, the number of returns, and the percentage of returns..

	sent	returned	percent
College Instructors	63	55	87
High School Supervisors	54	39	72
Beginning Business Teachers	67	50	74

Several respondents failed to rate every topic according to great, some, or no value. Blank spaces on the questionnaire were rated as no value..

Conclusions: General Topics

1. General topics that deserve considerable emphasis in the undergraduate preparation of the shorthand teacher include:

- a. Application of the psychology of learning to the area of skill development
- b. Handling individual differences
- c. Motivational devices
- *d.. Self-evaluation of teaching
- *e. Direct observation of teachers in the field
- *f. Lesson planning
- *g. Familiarity with teaching materials
- *h. Timing devices
- *i. Possible teaching problems.

2.. Topics general in nature that were considered to have some value included:

- a. History and development of the present Gregg shorthand system
- b. The place of shorthand and transcription in the curriculum
- c. Criteria for determining proper motivating devices
- d. Understanding syllable intensity and word frequency lists
- e. Professional affiliations

Conclusions: Specific Items

1. Certain topics were indicated as essential in the preparation of future business teachers. These topics included:

- a. How to preview
- b. Blackboard writing in training and actual practice
- c. Demonstration of teaching lesson 1 in Gregg shorthand
- d. Demonstration of teaching lesson 2 in Gregg shorthand
- e. Demonstration of a later speed-building lesson
- f. Dictation-training and actual practice
- g. How to get the high school pupil to read shorthand plates properly
- h. How to get the high school pupil to write new words quickly
- i. How to get the high school pupil to automatize brief forms and phrases

- j. How to get high school pupils to prepare homework
- k. How to get high school pupils to write well proportioned notes.
- l. Diagnosis in shorthand
- m. Testing in shorthand
- n. Grading in shorthand
- *o. Methods of teaching shorthand
- *p. Standards in shorthand

2. Those indicated to be of some value, but not necessary were:

- a. Prognosis in shorthand
- b. Using audio-visual aids
- c. Remedial techniques for shorthand

Conclusions: Specific Transcription Methodology

1. Certain essential methodology that should be provided in an undergraduate methods course was:

- a. Methods of teaching transcription
- b. Demonstration on the first day of transcription
- **c. Demonstration of a typical mid-year transcription day
- d. How to teach grammar and punctuation
- e. How to get the high school pupil to proofread properly
- f. How to get the high school pupil to correct transcript errors
- g.. How to get high school pupils to increase transcription speed
- h. How to get high school pupils to improve accuracy in transcription
- i. Testing in transcription
- *k. Standards in transcription

2. Those listed as some value, but not essential were:

- a. Diagnosis in transcription
- b. Remedial techniques in transcription

*Didn't include college teachers

**College teachers only

Recommendations:

1. Research is needed to develop evaluative criteria for beginning shorthand teachers.
2. Further study is needed to develop a course outline that is flexible enough to apply to various time allotments and that contains actual content and resources for the outline.

Abstractor's Comment:

This study should be most valuable to all college shorthand methods teachers and especially the college teacher teaching methods for the first time.

Abstract 202

Helen J. Tingey, "An Analysis of Teaching Intermediate Shorthand at Brigham Young University With Taped Instruction" (unpublished Master's thesis, Brigham Young University, 1965) p. 67.

Problem:

This study was conducted to compare the achievement of students enrolled in intermediate shorthand at Brigham Young University during the fall semesters of 1960, 1961, and 1964, in order to determine the effectiveness of taped instruction.

Procedure:

1. This study involved students enrolled in intermediate shorthand at Brigham Young University for the years, 1960, 1961, and 1964. Students were randomly eliminated from the 1960 and 1961 groups in order to have 82 students in each group. The students in 1960 and 1961 used the text Gregg Shorthand Simplified for Colleges, Volume II, Second Edition and the 1964 students used the text Shorthand Dictation Studies, Third Edition. All three groups used "Dictaprint" in addition to the text.

2. In 1960 the traditional teaching method was used and the only variable was the use of "Dictaprint" in the homework procedure.

3. In 1961 the traditional teaching method was altered by using a 30-minute core tape. Again the "Dictaprint" was used in the homework procedure.

4. In 1964 the entire period was taped and no instruction was given by the teacher. The "Dictaprint" was used in addition to the taped instruction.

5. An analysis of covariance was used to determine if any significant difference in progress of the students existed in the different groups. Further analysis was made to determine in which years, if any, the progress was significantly greater than the progress of the other years.

6. Transcription error frequency was also calculated and used in comparing progress of the students in different groups. The results of this computation represented the number of words the student could transcribe before making an error.

7. A questionnaire was given to all the students enrolled in Business Education 112 and 113 during the 1964 fall semester at Brigham Young University, to obtain the student's opinion of taped instruction as a method of teaching intermediate shorthand.

Findings:

1. Based on an analysis of covariance of adjusted means, there was no significant difference found in the progress of intermediate shorthand students in 1960, 1961, and 1964 in regard to both speed and errors.

2. The over-all impression of the students toward taped instruction was favorable. Of the 165 respondents, 121, or 73.3 percent, were favorably impressed and 44, or 26.7 percent, were not.

3. The questionnaire indicated that 43.5 percent of the students were motivated to do their best; 40 percent indicated they were motivated to do a little less than their best.

4. A question concerned with their attitude toward the class revealed the following: excellent attitude, 36, or 21 percent; good attitude, 93, or 54 percent; fair attitude, 39, or 22.9 percent; poor attitude, 2, or 1.2 percent.

5. When the students were asked to compare their class taught with taped instruction with a class taught by

an instructor, 79.4 percent rated their class equal to or higher than a class taught by an instructor.

6. The students in both Business Education 112 and 113 indicated that more emphasis was placed on transcription skills than on writing skills.

7. Some negative reaction was received on the questionnaire. One of the big complaints was the noisiness of the classroom in which taped instruction was used. A few of the students felt the tapes should be replaced completely by teachers. Many others felt, however, that a combination of teacher instruction and taped instruction would have been better.

Conclusions:

1. Students can make satisfactory progress in intermediate shorthand through taped instruction. Teachers can be freed to give students individual assistance and according to student response more assistance is needed.

2. Teachers can assist more than one class at a time without hampering student progress.

3. Student motivation was not adversely affected by taped instruction. Students can be motivated to an acceptable level of performance with taped instruction.

4. Taped instruction was accepted by the students as an adequate method of teaching intermediate shorthand.

5. The students in 1964 reached higher dictation speeds in high school, than the students did in either 1960 or 1961.

Recommendations:

1. That a study be made to determine the factors which enable the students in the 1964 group to take faster dictation than either of the other groups.

2. That instructors of intermediate shorthand be available to assist students whenever needed.

3. "That students be better informed of the objectives of Business Education 112."

Abstractor's Comments:

1. The abstractor did not understand or agree with conclusion number 6. According to my comprehension, the findings did not indicate that the objectives were not made clear to the students, but rather that the emphasis was placed on the wrong objectives.

2. Do the students need to be better informed of the course objectives, or does the instructor need to teach toward fulfillment of those objectives.

3. As has been true with other similar studies, favorable responses were given in favor of taped instruction.

Abstract 203

Sharon Toner and Rita Tucker, "A Study of Appropriate Dictation Speeds with the Use of Electronic Equipment in the Teaching of Shorthand" (unpublished Master's thesis, University of Wisconsin, 1961), p. 129.

Problem:

The problem of this study was to make a study of appropriate dictation speeds to be used with electronic equipment in teaching shorthand.

Procedure:

1. The case study approach was used in gathering information for use in this study. The following information was obtained for each student: a cumulative record, shorthand test scores, teacher observations, and classroom observations by the investigators. In order to be able to determine achievement in shorthand dictation, the following information was collected: dates that 3- and 5-minute takes were taken, number of tests taken, number transcribed and number not transcribed, number of tests passed and failed, number of shorthand errors, and number of total errors for each part.

2. Frequent testing can be done, when multiple-channel equipment is used in the shorthand classroom. The students were allowed to take a test when they believed they could pass a 3- or 5-minute take at the speed for which they were striving. Ninety-five percent accuracy was considered passing.

3. The student generally practiced at a speed that was 20 words midspeed above the speed most recently achieved on a dictation test with 95 percent accuracy. The one-minute speed forcing plan was being used.

4. English errors were not considered in determining test accuracy on which practice levels were passed. However, English errors were considered in determining the final grade.

5. Only errors which resulted in incorrect transcription were considered. The following classifications were established for classifying shorthand errors:

- a. Omissions in dictation including one word, phrases, or sentences.
- b. Incorrectly written outlines that could not be transcribed or that were transcribed incorrectly.
- c. Correctly written outlines that were not transcribed or that were transcribed incorrectly.
- d. Poor proportion in writing outlines that resulted in incorrect transcription.
- e. Transcription of words not in the shorthand notes.

6. There were 35 second-semester students at East High School, Madison, Wisconsin, who participated in the study for a period of 16 weeks. Thirty of these students were in the 11th grade and five were in the 12th grade. No attempt was made to select the students in the two classes. However, the students were compared on the basis of IQ scores, grade-point averages, and rank in class. The two classes were referred to as Class I and Class II. Class I students were identified as A, B, C, etc.; and Class II students were identified as AA, BB, CC, etc. There were 18 students in Class I and 17 students in Class II. Class I was required to pass two takes at a given speed before going on the next speed, while Class II was only required to pass one take before moving up to the next level.

7. The writers were seeking the following information:

- a. Achievement of students with respect to the number of dictation tests passed with 95 percent accuracy, the time interval between tests passed, the degree of accuracy, and the speed levels passed.

- b. The appropriateness of the dictation practice speeds in relation to dictation speed tests passed.
- c. Self-set student goals: what these goals are, to what extent they are reached, and the effect of these goals in terms of motivation.
- d. An analysis of shorthand errors: kinds of errors made, their frequency, and the effect on practice rates.

Findings:

1. The IQ range for Class I was from 91-131, while for Class II the IQ scores ranged from 98-131. The grade-point averages for the two classes was 3.51-1.85 for Class I and 1.65-3.2 for Class II.

2. Out of the total of 35 students, 21 met their first goal, 14 met their second goal, and 8 met their third goal. Since each student set three goals during the semester, there were 105 goals set and 43, or 41 percent, of the goals were met. Furthermore, only one student met all 3 goals. In a few cases unrealistic goals were set and, therefore, the goals were not reached. A majority of the goals set were 10 words above the previous passed test. This procedure of the students setting goals helped the teacher to detect the over-confident student and also those lacking in confidence.

3. Both classes took approximately one test per week per student. Speeds ranged from 40-120 words a minute for Class I, with speeds 60 and 70 being the most frequent. Speeds for Class II ranged from 40-110, with speeds 60 and 70 words a minute being the most frequent.

4. Class I transcribed 216 tests over the 16-week period for an average of 12 tests per student. Class II transcribed 199 tests for an average of 11.7 tests per student. Of those tests taken and transcribed, an average of 7.7 tests per student were passed in Class I, and 6.9 tests per student were passed Class II.

5. When the classes were combined, 9 students had passed the tests at 60 words a minute with 95 percent accuracy, 12 had passed the 70 words a minute tests, 8 had passed tests at 90 words a minute, 2 had passed tests at 100 words a minute, and 1 had passed tests at 110 words a minute. Fourteen of the 35 students, or 40 percent, had passed a test at 80 words a minute or faster, with 95 percent accuracy.

6. The number of days needed to advance 10 words in speed ranged from 2 to 45 days in Class I and from 3 to 44 days in Class II. Neither class seemed to indicate a definite pattern as to the interval of time between test achievements.

