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EXPERIMENTAL STUDY OF THE RELATIONSHIP BETWEEN LISTENING AND CONVENTIONAL INSTRUCTION AND THE TRANSCRIBING AND PROOFREADING SKILLS USED IN THE WORD PROCESSING ENVIRONMENT

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EXPERIMENTAL STUDY OF THE RELATIONSHIP BETWEEN
LISTENING AND CONVENTIONAL INSTRUCTION
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By

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ABSTRACT

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Machine transcription has become a skill of considerable impor-
tance to business educators as they attempt to prepare students for
employment in word processing centers. The problem of this research
was to determine how instruction contributed to the acquisition of
transcribing and proofreading abilities during the initial development
of the skill. Specifically, the research compared two instructional
techniques, Listening Instruction and Conventional Instruction, for
their ability to develop accuracy and speed in the machine tran-
scription.

Machine transcription was defined as a fusion skill, a high-level
skill which is formed by integrating several, already-developed
skills. These basic skills are language application, keyboarding, and
proofreading. Two other covert skills are required in machine tran-
scription as well: listening and decision making.

Two sets of instructional materials, with dictation cassettes and
written manuals, were designed. "Listening Instruction" designated
the experimental treatment which attempted to fuse these separate
skills into one skill. The methods included dictation in "bursts,"

dictation previews in compressed speech, dictation reviews in compressed speech to improve proofreading, use of aural cloze and word distortion techniques to develop decision making, and others.

Current instructional practice is to focus primarily on the development of one component skill, language application. "Conventional Instruction" designated the experimental treatment which mirrored current instructional approaches. Focus was on written vocabulary preview, written review of punctuation rules, use of transcripts during proofreading, and other methods. Both treatments employed error-correcting techniques compatible with word processing equipment.

The experiment tested one major theoretic hypothesis: Machine transcription instruction based on a fusion skill approach will produce better transcribing and proofreading performance among new learners than will machine transcription instruction based on a single skill approach. Eight specific hypotheses concerning the speed and accuracy of transcription and proofreading activities were derived from this hypothesis.

In response to a request for assistance, five community college and four-year college teachers of machine transcription provided eight classrooms for the study. These classrooms were randomly assigned to the two treatments. Students completed a background questionnaire, a transcription pretest, 12 additional transcription tasks, and a transcription posttest. There were 47 students in the Listening Instruction treatment and 46 students in the Conventional Instruction treatment.

Analyses of covariance were conducted to test the eight

hypotheses. Three of the eight were statistically significant beyond the .05 level of probability. The findings of the study are that Listening Instruction produced higher rough drafting accuracy, higher overall accuracy, and higher replacement word count, a decision-making skill. There were no differences between the two treatments on rough drafting rate, proofreading accuracy, proofreading correction rate, overall rate of transcription, or accuracy of comma placement. Total transcription errors, a measure used in determining proofreading accuracy, proved to be significantly different, with Listening Instruction producing greater reductions in errors than Conventional Instruction.

An exploration for interactions between different levels of three background variables (prior machine transcription experience, language ability, and typing speed) and the treatments revealed no consistent relationships. Because most students had prior shorthand experience, this variable could not be studied. Self-reports on grade in grammar-oriented classes and knowledge of punctuation rules, specifically commas, were useful predictors of student performance.

Additional findings concerning the relationship of background factors, prior experience, actual levels of production to the instruction are reported. These are followed by recommendations for continued research, adoption of a fusion approach to instruction, reconsideration of transcription standards, revision of course objectives, and other practices.

ACKNOWLEDGMENTS

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CHAPTER I

INTRODUCTION

Background and Significance

Word processing has entered the business educator's vocabulary.

Its many definitions, according to Kleinshrod, Kruk, and Turner,

include the following key elements:

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

All of these elements are linked to the process called machine

transcription, and this process is the concern of the present study.

Transcription, according to Balsely,

. . . is the process in communication through which the original
message or data (whether recorded in shorthand, in handwritten
notes, or by machine) are prepared in the final typewritten form
designated by or acceptable to the dictator.[2]

Machine transcription is the keyboarding of information directly from

machine-recorded dictation without the creation of an intermediate

paper record in shorthand or longhand form. This complex

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[1]Walter Kleinshrod, Leonard B. Kruk, and Hilda Turner, Word
Processing: Operations, Applications, and Administration
(Indianapolis: Bobbs-Merrill Educational Publishing, 1980), p. 1.

[2]Irol W. Balsely, "Current Transcription Practices in Business
Firms," Monograph 130 (Cincinnati: South-Western Publishing Company,
n.d.), p. v.

communication process is accomplished through skills in listening,

keyboarding, and applying language principles. The expert transcriber

produces a readable, error-free document from machine dictation with

little reference to written items. In addition, only rarely does the

transcriber use a listening preview of the material to be transcribed.

The role of machine transcription in word processing is succinctly

described by Kidwell:

> Most discussions of word processing concepts depend heavily upon
> (1) the use of transcribing machines rather than manual shorthand,
> and (2) the elimination of 'one boss-one secretary' as an office
> model.[3]

The many texts and other reports on word processing now available

verify this statement.

Two current references provide representative views of the role of

machine transcription. Datapro Reports states:

> Machine dictation is the beginning of the input phase in the word
> processing cycle and speeds the process of moving speech from the
> word originator to the transcriptionist. Dictating by machine is
> five times faster than longhand, and over twice as fast as
> face-to-face shorthand.[4]

Brooks et al. describe the importance of machine transcription this

way:

> Machine dictation conserves both the originator's and
> transcriptionist's time by eliminating the need to occupy two
> people at the same time and allowing them to work at their own
> rates of speed.[5]

Thus, dictation and machine transcription form the "winning

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[3]Richard Kidwell, "The Dilemma of Word Processing," Balance
Sheet 59 (November 1977): 122.

[4]Datapro Reports on Office Systems (Delran: Datapro Research
Corporation, 1979), p. S15-050-101.

[5]Bearl A. Brooks et al., Word Processing (Jonesboro: ESP Inc.
Productions, 1977), p. 13.

combination" which, according to many experts, will produce improved office productivity.

Machine transcription, a skill already taught in many secretarial and clerical programs, has taken on a new importance as educators try to answer some critical questions. As Smith states

> Because of the increased emphasis upon transcription, instructors are beginning to think about how to improve instructional techniques: What skills are included in the course? How does the student develop facility in combining those skills on the machine? What speed can be expected from the beginner? How can machine transcription be integrated with word processing? A close look at the literature available in business education magazines reveals very few answers to these questions.[6]

Not only do these questions remain unanswered, another problem affecting instruction exists. Of necessity machine transcription instruction is often a skill developed through self-paced instructional materials in a relatively short time compared with shorthand transcription instruction. Teachers must rely on these instructional materials to carry the burden of instruction while they simultaneously instruct students in other areas. The effectiveness of these materials is of critical importance to skill development.

One question asked in the 1979 Delta Pi Epsilon research bulletin is:

> To what extent are the training materials developed by word processing equipment manufacturers usable in a classroom setting?[7]

This question could be expanded to include the degree of effectiveness of all the materials currently available from commercial and educational sources to teach machine transcription. No published

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[6]Clara J. Smith, "Improved Methods for Teaching Machine Transcription," Business Education Forum 35 (December 1980): 13.

[7]Delta Pi Epsilon, "Needed Research in Business Education," Research Bulletin No. 5, 3rd ed. (St. Peter: Delta Pi Epsilon, 1979), p. 25.

research has been reported on the performance results produced by any of these materials.

Decisions on instructional practice and materials ought to derive from the nature of the skill being taught and an underlying educational philosophy. If machine transcription is a fusion skill, as is shorthand transcription, then instructional materials should encourage the fusion of component skills. If, on the other hand, machine transcription is a unitary or single skill, then instruction can proceed from the simple to complex, as single skills are developed. To date, however, evaluation of materials for their assumptions and effectiveness has not occurred.

Statement of the Problem

Is machine transcription a single skill or a fusion of already-developed skills? The problem of this study is to determine whether the single skill approach or the fusion skill approach to developing machine transcription materials results in more rapid and more accurate machine transcription performance by the student. The means by which an answer is sought is the development and experimental use of two sets of introductory instructional materials, one consistent with the single skill approach (called in this study "conventional instruction") and the other consistent with the fusion skill approach (called in this study "listening instruction").

Through the comparison of instructional approaches, this research seeks to answer these specific questions:

1. Which instructional approach produces higher transcription rates?

2. Which instructional approach produces more accurate proofreading of transcripts?

3. Which instructional approach produces more accurate punctuation skills?

4. Which instructional approach produces better word choice under conditions of ambiguous dictation?

Further, through examination of student background, the research attempts to answer these questions:

1. What effect does previous shorthand and machine transcription experience have on the acquisition of the machine transcription skill?

2. What effect does typing speed have on the acquisition of the machine transcription skill?

3. What effect does language proficiency have on the acquisition of the machine transcription skill?

The problem explored by this study, then, is to determine whether instruction designed to integrate the separate skills comprising machine transcription is superior to instruction consistent with a single skill philosophy in producing higher speeds and accuracy in transcribing documents. The purposes of the study are to contribute to the research in the field and to assist teachers in the selection and evaluation of instructional materials.

Need for Research in Machine Transcription and Related Studies

The justification for a study in machine trancscription derives from two basic areas: the current status of machine transcription in the curriculum and its current status in the research and theoretical literature.

Regarding the position of machine transcription in the curriculum, Kruk states:

Many secretarial curricula include very little time for teaching machine transcription methods. In many instances, only two weeks is (sic) spent by students using transcription equipment in an office practice class.[8]

Waterman[9] concurs, citing five to 25 hours as the average.

The relatively low status of machine transcription in the

curriculum relates to its status in the research and theoretical

literature. Darst states:

[A] problem of the machine transcription approach [in teaching word processing] is the lack of adequate, uniform body of training materials and methods such as we have in shorthand. Without this, it is hard to develop or measure proficiency.[10]

An example of this is the lack of reference to machine transcription

skills in Popham, Shrag, and Blockus's major work, A Teaching-Learning

System for Business Education.[11]

It is possible to locate literature from the early 1900s about

shorthand transcription--its methods, evaluation, and philosophy (see

Rankin[12], for example)--but no such history of machine transcription

[8]Leonard B. Kruk, "Educating the Educator About WP," Word Processing World 5 (April 1978): 44.

[9]Elsie M. Waterman, "Development of Instructional Materials for Use in the Introduction Phase of a Unit on Voice Transcription" (MTE thesis, University of Wisconsin-Eau Claire, 1972), p. 2.

[10]Marian J. Darst, "Education for Word Processing--the Basics and the Extremes," Journal of Business Education 54 (January 1979): 177.

[11]Estelle L. Popham, Adele F. Shrag, and Wanda Blockhus, A Teaching-Learning System for Business Education (New York: Gregg Division/ McGraw-Hill Book Company, 1975).

[12]Pearl M. Rankin, "The Development of Transcribing Skill in Shorthand Instruction (1900-1960)" (Ph.D dissertation, University of Pittsburgh, 1963).

exists. Until recently, there has been no research like that by Jester[13], who describes the actual activities involved in transcribing from shorthand notes. One unpublished study by Remp and Swartz provides data parallel to that in Jester's research for machine transcription activities.[14] Wilkins, in her 1979 study of machine transcription, investigated the relationship of language, reading, and straight-copy typewriting speeds to machine transcription performance. This was the first systematic study of factors affecting student performance.[15]

The 1979 Delta Pi Epsilon bulletin, <u>Needed Research in Business Education</u>, calls for the study of word processing, specifically:

> What special drills for developing competencies in word processing can be taught in typing classes?
> To what extent are the training materials developed by word processing equipment manufacturers usable in a classroom setting?
> To what extent do certain personal characteristics serve as determinants of success of word processors?
> To what extent does the training or learning curve differ between visual and non-visual text editing equipment?
> To what extent does the learning curve and overall productivity differ between text editing equipment using alphanumeric commands or that using specific (overlaid) function keys?[16]

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[13]Donald D. Jester, "The Shorthand Transcription Process and Its Teaching Implications," <u>Monograph 108</u> (Cincinnati: South-Western Publishing Company, 1963).

[14]Ann M. Remp and Rose Ann Swartz, "Study of the Machine Transcription Skill as Practiced in Word Processing Centers Using Structured Observation Techniques" (Professional Development Grant Report, Ferris State College, 1980).

[15]Marilyn Walberg Wilkins, "The Relationship of Selected Language, Reading, and Typewriting Skills to Post-Secondary Student Performance in Machine Transcription for Word Processing" (Ed.D. dissertation, University of North Dakota, 1979).

[16]Delta Pi Epsilon, "Needed Research," pp. 25-6.

Each question to some degree relates to the tasks performed or skills needed by the machine transcriber using automated word processing equipment. The questions have gone unanswered.

Kidwell[17] calls for research to demonstrate that 1) use of machine transcription is really efficient, and 2) what computer-assisted communication training our students need.

One previous study is similar to the research undertaken in this study. Waterman[18], in a 1972 master's thesis for the University of Wisconsin, developed a set of instructional materials for the introductory phase in machine transcription. This thesis raised the question of whether or not machine transcription is a fusion skill, but took no position on this issue. A single set of materials was designed to assist the student to develop a continuous typing skill. No test was made of the materials, however, and no comparison against a control group was proposed.

Given that little research exists to date on the skill, instructional materials provide the only other look at the educational aspects of acquiring the machine transcription skill. Conceptually machine transcription is treated as a fusion skill--a combination of listening, keyboarding, language, proofreading, and decision-making skills. Instructionally, however, machine transcription is developed as a single skill, with little manipulation of the style of the dictation the student hears. The dictation is slow at first and increases in speed as lessons progress. There are few specific exercises on developing continuous keyboarding or determining

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[17]Kidwell, "Dilemma," p. 123.

[18]Waterman, "Development of Instructional Materials."

meaningful units of thought. Proofreading keys are sometimes provided, but few exercises or techniques are presented to the student.

There is considerable agreement on the need for language skills, but authors differ extensively on how much decision making on language use the students will do. In some materials all punctuation marks and spellings are dictated; in others, the student must determine proper punctuation. Text materials do not address specific error-correction techniques which are used in the word processing environment. While there are many machine transcription materials available from educational publishers and commercial sources, no reports of the effectiveness of these materials are available. Thus, this current study is unique.

The status of machine transcription is, then, unresearched for the most part, but growing in significance for the word processing environment. That status argues for research to provide business educators with some guidelines by which to develop learning materials.

Fusion Theory: Conceptual Clarification

Rankin, in her history of shorthand transcription, points out the major role that Louis A. Leslie played in putting transcription on a strong philosophical grounding.[19] In his Methods of Teaching Transcription,[20] Leslie outlines the major characteristics of a fusion skill and the instructional approach appropriate to developing such a skill. Because Leslie's discussion is the major foundation for the current research question, his position is outlined here.

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[19]Rankin, "Development of Transcribing Skill."

[20]Louis A. Leslie, Methods of Teaching Transcription (New York: McGraw-Hill Book Company, 1949).

Shorthand transcription, according to Leslie, is not simply a new behavior to be learned. It is instead a skill formed by integrating other, more basic skills into a higher-level skill. Specifically, shorthand transcription requires the student to have three already developed skills: English, or language ability; typewriting; and shorthand. The transcription skill asks the student to use these skills in a coordinated fashion to produce mailable, or error-free, correspondence from dictated material.

Machine transcription is essentially the same kind of skill, requiring already-developed language and keyboarding skills. In place of the intermediate step of recording dictation in shorthand form, machine transcription requires immediate decisions about word form, sentence structure, and punctuation as the student listens to dictation. In addition, proofreading is an essential component of the skill.

Leslie characterizes the teaching of a fusion skill in this fashion:

1. The delay in beginning transcription until the pupil has some worth-while skills to fuse or merge
2. The brief but careful introduction to, or preparation for, the fusion of these skills . . .
3. The emphasis on the mailable letter . . .
4. The constant effort to continue the improvement of the three separate skills and especially the speed and accuracy of shorthand and typewriting. [Language use is the third skill.]
5. The uninterrupted, continuously timed period of transcription at the typewriter.[21]

The development of the fusion skill material proceeds in three stages, again following Leslie's recommendations. These stages are described as follows:

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[21]Ibid., pp. 128-9.

1. First "have the learner transcribe something that will require as little skill as possible and that will almost guarantee a successful result attained by the use of correct transcription techniques . . . ."[22] In general the items should be short (100 to 200 words) with no problems in spelling, punctuation, capitalization, and other decision-making problems. The student should be given the margins and spaces for starting the letter. He states, "It is not desirable to permit the use of an eraser because that adds one more complication to the process."[23] Error correction, then, should not be the focus of early instruction in transcription. The early goal of instruction is continuous typewriting. This stage lasts only one to three instruction periods at the most.

2. The second stage for Leslie is specific for shorthand transcription, for students are now using their shorthand notes. Of relevance to machine transcription is the discussion of spelling, punctuation, and style as part of a preview to the dictation. The dictation is very slow. Prereading and discussion of spelling, punctuation, and other language items should be used only during the first five to ten transcription periods.[24] Parallel to this stage for machine transcription would be listening previews of the material to be transcribed.

3. "Step three comprises a graduated scale of increasing difficulty of work that shades imperceptibly into the permanent

[22] Ibid., p. 103.

[23] Ibid., p. 104.

[24] Ibid., pp. 108-9.

teaching plan . . . ."[25] This stage begins from the third to seventh

day generally. Prereading and previewing the whole letter is omitted.

Dictation is transcribed under time constraints. New matter is

previewed, but such previews are gradually omitted. During this

transition period, a larger number of letters than two is provided.

They are of different lengths. During this stage, also, techniques for

paper handling, determining margins and starting place, and error

correction are introduced.

These introductory techniques are used within the first 11 to 15

transcription lessons. The primary evaluation measures for the

development of the skill are speed and accuracy, both of which are

ultimately dependent on how well the individual skills are merged.

Stressing the importance of initial instruction, Leslie states:

In transcription, unfortunately, the learner may continue to
perform the three operations separately, consecutively, rather
than simultaneously, unless the teacher arranges the learning
situation correctly at the very beginning of the development of
the transcription skill.[26]

A single skill approach assumes that the machine transcription

skill "comes naturally" and does not require stages of instruction with

differing educational objectives to fuse skills. Instructional

materials proceed from the simple to the complex, but do not differ in

either instructional stages or objectives as a fusion approach would.

This is the foundation for the current research, to apply these

principles to the initial instruction of machine trancription and

compare the differences in performance to those resulting from

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[25]Ibid., p. 110.

[26]Ibid., p. 183.

conventional instruction, which for the most part, does not distinguish these stages of instruction.

Terminology

Here, now, is additional terminology used in this study:

Single Skill: A basic skill formed from new behavior and later used as a building block or component in higher-level skills. Keyboarding, or typing, is considered a single skill; it is initially a new behavior for the student, is not subdivided into other skills, and requires no prerequisite skills.

Fusion Skill: A high-level skill which is formed by integrating several, already-developed single skills. Shorthand transcription is considered a fusion skill; it is the integration of shorthand, language, and typing skills which require previous development.

Machine Transcription: A fusion skill which integrates skills in typing/keyboarding, language ability, and proofreading to convert dictated messages into readable ones.

Typewriting/Keyboarding: The single, psychomotor skill of operating a keyboard, evaluated in terms of speed and accuracy.

Language Ability: The application of language principles in punctuation, word choice, and general grammar, evaluated in terms of accuracy.

Proofreading: The post-transcription task of 1) evaluating the correctness of transcribed material in terms of punctuation, grammar, and word usage, and 2) correcting errors and/or editing text.

Listening Instruction: A term coined for this study to designate initial machine transcription instruction based on a fusion approach to learning.

Conventional Instruction: A term coined for this study to designate initial machine transcription instruction based on a single skill approach to learning.

Operational definitions of independent and dependent variables are given in Chapter 3.

Hypotheses

The major theoretic hypothesis for this study is: Machine transcription instruction based on a fusion skill approach will produce

better transcribing and proofreading performance among new learners than will machine transcription instruction based on the single skill approach. This hypothesis can be subdivided into the following theoretic hypotheses:

1. Machine transcription instruction based on fusion skill approach will produce longer periods of continuous typewriting, that is, faster transcription time, than will instruction based on a single skill approach.

2. Machine transcription instruction based on fusion skill approach will produce more accurate punctuation skills in new learners than instruction based on a single skill approach.

3. Machine transcription instruction based on fusion skill approach will develop better decision-making ability with distorted wording than instruction based on a single skill approach.

4. Machine transcription instruction based on fusion skill approach will produce more accurate transcripts following proofreading than instruction based on a single skill approach.

Because certain variables are expected to influence the results of the treatments, student reports on language skills, straight copy typing speeds, and prior transcription experience will be used to evaluate the results. There is no basis on which to predict any interactions. These few possible relationships will be explored, however:

1. Do the fusion skill and single skill treatments differentially affect students at low, moderate, and high levels of language skill?

2. Does prior experience in shorthand and machine transcription influence the effectiveness of the fusion skill and the single skill approaches to instruction?

3. Does the level of typing speed interact with the two
treatments to produce differential effects?

This study, then, assesses the main effects of treatments on
accuracy and speed of transcription and explores the relationship of
student background to skill acquisition.

Assumptions and Limitations

A major assumption of this study is that fusion skills and single
skills are categorically different from one another. In fact, the
skills may be more likely to be the extremes on a continuum with some
characteristics and instructional approaches common to both. For
example, the strategies for improving typewriting accuracy may be
relevant to improving machine transcription accuracy. It is still
useful to focus on certain differences in instructional approach for
research purposes. This assumption, however, is the basis for several
limitations of the study.

A second major assumption, already discussed earlier, is that the
textbook and dictated materials constitute the major teaching
intervention in the classroom. Machine transcription materials are
viewed in this study as similar to programmed or other self-paced,
self-instruction materials. The teacher's role when using them is
assumed to follow the student's initiative. In fact, however, some
teachers may be considerably more active in developing student skills.
In this study certain methodological steps were taken because of
differing teaching styles, but the degree to which the reader agrees
with this assumption determines the value of the research outcomes.

There are several limitations in this study. A first concern is
that only two instructional approaches are compared. Because each

approach is itself a combination of learning strategies, the results may not be attributable to the specific strategy, but only to the approach as a whole. The contribution of each technique, then, is unlikely to emerge. In addition, it might have been possible to develop more than two approaches for comparison's sake. This limitation, however, opens up possibilities for further research.

A second limitation is that the research is concerned only with the skill acquisition which occurs during the first two to three weeks of instruction. The materials constitute an introduction to machine transcription rather than a full term of 30 to 40 hours of instruction. The time limit was chosen for two reasons:

1. Many programs do not provide a full term of instruction, and it was believed that teachers might be unable to use or test a longer set of materials.

2. In a fusion skill, the major differences in teaching strategy occur in the early lessons. By the completion of 14 lessons, the student should be able to undertake the transcription of many types of dictation. The concern still remains, however, as to whether or not 14 lessons are of sufficient length to produce a difference in student performance.

A third limitation is the lack of prior experimental, observational, or survey research on the machine transcription skill. This has been compensated for to a limited extent by drawing on linguistic research as reported in Chapter 2.

Although the main reason for the growing importance of machine transcription is the emergence of word processing, another limitation of this study is the inability to make direct application of the findings to improved performance in the word processing center.

Certain error-correcting techniques can be used in instruction which are compatible with word processing techniques, but the contribution of those procedures to improved accuracy and speed cannot be specifically measured.

Further limitations will be presented in Chapter 3 which discusses the design, procedures, and development of the materials.

CHAPTER II

REVIEW OF LITERATURE

Literature relevant to machine transcription comes from three sources: research, educational commentary, and instructional materials. This review will summarize the findings, viewpoints, and techniques relevant to the machine transcription skill presented in this literature.

Research Findings on Machine Dictation/Transcription

As has been stated already (see Darst[1] and Smith[2]), little research exists on machine transcription instruction. Waterman[3] designed a set of introductory instructional materials for machine transcription, but no report of the effectiveness of the materials was made. Wilkins, in a study of 132 post-secondary students enrolled in word processing courses in Minnesota vocational institutes, completed the first systematic study of the skill.

Wilkins administered a battery of tests on language, reading, and straight-copy typing speeds at the start of a quarter. A performance

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[1]Marian J. Darst, "Education for Word Processing - The Basics and the Extremes," Journal of Business Education 54 (January 1979): 177-79.

[2]Clara J. Smith, "Improved Methods for Teaching Machine Transcription," Business Education Forum 35 (December 1980): 13-14.

[3]Elsie M. Waterman, "Development of Instructional Materials for Use in the Introduction Phase of Unit on Voice Transcription" (MTE thesis, University of Wisconsin-Eau Claire, 1972).

test of four letters was administered during the final week of the

quarter. Straight-copy typing speed, spelling skill, punctuation

ability, and reading comprehension were found to contribute to general

performance, speed, and accuracy. Prior machine transcription

experience at the high school level contributed little to

performance. In addition, the kinds of errors in transcription were

generally not due to typing skills.[4]

Other research pertinent to machine transcription cites the degree

to which machine dictation is used in business. Harris, in her

Atlanta study of shorthand and machine transcription practices, found

that

> Transcription workers spent 28 percent of the hours worked
> transcribing, and dictating-transcribing machines were used to
> record and transcribe business office dictation more frequently
> than any other systems. Of the hours spent transcribing, 52
> percent were spent transcribing from dictating-transcribing
> machines; 27 percent from longhand notes; 11 percent from manual
> shorthand; and 10 percent from typed or rough draft notes. . . .[5]

Archer and White report the results of a study of methods of word

origination. They cite very little use of dictation in comparison to

the use of longhand.[6]

Luke states that 75 percent of correspondence is originated in

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[4]Marilyn Walberg Wilkins, "The Relationship of Selected
Language, Reading, and Typewriting Skills to Post-Secondary Student
Performance in Machine Transcription for Word Processing" (Ed.D.
dissertation, University of North Dakota, 1979).

[5]Benita Lynn Harris, "The Use of Manual Shorthand, Dictating-
Transcribing Machines, and Machine Shorthand in Selected Businesses in
the Metropolitan Atlanta, Georgia, Area in 1976," Business Education
Forum 32 (October 1977): 43.

[6]Earnest R. Archer and Roberta Dunlap White, "What Ever Happened
to the Art of Dictation?" Business Education Forum 32 (October 1977):
17, 19-20.

longhand.[7] Lewis reports still other statistics on document

origination practices. He surveyed word processing supervisors and

users, and 32 percent of the sample responded. After word processing

implementation, document origination was as follows: 38 percent by

direct telephone dictation, and 26 percent by personal handwriting.

Use of direct telephone dictation was related to 1) large size of

company, 2) centralization of the word processing center, 3) the

preparation of originators by inservice dictation training, and 4) the

availability of word processing user manuals.[8]

Holub's survey on the relative merits of mechanical dictation/

transcription equipment versus manual shorthand determined that

shorthand transcribers were more efficient in their method of

completing transcription and were given more responsibility in the

areas of composing correspondence and looking up data to be included

in the transcript than were machine transcribers. However,

> Mechanical equipment was preferred by 58 percent of the dictators
> [of 73 dictators] and 39 percent of the transcribers [of 76
> transcribers]; 24 percent of the dictators and 33 percent of the
> transcribers preferred shorthand.[9]

Remp and Swartz report that 44 percent of daily input to the word

processing stations was estimated to be in dictated form. Other

estimates were that 30 percent originated as longhand and 22 percent

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[7]Cheryl M. Luke, "Dictation: An Important Business
Communication Skill," Business Education Forum 33 (October 1978):
26-27.

[8]Stephen D. Lewis, "The Effect of Word Processing on Business
Letter Writing," Business Education Forum 33 (October 1978): 41.

[9]Linda Bly Holub, "A Survey to Determine the Relative Merits of
Mechanical Dictation/Transcription Equipment with Manual Shorthand,"
Business Education Forum 32 (October 1977): 44.

as previously stored material. Supervisors generally wanted to encourage more origination in dictated form.[10]

Although the results of such usage studies are mixed, machine dictation can be expected to increase. These studies, then, tell educators that machine transcription skills are needed, but they do not indicate how machine transcription skills should be developed.

Remp and Swartz[11] observed expert machine transcribers working on word processing units. Observations of transcribers' activities were recorded in nine categories: keyboarding; handling of paper, recording media, and equipment; untended playback; listening; proofreading; editing, especially the use of word processing edit features; referencing; records management and distribution; and downtime, or unproductive activities. The study shows that the machine transcriber's job is to combine word processing unit skills with keyboarding, proofreading, and decision-making skills. The findings support the conceptualization of machine transcription as a complex fusion of more basic skills, but they do not constitute a direct study of the learning process.

There is another way to determine the kind of listening and decision-making skills that the machine transcriber requires. That manner is to ask what kind of materials the transcriber must transcribe. What does the literature reveal about the dictation content and style prevalently used in the business environment?

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[10]Ann Marie Remp and Rose Ann Swartz, "Study of the Machine Transcription Skill as Practiced in Word Processing Centers Using Structured Observation Techniques" (Professional Development Grant Report, Ferris State College, 1980), p. 19.

[11]Ibid., p. 8.

In terms of the characteristics of office-style dictation, Hart

and Cone identify several features relevant to the task of the machine

transcriber:

1. changing the wording after material has been dictated;
2. spelling difficult words, but giving only some punctuation;
3. unintentional repetition of material;
4. making errors in dates, amounts, numbers, names, etc.;
5. omitting addresses, titles, closings;
6. dictating at uneven rates of speed;
7. interruptions;
8. giving instructions or material not included in the transcript.[12]

Olinzock, updating Green's 1951 study on business dictation, adds

these findings: 1) Correspondence is actually composed during

dictation with concern for expression, not speed. Overall dictation

speeds are low and do not reflect the composition process. Middle

portions of dictation are dictated more slowly than beginning or

concluding portions. Spurts of dictation occur and are frequently

sustained for two or more quarter minutes; 2) The actual syllabic

intensity of the business dictation studied was 1.65; 3) The dictation

included corrections, instructions, punctuation, repetition, spellings,

and other directional words. The stenographer is faced with a

selection process in transcribing the material.[13] He then observes:

Dictation rates of dictators, as well as multiple dictations by
the same dictators, were found to vary greatly. The ability to
mentally organize and express one's thoughts, the type and
importance of the correspondence dictated, and the efficiency of
the dictator are some of the variables which affect the rate of
dictation.[14]

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[12]Sara Hart and Randy Cone, "Office Style Dictation," Journal of
Business Education 51 (April 1976): 305-6.

[13]Anthony A. Olinzock, "The Speeds of Business Dictation,"
Journal of Business Education 53 (January 1978): 150.

[14]Anthony A. Olinzock, "An Analysis of Business Dictation,"
Journal of Business Education 52 (March 1977): 289.

Olinzock, though studying the dictation process as it affects stenographers, provides insights into the tasks the machine transcriber faces.

In summary, the machine transcriber will need to cope with a wide variety of dictation styles, speeds, and other habits. This research is useful in identifying the competencies that the learner must possess, but as in the previous case, the research is not a direct study of skill acquisition. This is, however, the extent of the research available which is relevant to the machine transcription process.

Educational Recommendations and Practices

Recommendations on educational practice exist in increasing numbers as interest in word processing grows. These recommendations concern the placement of machine transcription in the curriculum and the stages of basic skill development. They also concern the development of the basic, or component, skills of which machine transcription consists. What these commentaries reveal is an acceptance of machine transcription as a fusion skill, but disagreement exists on what skills require development. The recommendations on curricular placement and developmental stages are discussed first. Then an extended discussion of the component skills is presented.

Sequencing of Instruction

Not all experts address the question of curricular placement and stages of development. This review presents the major views which have been published in the literature or have been presented to explain instructional materials.

Casady identifies "five advancing levels" of learning machine transcription:

1. Operating the transcribing machine
2. Acquiring the ability to listen and type
3. Reviewing the format of letters and reports; transcribing on forms
4. Reviewing grammar, punctuation, word division, number rules, capitalization, and spelling
5. Training for alertness of thought ['the ability to catch inconsistencies or errors of thought.'][15]

Casady makes suggestions for teaching/learning at each level. These suggestions elaborate her conceptualization of the learning stages and so are presented here:

1. Teach the machine for initial learning phase (set up, volume control, speed control, index slips, correction techniques, and rewind).
2. Increase the retention span until the student can type continually while listening.
3. Proceed from simple formats to more complex ones.
4. Include some correction and decision making of these skills [grammar, capitalization, numbers, punctuation, etc.].
5. Incorporate proofreading into levels 4 and 5. Include errors that are misspeakings ('rate of $25 a week' instead of 'rate of $25 a day').[16]

The time frame by which these five levels should be accomplished is not stated.

Kell et al., in their Word Processing Curriculum Guide intended for Grades 11 and 12, identify four instructional levels. Each level is described here:

Level 1: Familiarization with different types of machines, orientation to machine, organization of materials, word habits, machine operation, transcription aids.

Level 2: Development of reference usage, development of vocabulary and spelling aids, transcription, student dictation of prepared materials.

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[15]Mona J. Casady, "Effective Teaching of Machine Transcription," Journal of Business Education 53 (April 1978): 292.

[16]Ibid., p. 293.

Level 3: Continued development of reference usage; continued development of spelling, vocabulary, etc.; further development of transcription; introduction of specialized transcription; student composition of dictation.

Level 4: Development of high proficiency on transcription of general items; further development of specialized units of[17] student's choice; in-basket problem on student dictation.

The approximate time for accomplishing the units is five to 25 hours.

Anderson and Kusek would place machine transcription early in a

sequence of newly created courses in word processing:

1. Magnetic Keyboarding
2. Machine Transcription (Basic and Advanced)
3. Administrative Support Services
4. Word Processing (Concepts and Careers, Supervision, and Systems and Management)
5. Word Processing Model Office Simulation
6. Word Processing Cooperative Office Experience

The first two are of most relevance here, and their suggested course

content is as follows:

Magnetic Keyboarding:
--introduction to keyboarding as one of the five phases of word processing and brief background on contribution of magnetic keyboading to the development of word processing.
--basic record, playback, adjust and revision operations.
--applications, record, playback, adjust, and revise.
--special operations. . .[and] applications. . . .

Machine Transcription (Basic and Advanced)
--introduction to machine transcription in word processing.
--machine operations.
--language skills review or remediation: spelling, grammar, punctuation, context.
--special techniques: previewing by listening to or roughdrafting item, and first-time-final transcription.
--specialty forms and terminology: medical, legal, technical, governmental, etc.
--realistic productivity standards comparable to those established for shorthand transcription courses.[18]

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[17]Vanetta Kell et al., Business and Office Occupations - Curriculum Guide. Arizona State Department of Education: ERIC Document Reproduction Service, ED 133 428, 1974.

[18]Marcia A. Anderson and Robert W. Kusek, Word Processing Curriculum Guide. Southern Illinois University: ERIC Document Reproduction Service, ED 147 493, 1977.

Anderson and Kusek devote more discussion to the procedures to be

learned in machine transcription:

1. rough drafting the item, then revising and typing a final copy.
2. preview[ing] the item by listening to the dictation before transcribing
3. transcrib[ing] in immediate 'first-time-final' copy
. . . .[T]hree items are deliberately designed to illustrate situations where it may be necessary to have a variety of transcription procedures. . . . Emphasis should be given to the 'first-time-final' as the ultimate goal in word processing offices even with dictators [who are disorganized].[19]

Brooks et al. have prepared materials in four difficulty

progression levels. Each level is identified by four variables: level

of instruction, dictation rate, punctuation provided, and spelling

given. All varieties of document formats (letter, memo, report

manuscript) are used at each level, though document formats are even

more diversified as the levels progress, including speeches, news

releases, glossaries, bibliographies, telegrams, and the like.[20]

Misenheimer's materials also progress in difficulty. The author

states:

This program is divided into progressively [more] difficult levels. During the first lessons, the dictation rate is slow with detailed instruction, most punctuation, and difficult spelling provided. As you progress, moderate dictation rate emphasizes voice inflections, pauses, and stops to indicate some of the punctuation. You will also notice that the instructions are more general and fewer spellings are given. When you begin your simulated secretarial work for Dictaphone, all of the dictation is from the actual tapes of the originators. In this realistic word processing environment, variations in the level and manner of instructions, dictation rates, punctuation, capitalization, and spelling directions are common.[21]

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[19]Ibid.

[20]Bearl A. Brooks et al., Word Processing [for Dictaphone] (Jonesboro: ESP Inc. Productions, 1977).

[21]E. Luther Misenheimer, Word Processing Secretarial Transcription Course (Rye: Dictaphone Corporation, 1978).

This is another example of materials developed on a simple-to-complex skills development pattern.

These citations represent the diverse views held on the sequencing of instruction. The wide acceptance of these views cannot be documented due to lack of appropriate research.