7. There were 5,271 shorthand errors made out of a total of 89,400 words that were transcribed.

8. An incorrectly written outline whether transcribed incorrectly or not transcribed was the most frequent type error made in both classes. Excluding omissions, these errors accounted for over 50 percent of the total errors made on transcription tests. Omissions accounted for 29.7 percent of the errors, 33.4 percent were incorrectly written outlines transcribed incorrectly, and approximately 7 percent were incorrectly written outlines not transcribed. Phrases were omitted most frequently.

Conclusions:

1. For one year of shorthand training, the students accomplishments in terms of speeds reached were most satisfying in relation to what is normally expected in a beginning shorthand class.

2. There is probably no one best practice speed, but a combination of speeds seems necessary for best results. The results of this study do not seem to give a complete answer to the problem.

3. The guidance given to the students concerning number, frequency, and speed of dictation is of great importance; and a teacher using this method must make certain that this guidance is not overlooked. In a conventional classroom, these factors are automatically controlled.

4. The greatest number of errors in transcription was made in the area of transcribing incorrectly written shorthand outlines. These errors might suggest that more previewing is needed or better use of preview time now allowed. Since omissions are numerous, it might be said that students will attempt speeds beyond their ability.

5. Motivation is just as important or more so in a classroom where multi-channel equipment is used as in any other teaching situation. Some students still lack self-confidence for attempting a test at a certain speed. With the use of taped dictation, the shorthand practice can become boring and the teacher must guard against this occurring.

6. The use of multi-channel equipment does seem to provide more flexibility in order to meet individual needs and at the same time free teachers to work with individual students.

Recommendations:

1. Multi-channel equipment is of practical use in teaching shorthand and should be used in teaching shorthand whenever possible.

2. Continued study of the appropriate practice speed above test dictation needs to be made. Various combinations need to be studied in order to determine which method is best.

3. A great deal of the teachers attention must be given to each student's progress and adequate directions must be provided for practice plans and test procedures. Unless this is done some students will not try higher speeds and still others will try higher speeds before they are adequately prepared for them.

4. Teachers should be aware of the types of errors students are making in their transcripts of daily practice and homework should be adjusted to help remedy the cause of these errors.

5. Continued study could be made of self-set goals to determine how well students are able to judge their own potential.

6. No conclusive evidence was found concerning proper intervals between tests. However, records should be kept of tests taken and passed and students should be discouraged from taking and transcribing tests unless there is a possibility they will be passed. Students should not be required to transcribe a test which they feel they did not get well enough to pass.

7. Other schools using multi-channel equipment should report their results so that the best teaching procedures can be determined and shorthand instruction improved.

Abstractor's Comments:

1. The procedures were not clearly stated in the procedure section and, therefore, were difficult to follow.

2. The writers stated that 58.8 percent of the tests transcribed were passed; however, the table on page 20 indicates that 241 of the 415 tests transcribed were passed. According to my calculations this comes out to 58 percent and not 58.8 percent. Also, the table states that 241 were passed and later in the summary it is stated that 243 were passed.

3. Nothing was said in this study in regard to transcription speed or how long the students were allowed to transcribe.

4. There were several figures and statements that did not agree with prior figures and statements. The report was most difficult to read and correctly interpret the writers intention.

Abstract 204

Donald W. Triebold, "A Study Using the Language Laboratory at Burlington High School to Determine the Effects of Multi-Channel Dictation Upon Shorthand Speed Development" (unpublished Master's thesis, Wisconsin State University, 1965), p. 53.

Problem:

"The problem in this study was to evaluate the effectiveness of a shorthand speed-building program at Burlington High School using the present language laboratory equipment."

Hypothesis:

There is no significant difference in the achievement between a group of students receiving dictation from multi-channel equipment and a group of students receiving "live" dictation.

Procedure:

1. Two shorthand classes were taught by the same teacher and followed the same procedure during the first semester. The classes met the first and second periods of the day and each contained 15 students.

2. During the first semester, student's writing ability was checked once a week by two-minute dictation tests and ten minutes were allowed for longhand transcription. These tests were taken from previously studied contextual material.

3. Before beginning the second semester, the two classes were equated on the basis of a test similar to those described above in procedure 2. No significant difference between the two classes was found at the 5 percent level of confidence.

4. Gregg Shorthand, Diamond Jubilee, was used during the first semester and Gregg Dictation, Diamond Jubilee, for the second semester. Tests the second semester were taken from the Business Teacher, and Progressive Dictation was used as supplementary dictation.

5. The major variable in the second semester was the use of taped dictation during the last 30 minutes of the experimental group. All dictation in the control class was given in the study in regard to preparation and use of taped dictation.

6. Over-all achievement during the second semester was determined by 3-minute tests on new matter material. All these tests were dictated "live" by the teacher of both classes. The tests must be transcribed in longhand within 30 minutes with 95 percent accuracy in order to pass. Two tests at the same speed must be passed to establish credit for a particular speed.

7. A questionnaire was given to the experimental group in an attempt to determine individual reactions and opinions about the instructional techniques, equipment, and material used in the class during the second semester.

Summary:

1. An analysis of mean achievements between the two classes revealed a t -value of .18. The probability of receiving this t -value could occur at least 80 times out of 100 on the basis of chance alone if continued samples were drawn from the same population. On the basis of this finding the hypothesis would be accepted. Furthermore, it cannot be concluded that the use of multi-channel dictation for speed building in shorthand will result in higher achievement than the traditional "live" method of dictation.

2. The responses to the questionnaire and oral expressions revealed that many of the students were dissatisfied with the use of the language laboratory equipment. However, a majority of them felt that their achievement was satisfactory.

3. The instructor observed that language laboratory equipment is not necessarily suited for shorthand purposes. The desk top is filled with tape recorder and controls and no room is left for shorthand notebook. Other problems were encountered with the booths, headsets, and other laboratory equipment which are undesirable for shorthand instruction. Improper attitudes which are likely to develop under these circumstances are not conducive to proper learning or skill building.

Recommendations:

1. Those planning to purchase and use multi-channel equipment should seek advice and rely heavily upon the suggestions and recommendations of those experienced in this area.

2. The teacher should be thoroughly oriented to the use and operation of the laboratory. Laboratory dictation can become dull and boring, if the teacher is not careful. The entire period should not be used for taped dictation. A file of previewed transcripts should be provided for student use at all times.

3. All equipment and materials should be available to students for practice outside of class.

4. Further research is needed to refine instructional techniques and operational procedures so that all possible benefits may be realized from multi-channel dictation.

5. Equipment especially designed for shorthand instruction to permit freedom of movement up and down the aisles might prove more satisfactory.

Abstractor's Comments:

1. It was not stated whether the experiment was Shorthand I or II; however, certain statements lead the abstractor to believe it was Shorthand I.

2. The city and school year in which the experiment was held were not given in the procedure of the study.

3. Had the experiment^t been conducted using equipment designed for use in shorthand the results of the study may have been different.

Abstract 205

Judith E. Trump, "A Study of the Effectiveness of Selected Drill Techniques in the Improvement of Transcription Skills" (unpublished Master's thesis, Southern Illinois University, 1965), p. 54.

Problem:

The problem was to determine better teaching methods regarding the conventions of English usage in transcription.

Procedure:

1. Three tests were given on three consecutive days to the writer's transcription students at O'Fallon Technical High School in St. Louis, Missouri. These tests included a test on punctuation, number usage, and spelling. The dates these three tests were given were April 28, 29, and 30 and they were administered unannounced.

2. The punctuation and number usage tests were taken from the "Typewriting Style Manual" by South-Western Publishing Company. The punctuation test contained a total of 189 points and number usage test contained 54.

3. The 100 word spelling test was taken from the NOMA spelling list for 1963-1964. After the first spelling test, a list was given to all participants to study for the next five weeks. At this time, a second spelling test would be given.

4. During the next five weeks period following the first tests, special drills were given on various areas of punctuation and number usage. Practice was also given combining shorthand transcription and typewriting skills.

5. On June 7, 8, and 9, the same three tests were given a second time. Statistical analyses were made of the results obtained. The t-test was used to determine significance of difference.

Findings:

1. The scores on the punctuation and spelling test improved from Test 1 and Test 2. The standard deviation on the punctuation tests decreased 2.58 points. The standard deviation on the spelling test decreased 2.03 points; whereas, the standard deviation on the number usage tests increased .52.

2. The decrease in standard deviation of the scores on the punctuation and spelling tests showed a closer cluster of the scores on the second test, which indicates that the students who made low scores on the first tests improved the second tests.

3. A t-score of 1.69 was needed to indicate a significant difference at the 5 percent level between the scores on Test 1 and Test 2. The t-scores were punctuation, 4.1; spelling, 6.9; and number usage, 1.9. Therefore, all t-scores were significant at the 5 percent level.

Conclusion:

1. The drill work did help improve the students' scores on the punctuation and number usage tests. Although the standard deviation did increase for the number usage test, the t-score indicated a slight improvement.

2. The students improved their own spelling ability by studying the word list made available to them.

Recommendations:

1. Further study is needed to determine methods and drill techniques which will increase transcription proficiency.

2. A study is needed to develop and construct a test in number usage that will allow the better student to show more improvement. Also, this test should contain more items than in the present study.

Abstractor's Comments:

A similar study should be done involving a larger and randomly selected sample. Nineteen students are not a large enough sample from which to draw sound conclusions.

Abstract 206

Irene R. Tschider, "A History of Selected Studies in Shorthand Prognosis from 1914-1960" (unpublished Master's thesis, University of North Dakota, 1960), p. 91.

Problem:

The problem of this study was to obtain the history of shorthand prognosis from the years 1914-1960.

Procedure:

1. A study was made of all articles pertaining to prognosis in shorthand from 1940 to 1960. The next step was to collect all articles containing conflicting opinions in the area of prognosis in shorthand. Then, a bibliography was prepared on 4 x 6 cards which included the author, title of article, source, date of publication, and the page number.

This procedure failed to cover the area adequately. Therefore, the writer decided to extend the study back to 1941 and to include studies in prognosis as well as opinions.

2. The writer finally decided to arrange the material chronologically on 4 x 6 cards. The material from these cards was then transferred in a detailed summary on each source to a notebook, which was used for composing the rough draft of this study and finally the final draft.

3. Business Education Indexes were not available earlier than 1940; therefore, most references were obtained from these obtained from other graduate schools through interlibrary loan.

Summary of years 1914-1930:

Prognostic testing in shorthand started during this time, activity was limited. Nothing was discovered during this period that could be used effectively for predicting success in shorthand.

One important discovery during this period was that a battery of tests is more effective in predicting success in shorthand than a single test. It was also determined that low IQ does not always mean low scores in shorthand. IQ is a very poor predictive measure of shorthand success.

Summary for years 1930-1940:

Munford stated that English aptitude causes students to fail in shorthand rather than manual dexterity. Other writers disagree with this idea.

Those doing prognostic testing during this era concluded that IQ contributes very little to predicting success in shorthand. This agrees with what the earlier researchers in prognosis found.

Eyster concluded from his study that prognosis applied to other high school subjects with approximately the same degree of accuracy as to shorthand. This indicates that the subjective method of counseling will eliminate some of the failures in shorthand. There was no evidence to the degree with which success can be predicted.

The Hoke Prognostic Test was determined the most adequate single instrument by which to predict shorthand success.

Summary for years 1940-1950:

Some researchers and writers of this period still found that correlations between IQ and success in shorthand are very low.

Anderson in her comprehensive study analyzed and classified 44 studies pertaining to shorthand prognosis. She reported that a number of investigators found English marks, scholastic achievement, and foreign language marks to be among the best measures found for predicting success in shorthand. She concluded that a number of factors should be used rather than a single factor.