Component Skills

The overt skills of which machine transcription consists are keyboarding/typing, application of language principles during transcription, and post-transcription proofreading. These skills, however, result from two mental processes: listening and decision making. Because these latter two activities cannot be observed directly or separated from the other skills, they will be incorporated into the other discussions as they become relevant, as well as treated in discussion footnotes.

Keyboarding/Typing. Keyboarding of the dictated material is an essential element of machine transcription. It is presumed that the learner has already mastered the typewriter keyboard. In transcription, however, typewriting skills need to be defined more closely.

Continuous typewriting is a major criterion for effective transcription. Meyer and Moyer instruct the student in this way: "Listen to a phrase or meaningful word group, type those words, and start listening again before you have completed typing the first group of words. . . ."[22] This is representative of what other authors state. Further, error correction techniques, specifically

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[22]Lois Meyer and Ruth Moyer, Machine Transcription in Modern Business (New York: John Wiley and Sons, 1978), p.vii

backspacing/strikeover practice, are included in typewriting skills.

Derrick[23] recommends this practice, and Meroney states:

> Correction techniques such as erasing and correction tape or fluid
> are generally not used in word processing environments due to the
> nature of the equipment used. The teaching of backspace
> correction technique is encouraged because it teaches alignment
> and is used in many word processing machines.[24]
>
> Accuracy in the word processing environment includes the ability
> to know when a keyboarding error has been made so that the error
> may be easily corrected on word processing equipment.[25]

Thus the student has only a portion of the typewriting skills needed

when entering the machine transcription course.

Language Use Skills. The language skills, according to Meyer[26],

consist of using correct grammar, sentence structure, punctuation,

capitalization, number form, correct spelling, and vocabulary.

Virtually all the text materials and the periodic literature

support this element of the transcription process. Kruk, a business

educator and columnist for Word Processing World, devotes considerable

space to these topics. He observes in one column:

> Word processing supervisors and teachers often are confronted with
> people who have difficulty punctuating. This is especially
> evident when proofreading and transcribing dictated documents.
> Estimates are that 14 punctuation rules account for over 90
> percent of all business writing. . . .[27]

Other writings clearly reinforce the need to develop language skills.

Using language skills in machine transcription requires decisions

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[24]Joanne Derrick, "The Impact of Word Processing on Secretarial
Education," The Balance Sheet 40 (December 1978-January 1979): 158.

[25]John W. Meroney, "Word Processing - What Skills Should An
Entry Level Applicant Have?" Century 21 Reporter (Fall 1979): 5-6.

[26]Lois I. Meyer, "Learning to Transcribe from Machine
Dictation," Business Education Forum 30 (February 1976): 15-16.

[27]L. B. Kruk, "Teaching Punctuation Skills," Word Processing
World (May 1979): 40.

based on listening, however. Kupsh et al. provide the most detailed description of this skill:

> Listening techniques can be classified into two distinct categories: interpreting and deciphering. . . . The first step is one of deciding what word or words could be by the meaning of the rest of the sentence or paragraph. . . . Another kind of deciphering is required when the words sound clear but other types of problems may exist: The words may not be a sentence; incorrect grammar was used; no paragraphs were given. The task of the transcriber is that of transcribing 'muttered words and phrases' into perfectly typed and polished copy.[28]

The development of listening skills has a direct bearing on the meaningful unit to which the transcriber attends. As Kupsh et al. state:

> Transcribing in thought units helps to avoid errors. . . . By transcribing in thought units, the possibility of mistranscribing words that have similar dictation sounds is reduced.[29]

Many texts leave the function of the meaningful unit undefined and undiscussed.

Anderson and Kusek recommend preview listening to assist in the decision-making and editing processes. Meyer[30] agrees. Kupsh et al., however, disagree with the procedure. No research exists on the effectiveness of listening previews, but Leslie would regard previews as appropriate to the early stages of developing the transcription skill.

Proofreading Skills. Though closely related to language use skills, proofreading skills are set apart here to distinguish the special review and decision-making aspects of this skill. Meroney defines proofreading as follows:

[28]Joyce Kupsh et al., Machine Transcription and Dictation (New York: John Wiley and Sons, 1978), p.36.

[29]Ibid., p.37.

[30]Meyer, "Learning to Transcribe," p. 15.

> Proofreading is the ability to read what is actually on the page and not what we know should be there. This ability requires a high degree of attention to detail. Proofreading for typographical errors is only one portion of that skill. Checking continuity of thought and making sure the sentence structure makes sense require grammar proficiency. The third element of proofreading is checking for consistency. All of these segments which are vital to the accuracy of work performed in word processing comprise the skills necessary in proofreading.[31]

This definition is more comprehensive than most provided by the literature. There is general agreement, however, that proofreading is a task completed after the basic keyboarding has been done.

Wilson addressed the need for proofreading skills given the increasing development of "dictionaries" in word processing equipment. She estimated that dictionaries will flag only from 10 to 50 percent of possible transcribing errors.[32]

If listening previews can help the transcriber prepare for transcription, can listening reviews contribute to proofreading accuracy? Lombard of Variable Speech Control, Inc., stated that his company, a manufacturer of pitch-controlled, speech-compressed tape recorders has had inquiries about these units for use in word processing centers for proofreading purposes. Sony incorporates VSC's technology into one of its transcribing units.[33] These facts suggest that listening reviews may be a key to improved proofreading as well as basic language application during transcription.

Automated Keyboarding Skills. This refers to the specialized skill of using a keyboard programmed and directed by a computer. These

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[31]Meroney, "What Skills," pp. 5-6.

[32]Nancy Wilson, "Trends in Office Technology" (Presentation, Delta Pi Epsilon - Alpha Lambda Chapter, March 1981).

[33]Ed Lombard, Representative (Conversation, Variable Speech Control, Inc., San Francisco, July 1980). See also "How Variable Control Eases Playback" (Word Processing World, September 1978) and Edward M. Gottschall's Graphic Communication '80s, p. 27.

skills require an understanding of machine logic and problem solving;

the skills include the efficient selection of correct function keys to

solve specific text editing requirements. Wells states:

> I challenge any manager who for a moment believes that a word
> processing equipment operator or specialist is just a typist to
> spend some time attempting to manipulate the equipment. . . .
> Such a manager may find that it is just not depressing a few keys
> to operate the equipment, but knowing which keys to depress, when,
> in order to produce the desired copy.[34]

Most texts and periodic literature do not address these skills. Yet

there is some justification for including this area from Kleinshrod.

He compares the training and performance required of a typist using a

conventional typewriter to that required by the operator of an

automated keyboard:

> When training someone to operate a standard typewriter, the basic
> skill to inculcate is accuracy, for the consequence of error is
> severe in the time it takes to retype a badly done first attempt,
> or even to correct a single 'typo' using correction fluids,
> eraser, or chalk paper. If carbon copies must also be corrected,
> the consequence of error swells proportionately with their number.
> . . .
>
> WP typewriters greatly reduce the consequence of error created by
> inaccurate keystroking, but they introduce errors of another
> sort. The machines come loaded with editing features, controls,
> and media whose electronic codings are there, but invisible, and
> not as easily deciphered if they were visible. And a lot can go
> wrong.
>
> From a mechanical point of view, the prime mission in training a
> WP operator is no longer keyboard accuracy, but understanding the
> whole machine, the controls that format, assemble, send, retrieve,
> store, and do all manner of text manipulation at high speed. The
> mission is to get them to safely 'drive' those. . .keys. . . .[35]

This element of machine instruction is not widely viewed as a component

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[34]Patricia A. Wells, "Word Processing in the Typewriting
Classroom," _Journal of Business Education_ 54 (March 1979): 260.

[35]Walter A. Kleinshrod, _Management's Guide to Word Processing_
(Chicago: The Dartnell Corporation, 1977), pp. 130-1.

of machine transcription. Most machine transcription texts are

designed for use on conventional typewriters, and simulations of

machine instruction are not included. The skill is included here

because, if machine transcription is accomplished on a word processor,

the automated features of the keyboard influence the accomplishment of

the end product, the transcribed material.

Kruk would probably support this position:

> Among the competencies to be taught are: text editing, global
> searching, inserting, scrolling, pagination, paragraph deleting,
> heading, paragraph numbering, global substituting, automatic
> letter writing, graphics conversions, automatic typewriting, basic
> accounting, programming specialized applications, and using
> peripheral devices.[36]

Anderson and Kusek, as already noted, recommend development of a

magnetic keyboarding skill prior to machine transcription instruction.

This is consistent with a fusion skill point of view.

Current Transcription Practices. Current transcription practices

based on a review of materials available from major commercial and

educational sources[37] give the following picture of machine

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[36]L. B. Kruk, "Teach DP in the WP Classroom," Word Processing
World 5 (November/December 1978): 46.

[37]The materials reviewed for this study are presented here in
alphabetic order. Their full references are contained in the
bibliography: Brooks et al.'s Word Processing; Dictation Disc
Company's 1981 Catalogue and cassette tape, "How to Teach Machine
Transcription for Word Processing"; Extence's Dictation for "Tomorrow's
Secretary"; International Business Machine's Machine Transcription for
Word Processing; Kupsh et al.'s Machine Transcription and Dictation;
Lanier's Machine Transcription; Lanier's Machine Transcription in the
Modern Office: A Teaching Aid for Office Procedures; Machine
Transcription by Lanier; McLean and Froiland's Comprehensive Word
Processing; Meyer and Moyer's Machine Transcription in Modern Business;
Misenheimer's Word Processing Secretarial Transcription Course; New
York State Secretarial Practice Transcription Course; Pasewark's
Machine Transcription Word Processing; Schatz and Funk's
"Transcription Skills for Information Processing"; and Snyder's 12
Hours to Accomplished Transcription.

transcription instruction. There is no question that the primary objective of instruction is to develop language use skills. These skills are primarily in the spelling and punctuation areas. Some materials dictate all punctuation and spelling early in instruction, gradually deleting this dictation as the student gains experience. (See Brooks, Word Processing, and Misenheimer, Word Processing Secretarial Transcription Course, for example.) Other materials, through dictated and written previews and reviews of both vocabulary and punctuation rules, require the student to make decisions on language use. (See Pasewark, Machine Transcription Word Processing, or McLean and Froiland, Comprehensive Word Processing, for example.)

Regarding the other skills of which machine transcription consists, current instructional materials say little. Except for one example in Pasewark, instructional materials give very little assistance to the student in determining a meaningful unit of thought. Providing an experience of continuous keyboarding and monitoring student performance are also omitted. Error correction and proofreading techniques are left to the teacher's discretion or follow procedures appropriate to the conventional typewriter.

Proofreading is encouraged by the instructional materials, and the usual assistance given to the student is a copy of the transcribed letter to consult during proofreading. Sometimes the student has the transcribed document available during transcription. (See Brooks, Misenheimer, and Pasewark, for example.) The teacher is responsible for other proofreading techniques and exercises. Other language and decision skills, namely editing and interpretation of poorly dictated materials, are not developed specifically.

In spite of variations, conventional instruction is characterized by vocabulary previews, reviews of punctuation and other language rules, and use of a transcript during proofreading. By omission, current practice is to use error-correction and referencing procedures appropriate to transcription on the conventional typewriter. By implication, currently available materials must be supplemented by active teacher intervention in several component skill areas. This is the assumption made by materials which may be open to question.

This concludes the discussion of the component skills required when machine transcription is performed in the word processing environment and current instructional practices. There is not universal acceptance that all of these skills can or should be developed in machine transcription instruction. Some argument can be made, however, that to ignore these skills will produce students only partially prepared for employment. Some argument can also be made that instructional materials must encourage more fusion of the multiple skills if they are to be truly self-paced and self-instructional.

Listening and Related Language Use Literature

The literature in machine transcription has been reviewed. The description of the skill as far as it has been defined has been presented, as have the types of dictation likely to be encountered by the transcriber. Many questions, however, have not been answered. Most of these concern developing the listening skills required by the transcriber. For some answers, it is necessary to go outside the machine transcription literature.

Educators in machine transcription skills call for the development of listening skills as a means of speeding up production and resolving

the language problems that occur. Misenheimer provides the rationale

for listening ahead:

> As your skills in transcribing longer thought groups and complete sentences develop, begin listening further ahead. Your goals are to listen to about one sentence or complete phrase ahead of your typing and to maintain a consistent typing rhythm.
>
> This technique keeps your typewriter in constant motion and avoids problems with the originator's corrections, special instructions, and afterthoughts. Also, when you listen ahead to a complete sentence, spelling, grammar, capitalization, and punctuation questions are often automatically answered. With this technique, transcription speed is limited only by typing ability.[38]

Casady[39] would view this as a retention or memory skill.

In practical matters, however, there is no research in machine

transcription to tell the learner what the optimum listening unit is.

Further if listening is geared toward natural thought units, then the

basis for slowing down the dictator's rate of speed to 80 to 90 words

per minute may not be compatible with listening for natural speech.

The literature in language processing and short-term memory may

provide some clues to the design of instructional material, for

interestingly enough some of this literature has used dictated material

as the stimulus in experimental work. What is reported here is

selective, as the body of literature is vast.

Processing Dictated Materials

Two kinds of studies using dictation are discussed here: shadow-

ing and aural cloze procedures. Each adds further understanding of the

psychology of the machine transcription activity.

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[38]Misenheimer, Word Processing Secretarial Transcription Course, p.16.

[39]Casady, "Effective Teaching," p. 292.

<u>Shadowing Studies.</u> Marslen-Wilson had subjects shadow dictated

language:

> Speech shadowing is an experimental task in which the subject is
> required to repeat (shadow) speech as he hears it. When the
> shadower is presented with a sentence, he will start to repeat it
> before he has heard all of it. The response latency to each word
> can therefore be measured.[40]

The reader may note the similarity to the machine transcription task in

which the transcriber shadows on the typewriter, having probably heard

only a portion of the total material to be transcribed.

The subjects shadowed material delivered at 160 words per minute.

Those most successful in shadowing remained

> . . .little more than a syllable behind the original material
> [which was narrative prose involving full sentence structure]. We
> know that it is possible to repeat isolated syllables with similar
> or even shorter delays. This suggests that the closest shadowers
> are processing the incoming material at the level of individual
> syllables.[41]

In analyzing the errors made in this task, Marslen-Wilson notes that

errors are more likely to occur when subjects anticipate the next

syllable, ". . .as if they are placing more reliance on the predictive

properties of the [language context]."[42]

A second report reinforces the role of context in resolving

ambiguous or distorted words and syllables during dictation. Again, a

shadowing task was involved with selected syllables distorted or

mispronounced. The researcher analyzed what the shadower said when

trying to reproduce, or restore, what was heard:

> Two types of restoration were distinguished in the error
> analysis. The critical errors are the Word Restoration (WR)

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[40]William Marslen-Wilson, "Linguistic Structure and Speech
Shadowing at Very Short Latencies," <u>Nature</u> 244 (August 1973): 522-23.

[41]Ibid.

[42]Ibid.

> errors, which are the restoration of disrupted words to their
> original lexical form, for example, repeating 'tomorrane' as
> 'tommorrow'. . . . [Context restorations (CR)] are reinstatements
> of the original word that had been replaced by contextually
> anomalous word.[43]

Context restorations were made more quickly than were word

restorations, and word restorations occurred most frequently when there

was a context preceding the distorted word, i.e., the distorted word

did not appear at the beginning of a sentence.

Both of these studies have a direct bearing on the development of

listening skills because they argue that listening can occur very

rapidly, at almost twice the speed of typical dictation, and that the

context of the language is critical in an accurate transcription. It

seems almost impossible, regardless of the task, to prevent the

listener from interpreting what s/he hears.

Aural Cloze Procedures and Listening. Another group of studies

also uses dictation as the stimulus and presents findings of interest

to the machine transcription skill. These studies involve the aural

cloze procedures. The cloze procedure is explained by Spolsky: "In

the cloze test, portions of a written or oral test are blanked out and

the subject is called on to provide the missing word or words."[44]

The use of the aural cloze in measuring language proficiency is

explained by Streiff:

> Cloze tests. . . are criterion-referenced measures which allow for
> comparison of a test taker's performance with written or oral text
> of varying levels of difficulty. . . . Cloze tests have been

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[43]William Marslen-Wilson, "Sentence Perception as an Interactive
Parallel Process," Science 189 (July 1975): 226-28.

[44]Bernard Spolsky, "Reduced Redundancy as a Language Testing
Tool," in Applications of Linguistics, eds. G. E. Perrin and J. L. M.
Trim (Cambridge: Cambridge University Press, 1971), p. 387.

substantially researched and validated as measures of global language proficiency. . . . This task calls into play what has been termed the listener-speaker's 'grammar of expectancy'. . . . [C]loze tends to correlate most highly with other integrative measures, such as listening comprehension and dictation tasks.[45]

That aural cloze relates to listening ability is verified by Tommola:

. . .[T]he . . . aural cloze of the word-deletion type can probably be characterized as [an] intensive listening test. . . . Short-term memory plays a . . . role . . .and. . . require[s] fairly quick reaction in the use of language, as is appropriate in a test connected with oral communication.[46]

Correlations with other tests

. . . may perhaps be taken as an indication that aural cloze is more concerned with intensive. . . listening [the ability to concentrate on the language used to express the content of the passage], and that it is more a test of language structure in the wide sense.[47]

He states that the aural cloze is interesting to test takers, uses authentic listening materials, and requires anticipatory listening or prediction of the direction of a statement.

Popham, Schrag, and Blockus discuss the cloze procedure as a device for evaluating the reading level of text materials to measure their compatibility with individual student ability.[48] Though Popham et al. do not suggest the use of the aural cloze in developing language skills, their acknowledgement of it as a device of interest to business educators shows the widespread application of this tool.

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[45]Virginia Streiff, "Relationship among Oral and Written Cloze Scores and Achievement Test Scores in a Bilingual Setting," in Language in Education: Testing the Tests, eds. John W. Oller and Kyle Perkins (Rowley: Newbury House Publishers, 1978), pp. 68-9.

[46]Jorma Tommola, "Testing Listening Comprehension Through Redundancy Reduction," Language Center News 1 (1978): 11.

[47]Ibid., p. 17. See also Stump, "Cloze and Dictation Tasks."

[48]Estelle L. Popham et al., A Teaching-Learning System for Business Education (New York: Gregg Division/McGraw-Hill Book Co., 1975), p. 127.

More citations about the cloze procedure could be used to verify its value as a test of language competence and listening ability. The reader will have noted, however, that the purpose of the aural cloze is to test language proficiency, not to develop language skills.

Yet the high correlations of the aural cloze with anticipatory listening is definitely of interest in machine transcription. If listening ahead is required for purposes of determining grammatical structure, then the aural cloze may be a device for training students to anticipate language and to handle ambiguous and even incorrectly dictated language. McDonough[49] suggests the cloze procedure for developing listening comprehension.

From these two types of studies, shadowing and aural cloze, the educator may conclude that dictation speeds may be increased without harm to the transcriber if the breaks between word groupings emphasize meaning[50] and that the student's natural ability to anticipate the

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[49]J. E. McDonough, English for Academic Purposes: Some Factors in Listening Comprehension. ERIC Document Reproduction Service, ED 148 104, 1977.

[50]Although speeds of dictation often average to 80 words per minute, spurts do occur. Conversational speech, for example, ranges from 140 to 160 words per minute; professional readers and announcers usually achieve about 175 words per minute; and the court reporter records speech delivered at up to 225 words per minute on a regular basis. The range within which spoken language occurs should be considered when training the machine transcriber.
Research in response to spoken word rate shows that both intelligibility of words and comprehensibility of ideas are preserved at word rates of about 275 words per minute. Emerson Foulke in his discussion, "Listening Comprehension as a Function of Word Rate," reports that comprehension of word rates between 125 to over 250 words per minute does not differ significantly. Intelligibility is preserved at higher rates. Thomas Sticht, in "Some Relationships of Mental Aptitude, Reading Ability, and Listening Ability Using Normal and Time Compressed Speech," also reports no significant loss of comprehension under conditions of speeded speech for varying ability levels. Fairbanks, Guttman, and Miron's study, cited in Carl Weaver's Human Listening, reports comparable findings.
The implications are clear if the reader considers that the machine transcriber transcribes a wide variety of documents delivered

next words and/or syllables can be better developed for use in machine transcription activities.

Short-term Memory and Meaningful Units

The role of memory in machine transcription is clear. Misenheimer states:

> If you can listen to and remember the dictation at a faster rate, increase the speed and adjust the pitch. A decrease in your listening time means an automatic increase in your transcription rate. . . . Try to listen to and remember a complete phrase, clause, or thought group before stopping the unit to type.[51]

Though there is not complete agreement on how many words should be retained, the role of memory is clearly recognized. This section considers the role of short-term memory to determine whether the literature has any recommendations of use to the machine transcriber.

The questions of relevance to machine transcription are: What are the limits of verbatim recall of sentences? What is the length of the meaningful unit to which the transcriber should be expected to attend? Some research may help to answer these questions.

George A. Miller, a noted psychologist of the communication process, has examined the relationship of memory to language extensively. His "magical number seven plus or minus two" is quoted in many contexts. On the matter of relevance to meaningful units of thought, he says that "the word is not the appropriate unit for

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in varying styles (e.g., conference notes, meetings, speeches, reports, letters, and others). There is no difficulty for the individual with average ability to respond to language delivered at far greater speeds than 80 words per minute, and this will frequently be required on the job. This forms the justification for the somewhat higher speed (140 words per minute) used in the current pretest and posttest materials.

[51]Misenheimer, Word Processing Secretarial Transcription Course, p. 7.

measuring the psychological length of a sentence."[52] There is no

definite answer as to how long the sentence may be, but Miller proceeds

to analyze the research on memory for errors in recall. Just as in

machine transcription, errors are simply changes in output from what

was input:

> We expect that, as we increase the amount of input information,
> the observer will begin to make more and more errors. . . . This
> [leveling off] we take to be the channel capacity of the observer;
> it represents the greatest amount of information that he can give
> us about the [input]. . . .[53]

Memory, then, would seem to have a limit as to how much input can be

handled at a high level of accuracy. Regardless of the kind of

stimulus used, whether taste, sound, or vision, accuracy judgments

average to be 6.5 categories or approximately seven: ". . .one standard

deviation includes from four to ten categories, and the total range is

from three to fifteen categories."[54] Studies on the span of

immediate memory, when response was given after several stimuli, showed

the same range even though the tasks were different.

On unidimensional items, the number of items recognized and

recalled is approximately seven plus or minus two. Above that number,

the mind rearranges the input into condensed form, or chunks, to

increase the capacity of short-term memory. That, however, would

result in error if exact replication is what is desired.

Because the goal in machine transcription is not to increase

memory beyond the recall of exact wording, "chunking" is not

desirable. As a result, the more reasonable recommendation to the

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[52]George A. Miller, The Psychology of Communication (New York:
Basic Books Inc., 1967), p. 12.

[53]Ibid., p 17.

[54]Ibid., p. 24.

learner is to work toward a meaningful unit of seven plus or minus two words. This would fit the length of some sentences and many phrases and clauses. This is not to say that the transcriber's capacity for retaining more than this could not be developed, but that during the learning stages, this is a reasonable goal. This goal would provide some limits to the general recommendation to listen to clauses and phrases, for there are many phrases and clauses that exceed even the nine or ten units which short-term memory seems to handle fairly well.

Can machine transcribers listen as much as a sentence ahead of where they are transcribing? Clark and Clark elaborate on a bias in perception which affects the way what is listened to is remembered:

> . . . [L]isteners build in interpretation from verbatim wording, but then get rid of this wording soon after crossing a sentence boundary. . . . Accordingly, they are good at verbatim recognition immediately after hearing a sentence and poor thereafter.[55]

> Word order is not represented accurately [in short-term memory] either, and subtle changes can creep in during immediate recall.[56]

From this review, recommendations to listen ahead a full sentence would seem unwise. The meaningful unit of thought, at least for the beginner, might begin at five words and progress to about nine or ten.

As a final note, Clark and Clark state that "...[R]ecall is best when people know the meaning of a sentence, so the more attention that is focused on meaning the better their recall."[57] This would suggest that the kind of instruction given on developing retention skills will greatly affect the student's performance.

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[55]Herbert H. Clark and Eve V. Clark, Psychology and Language (New York: Harcourt Brace Jovanovich, Inc., 1977), p. 139.

[56]Ibid., p. 141.

[57]Ibid., p. 151.

Summary

This review attempts to draw together the views of business educators and language psychologists in areas of common interest. The literature shows the role of machine transcription in the contemporary office and the characteristics of the dictation to which the transcriber will attend. The current conceptualization of and varying viewpoints about skill development are also reported. Finally the review identifies several findings from the general language learning and psychology area which have bearing on the manner in which dictated language is processed. The research and analysis contained in this chapter form the rationale for the development of the Listening Instruction and Conventional Instruction treatments described in Chapter III.

CHAPTER III

RESEARCH PROCEDURES

The problem of this study sets the context for the discussion of research procedures: Which of two theoretical approaches, fusion skill or single skill, leads to higher acquisition of the machine transcription skill? This problem relates most significantly to initial instruction, for it is in the introductory stages that the approaches would most strongly differ.

The question of whether materials based on these two approaches have an effect on student learning is essentially a problem in comparison. In order to provide a comparison, two parallel sets of materials required development. Hypotheses concerning expected differences required specification. A design had to be selected which allowed the comparison to be analyzed, and random assignment to the two treatments had to be accomplished. Finally, assumptions and limitations of the research strategy needed statement.

This chapter presents the details of these research steps in this order: the population and sample, the research design and statistical analysis, the instrumentation and general instructions, the hypotheses and operationalization of variables, and the assumptions and limitations of the study. Because of the frequent reference to the treatments, use will be made throughout the chapter of LI for Listening Instruction and CI for Conventional Instruction.

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Population and Sample

The population to which this study is generalized consists of post-secondary students acquiring the machine transcription skill through organized classroom instruction. This population includes the full- or part-time student enrolled in a community college, or other post-secondary institution. Most typically, but not exclusively, this student is enrolled in a secretarial, word processing, or other office program, and is female.

The study does not generalize to individuals acquiring the machine transcription skill through on-the-job training, self-instruction, or other means. The student, in other words, is enrolled in a course which includes machine transcription instruction. Such a course might be devoted exclusively to such instruction or include other office procedures.

Because the sample of classrooms and students was not a random sample of a well-defined, existing population, generalization is made via the Cornfield-Tukey Bridge argument[1] to the population which most closely matches the characteristics of the sample described in this study. The findings section describes the student background in detail.

The sample for this study consisted of volunteer community college and four-year college classrooms. In June, 1980, letters and reply cards were sent to 29 community colleges asking for cooperation in the study. Replies from four colleges indicated the availability of eight classrooms. Two additional classrooms were obtained by personal

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[1]Andrew C. Porter, Experimental Design in Education (ED 969C) (Michigan State University: Lecture, April 16, 1979).

contact. The participating colleges in alphabetic order were: Delta Community College (MI), Ferris State College (MI), Gogebic Community College (MI), Indiana State University (IN), Lake Michigan College (MI), and Schoolcraft Community College (MI). Teacher estimates of enrollment put the number of students at 187, and materials for this number were sent to the teachers in August, 1980. Low enrollments resulted in the loss of two of the ten classrooms, and one classroom which had confirmed participation withdrew after beginning the study. A replacement classroom was secured to maintain a balanced design.

The sample classrooms, their random assignment to treatments, and enrollment numbers are shown here in the original order they became available:

Classroom	Expected Enrollment	Random Assignment	Actual Enrollment	Usable Data
A	20	CI	20	15
B	20	CI	8	8
C	20	LI	10	10
D	20	CI	Withdrew	9/80
E	15	LI	Withdrew	1/81
F	15	LI	Withdrew	9/80
G	30	LI	15	12
H	15	LI	12	6
I	20	CI	14	14
J	12	CI	12	9
K	Replacement	LI	20	19

The number of students who participated in each treatment is: LI, 57 students; and CI, 54 students. Usable data, that is both pretest and posttest data, were obtained from 93 students, 47 in the LI treatment and 46 in the CI treatment.

Research Design and Statistical Analysis

An experiment permitted the best comparison of the results of the instructional materials. The experimental unit of analysis dictated

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the selection of design and data analysis. The individual student could not be randomly assigned to treatments without major administrative difficulties for the teachers, yet the student was the logical unit of analysis. The design and data analysis, therefore, were chosen to deal with these problems in random assignment.

Because of its simplicity and appropriateness for the desired comparison of instructional approaches, a completely randomized design was followed for the study. The data to be gathered met the general assumptions of the analysis of variance model, and, in addition, two conditions could be met:

1) There was an experimental variable (instructional approach) with at least two treatment levels (listening instruction and conventional instruction).

2) There was random assignment of classrooms to treatments so that each subject received only one level of treatment. In effect, teachers were randomly assigned to the two treatments.[2]

Teachers were encouraged to follow certain procedures, but considerable latitude had to be allowed in order to obtain cooperation in the study. Random assignment of classrooms neutralized the biases that teachers might introduce by varying classroom practices. Left as is, however, the design would have required "classrooms" as the unit of analysis with correspondingly few degrees of freedom and other possible difficulties.

The use of "student" as unit of analysis, however, was unjustified unless student equivalence at the start of the study could be argued. Analysis of covariance allowed initial student differences to be

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[2]Roger E. Kirk, Experimental Design: Procedures for the Behavioral Sciences (Belmont, California: Brooks/Cole Publishing Company, 1968), p. 99, 172.

neutralized statistically. In fact, this study fit one of the three situations appropriate for analysis of covariance (the use of intact groups) and met the following conditions:

1. The experiment contained at least three sources of variation believed to affect the dependent variables but considered irrelevant to the objectives of the study: typing speed, language ability, and prior transcription experience.

2. The experimental control of these sources of variation was not possible.

3. It was possible to obtain a measure of these sources of variation that did not include the effects attributable to the treatment through the use of a pretest prior to the presentation of the treatment levels.[3]

The combination of random assignment of classrooms to treatments and the statistical control of individual differences through analysis of covariance provides a strong basis for arguing that major biases were randomly distributed or statistically controlled and that confidence can be placed in the results.

The analysis of data was performed at Ferris State College (Big Rapids, Michigan) using several BioMeDical P-Series (BMDP) programs for descriptive data, correlation measures, missing value scores, and analyses of variance and covariance. The .05 alpha level of significance was selected according to convention.

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[3]Ibid., pp. 457-8.

Instrumentation:
Listening and Conventional Instruction

This section provides the operational definition of the Listening Instruction (LI) and Conventional Instruction (CI) variables. Two sets of dictated materials accompanied by written instruction were developed under the direction of two business education experts to insure their educational soundness and consistency with the study. All scripts and text materials were original, designed specifically for this study. They are presented in the appendix to the report.

The fusion approach as described by Leslie (See Chapter 1) identifies three stages for introductory instruction. In the first stage, emphasis is on continuous keyboarding with less emphasis on conventional error-correcting techniques. Instruction should assure a successful experience in continuous keyboarding. The second stage uses previews of punctuation, spelling, and dictation. Stage three begins the transition to the remainder of the course, with reduced previews and more difficult materials to encourage decision-making. Listening Instruction attempts to mirror these stages.

The Conventional Instruction does not have specialized stages of instruction which integrate skills. Instead, the dictation proceeds from slow to fast, and punctuation previews are not geared to the specific documents being transcribed, but are general in nature. Current transcription materials do, however, provide vocabulary previews and copies of the transcribed documents to use during proofreading . These have been included in the current materials.

Materials for the student included: one audio cassette tape with the dictated lessons (See Appendix A for scripts of dictation), one student instruction booklet (See Appendix B for two versions of the

instruction manual), and special stationery on which to transcribe each lesson (See Appendix C). The teacher's materials consisted of a manual with keys to the transcription (See Appendix D).

Both sets of materials are characterized by these features:

1. Each set contains 14 dictated items to be transcribed.

2. The content of each item is identical from set to set; for example, the content of Lesson 3 or Lesson 11 in the LI treatment is identical to the content of Lesson 3 or Lesson 11 in the CI treatment.

3. The stationery provided to the students for each lesson is the same in both treatments and gives margin and placement information to simplify initial skill development.

4. The transcription keys used for evaluating the transcript are the same for both treatments.

5. Lessons 1, 5, 10, and 14, which are evaluation lessons, are identical not only in content, but in style of dictation, length, and other features. They were, in fact, recorded from the same master onto each set of tapes. Each is recorded at 140 words per minute, a rate considered to be conversational.

6. Each set reviews the same seven punctuation rules dealing with comma use.

7. No comma, period, or other common punctuation marks are dictated in any of the lessons. Quotation marks are dictated. Spelling, capitalization, and line instructions are given for memorandum headings and inside addresses in selected lessons.

8. Students are instructed to use the backspace-and strikeover technique for keyboarded errors.

9. Students are instructed to type a double X (that is, xx) whenever wording is untranscribable to discourage referencing

activities during transcription. Referencing activities are encouraged during the proofreading periods, a procedure compatible with word processing techniques.

The differences between the sets are significant, however. These differences apply to lessons 2, 3, 4, 6, 7, 8, 9, 11, 12, and 13. These lessons make up three distinct subparts of instruction.

Lessons 2, 3, and 4 are aimed at continuous keyboarding. The comparison of these lessons follows:

Listening Instruction

1. preview of dictation in compressed speech

2. dictation in spurts of approximately five words at five-second intervals.

3. proofreading review of dictation in compressed speech

4. no punctuation rule review in written manual

Conventional Instruction

1. written preview of nine phrases used in dictation

2. dictation at 100 words per minute

3. written key for use during proofreading

4. review of one general comma rule per lesson

Lessons 6, 7, 8, and 9 are geared to use of appropriate comma rules during dictation. The differences in the lessons are:

Listening Instruction

1. preview of dictation in compressed speech

2. review of two comma rules tied directly to the dictated messages

3. dictation style emphasizing temporary and long pauses for punctuation

4. dictation review in compressed speech for proofreading

Conventional Instruction

    1. written preview of eight or nine phrases

    2. review of one general comma rule per lesson

    3. dictation at 120 words per minute

    4. use of written key to transcription during proofreading

Lessons 11, 12, and 13 emphasize decision making under conditions of ambiguous dictation. Both sets of materials contain deliberately distorted words, but they differ in these ways:

Listening Instruction

    1. a one-paragraph preview of dictation at conversational speed

    2. a transcription aid listing three possible word choices to insert for ambiguous words

    3. dictation review in compressed speech for proofreading

    4. dictation at conversational speed (untimed)

Conventional Instruction

    1. no written preview of terminology

    2. no transcription aid for ambiguous dictation

    3. use of written key to transcription during proofreading

    4. dictation at 140 words per minute

Because the critical lessons for purposes of this research are lessons 1 and 14, the pretest and posttest respectively, a description of each is important. These lessons are identical in both treatments, having been recorded from the same master. The key elements are:

    1. Lessons 1 and 14 are dictated at 140 words per minute.

    2. There is no assistance given to the student in terms of preview, punctuation, ambiguous dictation, terminology, or in any other manner.

    3. Lessons 1 and 14 contain the same number of each of the

following sentence types and word combinations to test knowledge of the seven punctuation rules: coordinate adjectives (four), lists or series (five), introductory prepositional phrases (four), introductory verbal phrases (four), introductory adverb clauses (four), compound sentences (four), and nonrestrictive items (four). The lessons require no other punctuation marks except for periods.

4. These lessons require the recording of the beginning transcription time, ending transcription time, and ending proofreading time.

5. Lessons 1 and 14 contain six ambiguously dictated words at intervals of five words in the last one or two paragraphs of the dictation.

6. Lessons 1 and 14 contain 271 words.

The other evaluation lessons, Lesson 5 and Lesson 10, assessed student progress in speed and accuracy in general terms. These lessons, though comparable in speed and length, are not content controlled as are the pretest and posttest lessons and are not used in hypothesis testing.

Although the hypotheses do not concern changes in performance from the pretest to the posttest, the findings section reports these statistics for general interest. To have confidence in the increases in speed and accuracy figures, the comparability of the pretest and the posttest should be examined.

Two different concerns motivated vocabulary usage in the pretest and the posttest. The pretest content was selected in order to facilitate transcription, according to Leslie's recommendations for early transcription. The posttest content was selected as new

material, and care was taken to avoid vocabulary already used in lessons 1 to 13.

To check the adequacy of these selections and to insure that the posttest vocabulary was not easier than the pretest vocabulary, the pretest and posttest were prepared in written cloze form, with 38 words deleted at regular intervals. Copies were randomly distributed to 60 students not associated with the machine transcription study, and these students attempted to replace the deleted words. The pretest, as expected, resulted in a higher mean replacement of words (16.6 words; s.d.=5.07) than the posttest (11.3 words; s.d.=3.83). Although the two means are not statistically different, the reader may have some confidence that the posttest is not easier material than the pretest and does not artificially inflate the increases achieved.

The punctuation required in the pretest and posttest can also be shown to be comparable. Copies of the pretest and posttest were prepared with all 29 commas removed. The copies were randomly distributed to 60 students not associated with the study. A count of accurately replaced commas shows a mean replacement of 17.82 commas (s.d.=5.30) for the pretest and 16.30 (s.d.=5.28) for the posttest. The closeness of the scores and lack of statistically significant differences demonstrates the comparability of the punctuation require-ments from pretest to posttest.