Motive was introduced as a factor to be considered in predicting success in shorthand, and no test has been devised that will measure drive, desire, and need.

Summary for years 1950-1960:

A study was done at Bound Brook High School in New Jersey, in which the researcher concluded that typewriting should be used first as a supporting factor for predicting success in shorthand, ninth grade English second, and IQ third. Three-fourths of the Typewriting I students with a grade under 80 did poor work in shorthand. Only 2 out of

15 Stenography I students with an English grade below 80 developed an employable skill in shorthand. Only 30 percent of the students with an IQ below 100 did acceptable work in Shorthand II. When students made 80 or above in ninth grade English, their chances of doing well in Shorthand II was approximately 2 out of 3.

The Turse Aptitude Test appeared to have some reliability in predicting success in shorthand, but was of greater value in predicting success in Shorthand II than in Shorthand I. The total score seemed to be more reliable than individual scores.

We still do not have a factor or combination of factors that give a sufficiently high correlation to predict success or failure in shorthand; therefore, any willing student deserves the opportunity to try his abilities in shorthand.

Prediction is difficult because of the personal factors and intangibles that always enter into the picture and these factors cannot be measured effectively. Good grades are believed to be of value in predicting success in shorthand because they are indicative of good work habits which are necessary for achievement in shorthand.

Recommendations:

1. That researcher use more cases in conducting their studies.
2. That more studies be done on standard instruments which predict ability in shorthand.
3. That more research be done using several factors for predicting success in shorthand rather than single factors.

Abstractor's Comments:

1. The procedures used for collecting data for this study were not clear.
2. References for this study could have been found other than in the Business Education Index and the other method used.

3. Even though there may not be tests which will predict success in shorthand, there are factors that can be used in counseling students that can lower the failure rate. Some of these factors include scores on intelligence tests, English marks, scholastic averages, and Turse Aptitude Test.

4. Conclusions were not given in this study.

Abstract 207

Eleanor Tubbs, "A Study of How the Dictation Material in the Basic Gregg Shorthand Simplified Textbooks May Contribute to Job Competency" (unpublished Ed.D. dissertation, New York University, 1958), p. 138.

Problem:

The problem of this study was to analyze the dictation material in the basic textbooks in Gregg Shorthand Simplified in order to determine the extent to which this material may contribute to job competency.

Hypotheses:

1. "That a teaching plan can be developed whereby the dictation materials in the basic textbooks can be effectively utilized to improve the students' learning in the areas of general business and thereby improve the students' stenographic competency."

2. "That such a teaching plan can be successfully employed by the teachers of a vocational shorthand and transcription class so as to provide valuable learning experiences for the students in addition to fulfilling the primary skill-development purpose of such a class."

Procedure:

1. Using Freeman's report, Basic Business Education for Everyday Living, the writer compiled a list of 118 "Elementary Outcomes" and "Advanced Outcomes." With the aid of the list, six sources were analyzed to determine those concepts contained in each source. In this manner the investigator was able to determine the general business subject matter context.

2. Since the researcher determined that the Freeman list constituted a reasonable comprehensive presentation of generally accepted general business concepts, it was used as the criterion measure for determining the general business concepts contained in the dictation material of the four basic shorthand textbooks analyzed in this study.

3. As the textbooks were reviewed and analyzed, each word having a business or economic meaning was placed on a 3 x 5 card. The cards were then sorted according to categories indicated on the Freeman list. After rechecking the material, an alphabetical list was prepared according to the categories. The list contained a total of 803 words or terms.

4. The study further involved two groups of shorthand and transcription students. Both groups were advanced students. One was taught during the 1955-56 school year and the other during the 1956-57 school year.

5. Group I contained 18 students of average ability. No special attempt was made to select the students. This group of students was taught with no special emphasis being made to general business concepts.

6. Group II also contained 18 students of average ability. Also, no attempt was made to select the students. Near the end of the second semester, special emphasis was placed on selected general business concepts.

7. During the last two weeks of the semester, a criterion measure was used as a basis for comparing the two groups. The test was comprised of six letters, which were divided into two parts. The first part contained four letters and a total of 499 words. The second part contained two letters and a total of 502 words. All dictation was given at 80 words a minute. Forty-five minutes was allowed in each period for transcribing.

8. When the transcripts of the students were scored, 50 terms were selected for consideration.

Conclusions:

1. Since Group II revealed an improvement in transcription accuracy of 23.1 percent, it may be

concluded that the specially enriched procedures did increase the students' knowledge of general business. Therefore, this should improve job competency.

2. Although Group II showed an improvement over Group I, the improvement was not as great as the investigator thought it could have been, had the enriched procedures been used more effectively.

3. The investigator concluded that the use of these enriching procedures can be an effective part of the classroom procedure.

Abstractor's Comments:

1. In some instances, the conclusions were observations, tending to give personal opinions rather than facts.

2. The investigator did determine that Group II achieved higher levels than Group I; however, this difference was not tested statistically to determine the significance of difference.

3. The findings of the present study indicated a need for a more comprehensive study in this area.

Abstract 208

Elaine Francis Uthe, "An Evaluation of the Difficulty Level of Shorthand Dictation Materials" (unpublished Ph.D. dissertation, University of Minnesota, 1966), p. 234.

Problem:

"The problem of this study was to develop a multiple regression equation that would predict the number of errors a student would be likely to make in his shorthand notes when recording a shorthand dictation test."

Procedure:

1. The dictation materials used in this study were the 100 business letters constructed by Hillestad for use in her study. Each letter was 160 words long

and was sufficient in vocabulary to provide opportunities to include all the variable studies.

2. There were 35 variables used in this study. Those variables included were: syllabic intensity, one-syllable words, two-syllable words, three-syllable words, four- to six-syllable words, vocabulary level, brief forms in the 1-100 vocabulary level range, constructed words in the 1-100 vocabulary level range, words in the 1-100 vocabulary level range, words in the 1-500 vocabulary level range, words in the 501-1,500 vocabulary level range, words beyond the 1,500 vocabulary level range, sentence length, punctuation marks, typing stroke intensity, shorthand stroke intensity, shorthand stroke intensity on brief forms, shorthand stroke intensity on derivatives, shorthand stroke intensity in constructed words, brief forms, brief form derivatives, blends, oo hook, o hook, plurals, blend-past tense combinations, past tense (d or t only), past tenses (all), disjoined endings, joined endings, disjoined beginnings, joined beginnings, diphthongs, word beginnings, and word endings.

3. Using Hillestad's formula, three common letters were constructed. The scores made on the common letters would be used to eliminate differences between students, schools, or classes. These letters were described as "easy," "medium," or "difficult."

4. The 100 letters were pre-recorded on tapes and dictated at 80 words a minute. Three papers were randomly selected for each letter, making a total of 300 papers.

5. The common letters were used to compare groups by mean word error scores and mean shorthand error scores. No significant difference was found between the twenty-five groups; however, a significant difference was found at the 1 percent level between the varying difficulty of the letters. A correlation coefficient of .97 showed a strong relationship between counting the entire word as one error or counting each part as a separate error.

6. A stepwise regression computer program using the 35 variables was used to find the best predictor or predictors of word and shorthand errors at the 95 percent level. The selected predictors were then used in a correlation and multiple linear regression computer program to find the correlation coefficients of the variables to the error scores, the weighted regression coefficient of each selected predictor, and the predicted word and shorthand errors.

7. To validate the equation developed in this study, six letters were selected and dictated to four shorthand classes in one school. Three classes (Group A, B, and C) received dictation at 60 words a minute and Group D received the dictation at 80 words a minute. These classes were chosen because they were grouped according to ability. Group A was above average, Group B was average, Group C was below average, and Group D was also an average group.

Findings:

1. Those characteristics found in this study to predict errors made by fourth-semester high school students recording dictation at 80 words a minute in Diamond Jubilee were: brief forms, 1,500+ words, and endings. This equation had a correlation coefficient of .76.

2. The variable 1,500+ words appeared in the final equation developed both in this study and Hillestad's. However, the correlation coefficient of this variable with the word error scores was .77 in Hillestad's study and .69 in the present study.

3. Syllabic intensity was a part of the formula using Simplified shorthand, but was not included in the formula using Diamond Jubilee.

4. When the two shorthand systems were compared on overall error percentage, the error percentage increased from 9.09 percent in Simplified to 20.16 percent in Diamond Jubilee.

5. Brief form occurrences decreased from Simplified to Diamond Jubilee; however, the error percentage rose from 2.59 percent to 9.14 percent.

6. Although the occurrences of brief form derivatives remained fairly stable, the error percentage rose from 19.45 percent in Simplified to 27.23 percent in Diamond Jubilee.

7. The percentage of error for constructed words rose from 15.61 percent in Simplified to 28.76 percent in Diamond Jubilee.

8. Total errors writing brief forms increased sharply in the fourth level, 901 to 1,500 high frequency words. Otherwise, relatively few errors were made in writing brief forms when considering their frequency.

9. Brief form derivatives were nearly as high in error percentage as constructed words: 27.23 percent and 28.76 percent, respectively.

10. Error percentages in constructed words continued to rise in both Simplified and Diamond Jubilee from vocabulary level to vocabulary level. However, the percentage of error was higher at each level for Diamond Jubilee.

11. When the length of the word was considered, the error percentage increased about two and one-half times from one- to two-syllable words. There was a 10 percent error increase from two- to three-syllable words and three-syllable words were nearly triple that of one-syllable words.

12. On one, two, and three-syllable words, Diamond Jubilee writers made considerably more errors than Simplified writers. However, on four, five, and six-syllable words, error percentages tended to rise in Simplified but remained steady for Diamond Jubilee.

13. While joined endings accounted for more errors in Diamond Jubilee, disjoined endings accounted for more errors in Simplified. Plurals caused three times as many errors in Diamond Jubilee as in Simplified; whereas, errors in past tense dropped from Simplified to Diamond Jubilee.

14. Although errors made on beginnings decreased 4.52 percent from Simplified to Diamond Jubilee, errors made on endings increased by 4.83 percent.

Conclusions:

1. The difficulty level of materials can be classified into "easy," "medium," or "difficult" by means of the regression equation developed in the present study.

2. Diamond Jubilee writers made twice as many errors as Simplified writers; therefore, the revision of the text needs to be given serious consideration.

Recommendations:

1. The equation developed in this study should be tested on a larger scale in order to validate the

procedure for adjustments for length of dictation, the ability of the student, and the speed of dictation.

2. Research needs to be done to determine the classification of dictation materials to be used for transcription.

3. Shorthand teachers should stress all kinds of endings.

4. The increase in errors in brief forms from Simplified to Diamond Jubilee indicates a need for automatization of brief forms.

5. The fact that overall error percentage doubled from Simplified to Diamond Jubilee indicates negative results of the revised edition.

6. Overall error rate could be lowered by more brief forms and fewer words which have high error rates.

7. Testing materials and practice materials should be of comparable levels of difficulty.

Abstractor's Comments:

1. All shorthand teachers should be aware of the present study. These findings may be used very effectively in graduate and undergraduate methods courses.

2. Shorthand textbooks authors should take a serious look at the Diamond Jubilee revision.

Abstract 209

Mary Virginia VanKirk, "The Relationship between First-Semester Shorthand Success and Five Predictive Factors" (unpublished Master's thesis, The University of Southern California, 1960), p. 116.

Problem:

This study was conducted to determine the relationship between first-semester shorthand success and five predictive factors.

Procedure:

1. The students in four shorthand one classes at the Westchester High School in 1959 provided data for this study. Each of the classes was taught by a different teacher. Even though the methods, standards, objectives, and testing were similar in each class, no two teachers conduct their classes in exactly the same manner. The classes were numbered I, II, III, IV; each student within a given class was assigned a number; and the data for the four classes were tabulated separately.

2. Data for the study were gathered from the permanent records of Westchester High School. The grade made by each student in Shorthand I, the IQ score, and selected test scores from the Iowa tests provided data for making correlations. The parts taken from the Iowa tests included Test number 3, Test number 4, Test number 8, and the total score on Tests 1-8.

3. Correlations were made using the Spearman's Rank-Difference Correlation method. This method was chosen because the number of pairs was small.

Findings:

1. The correlation of coefficient between Intelligence scores and first-semester shorthand grades in the four beginning classes were Class I, .53; Class II, .41; Class III, .19; and Class IV, .57. This indicates a substantial relationship for Classes I, II, and IV; and a low correlation for Class III.

2. When analysis were made of IQ scores and shorthand grades, the following was revealed: (a) Nine out of ten students with an IQ of 110 or above averaged a grade of A, B, or C. (b) Four out of five students who had an IQ of 100-109 received a grade of A, B, or C. (c) Fifty percent of the students who had an IQ of 99 or below received a grade of A, B, or C.

3. The correlation of coefficient between achievement on Iowa Test number 3 (correctness of expression) and first-semester shorthand grades were Class I, .42; Class II, .56; Class III, .54; and Class IV, .66. These correlations indicate that a substantial relationship does exist.

4. Correlation of coefficients between achievement in first-semester shorthand and Iowa Test number 4

(ability to do quantitative thinking) were Class I, .49; Class II, .45; Class III, .62; and Class IV, .41. These correlations reveal a substantial relationship.

5. The correlation of coefficients between Test number 8 (general vocabulary) and first-semester shorthand grades were Class I, .42; Class II, .46; Class III, .28; and Class IV, .48. All indicated a substantial relationship except Class III and it indicates only a small relationship.

6. The first-semester shorthand grades and total tests scores on Test 1-8 showed correlation of coefficients as follows: Class I, .54; Class II, .48; Class III, .42; and Class IV, .60. These correlations revealed a substantial relationship.

Conclusions:

1. The correlations between Intelligence scores and grades in first-semester shorthand were not high enough to justify the use of IQ as a sole basis for predicting success in shorthand.

2. If a student has an IQ of 90 or above, their chances of making an A, B, or C grade is 8 out of 10, or 80 percent.

3. Those students who had the highest achievement scores had satisfactory marks of A, B, or C and a better-than-average IQ.

4. Those students who had IQ scores of 90 or below earned the lowest achievement scores and an unsatisfactory mark.

5. There is reason to believe that any one of the Tests can be used as a predictive factor for success in first-semester shorthand.

6. Test number 3, correctness of expression, and the total score of Tests 1-8 had the most reliable correlations.

7. Test 8, general vocabulary, was the least reliable as a predictor of success.

8. Since an extensive vocabulary is not necessary for achievement in first-semester shorthand, Test 8 might be more reliable as a predictor of success in shorthand beyond the first semester.

Recommendations:

1. The findings of this study indicate that students with an IQ of 90 or below will not succeed in shorthand and should be counseled out of the course.

2. Shorthand prognosis tests of the future should attempt to measure socioeconomic influences and personal attitudes.

3. Students who have a high absenteeism should not be encouraged to take shorthand.

Abstractor's Comments:

1. There are some discrepancies in the figures of this study, specifically those figures concerning page 83 which refer to table 16.

2. There are many tests that can be used for predicting success in shorthand. These tests are only tools in the hands of the craftsmen who use them. A testing program is costly, but can be worth the cost and effort if used properly.

3. If shorthand teachers and counselors will make use of the aids available to them, the shorthand failure and dropout rate could be lowered considerably.

Abstract 210

Leonard James Varah, "Effect of Academic Motivation and Other Selected Criteria on Achievement of First and Second Semester Shorthand Students" (unpublished Ph.D. dissertation, Michigan State University, 1966), p. 178.

Problem:

"The problem of this study was to determine the role of motivation in the student's shorthand achievement.

Hypotheses:

1. "Each predictor variable will indicate achievement of eleventh grade girls in first and second semester of Gregg Shorthand."

2. "The predictor variables as a group will predict achievement of eleventh grade girls in first and second semester of Gregg Shorthand."

3. "The Michigan M-Scales when combined with an aptitude measure will increase the precision of prediction of achievement for eleventh grade girls in first and second semester of Gregg Shorthand."

Procedure:

1. The sample for this study consisted of eleventh grade girls enrolled in first and/or second semester shorthand during the 1964-65 school year in eight cities in central and southern Minnesota. Only those students who had taken both tests and who had a complete transcript on file in the school office were included. This resulted in a sample of 177 students for first semester shorthand and 171 students for second semester shorthand.

2. The following data were gathered from each student: (a) estimate of mental ability, (b) grades for ninth and tenth grade English and overall grade-point average, and (c) a motivation score. These were considered the independent or predictor variables. The dependent variable was achievement in first or second semester shorthand taken from the teachers' records.

3. Mental ability was measured by the American Council Education Psychological Examination. The test is made up of four sections: sections 1 and 2 given a linguistic score, sections 3 and 4 give a quantitative score, and all sections combined give an estimate of mental ability.

4. The Michigan M-Scales was used to determine the motivation score. This test contains four subtests: (a) Generalized Situational Choice Inventory, (b) Preferred Job Characteristics Scale, (c) Word Rating List, and (d) Human Trait Inventory.

5. The data were placed on IBM cards and processed on the 3600 Computer. Three statistical computations were made: (a) estimate of reliability of motivation score, (b) mean test of significance, and (c) correlation analysis.

Findings:

1. First and second semester achievement, as measured by teacher grades, correlated significantly greater

than zero with grade-point average, ninth and tenth grade English, total score and subscores on the American Council Education Psychological Examination, total score on the Michigan M-Scales, and the Word Rating List.

2. The following produced a multiple correlation significantly greater than zero: grade-point, English grades, mental ability, and motivation score.

3. The following were the best predictors of success in first semester shorthand: grade-point average, ninth grade English score, tenth grade English score, and mental ability.

4. The following were the best predictors of success in second semester shorthand: grade in first semester shorthand, grade-point average, tenth grade English score, and mental ability.

5. When subscores of the Michigan M-Scales for Word Rating List or Human Trait Inventory, or the total score were added to the American Council Education Psychological Examination, the precision of this instrument was significantly increased for predicting shorthand success in first semester shorthand but not in second semester shorthand.

6. When the Quantitative score, a subscore of the American Council Education Psychological Examination, was combined with Word Rating List, the Human Trait Inventory, or the total score of the Michigan M-Scales, the precision of this instrument was significantly increased for predicting success in first semester shorthand. When the Quantitative score was combined with Word Rating List or the total score of the Michigan M-Scales, the precision of the instrument was significantly increased for predicting success in second semester.

Findings of the Hypotheses

1. Achievement in first semester shorthand was significantly predicted by each variable except Preferred Job Characteristics Scale. Furthermore, achievement in second semester was significantly predicted by each variable except Preferred Job Characteristics Scale, General Situational Choice Inventory, and Human Trait Inventory.

2. As a group, the predictive variables did significantly predict shorthand success in first and second semester shorthand.

3. When the Michigan M-Scales was combined with estimate of mental ability, the accuracy of the predicting instrument was significantly increased for first semester shorthand but not for second semester shorthand.

Conclusions:

1. The increase in precision of predicting shorthand success by combining Michigan M-Scales with mental ability was not sufficient to warrant its use.

2. Apparently, Human Trait Inventory and the Quantitative score were measuring different factors and, therefore, could be combined for predicting shorthand success.

3. Although personal characteristics, as measured by Human Trait Inventory, are learning factors for shorthand success in first semester, they are not learning factors for second semester shorthand.

4. The academic self-concept, as measured by Word Rating List, is a learning factor in both first and second semester shorthand.

5. Preferred Job Characteristics Scale and General Situational Choice Inventory are of little or no value in predicting shorthand success and, therefore, should not be used.

6. On the basis of the findings of this study, it was concluded that grade-point average is the best predictor used in this study followed by English grades. However, the correlation did not warrant its use as a single predictive measure.

7. Since the correlation coefficient between the brief form subscore and the transcription subscore was .0064, brief forms should not be included as a predictive measure for second semester shorthand.

8. The findings of the present study tend to indicate that different variables are needed to predict success in second semester shorthand than those used to predict success in first semester shorthand. Since first semester is of little or no value without second semester, criterion should be determined to predict success in second semester shorthand.

9. Although the correlations between achievement in shorthand and the Michigan M-Scale subscores were

higher for first semester shorthand than for second semester shorthand, neither was high enough to warrant the use of the M-Scales as a single predictive measure.

Recommendations:

1. Research is needed to develop a test similar to the Michigan M-Scales for measuring motivation of adults and business college students.

2. Research is needed to determine the effect that knowledge of brief forms and theory has on dictation and transcription achievement.

3. Research is needed to determine factors that will predict transcription success more accurately.

4. An analysis needs to be made to determine those activities that are unique to each semester in shorthand,,since the findings of this study tended to indicate that the activities differ from semester to semester.

Abstractor's Comments:

1. Factors, other than motivation, seem to have more influence on shorthand achievement in both first and second semester shorthand.

2. All shorthand teachers should be aware of the findings of the present study and they may be used in graduate and undergraduate methods courses.

3. The summary stated that the Quantitative score combined with Human Trait Inventory significantly increased the precision of the predicting instrument for predicting success in second semester shorthand. However, page 96 stated that the Quantitative score combined with Word Rating List or the total score on the Michigan M-Scales significantly increased the precision of the instrument for predicting success in second semester shorthand.

Abstract 211

Dorothy Mabel Wallace, "A Study of the Readability of Gregg Shorthand Textbooks from Shorthand Plates" (unpublished Master's thesis, The University of Southern California, 1960), p. 63.

Problem:

The problem of this study was to determine the readability level of a selected group of Gregg Shorthand textbooks as read from the shorthand plates.

Procedure:

1. Eight textbooks were selected for this study--four for the college level and four for the secondary level. Seven of these textbooks were the same as those used in Madrid's study (49b).

2. The samples chosen for the tests were the same as those used by Madrid in his study.

3. In the text Gregg Transcription for Colleges Simplified, 12 samples were also chosen. Each sample started with the second paragraph instead of the first and many of them went into the following letter in order to make 100 words.

4. The same formulas were used for determining readability level as used by Madrid--the Flesch "reading ease" Formula (21b) and the Robert Gunning "Fog Index" (33b).

Findings:

1. Gregg Shorthand Manual Simplified. The Gunning Index placed this text on the 11th grade level, but it was placed on the 10th to the 12th grade level by the Flesch formula.

2. Gregg Dictation Simplified. This text was rated as 12th grade reading by the Gunning formula, and 13th to 16th grade reading by the Flesch formula.

3. Gregg Speed Building Simplified. The Flesch formula indicated that this text was 13th to 16th grade reading, while the Gunning formula indicated that it was 13th grade reading.

4. Gregg Transcription Simplified. The Gunning Index rated this text as 12th grade reading, while it was rated as 13th to 16th grade reading by the Flesch formula.

5. Gregg Shorthand Simplified for Colleges, Volume I. The Gunning formula assigned this text to the 11th grade level, but it was assigned to the 10th to the 12th grade level by the Flesch formula.

6. Gregg Shorthand Simplified for Colleges, Volume II. This text was rated as 15th grade reading by the Gunning formula, while the Flesch formula rated the text as college graduate reading.

7. Gregg Speed Building for Colleges in Simplified. This book was assigned to the 14th grade level by the Gunning formula, and the 13th to the 16th grade level by the Flesch formula.