Hypotheses and Operationalization of Variables

The hypotheses to be tested involved the following measures of independent and dependent variables. Several dependent variables were composites of other measures, and this section defines operationally each variable used not only in testing the hypotheses but also in

constructing the dependent measures. All the dependent measures related to the prime concerns of machine transcription instruction: accuracy and speed in transcription.

Independent Variables

In addition to the listening and conventional instruction variables already defined, the study explored the influence of these independent variables:

Language Ability: Numerical equivalent of letter grade reported by student when asked for "average grade in grammar-oriented language classes."

Prior Machine Transcription Experience: Student's report of whether or not she/he had prior machine transcription experience in class or on the job.

Prior Shorthand Transcription Experience: Student's report of whether or not she/he had prior shorthand transcription experience in class or on the job.

Typing Speed: Student's report of current typing speed in words per minute.

A questionnaire asked students to indicate other background as well.

This questionnaire can be found in Appendix E.

Dependent Variables

The eight hypotheses were statistically tested in terms of speed and accuracy measures. Specifically the criterion variables consisted of the following direct measures or other measures constructed from a combination of direct measures:

Transcribing Time: The number of minutes reported on stationery from the beginning to the end of the rough draft.

Proofreading Time: The number of minutes reported on stationery from the end of the rough draft to the end of proofreading.

Total Transcription Time: The sum of Transcribing Time and Proofreading Time.

Accurate Words: The number of transcribed words which match the Key to Transcription in form (excluding capitalization), including words corrected by backspace-and-strikeover procedures.

Recognizable Words: The number of transcribed words which match the Key to Transcription, but are incorrect in form (excluding capitalization) due to misspelling, hyphenation, word endings, or similar errors.

Unrecognizable Words: The number of transcribed words which do not match the Key to Transcription.

Untranscribed Words: The total number of words in the Key to Transcription less the sum of Accurate Words and Recognizable Words.

Rough Drafting Rate: The sum of Accurate Words and Recognizable Words divided by the Transcribing Time.

Rough Drafting Accuracy: The ratio of Accurate Words to Total Words in the Key to Transcription.

Corrected Words: The number of Recognizable Words and Unrecognizable Words marked for correction during proofreading.

Added Words: Number of Untranscribed Words added to the transcript during proofreading which match the Key to Transcription.

Total Transcription Errors: The number of errors on the transcript after rough drafting, formed by summing Recognizable Words, Unrecognizable Words, and Untranscribed Words.

Proofreading Accuracy: The percent of total transcription errors corrected during post-transcription proofreading activities, expressed as the ratio of Corrected Words and Added Words to Total Transcription Errors.

Proofreading Correction Rate: The number of corrections made per minute during proofreading, formed by Proofreading Accuracy divided by Proofreading Time.

Total Errors: The sum of Recognizable Words, Unrecognizable Words, and Untranscribed Words less Corrected Words and Added Words.

Overall Accuracy: The percent of the total words dictated which are accurately produced during transcribing and proofreading activities, formed as the total of Accurate Words, Corrected Words, and Added Words divided by the total number of words in the Key to Transcription.

Overall Rate: The number of words per minute achieved during combined transcribing and proofreading activities, formed from the total number of Accurate Words, Corrected Words, and Added Words divided by Total Time.

Replacement Word Count: The number of attempts to transcribe distorted words in dictation which match the Key to Transcription.

Comma Accuracy: The ratio of accurately placed commas to the total number of commas in the Key to Transcription.

The eight variables used in hypothesis testing were: Rough Drafting Accuracy, Rough Drafting Rate, Proofreading Accuracy, Proofreading Correction Rate, Overall Accuracy, Overall Rate, Replacement Word Count, and Comma Accuracy.

Hypotheses

The theoretic hypotheses are given in Chapter 1. The null hypotheses tested in this study are as follows:

1. There will be no significant difference in Rough Drafting Accuracy demonstrated by new learners developed by Listening Instruction and Conventional Instruction.

2. There will be no significant difference in Rough Drafting Rate developed by Listening Instruction and Conventional Instruction.

3. There will be no significant difference in Proofreading Accuracy developed by Listening Instruction and Conventional Instruction.

4. There will be no significant difference in Proofreading Correction Rate developed by Listening Instruction and Conventional Instruction.

5. There will be no significant difference in Overall Accuracy developed by Listening Instruction and Conventional Instruction.

6. There will be no significant difference in Overall Rate developed by Listening Instruction and Conventional Instruction.

7. There will be no significant difference in Comma Accuracy developed by Listening Instruction and Conventional Instruction.

8. There will be no significant difference in Replacement Word Count developed by Listening Instruction and Conventional Instruction.

Assumptions and Limitations

The choice of analysis of variance or covariance assumes that the unit of analysis, in this case the student, responds independently of other units of analysis. A common problem in the classroom situation

is interaction among students or between students and teacher which negates that assumption of independence. In this case, the kind of activity involved is performed in such a way that other students are not likely to affect transcribing performance. Aside from the fact that each student works alone with the transcribing unit, students often complete transcription on a rotation basis in some classrooms while other students in the same class work on other machines. A major assumption, then, is that the students for the most part acted independently of one another in completing these materials and that teacher influence has been handled by random assignment of classrooms.

Concerning the use of analysis of covariance to neutralize individual differences, Kirk cautions:

> Experiments of this type are always subject to interpretation difficulties that are not present when random assignment [of individuals] is used in forming the experimental groups. Even when analysis of covariance is skillfully used, we can never be certain that some variable that has been overlooked will not bias the evaluation of an experiment.[4]

The assumption is made that the pre-test measures selected for the analysis of covariance adjustment adequately cover significant areas of student difference.

The preparation of cassette tapes is a difficult job at best, and the duplication of nearly 200 tapes is time consuming. The quality of the tapes is not that of a commercial publisher with access to sound studios. The quality of tapes was considered acceptable at the time they were provided to teachers, but there is no way to determine student reaction to quality in comparison with other taped materials that may have been available during initial instruction in dictation unit operation. The quality of taped materials was, however, the same for all students and is not a variable in that regard.

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[4]Ibid., p. 456.

The last limitation concerns the BMDP programs used for analysis. In the analysis of covariance routine, any case with any missing value caused the entire case to be dropped from analysis. As a result, the degrees of freedom varied from one test of hypothesis to the next.

CHAPTER IV

FINDINGS

Because generalizations of these findings cannot be made to a random sample of machine transcription students, the first concern of this chapter is to describe the sample in detail. The next question of concern is the degree to which the treatment groups were equivalent at the start of the study. The basis for the selection of covariates for analysis of covariance tests is then presented. The reports of hypothesis testing and exploration for interactions follow. In all areas, descriptive statistics are provided which should be useful to educators when assessing instructional methods and materials.

Sample Characteristics

A questionnaire (See Appendix E) asked for student background in a variety of areas: perception of language ability, prior transcription experience, curriculum, completion of college credits, language used at home, grade in grammar-oriented language classes, typewriting speed, and the like. This background information is reported for the two treatment groups.

The 93 student participants were women. Of the 47 students in the LI treatment, 33 (70.2 percent) were secretarial majors. Twenty-eight (60.9 percent) of the 46 students in the CI treatment group reported a secretarial major. Twenty students reported non-secretarial majors. These included clerical, court reporting, and non-office programs.

The remaining 12 students did not answer the question. Altogether, 61 of the 81 students reporting this information (75.3 percent) indicated a secretarial major.

Students reported the number of credit hours (quarter system equivalents) completed prior to the term in which they were enrolled. Table 1 shows the students' college experience for each treatment level.

Table 1
College Credits in Quarter System Equivalents Completed
by Students in LI and CI Treatment Levels

Treatment	Number of Credits Completed						
	0	1-20	21-40	41-60	61-80	81 up	Total
LI	6	3	3	8	8	8	36
CI	4	3	7	13	1	9	37
Total	10	6	10	21	9	17	73

Twenty of the 93 students in the study did not respond to the question about college credits, but the findings confirm that there are considerable differences in the college experience of the students entering the machine transcription course and that there are no substantial differences between the treatment groups on this factor.

Of the 84 who responded to the question about second language, 76, or 90.5 percent, reported English as the only language spoken at home. Reported grades in grammar-oriented courses ranged from A to D+ with the average in both the LI and CI treatments at B-. Initially language ability was to be measured using the verbal score achieved on the American College Testing Program college entrance examination. Several community colleges, however, did not have such entrance scores. In addition, courses in grammar or language use at the

college level were not listed as prerequisites for the machine transcription course. In the absence of other standard information, self-reported grades were used in analyses where appropriate.

Students indicated their prior experience in both machine and shorthand transcription. Table 2 presents this information by treatment level.

Table 2
Number of Students Reporting
Prior Shorthand and Machine Transcription Experience

| | Prior Experience in | | | |
| | Shorthand Transcription | | Machine Transcription | |
Treatment	Yes	No	Yes	No
LI	42	0	24	23
CI	36	6	20	25
Total	78	6	44	48

Of the 84 students answering the question about prior shorthand transcription experience, 92.9 percent had some exposure to the skill. Of the 92 reporting prior machine transcription experience, 47.8 percent had prior experience.

Students reported typing speeds averaging 61 to 62 words per minute in both treatment groups. As with reported grades in grammar-oriented classes, reported typing speed is not the most direct measure available. A timed, straight-copy typing test is not, however, a required element of the machine transcription course. Rather than increase requests to the teachers who were already responding to the basic requirements of the study, self-reports were used in analyses as appropriate.

How do students perceive their abilities? Tables 3, 4, 5, and 6 summarize responses to questions on perceived difficulty of grammar

and machine transcription and perceived accuracy in typing and

proofreading activities.

Table 3
Student Reports of
Perceived Difficulty of the Machine Transcription Skill
N=86

Value	Levels of Difficulty				
	Very Easy	Somewhat Easy	Somewhat Difficult	Very Difficult	Aver.
Treatment	1	2	3	4	
LI	1	15	25	3	2.68
CI	3	21	15	3	2.43
Percent of Sample	4.7	41.9	46.5	7.0	

Table 4
Student Reports of
Perceived Difficulty of Applying Grammar Skills
N=90

Value	Levels of Difficulty				
	Very Easy	Somewhat Easy	Somewhat Difficult	Very Difficult	Aver.
Treatment	1	2	3	4	
LI	3	17	25	1	2.52
CI	5	24	14	1	2.25
Percent of Sample	8.9	45.6	43.3	2.2	

Table 5
Student Reports of
Perceived Accuracy of Typewriting Skills
N=91

Value	Levels of Difficulty				
	Very Inaccurate	Somewhat Inaccurate	Somewhat Accurate	Very Accurate	Aver.
Treatment	1	2	3	4	
LI	1	6	37	3	2.89
CI	0	3	36	5	3.05
Percent of Sample	1.2	9.9	80.2	8.8	

Table 6
Student Reports of
Perceived Accuracy of Proofreading Skills
N=92

| Value | | Levels of Difficulty | | | |
Treatment	Very Inaccurate 1	Somewhat Inaccurate 2	Somewhat Accurate 3	Very Accurate 4	Aver.
LI	2	9	26	10	2.93
CI	5	6	25	9	2.84
Percent of Sample	7.6	16.3	55.4	20.7	

As a group, students perceived the machine transcription skill to be neither easy nor difficult, but in between. They perceived the application of grammar principles to be slightly more easy than difficult. The students' confidence in the accuracy of their typing and proofreading skills was high, but not extremely high.

One-way analyses of variance indicated differences statistically significant beyond the .05 level of probability between the treatment groups on perceived difficulty of machine transcription and application of grammar principles.

In summary, the women who participated in the study were most similar on curriculum, reported grades in grammar-oriented classes, prior shorthand and machine transcription experience, and perceived accuracy in typing and proofreading skills. The women varied in prior college training and perceived difficulty of both machine transcription and application of grammar principles. Generalization of findings is made to groups having similar characteristics.

Equivalence of Treatment Groups

Classrooms were randomly assigned to treatments in order to distribute teacher effects or biases to both treatments. Confirmation

of the need for such random assignments came from an analysis of the groups within each treatment level on the pretest variables. These variables are: transcribing time, proofreading time, total transcription time, accurate word count, recognizable word count, unrecognizable word count, untranscribed word count, corrected word count, added word count, replacement word count, and total comma count.

Table 7 on the next page shows on which variables the classrooms were significantly different from one another within treatment levels and on which variables, after pooling the groups, the treatment levels were significantly different.

The analyses show fewer significant differences between treatment levels than among the groups within each treatment. Such within-treatment differences illustrate the conditions which justify the use of the analysis of covariance technique. The effect of the teacher in producing uniformity of performance is apparent.

Table 7
F-Values and Probabilities for One-Way Analyses of Variance
on Pretest Variables Within and Between Treatment Levels

Variable Name	F and p Values	Within LI Treatment	df	Within CI Treatment	df	Between Treatments	df
Transcription Time	F	2.7531	3,34*	5.5812	3,26	.8480	1,66
	p	.0576		.0043**		.3605	
Proofreading Time	F	4.7976		5.7271		2.8069	
	p	.0068**		.0038**		.0986	
Total Time	F	2.7021		9.6476		.2203	
	p	.0609		.0002**		.6403	
Accurate Word Count	F	2.4070		3.5981		1.3709	
	p	.0842		.0268**		.2459	
Recognizable Word Count	F	6.3143		1.1198		1.8114	
	p	.0016**		.3591		.1829	
Unrecognizable Word Count	F	4.1910		.0961		6.8990	
	p	.0126**		.9640		.0107**	
Untranscribed Word Count	F	1.1232		4.9753		.7334	
	p	.3534		.0073**		.3949	
Corrected Word Count	F	7.1780		1.2801		1.7116	
	p	.0007**		.3020		.1953	
Added Word Count	F	5.0920	3,43	.4674	3,42	8.1084	1,91
	p	.0042**		.7066		.0054**	
Replacement Word Count	F	14.7525		1.7642		7.3465	
	p	.0000**		.1687		.0080**	
Comma Accuracy	F	7.6158		1.6754		4.5125	
	p	.0003**		.1868		.0364**	

*Degrees of freedom differ for analyses because of the manner in which missing scores are handled by the BMDP program. All analyses listed below each df have the same df until a change is noted. **Significant beyond the .05 level of probability.

The actual performance levels of students at the start of the study have importance for educators, for no statistics on these levels are currently available. The following tables report the means and standard deviations for each group and for each treatment level on pretest measures.

Under teacher supervision, students recorded the starting and ending times for rough drafting the pretest. Table 8 shows these data.

Table 8
Average Pretest Transcribing Time in Minutes
for Groups and Treatment Levels
N=90

	CI Treatment				LI Treatment			
Groups	1	2	3	4	5	6	7	8
Mean	22.71	20.71	16.33	18.87	19.40	20.53	16.00	14.40
S.D.	3.67	5.35	2.96	4.42	7.26	3.81	4.71	4.62
Treat Mean	19.84				18.49			
Treat S.D.	4.61				5.40			

The students spent approximately 18 to 20 minutes to transcribe the pretest.

Table 9 presents the average time required to proofread the transcript.

Table 9
Average Pretest Proofreading Time in Minutes
for Groups and Treatment Levels
N=85

	CI Treatment				LI Treatment			
Groups	1	2	3	4	5	6	7	8
Mean	7.86	10.20	8.89	5.83	6.70	10.00	11.58	9.75
S.D.	3.46	6.76	3.06	2.76	2.45	3.90	5.18	5.25
Treatment Mean	7.77				9.67			
Treatment S.D.	3.87				4.37			

Adding proofreading time to transcribing time brings the total task to about 27 to 28 minutes.

Each pretest was evaluated for the number of exact matches in word form and word order with the master transcript. The pretest contained

271 words. Table 10 presents the average number of words accurately transcribed during the rough draft period.

Table 10
Average Pretest Accurate Word Count
for Groups and Treatment Levels
N=93

Groups	CI Treatment				LI Treatment			
	1	2	3	4	5	6	7	8
Mean	199.1	212.6	237.6	231.9	207.6	231.4	241.3	253.7
S.D.	51.2	40.4	19.1	27.6	45.0	37.1	10.5	14.4
Treatment Mean	219.7				231.7			
Treatment S.D.	39.6				34.6			

In addition to exact matches, students transcribed words which differed in form or sequence from the dictation but which were nevertheless recognizable. The average number of these recognizable words is reported in Table 11.

Table 11
Average Pretest Recognizable Word Count
for Groups and Treatment Levels
N=93

Groups	CI Treatment				LI Treatment			
	1	2	3	4	5	6	7	8
Mean	17.50	25.13	18.67	17.80	27.80	15.47	16.08	14.00
S.D.	7.54	13.94	9.04	12.53	10.12	12.37	5.45	10.81
Treatment Mean	19.15				18.06			
Treatment S.D.	10.86				11.24			

Students also transcribed words not in the dictation. The statistics for these unrecognizable words are in Table 12.

Table 12
Average Pretest Unrecognizable Word Count
for Groups and Treatment Levels
N=93

Groups	1	CI Treatment 2	3	4	LI Treatment 5	6	7	8
Mean	10.79	8.75	11.44	9.33	11.20	7.00	6.67	3.00
S.D.	6.87	4.92	8.13	6.76	4.64	4.52	3.50	3.69
Treatment Mean		10.09				7.30		
Treatment S.D.		6.66				4.74		

Differences between treatments on this variable were significant, with the LI treatment showing 2.79 fewer mistranscriptions.

The results of transcription are normally evaluated in terms of mailability. Mailability standards were not the most appropriate measures for introductory learning, especially in terms of the pretest. As an alternative, the number of words remaining untranscribed after rough drafting and proofreading provides a guage of "how close" students were to a mailable transcript. These data are shown in Table 13.

Table 13
Average Pretest Untranscribed Word Count
for Groups and Treatment Levels
N=93

Groups	1	CI Treatment 2	3	4	LI Treatment 5	6	7	8
Mean	54.36	33.25	14.78	21.40	35.60	24.16	13.50	3.50
S.D.	50.82	43.22	12.94	23.41	46.35	36.10	9.08	4.04
Treatment Mean		32.19				21.23		
Treatment S.D.		38.59				32.51		

The next two tables show the overall measures of accuracy and speed for the initial transcribing activities. These measures do not

reflect changes produced by proofreading. Table 14 shows rough

drafting accuracy, that is, the percent of the 271 dictated words

which were transcribed accurately during the rough drafting period.