8. Gregg Transcription for Colleges. This text was assigned a reading level of 13th grade by the Gunning formula, and a reading level of 13th to 16th grade by the Flesch formula.

Conclusions:

1. The two formulas gave a similar reading grade level for each of the shorthand textbooks. However, in most cases, the texts were rated slightly higher by the Flesch formula.

2. The Gunning formula placed the shorthand texts from the 11th grade to the 15th grade levels, and the Flesch formula placed them from the 10th grade to the college graduate level.

3. Both of the formulas placed most of the books on the level where they belonged.

4. The two first semester textbooks were the easier to read.

5. The college textbooks were the most difficult to read, with one exception.

6. The percentage of hard outlines was the most important factor in the Gunning formula.

7. The number of syllables per 100 words was the most important factor in the Flesch formula.

8. Reading the books from the shorthand plates raised the reading levels of the textbooks.

Recommendations:

1. Continued research on the readability of shorthand texts from shorthand outlines.

2. That authors use readability formulas in the development of textbook materials.

Abstractor's Comments:

1. The seven books included in both this study and the Madrid study rated higher reading level in this study than in the Madrid study. This was most likely as a result of reading from the textbook shorthand plates.

2. This study is very closely related to the Madrid study, and shorthand teachers should be familiar with both studies.

3. The reading levels assigned to each textbook by both formulas were much closer in this study than in the Madrid study.

4. Shorthand textbook authors should most definitely consider readability index in the development of shorthand materials.

Abstract 212

Clay Damon Wallen, "A Follow-up Study of Notehand Students in the Secondary Schools of the Chico Unified School District" (unpublished Master's thesis, Chico State College, 1967 . p. 107.

Problem:

The problem of this study was to determine the effectiveness of the notehand course in the secondary schools of Chico.

Procedure:

1. A questionnaire was developed and submitted to the advisory committee for approval. To test the questionnaire it was administered to 10 Shorthand II students.

2. A list of those taking Notehand was compiled from the records of those teachers who had taught the course. A record was also made which contained the following information: whether Notehand was a separate course or taught with typewriting, number of periods per week, one or two semester course, time element of each period, and the composition of the class.

3. Questionnaires and a letter of transmittal were mailed to a total of 172 students who had taken Notehand from 1961 to 1965. Of these 172, 55 were from Chico High School, 32 were from Bidwell Junior High, and 85 from Chico Junior High. This group consisted of 108 girls and 64 boys, of which questionnaires were returned by 76 girls and 39 boys for a 66.9 percent overall return.

4. A critical analysis was made of the returned questionnaires to determine the value of Notehand to those who had completed the course.

Findings:

1. Of those who had graduated from Chico High School, 92.3 percent had enrolled in a four-year college or university; 11.5 percent enrolled in two-year schools or junior colleges, 7.7 percent a vocational school, and 3.8 percent went to a business college.

2. Notehand was reported as being useful by 50 percent of those who returned a questionnaire and had undertaken some type of higher education. Another 23.1 percent indicated that these skills were of little or no value.

3. Of those classes in which Notehand was used, the top three were history, English, and science, respectively. This was unusual since no vocabulary was given in science.

4. Twelve Notehand students also enrolled in shorthand. Seven believed that Notehand gave them a "head start;" four reported, good; and one reported, medium.

5. When typing and Notehand were offered

together, 38 percent indicated the time spent on Notehand was good, 28 percent said the time spent was medium or excellent. The time was considered adequate by 87 percent of the respondents.

6. Typing was considered insignificantly impaired by Notehand by 40.7 percent of the respondents, 27.8 percent indicated very little, 18.5 percent indicated partially, and 11.1 percent reported that typing was impaired very much.

7. When asked if Notehand was useful for library research, 31.3 percent said not used; 13.0 percent, very little use; 20 percent, medium; 23.5 percent, useful; and 12.2 percent extremely useful.

8. Of those responding, 11.5 percent said Notehand was very easy to learn; 38.2 percent, fairly easy; 29.5 percent, medium; 16.5 percent, difficult; and 4.3 percent, very difficult.

9. When asked if Notehand and personal use typing should be integrated or a separate course, 40 percent were in favor of Notehand being separated and 58.3 percent were in favor of the two courses being integrated.

10. Those students who had taken Notehand believed that students enrolling in Notehand should be average and above average; 48.7 percent and 41.6 percent, respectively.

11. Ninth grade was favored by 58.8 percent as the most appropriate grade for offering Notehand.

12. Of those responding, 71.1 percent indicated they would recommend Notehand to a younger brother or sister and 42.6 percent stated that Notehand had not fulfilled a need and improved their studies; 33.9 percent said yes; and 23.5 percent were undecided.

13. A majority of those responding, or 66.1 percent, favored Notehand being taught five-days-a-week, and 72 percent indicated that Notehand should provide greater opportunity for notetaking from lectures.

Conclusions:

1. A large percentage of those taking Notehand enrolled in institutions of higher education.

2. Notehand was believed to have given those students who enrolled in shorthand a head start.

3. Typing skills were not impaired when integrated with Notehand.

4. Notehand skills were considered medium to extremely useful in doing library research.

5. Generally, only average or above average students should enroll in Notehand and the most appropriate grade for offering Notehand is the ninth.

Recommendations:

1. A screening process should be used in selecting students for enrollment in Notehand.

2. Notehand and personal-use typing should be integrated for a full academic year. Notehand should be delayed until the keyboard has been learned.

3. This integrated course should be offered to ninth grade students in order for it to be utilized throughout high school and advanced education.

4. Daily instruction should be scheduled to give the course continuity.

5. Ample time should be allowed for notetaking from lectures and library research problems should be assigned.

6. Those students who plan to take shorthand in their junior year should not be denied the privilege of taking Notehand in the ninth grade.

Abstractor's Comments:

1. As the writer indicated, Finding number 12 in the abstract contains an inconsistency. Notehand would be recommended to another member of the family by 71.1 percent of those responding, while only 42.6 percent felt that the course had fulfilled a need.

2. In one place in Chapter VI the statement is made that 58.3 percent prefer Notehand being integrated with typing. However, in Table XXX, page 92, it is shown that an integrated course is favored by 51 percent.

3. Similar studies should be done in other school systems to determine the effectiveness of a

course in Notehand offered separately or integrated with typing.

4. Possibly a one-semester shorthand course would be just as valuable as Notehand if offered to average and above average students. Studies comparing the two may prove to be beneficial.

5. The conclusions and recommendations were summarized and not presented in total as in the report.

Abstract 213

Max LeRoy Waters, "An Experimental Study of Programmed Homework" (unpublished Ed.D. dissertation, Colorado State College, 1963), p. 126.

Problem:

The study was conducted to determine the extent to which shorthand learning can be accomplished at home through programmed homework.

Procedure:

1. This study was conducted at Brigham Young University during the 1962-63 school year. The writer and one other teacher taught all the classes used in this study. The classes were known as Business Education and Office Management 112, Intermediate Shorthand, with classrooms equipped with typewriters.

2. Each student was required to buy a copy of the text Gregg Shorthand Simplified for Colleges, Volume II, Second Edition and a copy of the programmed homework materials Worksheets and Dictaprint Skill Improvement.

3. The 80 class periods were 50 minutes each. During this time, 76 lessons were covered. There were four classes involved in the study during the fall semester and two classes during the spring semester.

4. The students were assigned to predetermined experimental and control classes by a table of random numbers and the high school grade-point averages were compared to verify the random placement of students. All students were screened so that only students having had one or two years of previous shorthand were included in the experiment. The first pair of classes contained

28 students each. In the other two classes in the fall term, the control class had 25 students and the experimental class had 28 students.

5. The spring experiment was to check the reliability of the findings in the fall semester. There were 27 students in the control group and 33 in the experimental group. All groups, both fall and spring, had an equal number of students with one or two years of previous high school shorthand.

6. The control groups were assigned homework in the traditional manner; whereas, the experimental group used programmed homework materials.

7. All class activities were prepared on magnetic tape to make certain all variables were controlled. These tapes were designed to test the student's ability to retain and reproduce material studied in homework.

8. The experimental group and the control group were taught at the same time from the tapes. The last six minutes of the control group was used by the instructor to present vocabulary for homework practice. During this time the experimental group continued taking dictation from tapes, since their homework was from programmed materials. Amount of time spent on homework was recorded for all groups.

9. Instruction sheets were given to both groups describing in detail the plan they would follow in preparing homework assignments.

10. Students were given pre-tests and post-tests to determine the gain made by each student.

11. Three-minute tests at 100 words a minute were prepared on the basis of the prediction equation of difficulty of dictation material reported by Mildred C. Hillestad (37b). The tests were checked for validity by giving them to 37 students who were not a part of the study. The tests were scored on total words transcribed. Punctuation and spelling were not evaluated.

12. Statistical calculations were made of the findings in this study. Those calculations made included correlation of coefficients, "t" tests, and analysis of covariance.

Findings:

1. The experimental and control groups were not found to be significantly different in ability. When the analyses of covariance were applied, the F-ratio for the fall group was found to be 1.775 and 1.601 for the spring groups.

2. The scores of the 37 students in the pilot study produced the following correlation of coefficient on the three dictation tests: tests 1 and 2, .95; tests 1 and 3, .90; and tests 2 and 3, .90. These correlations indicate that these tests are reliable in predicting students' ability to write shorthand and transcribe dictation.

3. When scores were averaged and compared on the amount of time devoted to homework practice, a t-ratio of 1.62 showed no significant difference at the 5 percent level of confidence between the fall experimental and control groups. The spring semester showed, however, a real significant difference with a t-ratio of 2.53. The greater amount of time was spent by the control group.

4. The analysis of covariance computed for the control and experimental groups during the fall and spring semesters showed that the experimental groups generally made higher gains than did the control groups. The difference was significant at the 5 percent level of confidence. Those students in the experimental groups with one year of previous high school instruction made significantly higher gains than did the control students. (The students having two years of previous high school instruction tended to learn at about the same rate.)

5. The spring semester experimental group achieved significantly higher gains in spite of the fact that a significantly greater amount of time was spent on homework preparation by the control group.

6. Student evaluation reports indicated that the programmed materials aided them greatly in learning new outlines and in writing faster. Some negative comments were expressed concerning the classroom tape instruction. A few students felt the homework assignments were too long. The average time for all students in the experimental group was 103 minutes per lesson.

Conclusions:

1. The gains made by the experimental group were

significantly higher than those of the control group. The programmed homework accelerated the progress of the students having had one year of previous high school instruction more than those having had two years of previous instruction.

2. New vocabulary can be presented and studied at home through programmed materials helping meet individual differences of students to concentrate on problem areas.

3. The homework lessons can be adequately tested and practiced for reinforcement with the use of taped classroom instruction.

4. Students have immediate feedback with the use of programmed homework. The students are further rewarded when they are able successfully to record the previous assignment.

Implications of this Study:

1. Increased enrollment may be possible through taped instruction and programmed homework materials.

2. Instructional tapes may be made at varying speeds to help provide for individual differences both at home and in the classroom. Students would need to be divided into groups or multi-channel dictation equipment used.

3. Taped instruction should enable teachers to supervise more than one shorthand class at a time and give the teachers more time to counsel students.

4. With the use of the Hillestad formula and other such instruments, tests may be constructed for greater validity and higher reliability than at present. Thus, more time could be spent in teaching and less time testing.

5. College students may be able to acquire greater skills in less time through the use of programmed homework than through traditional methods. This would give them additional time to spent taking academic courses.

6. Through the use of programmed instructional materials, more home-study courses may be possible.

7. These programmed instructional materials may benefit offerings in adult education.

8. If programmed homework materials become economically unfeasible to publish, students could prepare parts of the materials for personal use.

Recommendations:

The following recommendations were made for other pertinent research:

1. To determine the results of a similar study of programmed materials in first and second year high school shorthand classes.

2. To determine the type of homework devices that would be effective for second year high school students entering the college program.

3. To determine the significance of varying the sequence of learning activities on reinforced learnings.

4. To determine whether other skills can be taught effectively with the use of programmed materials.

5. To determine the most significant learning principles that affect programmed learning.

6. To consider research that will determine the optimum number of shorthand classes one teacher can supervise through the use of taped instruction and programmed homework.

7. To determine at what levels shorthand programmed procedures could be most effective and efficient.

Abstractor's Comments:

1. The writer stated in the findings that the null hypotheses that the high school grade-point averages among the experimental and control groups were not significantly different were retained. However, the abstractor did not find where this hypotheses were ever stated for acceptance or rejection.

2. Implications for the use of taped instruction and programmed materials are given in the study.

3. These materials are to be used as teacher aids only if the teacher can effectively use them. This statement is true, however, with all teacher aids.

4. The poor teacher rightfully fears his replacement by taped instruction, programmed materials, and other media. In contrast, the good teacher will plan and use these aids to become more effective and efficient.

Abstract 214

Betsy Lyon Watson, "Construction and Evaluation of Mailable-Letter Material for Teaching and Testing in Advanced Shorthand Classes" (unpublished Master's thesis, The University of Tennessee, 1964), p. 170.

Problem:

The problem of this study was to construct and evaluate mailable-letter material to be used in teaching and testing selected uses of punctuation, capitalization, and numbers according to an organized plan for the inclusion of rules.

Procedure:

1. There were 24 practice letters and 24 test letters constructed from original letters obtained from secretaries in offices in Knoxville, Tennessee. The syllabic intensity of these letters ranged from 1.40 to 1.79. The final letters included seven rules for commas, one rule for dashes, two rules for capitalization, and six rules for expression of numbers. The letters were selected from the areas of banking, medicine, municipal government, office services, personnel placement services, and retail business.

2. Six handbooks were used in selecting the 16 rules. Each rule for punctuation and capitalization was agreed upon by at least three of the four reference books. Rules for numbers were agreed upon by at least two of the four reference books.

3. The final letters were placed according to content into six groups of eight letters each--four practice letters and four test letters. The groups were planned so that the practice letters and test letters contained similar vocabularies. No specialized terms were given in the test letter that were not included in the practice letter.

4. Three types of rules were included in the letters: old rules, new rules, and review of new rules.

Each old rule was used at least once in a practice letter before it was included in a test letter. The number of usages of old rules varied from 50 to 5, with the median being 17. Each practice letter and each test letter contained a minimum of 3 old rules and a maximum of 10. The plan for including the new rules was to include the new rule in three of the four practice letters of the group in which the rule was presented. Each new rule was reviewed at least once in the four practice letters and at least once in the four test letters of the group which immediately follows the presentation of the new rule. Each new rule was used a minimum of twice after the initial review. The number of usages of new rules, presentation and review varies from 7 to 26, with the median being 11. Fifteen old rules and 16 new rules were dealt with in this study.

5. After the practice and test letters had been constructed, pre-test and post-tests were prepared. They were constructed in order to include all new and old rules used in the study. There were 47 rules included in both tests--23 new rules and 24 old rules. The pre-test was given before the new rules were introduced, and the post-test was given after completion of all practice and test letters.

6. The materials prepared in this study were tested during the spring quarter of 1964 in an advanced shorthand class at the University of Tennessee. The class was taught by Miss Elsie Davis, Professor of Business Education. There were 26 students involved in the project.

7. Three types of analyses were made. First, an analysis for usage of each new rule on the initial presentation was made on the practice and test letters, and the first and last usages of each new rule were analyzed. Second, a comparison was made between the pre-test and the post-test to determine the number of usages of each old rule and each new rule. Third, an item analysis was made on each item in each test letter that was transcribed by at least 20 students. The item analysis was made only on the new rule items and the other factors not involving punctuation, capitalization, and expression of numbers.

Findings:

1. In the test letters 57.1 percent of the new rules were used correctly over 90 percent of the time;

whereas, only 42.8 percent of the new rules were used correctly over 90 percent of the time in the practice letters. Of the new rules, six were used correctly less than 75 percent of the time in the practice letters, and only two of the rules were used correctly less than 75 percent of the time in the test letters.

2. There was a higher percentage of correct usage by 13 of the 21 new rules in the test letters than in the practice letters. One rule was used correctly the same number of times in both the practice and test letters. There were seven of the rules that were used correctly fewer times in the test letters than in the practice letters.

3. All of the new rules except two increased in the percentage of correct responses from the first test to the last test usage of a new rule. Those two rules had the same percentage of correct responses on both the first and the last test.

4. The percentage of correct responses increased from the pre-test to the post-test on 14 of 20 new rules, 4 rules decreased in correct response, and 2 rules had the same percentage of correct responses on both the pre-test and the post-test.

5. The percentage of correct responses increased from the pre-test to the post-test on 8 of 15 old rules, 4 old rules decreased in the percentage of correct responses, one rule had the same percentage of correct responses on both the pre-test and the post-test.

6. According to difficulty and discrimination index standards, 5, or 6.9 percent, of the new rule items met the standards for difficulty and discrimination. The discrimination index standards were met by 7, or 9.7 percent of the 72 new rule items; and the acceptable difficulty index was met by 14, or 19.4 percent, of the 72 new rule items.

Of the 18 items not intended to be measured, 44.4 percent met both standards for discrimination and difficulty.

7. Other factors not intentionally put in the letters entered into the measurement in all but 4 of the 16 letters. These other factors seemed to have the greatest discrimination power and lowest difficulty indexes.

Conclusions:

1. The plan used in this study for including the three sets of rules (old rules, new rules, and review of new rules) seems a satisfactory method of teaching selected rules. The review of the rules seems to be as important as the presentation in improving rule usage.

2. If the plan is to be ideal, it should provide for possible changes as the class progresses and not according to a rigid time table. Relative difficulty was not provided for in the plan, since 42.8 percent of the new rules were used correctly over 90 percent of the time in the practice letters. There are certain disadvantages in having an organized plan for including each rule an equal number of times.

3. The selected usages of punctuation, capitalization, and expression of numbers are only one measure of difficulty in transcription.

4. Production tests can be developed in advanced transcription which contain both discrimination power and reasonable difficulty.

Recommendations:

1. These test letters should be revised to include items which have discrimination and difficulty indexes that fall within the accepted range.

2. After revision, these letters should be used in an experimental class and analyzed again to determine their effectiveness.

3. Additional letters should be added to the group which incorporate other rules of punctuation, capitalization, and expression of numbers that would require the use of reference manuals.

4. Studies should be made of application of certain rules to determine relative difficulty.

5. Further experimental studies are needed using similar letters and varying the number of usages included for each class to determine the relationship between (a) the number of errors made and the number of rules presented, (b) the number of usages in a given letter and the number of correct responses, (c) the order of

presentation of rules and the number of errors made,
(d) the number of errors made in certain usages and the
agreement or disagreement on that rule usage in secre-
tarial and English handbooks.

Abstractor's Comments:

1. These materials would be valuable for testing
some of the essential components in a mailable letter, namely,
punctuation, capitalization, and expression of numbers.
However, before these materials can become valuable to
shorthand teachers they should be published for use.

2. The procedures were scattered throughout the
study and, therefore, made abstracting the study difficult.

3. In one place the statement is made that an
item analysis was made in each letter transcribed by at
least 20 students. However, in another place the writer
stated that an item analysis was made only on the new
rules and factors not involving punctuation, capitaliza-
tion, and expression of numbers.

4. The findings of this study would have been
more valid had the materials been tested on more students.

Abstract 215

George Watto, "Performance of Trainees in an
Intensive In-Service Training Program in Beginning
Shorthand and Transcription" (unpublished Ed.D. disser-
tation, Indiana University, 1963), p. 335.

Problem:

The problem of this study was to make a study of
the way trainees perform in a specially prepared intensive
in-service training program in beginning shorthand and
transcription.

Procedure:

1. This study included the following three groups
of characteristics: (a) general characteristics (mental
maturity, reading comprehension, listening comprehension,
and personality); (b) competent stenographic skills

(knowledge of basic English, shorthand skill, and typewriting skill); and (c) qualitative characteristics (ability to comprehend and retain shorthand, transcription, typewriting, and related skills of stenography; character; attitude; and industry).

2. A battery of tests were administered to obtain data of a quantitative nature. The data of a qualitative nature were gathered by observation, interviews, and analysis of the daily work of the trainees.

3. Final achievement and growth achieved by the trainees was measured in five areas as follows: (a) knowledge of shorthand theory, (b) shorthand recording speed, (c) accuracy of transcription, (d) straight copy typewriting speed, and (e) production typewriting speed. Various tests were administered throughout the final unit of instruction and upon completion of the course in order to obtain the desired data.

4. An interview guide was developed and constructed to obtain the desired information pertaining to the following: (a) amount, quality, and method of homework; (b) effect of the training on the trainees; and (c) attitude of the trainees toward the course.

5. Although some of the data did not require any special treatment, other data did. Because of the background of the students, a formula for comparing growth in various parts of the skill was necessary. The formula developed for use contained weighted growth scores for knowledge of shorthand theory, recording speed in shorthand, accuracy of transcription, and typewriting speed from production and straight copy.

$$\frac{F - I}{ETG - I} = WGS$$

F = level of final achievement

I = level of achievement at outset of course

ETG = established terminal goal

WGS = weighted growth score

The selection of the terminal goals was the most difficult part in developing the formula. After consulting with members of the faculty of the Department of Business Education and Office Administration at Indiana University, the following terminal goals were set: knowledge of shorthand theory, 100 percent; recording speed in shorthand, 120 words a minute; accuracy of transcription,

100 percent; straight copy typewriting speed, 70 net words a minute; and production typewriting speed, 40 standard words a minute.

6. Using the special formula, growth may range from 100.00 through zero to infinity. A score of 65.51 or above was considered superior; 55.51 to 65.50, above average; 45.51 to 55.50, average; 35.51 to 45.50, below average; and 35.50 and below, deficient.

7. The Mann-Whitney, nonparametric statistic, was used to determine the relationship of the two primary bodies.

8. Of the 30 persons accepted into the special program, 26 finished the course. Since there were incomplete data on 4 of those completing the course, 22 were included in the present study.

Findings--Selected Characteristics:

1. Those mental maturity factors which the group was average on were: verbal concepts, spatial relationships, logical reasoning, numerical reasoning, total language data, and total mental data. The group was below average on total nonlanguage data.

2. Those personality factors which the group was above average on were: introversion-extroversion and sociability. The group was average on neurotic tendency, self-sufficiency, dominance-submission, and self-confidence.

3. The upper third of the group was superior on introversion-extroversion; above average on neurotic tendency, self-confidence, and sociability; and average on dominance-submission and self-sufficiency.

4. The lower third of the group was average on sociability; and below average on neurotic tendency, self-sufficiency, introversion-extroversion, dominance-submission, and self-confidence.

5. As a whole, the group was average on both speed and level of reading comprehension.

6. As a whole, the group was above average on listening comprehension.

Findings--Competent Stenographic Skills:

1. As a whole, the group was average on usage, spelling, vocabulary, and total English; and the characteristic, knowledge of basic English.

2. As a whole, the group was average in ability to type from straight copy, but was deficient in ability to do production typewriting.