Table 14
Pretest Rough Drafting Accuracy as a Percent
of the Total Transcript for Groups and Treatment Levels
N=93

	CI Treatment				LI Treatment			
Groups	1	2	3	4	5	6	7	8
Mean	73.5	78.5	87.7	85.6	76.6	85.4	89.0	93.6
S.D.	18.9	14.9	7.1	10.2	16.6	13.7	3.9	5.3
Treatment Mean	81.1				85.5			
Treatment S.D.	14.6				12.8			

Table 15 reports the rough drafting rate achieved by students in

terms of words per minute.

Table 15
Average Pretest Rough Drafting Rate in Words Per Minute
for Groups and Treatment Levels
N=90

	CI Treatment				LI Treatment			
Groups	1	2	3	4	5	6	7	8
Mean	10.01	12.29	16.19	13.92	13.45	12.66	19.81	19.93
S.D.	3.63	4.76	3.21	3.24	4.12	3.80	15.28	5.58
Treatment Mean	12.91				15.39			
Treatment S.D.	4.18				8.75			

During proofreading, a post-transcription activity, students made

corrections to their rough drafts in the form of changes to already

transcribed words and additions to the transcript. Tables 16 and 17

show these data.

Table 16
Average Pretest Corrected Word Count
for Groups and Treatment Levels
N=93

Groups	1	CI Treatment 2	3	4	5	LI Treatment 6	7	8
Mean	5.93	7.38	7.33	5.47	16.20	6.37	8.83	7.50
S.D.	4.36	7.33	5.43	5.29	8.51	6.74	4.28	7.82
Treatment Mean		6.30				9.23		
Treatment S.D.		5.34				7.57		

Table 17
Average Pretest Added Word Count
for Groups and Treatment Levels
N=93

Groups	1	CI Treatment 2	3	4	5	LI Treatment 6	7	8
Mean	.93	.38	1.33	.73	.80	1.58	5.25	2.17
S.D.	1.94	1.06	2.12	1.53	2.20	1.54	4.71	3.25
Treatment Mean		.85				2.43		
Treatment S.D.		1.70				3.36		

The average number of corrections to words already on the transcript did not differ significantly for the two treatments, but the number of new words added to the transcript during proofreading did differ signicantly.

From the corrected word count and the added word count, both the percent of accuracy and the correction rate of proofreading activities can be calculated. Table 18 presents the figures on the percent of the errors made during rough drafting which were corrected during proofreading.

Table 18
Pretest Proofreading Accuracy as a Percent of
Total Errors for Groups and Treatment Levels
N=93

Groups	CI Treatment				LI Treatment			
	1	2	3	4	5	6	7	8
Mean	12.2	16.5	28.8	18.7	37.1	28.8	98.9	78.2
S.D.	10.3	15.9	17.9	15.4	20.9	17.1	90.0	44.3
Treatment Mean	18.3				54.8			
Treatment S.D.	15.3				57.3			

Table 19 shows the proofreading correction rate, the number of words per minute added or corrected by proofreading activities.

Table 19
Pretest Proofreading Correction Rate in Words Per Minutes
for Groups and Treatment Levels
N=83

Groups	CI Treatment				LI Treatment			
	1	2	3	4	5	6	7	8
Mean	.92	1.66	1.04	1.24	2.61	.79	1.45	.59
S.D.	.64	1.28	.78	1.47	1.54	.60	.92	.54
Treatment Mean	1.14				1.35			
Treatment S.D.	1.04				1.19			

As a result of proofreading activities, the CI treatment gained 7.10 total words at a rate of 1.14 words per minute. The LI treatment gained 11.66 words at a rate of 1.35 words per minute.

Accuracy in punctuation is a major concern for instruction. This study focused on seven comma rules, and the pretest required only commas related to these rules. The only other punctuation involved in the pretest was the period to end sentences. The following statistics show both the overall accuracy in placement of commas as well as accuracy in applying the seven specific comma rules that were to be presented during instruction. The comma counts are based on placement

of punctuation during both rough drafting and proofreading of the document.

Table 20 presents the average number of commas correctly placed by students, and, except for series or lists, four commas were required in each category.

Table 20
Means and Standard Deviations for Pretest Comma Accuracy
for Treatment Levels
N=93

Comma Type	CI Treatment	LI Treatment	Significance
Coordinate Adjectives (n=4)	1.35 1.30	1.72 1.46	ns
Series or Lists (n=5)	3.24 1.65	3.26 1.61	ns
Introductory Preposi- tional Phrases (n=4)	1.87 1.47	2.28 1.35	ns
Introductory Verbal Phrases (n=4)	1.98 1.39	2.66 1.45	*
Introductory Adverbial Clauses (n=4)	1.89 1.43	2.62 1.44	*
Compound Sentences (n=4)	1.28 1.05	1.83 1.24	*
Nonrestrictive Items (n=4)	1.57 1.24	2.17 1.34	*
TOTAL (n=29)	13.17 7.47	16.53 7.77	*

*Significant differences between treatments beyond the .05 level of probability (df=1, 91).

The table shows which punctuation rules had been mastered prior to instruction. Except for commas used in series or lists, the CI treatment had fewer than half of each type of comma placed correctly. In contrast, the LI treatment had five of the seven types placed accurately more than half of the time. The commas were used

accurately on 45.4 to 57.0 percent of the applications. The composite comma accuracy score is what has been used for data analysis.

In summary, the pretest data are the indicators of where students were at the start of the machine transcription study. The treatments differed significantly on four of the 11 pretest measures: unrecognizable word count, added word count, replacement word count, and comma accuracy. The students required from 27 to 28 minutes to transcribe and proofread their pretests. For the CI and LI treatments respectively, the transcripts were 81.1 to 85.5 percent accurate after rough drafting and 83.7 to 89.9 percent accurate after proofreading. Proofreading contributed little more than one word per minute to the transcript and caused the rate of transcription to drop from 11.07 and 12.53 words per minute to 8.21 and 8.64 words per minute respectively.

Correlates with Dependent Variables

Analysis of covariance depends upon the selection of covariate measures available before the experimental treatment which correlate with the posttest measures. How key background and pretest measures correlate with post measures is shown in several tables. Analysis of covariance uses variables which are capable of explaining additional variance in the dependent measure and hence increase the chances of showing results of the treatment itself. The correlations shown on the following tables are not extremely high. Conventionally, squaring the correlation figure shows the percent of explained variance contributed by the variable. Although not high, correlations of .24 or higher (that is approximately six percent or more of explained variance) were selected as covariates providing they were not highly correlated among themselves.

Table 21 shows the correlations of background variables with the eight posttest measures used for hypothesis testing. These background variables come from student responses on the questionnaire completed prior to the start of the study. Table 22 presents the correlations of pretest measures obtained directly from the pretest transcripts with the eight posttest measures used for hypothesis testing. These variables are the raw measures from which transformed measures were constructed. Table 23 shows the correlations of the variables created through transformations. These are the exact parallels from the pretest of the dependent measures, and in all cases these variables have been used as covariates with the criterion variables.

On the basis of the correlation figures, the following variables were identified as potential covariates for the criterion variables: For Rough Drafting Accuracy, additional covariates were reported grade in grammar-oriented classes, prior shorthand transcription experience, pretest accurate word count, pretest recognizable word count, pretest unrecognizable word count, and pretest comma accuracy. For Rough Drafting Rate, reported grade in grammar-oriented classes, pretest transcribing time, pretest total transcription time, pretest overall rate, and two comma measures were selected as covariates. Only pretest added word count correlated with Proofreading Accuracy. Pretest rough drafting rate and pretest transcription time correlated with Proofreading Correction Rate. Additional correlates for Overall Accuracy were grade in grammar-oriented classes, pretest recognizable word count, pretest unrecognizable word count, prior shorthand transcription experience, and pretest comma accuracy. Perceived difficulty of machine transcription, perceived difficulty of applying grammar principles, pretest transcription time, pretest total

Table 21

Correlations of Background Variables with Posttest Measures

Background Variables	Rough Draft Accuracy	Rough Draft Rate	Proofreading Accuracy	Proofreading Corrections	Overall Accuracy	Overall Rate	Comma Accuracy	Replacement Word Ct.
				Posttest Variables				
Grade in Grammar Classes	.3673*	.2506*	.0398	-.1527	.3105*	.2209	.2618*	.1716
Shorthand	-.3750*	-.0688	-.1042	.0588	-.3336*	-.0422	-.1247	-.1592
Trans. Experience Machine	-.1875	.0168	-.2022	-.1200	-.2132	-.0348	-.0663	.0608
Trans. Experience Typing	.1032	.1836	.0090	-.0135	.1012	.1540	-.0316	.0668
Speed Perceived Difficulty in MT	.0481	-.1845	-.0401	-.1238	-.0739	-.2782*	-.1379	-.1656
Perceived Difficulty of Grammar	-.1198	-.1268	.0462	-.0678	-.0794	-.2547*	-.1308	-.0024
Perceived Accuracy of Typing	.0747	-.0553	-.0881	.1584	-.0092	.0518	-.0236	.0943
Perceived Accuracy of Proofing	.2112	.0661	.0494	-.1088	.1659	.1110	.1211	.1673
Second Language	.1495	.0070	.1033	-.0664	.1629	-.0115	.1272	.1118
Curriculum	-.1249	-.1482	-.0259	-.2034	-.1614	-.1640	-.1361	.0015
Credits Completed	.0671	-.0065	-.0276	-.1492	.0201	-.0612	.0042	-.0846

*Variables with correlations of .24 or higher were selected for covariates in the analysis of covariance test.

Table 22

Correlations of Pretest Performance Variables
with Posttest Measures

	Posttest Variables							
Pretest Variables	Rough Draft Accuracy	Rough Draft Rate	Proofreading Accuracy	Proofreading Corrections	Overall Accuracy	Overall Rate	Comma Accuracy	Replacement Word Ct.
Transcribing Time	-.0957	-.5385*	.1375	.2415*	-.0342	-.4313*	.1106	.1008
Proofreading Time	.0328	.2245	.1540	-.0491	.1137	.0394	.0870	.0654
Total Trans. Time	-.0706	-.2707*	.2202	.1733	.0376	-.2963*	.1557	-.0639
Accurate Word Count	.2446*	.1541	-.0544	-.1448	.1885	.1491	.0869	.1447
Recognizable Word Count	-.5499*	-.1376	-.1878	-.0503	-.4814*	-.2683*	-.3391*	-.4275*
Unrecogniza-ble Word Count	-.4854*	-.0765	-.0191	.0380	-.3823*	-.1825	-.1683	-.3006*
Untranscribed Word Count	-.0868	-.1208	.1142	.1672	-.0495	-.0695	.0132	-.0201
Corrected Word Count	-.2086	.0031	-.0213	.0936	-.1089	-.0876	-.1864	-.1272
Added Word Count	.0462	.2140	.2481*	.0803	.1531	.0433	.0719	.1629

*Variables with correlations of .24 or higher were selected as covariates for the analysis of covariance test.

Table 23

Correlations of Pretest Transformed Variables
with Posttest Measures

Posttest Variables

Pretest Variables	Rough Draft Accuracy	Rough Draft Rate	Proofreading Accuracy	Proofreading Corrections	Overall Accuracy	Overall Rate	Comma Accuracy	Replacement Word Ct.
Rough Draft Accuracy	.2446*	.1541	-.0544	-.1448	.1885	.1491	.1447	.0869
Rough Draft Rate	.0971	.4512*	-.1144	-.2498*	.0590	.3997*	.0102	-.1428
Proofreading Accuracy	.1231	.1838	.1503	.0635	.1891	.1004	.1962	.0643
Proofreading Correction Rate	-.2190	.0651	-.0927	.1261	-.1804	.0721	-.1638	-.3018*
Overall Accuracy	.2109	.1720	.0399	-.1196	.1806	.1362	.1341	.0589
Overall Rate	.1285	.3252*	-.1788	-.2355	.0508	.3108*	.0245	-.2011
Replacement Word Count	.2147	.2114	-.0010	-.1592	.1637	.1335	.0793	.1121
Comma Accuracy	3664*	.2177	.1083	-.1223	.3622*	.0995	.5182*	.1960

*Variables with correlations of .24 or higher were selected as covariates for the analysis of covariance test.

transcription time, pretest rough draft rate, and pretest recognizable word count correlated with Overall Rate. Three variables correlated with Comma Accuracy: reported grade in grammar-oriented classes and pretest recognizable word count. Finally, pretest recognizable word count, pretest unrecognizable word count, and pretest proofreading correction rate correlated with Replacement Word Count.

This concludes the section on covariate selection. The reader will note that certain background variables initially selected for use in evaluating hypotheses, namely language ability (i.e., grade in grammar-oriented classes), typing speed, and prior shorthand and machine transcription experience, vary in their ability to explain variance in the dependent measures. In general, except for reported grade in grammar-oriented classes, they are weak predictors of posttest performance.

Hypothesis Testing

The eight hypotheses were tested using analysis of covariance. The pretest variable was used as the covariate for the posttest variable in the first test presented with each hypothesis. Where justified by correlations, a second test was conducted using multiple covariates with the dependent measures.

Rough Drafting Accuracy

Null Hypothesis: There will be no significant difference in Rough Drafting Accuracy demonstrated by new learners developed by Listening Instruction and Conventional Instruction.

Rough drafting accuracy is a percent obtained by taking the accurate word count and dividing that measure by the 271 words in the

transcript. Table 24 presents the analysis of covariance results using the pretest measure for rough drafting accuracy as a covariate.

Table 24
Analysis of Covariance for Posttest Rough Drafting Accuracy
Using Pretest Rough Drafting Accuracy as Covariate

Sources of Variance	df	SS	MS	F-Value	p
Adjusted Cell Means	1	.0510	.0510	18.3246	.0001*
Zero Slope	1	.0100	.0100	3.6118	.0606
Error	90	.2503	.0028		
Equality of Slopes	1	.0015	.0015	.5357	.4661
Error	89	.2488	.0028		

*Significant beyond the .05 level of probability in the predicted direction.

An examination of pretest and background variables correlating with rough drafting accuracy generated the following correlations of .24 or above: reported grade in grammar-oriented classes (r=.3673), prior shorthand transcription experience (r=-.3750), recognizable word count (r=-.5499), unrecognizable word count (r=-.4854), total comma accuracy (r=.3664), and accurate word count (r=.2446).

Because of the pretest equality of treatment groups and the level of probability achieved using the pretest variable as covariate, no further analyses of covariance were run. The null hypothesis is not retained.

The level of rough drafting accuracy achieved by the LI treatment is .9234, or 92 percent of the 271 words, up from the pretest level of .8549, or 85 percent. The CI treatment pretest level was .8106, or 81 percent accuracy, and increased to .8726, or 87 percent.

Rough Drafting Rate

Null Hypothesis: There will be no significant difference in Rough Drafting Rate developed by Listening Instruction and Conventional Instruction.

Rough drafting rate is a words-per-minute measure obtained by first summing accurate and recognizable words and then dividing by transcribing time. Table 25 presents the analysis of covariance using the pretest measure as covariate.

Table 25
Analysis of Covariance for Posttest Rough Drafting Rate
Using Pretest Rough Drafting Rate as Covariate

Sources of Variance	df	SS	MS	F-Value	p
Adjusted Cell Means	1	19.4065	19.4065	.7117	.4015
Zero Slope	1	502.4043	502.4043	18.4247	.0001
Error	78	2126.9001	27.2679		
Equality of Slopes	1	.0989	.0989	.0036	.9524
Error	77	2126.8013	27.6208		

Background and pretest variables with correlations of .24 or higher were: reported grade in grammar-oriented classes (r=.2506), pretest transcription time (r=-.5383), total pretest transcription time (r=-.2707), pretest overall rate (r=.3252), and two comma measures (introductory verbals (r=.3507) and introductory adverbial clauses (r=.2531)).

In an effort to reduce extraneous variance, a second analysis of covariance was run using reported grade, pretest transcription time, and the two comma measures as covariates. Total pretest transcription time and pretest overall rate were not used because both included pretest transcription time. Table 26 presents the results of this analysis.

Table 26
Analysis of Covariance for Postest Rough Drafting Rate
with Multiple Covariates*

Sources of Variance	df	SS	MS	F-Value	p
Adjusted Cell Means	1	8.9746	8.9746	.3649	.5477
Zero Slope	5	819.5618	163.9124	6.6651	.0000
Error	73	1795.2649	24.5927		
Equality of Slopes	5	121.7566	24.3513	.9895	.4308
Error	68	1673.5083	24.6104		

*Pretest Rough Drafting Rate, Reported Grade, Pretest Transcription Time, and Comma Measures for Introductory Verbals and Introductory Adverb Clauses.

On the basis of the results the null hypothesis is retained. The rough drafting rate in the LI treatment rose from a pretest level of 15.39 words per minute to a posttest level of 18.91 words per minute. The respective rates for the CI treatment are 12.91 words per minute and 16.71 words per minute. The increases did not differ because of the treatment.

Proofreading Accuracy

Null Hypothesis: There will be no significant difference in Proofreading Accuracy developed by Listening Instruction and Conventional Instruction.

Proofreading accuracy is a ratio of added and corrected words to total transcription errors. Transcription errors are uncorrected words, untranscribed words, and unrecognizable words. Table 27 first presents the analysis of covariance on transcription errors.

Table 27
Analysis of Covariance for Posttest Transcription Errors
Using Pretest Transcription Errors as Covariate

Sources of Variance	df	SS	MS	F-Value	p
Adjusted Cell Means	1	8231.6836	8231.6836	19.6727	.0001*
Zero Slope	1	1438.4609	1438.4609	3.4377	.0670
Error	90	37658.8242	418.4312		
Equality of Slopes	1	402.4844	402.4844	.9615	.3295
Error	89	37256.3398	418.6104		

*Significant beyond the .05 level of probability.

In the LI treatment, errors decreased from 34.94 words in the pretest to 18.47 words in the posttest. In the CI treatment, errors declined from 54.28 words in the pretest to 39.91 words in the posttest. This was a reduction of 16.47 words and 14.37 words respectively in the LI and CI treatments.

Table 28 presents the covariance results on proofreading accuracy. The pretest value used as covariate includes the transcription error measure and adjusts for differences which existed between the treatments at the start of the study.

Table 28
Analysis of Covariance for Posttest Proofreading Accuracy
Using Pretest Proofreading Accuracy as Covariate

Sources of Variance	df	SS	MS	F-Value	p
Adjusted Cell Means	1	.1404	.1404	.3092	.5796
Zero Slope	1	.5502	.5502	1.2116	.2740
Error	90	40.8705	.4541		
Equality of Slopes	1	1.1283	1.1283	2.5268	.1155
Error	89	39.7421	.4465		

A search for other possible covariates revealed one relationship only, added word count (r=.2481). The analysis of covariance with this additional variable is shown in Table 29.