3. As a whole, the group was below average in knowledge of shorthand theory and deficient in shorthand recording speed.

Findings--Qualitative Characteristics:

1. As a whole, the group was average on ability to comprehend and retain shorthand, transcription, and related skills; character; attitude; and industry.

2. The upper third of the group that achieved the highest skills growth was average on all qualitative characteristics.

3. The lower third of the group that achieved the lowest skills growth was average on character and attitude; and below average on ability to comprehend and retain shorthand, transcription, and related skills and industry.

Findings--Final Achievement:

1. The upper third of the group achieved as follows: average knowledge of shorthand theory, 91.57 percent; average shorthand recording speed, 87.62 words a minute; and transcription accuracy, 98.74 percent; transcription speed, 58.18 net words a minute; and average production typing speed, 26.69 standard words a minute.

2. The lower third of the group achieved as follows: average knowledge of shorthand theory, 79.14 percent; average shorthand recording speed, 73.33 words a minute; average transcription speed, 14.77 standard words a minute; average transcription accuracy, 97.54 percent; average straight copy typing speed, 38.55 net words a minute; average production typing speed, 16.19 standard words a minute.

3. The upper third showed the following average raw growths: shorthand theory knowledge, 51.71 percentage points; shorthand recording speed, 62.38 words a minute; transcription accuracy, 2 percent; straight copy typing speed, 13.99 net words a minute; and production typing speed, 16.38 standard words a minute.

4. The lower third of the group showed the following average raw growths: shorthand theory knowledge, 37.14 percentage points; shorthand recording speed, 43.33 words a minute; transcription accuracy, .90 percent; straight copy typing speed, .03 net words a minute; and production typing speed, 6.29 standard words a minute.

5. When ranked according to total skill growth, the upper third did not differ significantly from the lower third on mental maturity, reading comprehension, or listening comprehension. However, the two were significantly different on neurotic tendency, introversion-extroversion, self-confidence, and sociability.

6. When ranked according to total skill growth, the upper third did not differ significantly from the lower third on knowledge of basic English, typewriting, or shorthand. However, they did differ significantly on ability to comprehend and retain shorthand, transcription, and related skills; character; attitudes; and industry.

Conclusions and Observations:

1. Those factors which distinguished between the upper third and the lower third were: personality factors of neurotic tendency, sociability, self-confidence, and introversion-extroversion; and qualitative characteristics of ability to comprehend and retain shorthand, transcription, and related skills; character; attitude; and industry.

2. Those in the upper third were well-balanced emotionally, if the Bernreutic Personality Inventory is valid and reliable; whereas, those in the lower third tended to be emotionally unstable.

3. Those in the upper third were those who were above average on qualitative characteristics; whereas, those in the lower third were below average on the qualitative characteristics.

4. Those in the upper third achieved superior growth in knowledge of shorthand theory, shorthand recording speed, accuracy of transcription, and straight copy typing speed. Growth was considered average on production typing speed and final transcription speed.

5. Those in the lower third were above average on knowledge of shorthand theory; average on shorthand recording speed; below average on accuracy of transcription and deficient on production typing speed and straight copy typing speed. They were also average on final transcription speed.

6. "There was a perfect correlation between the order of instruction emphasis placed on various stenographic skills factors and the amount of growth acquired on each during the training program."

7. The observation was made that although the group was average in most respects, superior growth was achieved on knowledge of shorthand theory and average growth was achieved on shorthand recording speed.

8. A further observation was made that those entering the program with previous stenographic skills reached employable levels more rapidly than those not having the prior knowledge.

9. As a whole, the group achieved an average level of growth during the program.

10. The mean level of growth achieved by the upper third was superior as compared to below average for the lower third. Furthermore, the growth level of the upper third was almost double that of the lower third.

Abstractor's Comments:

1. Of special note is that the subjects in this study covered in 90 hours what is normally covered by a high school class in 270 hours.

2. This study indicates that more can be taught in less time if we are willing to put forth extra effort.

3. No recommendations were made in this study.

Abstract 216

Marie Whittle, "The Relationship Between Certain Variables and Achievement in Beginning Shorthand at the University of Texas" (unpublished Master's thesis, The University of Texas, 1959), p. 109.

Problem:

The problem of this study was to determine the value of certain selected variables in predicting shorthand achievement in beginning shorthand classes in the college of business administration at The University of Texas.

Procedure:

1. The subjects for this study were 70 students enrolled in beginning shorthand at The University of Texas during the school year 1958-1959. This group consisted of two sections--one taught in the fall and one during the spring. These two sections of shorthand were taught in the morning for one hour by the same teacher, using the same textbook, teaching method, classroom procedures, and testing procedures.

2. Four of the students withdrew from school, for reasons not related to shorthand, three dropped shorthand, and three were not included because of having had shorthand training in high school; therefore, this number was reduced to 60 for the final analysis.

3. No other attempts were made to select the students in the two groups.

4. The classes included seniors, juniors, sophomores, and freshmen from four states, consisting of 58 girls and 2 boys ranging in age from 17 to 27.

Criterion

1. The assumption was made that the grade made by each student in the first semester of shorthand would provide an adequate measure of achievement. Also assumed was that a student has not attained success unless he can take dictation and transcribe his notes clearly.

2. Goals were set up along the way for the students to reach. As each goal was reached, the students were graded on their ability to meet the requirements for that particular step.

3. To obtain the final achievement grade, a performance test was given in which the students recorded in shorthand new matter material of average difficulty dictated at 70 words a minute for three minutes. Two takes were given and either could be transcribed. The following scale was used for recording the takes:

97-100 per cent	A
94-96	E
90-93	C
85-89	D
Below 85	F

4. At the beginning of the study the writer assumed that a 70-word-a-minute dictation was not too much to expect from first-semester shorthand students. When 14 of the 31 students scored 98 percent on the final test, the writer assumed that some of these same students could have taken the dictation at 80 words a minute. The second group of students was given an opportunity to check their speed at 80 words a minute. Eight of the 29 achieved this speed with 97 percent accuracy.

The Variables

1. The variables chosen for use in this study were:
 - a. High school grades
 - Average English grade
 - Foreign language grade
 - General scholastic average
 - Subject or subject, with highest grade
 - Subject or subject, with lowest grade
 - b. Attendance record in high school
 - c. Quarter rank in high school graduating class
 - d. The University of Texas Admission Test score
 - Verbal
 - Numerical
 - Total
 - e. The University of Texas English Placement Test
 - f. IQ Score
 - g. Reason for electing shorthand

2. A discussion of these variables and the reason they were selected were also given in this study.

Collection and Treatment of the Data

1. The data for this study were obtained from the following sources:

- a. A questionnaire to the principal of the high school where the student graduated.
- b. The testing and counseling center of The University of Texas.
- c. A questionnaire filled out by the student.
- d. Shorthand records of these students at the University of Texas.

2. The data were analyzed and interpreted with the use of tables.

3. Coefficients of correlation were computed between the variables which had the highest relationship to shorthand and the shorthand grades of the students.

Findings:

1. Students who make an A or B grade in high school English have a 70 percent or better chance of making a C or higher grade in shorthand. However, students who made C in high school English have about a 40 percent chance of making a C or higher in shorthand.

2. As the grade in foreign language decreases, the chances of failing shorthand increases. However, this variable is not too reliable in predicting success in shorthand because of showing the least relationship with shorthand, with a coefficient of correlation of .200.

3. The relationship of high school grade average to shorthand achievement is not high enough for prediction, but does indicate a trend.

4. High school subject or subject, with the highest grade and high school subject or subject, with the lowest grade did not follow a pattern which would be of value in predicting shorthand achievement.

5. Students ranking in the first and second quarter have a better chance of being a success in shorthand than those students ranking in the third and fourth quarter.

6. The verbal or numerical scores on the University of Texas Admission Test would have little, if any, reliability as an instrument for predicting success in beginning shorthand. The total score could be used with reservations in predicting success in shorthand.

7. IQ scores are not very reliable instruments in predicting success in shorthand.

8. Students who have definite vocational goals are more likely to achieve in shorthand than those who do not.

9. The Cooperative Inter-American Test of Reading, Comprehensive score was found to have some value in predicting success in beginning shorthand. However, they should be used with discretion.

10. The English unit Examination Test score could be used as an indication, but not as an accurate predictor of success in shorthand.

11. The following coefficients of correlation were found:

University of Texas Admission Test	
Score, Total	.759
High school grade average	.586
English Unit Examination Total Score	.501
IQ	.423
High school English average	.377
High school Foreign Language	.200

Conclusions:

1. The actual grade a student will make in shorthand cannot be predicted. However, it might be possibly be predicted, with a limited degree of accuracy, whether the student will make A, B, C or whether he will make D or F.

2. General scholastic averages on high school grades, with a coefficient of correlation of .586, bears the closest relationship to shorthand achievement of any of the single high school grades investigated.

3. The University of Texas Admission Test score, Total, having a coefficient of correlation of .759, is the best measure investigated in this study for predicting success in shorthand.

4. The English Unit Examination with a correlation coefficient of .501 would be of some value as a third factor in predicting success in beginning shorthand.

5. The IQ score as it was used in this study would have no value as a predictor of shorthand achievement.

6. As a result of such factors as social adjustment, health, study habits, motivation, emotional matter, and other activities competing for the student's time there is no single measure by which success in shorthand can be predicted.

Recommendations:

1. That no student be excluded from taking shorthand on the basis of the findings of this study.

2. Four factors be considered when advising students whether or not to take shorthand: the high school grade average, the scores on The University of Texas Admission Test, Total, The English Unit Examination, and the student's reason for taking shorthand.

3. If the student's high school grade average is less than B and if his score on the tests mentioned above is less than 80, he should be advised of the requirements of the shorthand course and the type of work necessary for success in the course.

4. That these scores be obtained by the shorthand teachers at The University of Texas to aid them in guiding the students in the classroom.

5. That shorthand teachers use every motivating device possible since much of the student's success will depend on the effective leadership of a motivated teacher.

6. This study be repeated using a larger population.

7. Follow-up study of these students be made to determine their success in the shorthand course or courses that followed.

8. A follow-up study be made to determine the extent to which these students were able to use their shorthand skill in meeting job requirements.

Abstractor's Comments:

1. This study is of more value to the shorthand teachers of The University of Texas; however, it has implications for other shorthand teachers as well. It could perhaps be used as a guideline in developing one's own methods of predicting shorthand success.

2. As the author indicated, more research of this nature needs to be made. Better methods of predicting success in beginning shorthand are needed to reduce the dropouts in shorthand.

Abstract 217

Mary Nell Wilkes, "An Annotated Bibliography of Selected Researches Dealing with Methods of Teaching and Materials for Instructions in Shorthand and Transcription, January 1, 1946-December 31, 1957" (unpublished Master's thesis, University of Colorado, 1961), p. 301.

Problem:

The problem was to study the research pertaining to methods of teaching and materials for instruction in shorthand and transcription during the period of January 1, 1946 to December 31, 1957.

Procedure:

1. A list was prepared of the research pertaining to methods of teaching and materials for instruction, with the aid of the Business Education Index and The National Business Education Quarterly.

2. Those studies selected were obtained through the Library Exchange Plan at the University of Wichita Library. Short summaries were made from abstracts in professional periodicals for those studies that could not be obtained through the Library Exchange Plan.

3. As each thesis was received, it was carefully read and summarized, and comments were made.

Recommendations:

These recommendations were made from the findings of this study:

1. That the findings of the University of Tennessee studies concerning infrequently-used brief forms and abbreviating devices be used as a basis for preparing supplementary materials.

2. That the findings of the studies dealing with punctuation usage and giving supplementary drills for use in the shorthand classroom be published so that they can be made available to shorthand teachers.

3. That experimental studies be made with adequate samples to determine the relative effectiveness of different methods of teaching Gregg Shorthand.

4. Further research needs to be made in which dictation materials in shorthand dictation books are modified according to a plan for teaching punctuation usage.

Abstractor's Comments:

1. A summary was given of each thesis included in this study. It included a complete bibliography reference, a summary giving information about the study, and comments made by the researcher of this study. Summaries were included in this study for 37 studies related to materials for instruction and methods of teaching in shorthand. A partially-annotated bibliography was then presented containing an additional 54 studies. There were 32 references in the bibliography that were neither summarized or annotated. This made a total of 123 references related to instructional materials and shorthand methods.

2. The study was delimited and was not intended to be exhaustive. No doctoral dissertations were included.

3. The study could be used very effectively in an undergraduate shorthand methods class and perhaps in an improvement of instruction course in shorthand.

4. A chapter giving a summary of the findings of this study would have added to the study.

Abstract 218

Shirley Ann Wiseman, "An Analysis of the Relationship Between Writing Ability and Oral Reading Ability in Shorthand" (unpublished Master's thesis, Brigham Young University, 1967), p. 82.

Problem:

The problem of this study was to determine the relationship that exists between students' ability to read shorthand plates and their ability to write shorthand notes from dictation, which can be transcribed readily and accurately.

Procedure:

1. Seven high school advanced shorthand classes in Salt Lake and Utah counties participated in the study during February, March, April, and May, 1967. Class size ranged from 17 to 31 students for a total of 143 students. However, 46 of the original 143 missed one or more of the tests and were eliminated. Of the 143, 97, or 68 percent, were included in the final analysis.

2. Reading and writing tests were administered by the investigator three days a week for four straight weeks. Reading tests were given the first and third weeks; the writing tests were given the second and fourth weeks.

3. The reading tests checked the reading rate of the students for one minute on shorthand plates. The reading scores were determined by the number of correct words read in one minute.

4. The dictation tests were dictated at speeds ranging from 70 to 110 words per minute. Each speed was dictated for 40 seconds and each test was three and one-third minutes long. One dictation test was given each testing day. The dictation tests given the second week were transcribed immediately following the dictation; whereas, the dictation tests given the fourth week were not transcribed until the next day. The score for each writing test was based on the percentage of total dictation accurately transcribed.

5. The reading and writing tests were all taken from the text Shorthand Dictation Studies, Third edition; and all tests contained a syllabic intensity of 1.4. The first dictation tests were labeled Writing Tests I-A, I-B, and I-C; the second dictation tests were labeled Writing Tests II-A, II-B, and II-C.

6. After all testing had been completed, each student had one reading score and two writing scores. Correlation coefficients were then computed between these scores for the total group. The Pearson product-moment method was used for determining these correlations.

Findings:

1. A correlation coefficient of .712 was computed between reading rates and writing scores on transcription done immediately following dictation.

2. The relationship between reading scores and writing scores on transcription done from cold notes revealed a correlation coefficient of .757.

3. The relationship between writing scores on transcription done immediately following dictation and the transcription done from cold notes revealed a correlation coefficient of .881.

Conclusions:

1. Ability to read shorthand plates seems to bear a close relationship to ability to write shorthand notes and accurately transcribe.

2. Ability to read shorthand plates also seems to have a close relationship to ability to transcribe from cold notes.

3. Students who do well on transcription immediately following dictation also tend to do well on transcription from cold notes.

4. Although there is a close relationship between ability to read and ability to write shorthand, it is not known whether achievement in one influences achievement in the other.

Recommendations:

1. Since strength in writing accompanies strength in reading, shorthand teachers should stress reading in shorthand.
2. A similar study should be conducted at the college level.
3. A study is needed exploring the value of ability to read shorthand as a factor for predicting success in beginning shorthand.
4. Research needs to be conducted to determine whether a cause-effect relationship exists between reading ability and writing ability in shorthand.

Abstractor's Comments:

1. This study tends to add validity to Leslie's theory of teaching shorthand by the reading approach.
2. A similar study is needed comparing two groups of students, one being taught by the reading approach and the other being taught by the writing approach. Anxiety might also be reduced if both groups were taught and tested by the same person.
3. More studies are needed in this area of shorthand before sound conclusions can be drawn.

Abstract 219

Ellen M. Wright, "A Summary of Recent (1940-1962), Selected Findings in Shorthand Prognosis with Specific Reference to the Use of the Byers' First-Year Shorthand Aptitude Tests at the High School in Southington, Connecticut" (unpublished Master's thesis, Central Connecticut State College, 1963), p. 64.

Problem:

The problem in this study was to evaluate the effectiveness of the Byers' First-Year Shorthand Aptitude Tests.

Procedure:

1. This study involved 36 of the original 46 students enrolled in Shorthand I at Southington High School during the 1960-61 school year. Both classes were taught by the investigator who used the writing approach.

2. June 14 and 15, 1961 an achievement test was given in two parts. The first day dictation was given at 65, 70, and 75 words a minute. The second day speeds of 45, 50, 55, and 60 words a minute were given. Letters were chosen of average syllabic intensity (1.26 to 1.35) and each took $2\frac{1}{2}$ minutes to dictate at each speed. Forty minutes were allowed each day to transcribe as many letters as possible. All transcription was done in long-hand.

3. Weights from 1 to 7 were assigned to errors in the various letters. Errors on the letter dictated at 75 words a minute were weighted 1, at 70 words a minute a weight of 2, and so on down the line of speeds. Errors on the least difficult letter dictated at 45 words a minute were assigned a weight of 7. These total penalties of each letter were totaled to find the score each individual received on the test. The lowest score, therefore, indicated the fewest errors in transcription.

4. The Spearman rank-difference method was used to determine correlations between shorthand achievement and the Byers' Tests.

Findings:

1. The correlation coefficient between the Byers' Test and shorthand achievement was $.373 \pm .1511$. This was not nearly as high as Byers obtained, $.62 \pm .05$.

2. Subtest I and shorthand achievement revealed a correlation coefficient of $.6822 \pm .0940$, which indicates moderate to high correlation.

3. Subtest II and shorthand achievement revealed a correlation coefficient of $.1479 \pm .1719$, which indicates negative to low correlation.

4. Subtest III and shorthand achievement revealed a correlation coefficient of $.2554 \pm .1643$, which indicates low to moderate correlation.

5. Subtest IV and shorthand achievement revealed a correlation coefficient of $.4168 \pm .1453$, which indicates a small to substantial relationship.

6. Subtest V and shorthand achievement revealed a correlation coefficient of $.1499 \pm .1718$, which indicates negative to small but definite correlation.

Conclusions:

1. The findings of this study would not justify using the Byers' Tests as a sole factor in counseling students at Southington High School out of shorthand.

2. The correlation coefficient of $.6822 \pm .0940$ between Subtest I, Phonetic Perception, and shorthand achievement showed a much higher relationship between these factors than any of the other subtests in the study.

Recommendations:

1. More studies similar to this are needed to determine with more validity the feasibility of using the Byers' Tests as predictive instruments.

2. Since the correlation between phonetic perception and shorthand achievement was high, further study is needed to develop more elaborate phonetic tests to determine their use as predictive measures in shorthand.

Abstractor's Comments:

1. As the writer pointed out, the sample was small; and, therefore, the findings can not be used for drawing sound conclusions.

2. Additional studies are needed to test the validity of the Byers' Tests as prognostic measures.

3. This study tends to indicate that the Byers' Tests are not so valid for predicting shorthand success as some other factors.

Abstract 220

Israel Young, "An Analytical Study of the Effect of Choice Making on the Speed of Writing Symbol Combinations in Gregg and Pitman Shorthand", (unpublished Ph.D. dissertation, New York University, 1964), p. 188.

Problem:

The problem of this study was to determine the effect of choice making on the speed of writing symbol combinations in Gregg Shorthand and Pitman Shorthand.

Procedure:

1. A list of Gregg Shorthand principles was submitted to five Gregg shorthand teachers and one expert. The same procedure was followed for Pitman Shorthand. Then, both lists were showed to a department chairman who was familiar with both systems. Each person was to select those principles from the list which he felt would cause hesitations in writing.

The 10 Gregg principles selected were: Use of left and right "s"; Vowel "a" between opposite curves; Addition of "x"; Representing the word ending "ther"; O before "n", "m", "r", and "l"; A to straight strokes, "th" joined to "o", "r", and "l"; E between two straight strokes; T omitted after "s" in one syllable words; and "th" used initially.

The 10 Pitman principles selected were: Initial "s" to straight down strokes; Original and reverse "fr"; Shun hook attached to straight horizontal strokes; Stroke "l"; Final hook to straight down strokes; Final "s" to straight down strokes; Final "r"; Initial hook to straight down strokes; and Thickened "f" for "r".

2. High school seniors who had completed two and one-half years of shorthand instruction were photographed by means of a high speed motion picture camera. There were 10 Pitman writers and 9 Gregg writers photographed writing at 80 words a minute for a minute and a quarter.

3. After eight different colors of paper were tried, salmon color gave the best image. The paper was

specially ruled and black ink was used for writing on the paper.

4. At the same time the writer was photographed, a Professor Porter Timer was also photographed. This was used to give precision timing of each writer. Each division on the clock is .03 of a second or one wink. Thus, the name of the time interval, the "wink."

5. An analysis was made of the material written by each shorthand writer. The exact point for completion of each word or phrase was recorded from the wink clock. The exact time when the next outline was started was also recorded from the wink clock. The difference between the two represented the writer's hesitations expressed in winks.

6. By taking the total winks for each writer and dividing by the total outlines written, a hesitancy index was established for each participant.

Findings:

1. Since 33 to 43 percent of the words written by Pitman writers had a preceding pause greater than the hesitancy index, speed was reduced by the writers having a choice to make. This was also the case for Gregg writers, which was substantiated by the fact that 27 to 44 percent of the words had a preceding pause greater than the hesitancy index.

2. Of the experimental words written in Pitman, 35 to 60 percent had a greater preceding pause than the hesitancy index. When the experimental words were checked for Gregg, 6 to 13 of the 18 words caused a greater preceding pause than the hesitancy index.

3. The number of words written by the Gregg writers ranged from 89 to 97. Furthermore, the number of words causing a greater pause than the hesitancy index ranged from 26 to 42. The Pitman writers wrote from 94 to 101 words in the same length of time. Furthermore, the number of words causing a greater pause than the hesitancy index ranged from 32 to 44.

4. A comparison was made between the hesitation preceding the words in the total dictation and the hesitation preceding the writing of the experimental words. For both the Pitman and Gregg writers, the larger percentage was shown for the experimental words.

5. The actual time the Gregg writers spent writing ranged from 36 to 59 percent. During the actual writing time, they wrote from 134 to 211 words per minute, with an average of 164 words a minute.

6. The actual time spent by the Pitman writers ranged from 50 to 66 percent. During this time their speeds ranged from 107 to 158 words a minute, with an average of 137 words a minute.

Conclusion:

On the basis of the findings of this study, it may be concluded that hesitancy, as defined in this study, is primarily caused by decision making elements which precede the writing of an outline.

Recommendations:

1. By reducing decision making situations, hesitancy may be decreased and, thus, increase writing speed. This could be done by having only one word for each outline.

2. Research may be done comparing hesitation of students who learned Notehand and students who learned Diamond Jubilee.

3. Research may be done interviewing each participant at the end of the writing period in order to determine the cause for the hesitation.

4. Further analysis is needed comparing Gregg Shorthand and Pitman Shorthand in other choice making elements.

Abstractor's Comments:

1. More emphasis on shorthand theory would help eliminate hesitation in writing shorthand outlines.

2. The findings of this study tend to indicate that shorthand can be written only as fast as the individual can think.

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