Table 29
Analysis of Covariance for Posttest Proofreading Accuracy
with Multiple Covariates*

Sources of Variance	df	SS	MS	F-Value	p
Adjusted Cell Means	1	.0622	.0622	.1410	.7082
Zero Slope	2	2.1324	1.0662	2.4153	.0952
Error	89	39.2883	.4414		
Equality of Slopes	2	1.5605	.7802	1.7992	.1715
Error	87	37.7278	.4337		

*Pretest Proofreading Accuracy, Pretest Added Word Count.

The null hypothesis is retained in light of these findings. The level of proofreading accuracy seems to be independent of the other factors assessed in this study. Self reports on expected accuracy in proofreading were unrelated to performance (r=.0494). The lack of other relationships on which to predict proofreading ability should be noted. The LI treatment increased from a pretest level of 54.76 percent to 65.77 percent accuracy. The CI treatment increased its level of accuracy from 18.33 to 50.57 percent.

Proofreading Correction Rate

Null Hypothesis: There will be no significant difference in Proofreading Correction Rate developed by Listening Instruction and Conventional Instruction.

Proofreading correction rate measures how many words per minute are corrected during proofreading through changes or additions. Table 30 shows the results of the analysis of covariance.

Table 30
Analysis of Covariance for Posttest Proofreading Correction Rate
Using Pretest Proofreading Correction Rate as Covariate

Sources of Variance	df	SS	MS	F-Value	p
Adjusted Cell Means	1	2.5573	2.5573	2.5104	.1177
Zero Slope	1	1.6896	1.6896	1.6586	.2022
Error	68	69.2709	1.0187		
Equality of Slopes	1	.0002	.0002	.0002	.9878
Error	67	69.2706	1.0339		

Other possible covariates were: pretest rough drafting rate

(r=-.2498) and pretest transcription time (r=.2416). The results of

the subsequent analysis of covariance are reported in Table 31.

Table 31
Analysis of Covariance for Posttest Proofreading Correction Rate
with Multiple Covariates*

Sources of Variance	df	SS	MS	F-Value	p
Adjusted Cell Means	1	1.9264	1.9264	1.9197	.1706
Zero Slope	3	3.5649	1.1883	1.1842	.3227
Error	65	65.2252	1.0035		
Equality of Slopes	3	3.3444	1.1148	1.1169	.3491
Error	62	61.8809	.9981		

*Pretest Proofreading Correction Rate, Pretest Rough Drafting Rate,
Pretest Transcription Time.

The null hypothesis is retained. In general, students are adding

slightly over one correction per minute through proofreading. The LI

treatment produced no change from pretest to posttest (1.35 to 1.32

words per minute). The CI treatment did slightly better (1.14 to 1.68

words per minute). More will be said about this level of proofreading.

Overall Accuracy

Null Hypothesis: There will be no significant difference in

Overall Accuracy developed by Listening Instruction and Conventional

Instruction.

Overall accuracy considers exact word matches produced during initial transcription and during proofreading. The percent of total words is then generated. The analysis of covariance is reported in Table 32.

Table 32
Analysis of Covariance for Posttest Overall Accuracy
Using Pretest Overall Accuracy as Covariate

Sources of Variance	df	SS	MS	F-Value	p
Adjusted Cell Means	1	.0476	.0476	14.1577	.0003*
Zero Slope	1	.0033	.0033	.9822	.3243
Error	90	.3027	.0034		
Equality of Slopes	1	.0062	.0062	1.8537	.1768
Error	89	.2963	.0033		

*Significant beyond the .05 level of probability in the predicted direction.

Other variables correlating with overall accuracy are: pretest recognizable word count (r=-.4814), pretest unrecognizable word count (r=-.3823), total comma accuracy (r=.3622), prior shorthand transcription experience (r=.3336), and reported grade in grammar-oriented classes (r=.3105). A second analysis was run with these additional covariates. When prior shorthand transcription experience was included as a covariate, no test for equality of slopes could be made. Table 33 reports the analysis using the remaining four covariates.

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Table 33
Analysis of Covariance for Posttest Overall Accuracy
with Multiple Covariates*

Sources of Variance	df	SS	MS	F-Value	p
Adjusted Cell Means	1	.0372	.0372	14.9032	.0002**
Zero Slope	5	.0807	.0161	6.4655	.0000
Error	85	.2122	.0025		
Equality of Slopes	5	.0317	.0063	2.8072	.0218
Error	80	.1805	.0023		

*Pretest Overall Accuracy, Reported Grade, Pretest Recognizable Word Count, Pretest Unrecognizable Word Count, and Pretest Comma Accuracy.
**Significant beyond the .05 level of probability in the predicted direction.

The null hypothesis can be rejected on the basis of these tests. The LI treatment produced increased overall accuracy of 95.47 percent, up from a pretest level of 89.79 percent. The CI group achieved 90.56 percent accuracy, up from a pretest level of 83.70 percent.

Overall Rate

Null Hypothesis: There will be no significant difference in Overall Rate developed by Listening Instruction and Conventional Instruction.

Overall rate is a words-per-minute measure obtained by dividing accurate, added, and corrected words by the 271 total words in the transcript. Table 34 shows the analysis of covariance.

Table 34
Analysis of Covariance for Posttest Overall Rate
Using Pretest Overall Rate as Covariate

Sources of Variance	df	SS	MS	F-Value	p
Adjusted Cell Means	1	16.2507	16.2507	1.3640	.2469
Zero Slope	1	83.0566	83.0566	6.9713	.0102
Error	69	822.0659	11.9140		
Equality of Slopes	1	58.1880	58.1880	5.1799	.0260
Error	68	763.8779	11.2335		

Correlated variables include: perceived difficulty of machine transcription (r=-.2782), perceived difficulty of applying grammar principles (r=-.2547), pretest transcription time (r=-.4313), total transcription time (r=-.2963), pretest rough draft rate (r=.3997), and pretest recognizable word count (r=-.2683). Because total pretest transcription time includes pretest transcription time, total time was not included as a covariate. Pretest rough draft rate is part of pretest overall rate and was likewise excluded. Table 35 shows the results of the analysis of covariance with these additional covariates.

Table 35
Analysis of Covariance for Posttest Overall Rate
with Multiple Covariates*

Sources of Variance	df	SS	MS	F-Value	p
Adjusted Cell Means	1	23.6638	23.6638	2.1503	.1481
Zero Slope	5	237.1282	47.4256	4.3094	.0022
Error	56	616.2854	11.0051		
Equality of Slopes	5	76.2627	15.2525	1.4405	.2258
Error	51	540.0227	10.5887		

*Pretest Overall Rate, Perceived Difficulty of Machine Transcription, Perceived Difficulty of Grammar, Pretest Transcription Time, and Pretest Recognizable Word Count.

Although the resulting F-value is improved in the predicted direction, there is no basis on which to reject the null hypothesis. The overall rate of transcription increased from approximately 9 to 12 words per minute. The LI treatment increased from 9.38 words to 12.27 words; the CI treatment increased from 8.59 to 11.55 words per minute.

Comma Accuracy

Null Hypothesis: There will be no significant difference in Comma Accuracy developed by Listening Instruction and Conventional Instruction.

Comma accuracy is a ratio of correctly placed commas to the total

commas required in the transcript. The first analysis of covariance

resulted in a probability of 1.0. The treatment groups, in other

words, were virtually identical to one another. In order to detect

some differences, the search for covariates was made. Two variables

correlated with comma accuracy: reported grade in grammar-oriented

classes (r=.2618) and recognizable word count (r=-.3391). Table 36

presents the second analysis of covariance.

Table 36
Analysis of Covariance for Posttest Comma Accuracy
with Multiple Covariates*

Sources of Variance	df	SS	MS	F-Value	p
Adjusted Cell Means	1	.0005	.0005	.0139	.9063
Zero Slope	4	1.3033	.3258	9.2444	.0000
Error	86	3.0312	.0352		
Equality of Slopes	4	.1800	.0450	1.2939	.2793
Error	82	2.8512	.0348		

*Pretest Comma Accuracy, Reported Grade, and Pretest Recognizable Word Count.

The null hypothesis is retained on the basis of both tests. The

LI treatment improved from a pretest rate of .5701, or 57 percent, to

a posttest rate of .6786, or 68 percent. The CI treatment group

improved from a pretest level of .4543, or 45 percent, to a posttest

level of .6281, or 63 percent. The CI treatment appears to have been

more effective in producing improvement than the LI treatment, in

spite of lack of significant differences.

Table 37 presents the posttest data for each type of comma and is

parallel to Table 20, which presents the pretest data for comma

accuracy.

Table 37
Means and Standard Deviations for Posttest Comma Accuracy
for Treatment Levels
N=93

Comma Type	CI Treatment	LI Treatment	Significance
Coordinate Adjectives (n=4)	1.59 1.31	1.40 1.06	ns
Series or Lists (n=5)	3.56 1.50	4.36 .97	*
Introductory Preposi- tional Phrases (n=4)	3.15 1.25	3.26 1.13	ns
Introductory Verbal Phrases (n=4)	2.43 1.24	2.70 1.16	ns
Introductory Adverbial Clauses (n=4)	3.22 1.23	3.45 1.06	ns
Compound Sentences (n=4)	1.89 1.42	1.36 1.11	*
Nonrestrictive Items (n=4)	2.37 1.51	3.13 1.74	*
TOTAL (n=29)	18.22 7.48	19.68 5.44	ns

*Significant differences between treatments beyond the .05 level of probability (df=1, 91).

A comparison with Table 20 shows gains for the CI group in several areas. There are only two, rather than five, areas in which the LI treatment is superior to the CI treatment, and one area, compound sentences, where the reverse is true.

Replacement Word Count

Null Hypothesis: There will be no significant difference in Replacement Word Count developed by Listening Instruction and Conventional Instruction.

The decision-making element of instruction is reflected in the replacement word count. This count is the number of words distorted

in dictation which were correctly replaced by the student. Table 37

shows the results of the analysis of covariance.

Table 38
Analysis of Covariance for Posttest Replacement Word Count
Using Pretest Replacement Word Count as Covariate

Sources of Variance	df	SS	MS	F-Value	p
Adjusted Cell Means	1	12.8850	12.8850	5.7990	.0181*
Zero Slope	1	.3625	.3625	.1632	.6872
Error	90	199.9753	2.2219		
Equality of Slopes	1	15.2961	15.2961	7.3714	.0080
Error	89	184.6793	2.0750		

*Significant beyond the .05 level of probability in the predicted direction.

Two other variables correlated with the replacement word count:

pretest recognizable word count (r=-.3391) and pretest proofreading

correction rate (r=-.3018). A further analysis of covariance was done

using these two additional covariates. Table 39 reports the findings:

Table 39
Analysis of Covariance for Posttest Replacement Word Count
Using Multiple Covariates*

Sources of Variance	df	SS	MS	F-Value	p
Adjusted Cell Means	1	14.9293	14.9293	8.0780	.0057**
Zero Slope	3	24.1861	8.0620	4.3622	.0068
Error	78	144.1554	1.8481		
Equality of Slopes	3	14.3006	4.7669	2.7532	.0484
Error	75	129.8548	1.7314		

*Pretest Replacement Word Count, Pretest Recognizable Word Count,
Pretest Proofreading Correction Rate. **Significant beyond the .05
level of probability in the predicted direction.

Unrecognizable word count was not included because of its high

correlation with recognizable word count.

The null hypothesis is not retained. The LI treatment improved

from 3.30 to 3.77 words, and the CI treatment improved from 2.33 to

2.96 words.

Exploration of Interactions

The eight main effects hypotheses have examined the relationship of the Listening Instruction and the Conventional Instruction treatments to measures of accuracy and speed. The covariates selected for the statistical analysis were those that correlated to the dependent measures. The correlation is a determination of linear relation. There were, however, possibilities that non-linear relationships existed within the data. Of concern here were possible interactions between student characteristics of prior transcription experience, reported grade in grammar-oriented classes, and reported straight-copy typing speed and the dependent measures.

To determine whether there were differential effects of the treatments on various subgroupings of the subjects, analyses of covariance were performed for two levels of prior machine transcription experience, three levels of language ability, and three levels of typing speed. There was insufficient variation in prior shorthand transcription experience to perform a comparable analysis.

Prior Machine Transcription Experience

Within each treatment group, students were divided into two groups, those with and those without prior machine transcription experience. Of the 44 students reporting prior machine transcription experience, 36 were analyzed (21 in the LI treatment and 15 in the CI treatment); the remaining 8 had missing values and were dropped by the statistical program. Of the 48 reporting no prior experience, 32 were used in the analysis (18 in the LI treatment and 14 in the CI treatment), the other cases having been dropped for missing values.

Analyses of covariance were calculated for each of the eight

dependent measures using the pretest values of these variables as

correlates. Table 40 reports the F-values and probabilities for the

two levels of prior machine transcription experience.

Table 40
Analyses of Covariance on Eight Dependent Variables
for Students With and Without Prior Machine Transcription Experience

Dependent Variables		Prior Machine Transcription Experience	
		No df=1, 1, 29	Yes df=1, 1, 33
Rough Drafting Accuracy	F	3.7286	6.2173
	p	.0633	.0178*
Rough Drafting Rate	F	.4869	.7231
	p	.4909	.4013
Proofreading Accuracy	F	.0002	.0134
	p	.9885	.9086
Proofreading Correction Rate	F	1.4839	3.5196
	p	.2230	.0695
Overall Accuracy	F	1.3364	4.2423
	p	.2571	.0474*
Overall Rate	F	.4405	.5323
	p	.5121	.4708
Comma Accuracy	F	1.8131	.0002
	p	.1886	.9882
Replacement Word Count	F	3.6706	.2137
	p	.0653	.6469

*Significant in the direction of Listening Instruction.

Almost all of these students had prior shorthand transcription

experience and were not new to the transcription task per se, but

prior experience appears to aid the accuracy of rough drafting. The

reader should note, however, that the loss of cases through missing

values may influence the results.

Language Ability

Using reported grade in grammar oriented classes as a measure of language ability, students within each treatment were divided into three levels: high, moderate, and low. The high group had reported grades of B+ or higher. The moderate group had reported grades of B or B-, and the low group had reported grades lower than B-. The numbers in each level were as follows: high, 24 with 16 remaining after missing values were assessed (10 in LI treatment and 6 in CI treatment); moderate, 38, with 26 remaining after missing values were assessed (17 in LI treatment and 9 in CI treatment); and low, 30 with 26 remaining after missing values were assessed (12 in LI treatment and 14 in CI treatment). The statistics are reported in spite of low numbers and imbalance in the resulting groups.

Analyses of covariance were calculated for eight dependent measures using the pretest values of these variables for covariates. The F-values and probabilities for the three levels of language abilities are reported in Table 41.

Table 41
Analyses of Covariance on Eight Dependent Variables
for Students Having High, Moderate, and Low Language Ability

Dependent Variables		Level of Language Ability		
		High df=1, 1, 13	Moderate df=1, 1, 23	Low df=1, 1, 23
Rough Drafting Accuracy	F	8.8330	.9022	4.3617
	p	.0108*	.3521	.0480*
Rough Drafting Rate	F	.1578	7.7749	.3287
	p	.6976	.0104*	.5720
Proofreading Accuracy	F	2.3224	1.8718	.0596
	p	.1515	.1845	.8092
Proofreading Correction Rate	F	3.0833	.1649	.8444
	p	.1026	.6884	.3677
Overall Accuracy	F	2.0827	1.4276	1.8768
	p	.1726	.2443	.1839
Overall Rate	F	.0012	6.6724	.0033
	p	.9727	.0166*	.9550
Comma Accuracy	F	.2354	.3036	.3600
	p	.6356	.5869	.5544
Replacement Word Count	F	.8801	3.1165	2.4330
	p	.3653	.0908	.1325

*Significant in the direction of Listening Instruction.

If one may have confidence in results based on a low number, Listening Instruction affects the high and low groups similarly in accuracy and helps the moderate group in speed of rough drafting. No other relationships are apparent from the results.

Straight-Copy Typing Speed

Does the level of typing speed interact with the Listening Instruction and Conventional Instruction treatments to produce differential effects? In order to expose any consistent relationships, reported typing speeds were split into three levels: high, 66 words per minute or higher; moderate, 60 to 65 words per

minute; and low, 59 words per minute or less. The number of cases in each level respectively were: 25, with 16 remaining in the analysis (7 in LI treatment and 9 in CI treatment); 33, with 31 remaining in the analysis (23 in LI treatment and 8 in CI treatment); and 29, with 19 remaining in the analysis (8 in LI treatment and 11 in CI treatment). Again the resulting blocks are imbalanced and low in number.

Table 42 reports the F-values and probabilities for the analyses of covariance performed for the three levels of typing speed.

Table 42
Analyses of Covariance on Eight Dependent Variables
for Students Having High, Moderate, and Low Typing Speeds

| Dependent Variables | | Level of Language Ability | | |
		High df=1, 1, 13	Moderate df=1, 1, 28	Low df=1, 1, 16
Rough Drafting Accuracy	F	2.4252	2.9515	3.2964
	p	.1434	.0968	.0882
Rough Drafting Rate	F	.1358	.7836	1.6205
	p	.7184	.3836	.2212
Proofreading Accuracy	F	.1964	.0253	.0657
	p	.6649	.8747	.8010
Proofreading Correction Rate	F	1.2668	.6306	.4831
	p	.2807	.4338	.4970
Overall Accuracy	F	2.3573	.4768	1.1497
	p	.1487	.4955	.2995
Overall Rate	F	.0005	.2241	5.7541
	p	.9828	.6396	.0290*
Comma Accuracy	F	.0174	1.8680	.1078
	p	.8970	.1826	.7469
Replacement Word Count	F	2.8668	.0694	1.2794
	p	.1142	.7941	.2747

*Significant in the direction of Listening Instruction.

If confidence can be placed in the one significant result, the Listening Instruction treatment improved the overall rate of students with low speeds in typing. In the absence of similar results on rough drafting rate and proofreading correction rate, however, no explanation for the significant difference can be suggested. No other consistent results showing interactions were apparent.

In summary, the exploration for non-linear relationships between prior machine transcription experience, language ability, and typing speed and the eight dependent measures yielded few significant differences. A certain number of differences were expected on the basis of chance, given the number of analyses actually performed. On the basis of these data, neither Listening Instruction nor Conventional Instruction appear to affect substantially the various subgroupings within the treatment groups. When such differences did appear, however, they favored the Listening Instruction treatment over the Conventional Instruction treatment.

Summary

The findings chapter has described the results of the experiment in several areas. First the similarities and differences among the students participating in the study were reviewed. The students are most similar on sex, reported grade in grammar-oriented classes, curriculum, prior shorthand transcription experience, perception of their own accuracy in typewriting and proofreading, and other factors. The students are dissimilar on position in their curriculum (the number of college credits completed) and perception of the difficulty of machine transcription and application of grammar principles.

On pretest measures, the classrooms demonstrated considerable variation. Groups in the Listening Instruction treatment differed from one another on five of eleven variables. Groups in the Conventional Instruction treatment differed on seven of the eleven variables. Pooling reduced this variation, and the treatments differed on only four of the eleven variables.

Correlations of eleven background and nine pretest performance measures showed relatively few good predictors of posttest variables. The most effective variables overall were: reported grade in grammar-oriented classes, pretest transcription time, recognizable word count, and unrecognizable word count. These correlated with three or more posttest variables.

All of the transformed pretest variables were used in analyses of the posttest variables. Even so, only four of the eight correlated at a .24 level or higher with the posttest measures. The most effective variable was comma accuracy, which correlated with its own posttest measure as well as rough drafting accuracy and overall accuracy.

The tests of hypotheses allowed three of eight null hypotheses to be rejected. These concerned rough drafting accuracy, overall accuracy, and replacement word count. In each case, the differences were significant in the predicted direction. In addition, there were significantly fewer transcription errors in the Listening Instruction treatment than in the Conventional Instruction treatment. In ten instructional lessons and four evaluations, the Listening Instruction treatment appears to have been effective in producing more accurate transcription performance and better decision making than the Conventional Instruction treatment was.

The search for interactions in the data for varying levels of

machine transcription experience, language ability, and typing speed
yielded a few significant results. Caution was exercised in inter-
preting these results because of low numbers and imbalance in the
groups. However, in all cases, the significant results favored the
Listening Instruction treatment.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

This chapter first puts the findings of this study into perspective, given the initial intent of the research. The conclusions are then stated, followed by recommendations for further research and educational practice.

The problem of this research was to determine how instruction contributed to the acquisition of transcribing and proofreading abilities during the initial development of the machine transcription skill. Transcription instruction can be designed to develop a single skill or to fuse multiple skills. Current materials reflect a primary concern with developing language skills, specifically vocabulary use and application of punctuation rules. Although these language skills are extremely important, the machine transcriber must employ speed and accuracy in several skills: keyboarding, error correction, proofreading, handling of ambiguous or distorted dictation, and listening and decision-making skills. These are essential to employment in the word processing environment.

Because the single skill approach to teaching can proceed from the simple to the complex, whereas the fusion skill approach combines multiple strategies, a comparison of approaches was in order. This research has compared the two instructional approaches through the development and test of two sets of dictated and written materials.

Listening Instruction represented what the fusion skill approach does; Conventional Instruction mirrored current instructional concerns with vocabulary and punctuation rules. These two treatments have been compared for their ability to produce speed and accuracy in transcribing and proofreading abilities. A secondary purpose of the study was to explore the relationship between several background characteristics of the student for their ability to predict transcribing performance. The study tested in eight areas the theoretic hypothesis: Machine transcription instruction based on a fusion skill approach will produce better transcribing and proofreading performance among new learners than will machine transcription instruction based on a single skills approach.

Students in eight machine transcription classes in five community and four-year colleges used one of the two sets of introductory transcription lessons. Based on random assignment, four classrooms, with usable data from 46 students, used the Conventional Instruction materials. Four classrooms, generating usable data from 47 students, used the Listening Instruction lessons. Hypothesis testing was based on measures taken during the pretest (Lesson 1) and the posttest (Lesson 14). In addition, a survey gathered background information on the students.

Summary of Findings

Several concerns were addressed in the findings: characteristics of the sample, equivalence of treatment group at the outset of the study, the selection of covariates, the results of hypothesis testing, and interactions in the data. Each area will be summarized.

Sample Background

The participating classrooms were not a random sample of a well-defined population, and therefore a description of the sample is important for purposes of generalization.

The 93 students for whom both pretest and posttest data were available were women, and 75 percent of the 81 students who reported their curriculum were secretarial majors. Their prior college experience varied greatly, indicating no consistent placement of the machine transcription course in the office curriculum. Seventy-eight of the 84 reporting students indicated prior shorthand trancription experience. Of the 92 reporting, 44 had prior machine transcription background, while the remaining 48 had not.

Typing speeds, based on self reports, averaged 61 to 62 words per minute. Grades in grammar-oriented classes, based on self reports, averaged at the B- level. Students perceived the machine transcription skill to be slightly more difficult than easy and application of grammar principles to be slightly more easy than difficult. Students' evaluation of their accuracy in typing and proofreading was high, but not extremely high.

Equivalence of Treatment Groups

The values of 11 pretest performance measures provided data on the skill level of students at the beginning of the study. These measures were: transcribing time, proofreading time, total time, accurate word count, recognizable word count, unrecognizable word count, untranscribed word count, corrected word count, added word count, replacement word count, and comma accuracy. The groups within each treatment level varied greatly, with the Conventional Instruction

groups significantly different on five of the 11 measures and the

Listening Instruction groups significantly different on seven of the

11 measures. Pooling classrooms within treatments resulted in more

equivalent treatment groups at the beginning of the study. Only four

of the 11 measures were significantly different after pooling.

Correlates with the Dependent Variables

Eight measures were constructed to test the eight hypotheses.

These constructed variables were: rough drafting accuracy, rough

drafting rate, proofreading accuracy, proofreading correction rate,

overall accuracy, overall rate, comma accuracy, and replacement word

count. Each hypothesis concerned one of these variables, and the

pretest value of the same variable was used in each case as covariate

for the posttest value.

Correlations were run between all other background and pretest

variables with the dependent variables to determine other possible

covariates. Variables with correlations of .24 (approximately six

percent of explained variance) or more were selected as covariates

unless the variable had a high correlation with another covariate.

Covariates selected on this basis are shown here:

Dependent Variable	Additional Covariates
Rough Drafting Accuracy	Grade in grammar-oriented classes, prior shorthand transcription experience, comma accuracy, accurate word count, recognizable word count, and unrecognizable word count.
Rough Drafting Rate	Grade in grammar-oriented classes, transcribing time, and two comma measures.
Proofreading Accuracy	Added word count.
Proofreading Correction Rate	Transcribing time, and rough drafting rate.

Dependent Variable	Additional Covariates
Overall Accuracy	Grade in grammar-oriented classes, prior shorthand transcription experience, comma accuracy, recognizable word count, and unrecognizable word count.
Overall Rate	Perceived difficulty of machine transcription and application of grammar principles, recognizable word count, and transcription time.
Comma Accuracy	Grade in grammar-oriented classes and recognizable word count.
Replacement Word Count	Recognizable word count and proofreading proofreading correction rate.

Reported typing speed and prior machine transcription experience correlated with no posttest measures, and prior shorthand transcription experience had limited ability to explain posttest variance. Reported grade in grammar-oriented classes, comma accuracy, transcription time for the rough draft, and recognizable and unrecognizable word counts proved to be versatile covariates, correlating with three or more dependent measures.

Hypothesis Testing

Each hypothesis predicted greater effectiveness for the Listening Instruction treatment than for the Conventional Instruction treatment among new learners of the machine transcription skill.

Hypothesis 1 concerned Rough Drafting Accuracy, the percent of the total dictated words transcribed accurately. The analysis of covariance yielded a probability of less than .0001 in the predicted direction. The null hypothesis of no significant differences was rejected without further analyses.

Hypothesis 2 concerned Rough Drafting Rate, the rate of rough drafting speed in words per minute. The analysis of covariance was not significant in the predicted direction. An second analysis of

covariance with multiple covariates did not yield a significant difference between treatment groups. The null hypothesis was retained.

Hypothesis 3 concerned Proofreading Accuracy, the ratio of added words and corrected words to total transcription errors. Although the analysis of covariance yielded a significant difference in the predicted direction between the two treatments on transcription errors, the analysis of covariance on proofreading accuracy did not show such differences. The null hypothesis was not accepted.

Hypothesis 4 concerned Proofreading Correction Rate, the number of words per minute corrected during proofreading by additions or changes to transcribed text. Neither the analysis of covariance with a single covariate nor the one with multiple covariates produced significant differences. The null hypothesis was retained.

Hypothesis 5 concerned Overall Accuracy, the accuracy achieved during rough drafting and proofreading. Overall Accuracy is expressed as a percent of the total dictation. The initial analysis of covariance with a single covariate was significant beyond the .0003 level of probability. A second analysis with multiple covariates improved the probability to .0002. The null hypothesis was not accepted.

Hypothesis 6 concerned Overall Rate, the words-per-minute measure obtained by dividing accurate, added, and corrected words by the total time required for the task. The initial analysis of covariance with a single covariate yielded a probability of .2469. Adding multiple covariates improved the level of probability to .1481. This level did not, however, justify the rejection of the null hypothesis.

Hypothesis 7 concerned Comma Accuracy, the proportion of correctly placed commas to the total commas required in the transcript.

Analyses of covariance with one and multiple covariates indicated that the treatment groups were similar on this variable, with probabilities of 1.0 and .9063 respectively. The null hypothesis was accepted.

Hypothesis 8 concerned Replacement Word Count, the number of words substituted correctly for the six ambiguous or distorted words in the dictation. The analysis of covariance was significant in the predicted direction with a level of probability beyond .0181. Another analysis with multiple covariates yielded a probability beyond the .0057 level. The null hypothesis was not accepted.

Interactions

The study tried to determine the influence of typing speed, language ability, and prior transcription experience on the effectiveness of the two treatments. Few interactions were observed in the data, and given low numbers in the subgroupings of subjects, no conclusions were drawn. All the significant results, however, favored the Listening Instruction treatment.

Conclusions

Based on the reported findings, the following conclusions are drawn:

1. Prepared machine transcription materials can be developed which fuse the various skills of which machine transcription consists, especially those which promote accuracy in word use and decision making.

2. The Listening Instruction materials are effective in producing differences in rough drafting accuracy, transcription errors, overall accuracy, and replacement word count. These results were achieved in

ten lessons and four evaluations, a relatively short instructional period.

3. The Listening Instruction materials produced results comparable to, but not generally lower than, those produced by the Conventional Instruction lessons in several areas: rough drafting rate, proofreading accuracy, proofreading correction rate, overall rate, and comma accuracy. Lack of significant differences may be due to instructional time, the strength of the instructional techniques used in the Conventional Instruction materials, or other factors.

4. The aural cloze procedure, combined with word distortion techniques, was effective in developing decision-making abilities with ambiguous or distorted wording. In spite of the success of the materials in producing differences, it should be noted that distorted dictation disrupted transcription not only of the particular words but also of the surrounding dictation. Because this severely impaired ability to achieve an accurate transcript, more training in handling these problems may be helpful in instruction.

5. There is no evidence that dictation in "bursts" affected transcription speeds. This technique was used in three of ten instructional lessons, and this may be too short a time to produce results.

6. There is no evidence that reviewing dictation in compressed speech during instructional lessons had any effect on proofreading accuracy or correction rate during evaluation lessons. There is also no evidence that copies of transcripts available to students during proofreading were effective. Both were equally effective or ineffective in the current sudy. Again the limited instructional time may be responsible, or some other factors may be at work.

7. Proofreading was a relatively unproductive effort, generating in both treatment groups only one to two more accurate words for each minute spent. This study made no attempt to discover the reasons for proofreading performance, yet the results leave room for much improvement, for this relatively low level of performance affects overall production rates.

Although there is agreement that proofreading is a post-transcription activity, consideration must be given to the importance of correcting errors at the time they are made. The first-time-final copy approach to instruction stresses this. In a word processing environment, however, the ability to correct errors at the time they are made leads to alternative keyboarding techniques to those used on a conventional typewriter. In this study, both treatments used backspace-and-strikeover procedures on the conventional typewriter. Although this procedure will not result in first-time-final copy in appearance, it will lead to higher accuracy in transcription at higher speeds. Consideration of the nature of error and error-correcting techniques is needed in view of these proofreading results.

8. Using oral instructions in the Listening Instruction materials to alert students to specific sentence types requiring certain comma rules did not result in better punctuation skills in the posttest. The more general approach used in the Conventional Instruction materials was as effective. Although both treatments improved in applying punctuation rules from the pretest to the posttest, the level of achievement was 64 percent in one treatment and 67 percent in the other. When one third of the required punctuation marks was omitted or placed erroneously, there is much room for improvement.

9. Self-reports of grades in grammar-oriented classes were useful, simple measures of how the student performed in machine transcription. Students' knowledge of punctuation rules was also a useful predictor of success in machine transcription.

10. Other self-reports, for example, accuracy in proofreading and typewriting, typewriting speed, and prior machine transcription experience, were relatively ineffective in predicting machine transcription performance.

11. The role of prior shorthand experience cannot be determined because virtually all students had shorthand transcription as part of their educational experience.

12. There does not appear to be a uniform position for machine transcription in the office curriculum. Within the various classes which participated in the study, a wide range of college experience was reported. The student in machine transcription may come directly from the secondary level or be approaching college graduation. Machine transcription materials need to address diverse audiences.

13. Based on completed transcripts prepared by students, students did not use the written instructional materials uniformly. As evidenced by the appearance of transcripts and missing information, the written manuals in were not used by all students. This occurred in both treatment groups. Because most current instructional materials depend on combined written and dictated materials, emphasis on using all the materials in a proper sequence is essential for results.

There are several larger issues related to these specific conclusions that deserve discussion at this point. These concern the role of the teacher in instruction, transcription standards, course

objectives and prerequisites, and the development of language skills through machine transcription.

1. Educational research frequently concludes that the teacher, rather than the instructional material, is the critical factor in learning. This study methodologically excluded the teacher as a variable to be studied. A major assumption was that the structure of the classroom in which the machine transcription skill is taught does not permit extensive teacher intervention.

The teacher does intervene, however, in establishing the environment in which materials are used. A teacher who agrees or disagrees with the underlying instructional philosophy of the materials conveys this attitude to students. The same applies to a teacher's acceptance or rejection of specific instructional procedures and many other elements of instruction. The results are transcripts reflecting not just typing and language skills but also attitudes toward the task.

Current materials do not always outline their assumptions, but this information should be available and considered by the teacher carefully when selecting materials for classroom use. If the instructional materials continue to be the major intervention in machine transcription skill development, the teacher must support the instructional elements contained within those materials.

2. This study utilized alternatives to the first-time-final standard usually sought in transcription courses. The reason for this was to mirror as closely as possible the fusion skill approach in introductory stages of learning. The error-correcting methods encouraged in the lessons were those compatible with word processing equipment as well. The intent was not to deemphasize accuracy a goal,

but to put accuracy in perspective as a new skill being learned on automated equipment.

Many classrooms, however, will not have word processing equipment on which to learn the machine transcription skill. Error-correcting techniques compatible with word processing equipment must be taught on conventional typewriters. As a result, the appearance of the transcript which is accepted as first-time-final copy will change from current practice, showing typewritten corrections, additions, and deletions that under normal conditions would not be acceptable. This requires a change in the business educator's view of what an error is and what mailable copy is.

3. The results show that many more skills can be taught in machine transcription than punctuation and vocabulary. These remain high priority areas, for punctuation skills determine in large part the student's success in the course. Nevertheless, attention must be given to error-correcting techniques, keyboarding speed, proofreading ability, decision-making skills, and, in general, improved listening. In order to develop each component area, objectives must be set so that the student may achieve competencies in each area. Exercises must be tailored to each skill and to fusion of skills.

Because the final skill will reflect the fusion of several skills, stages of learning, including the introductory stage as conceptualized in this study, must be defined. If this is done, objectives will facilitate learning at each stage, and standards of accuracy and speed will not be imposed too early in instruction. In general, more time is needed for skill development than the two weeks or 20 to 25 hours common in many programs.

4. The prerequisites for the machine transcription course generally relate to typing skills. Collegiate level language arts classes are not stipulated. Published materials frequently cite one year of typing and language at the secondary level as prerequisites.

Given the lack of relationship between typing speeds and other variables, perhaps there is no need to alter prerequisites in this area. The need for well-developed language skills, however, argues for pretranscription training in grammar and punctuation skills. Also none of the classrooms participating in this study required any exposure to electronic keyboards. Some consideration should be given to the sequence outlined by Anderson and Kusek, which identifies electronic keyboarding as a prerequisite to the machine transcription skill. Establishing such prerequisites is another way of achieving the fusion of skills in the machine transcription course.

5. The machine transcription skill is a language skill. The student needs to handle dictation from widely varying dictators about widely varying topics. In developing this skill, the proper unit of instruction is the sentence, not the word. The results of this study on punctuation and word replacement emphasize that students must work with language context to truly master the machine transcription skill.

The dictation experienced by the student is a variable under normal conditions; the preparer of instructional materials should treat dictation as an instructional variable, able to be manipulated for different educational purposes. Current materials vary speed and voice. This study manipulated these plus others. Dictation in "bursts," oral instructions, compressed speech, and distorted wording were used. Additional means of manipulating the dictation, such as

silences, vocal cues, and non-voice sound effects, provide other options for the educator to teach language context.

The exciting prospect is that machine transcription teaches language to adult learners. If transcription materials can be successful in this, their application to a wide adult audience is unlimited.

Recommendations

The first three recommendations concern further research. The remaining recommendations concern educational practice. Some of the recommendations presume an acceptance of the fusion skill approach and the need to train students for word processing positions.

1. This study should be replicated with other samples to determine whether similar or different findings result.

2. Specific techniques should be researched in isolation to determine their contribution to specific keyboarding, listening, decision-making, proofreading, and language use skills. Specifically, dictation in "bursts," previewing dictation in compressed speech, written previews of vocabulary, preview of punctuation rules, review of dictation in compressed speech, and other techniques used in the study should be studied one at a time.

3. Proofreading techniques must be investigated which reduce the total time required for post-transcription proofreading and increase the number of errors corrected.

4. Materials for machine transcription should do more than they currently do to fuse the various component skills of which machine transcription consists. In developing these component skills, materials in use in today's classroom should also reflect the needs of the word processing enviromnent.

5. Machine transcription should be taught in stages with objectives set which are appropriate to the level of instruction. The introductory stage should allow a certain level of errors to occur, with error-correcting tehhniques incorporated which facilitate speed development as well as accuracy.

6. The use of aural cloze and word distortion techniques should be incorporated into machine dictation from the start of instruction to accustom the student to decision-making responsibilities.

7. Teachers should obtain reports of grades in grammar-oriented classes as a useful indicator of the student's probable performance in the machine transcription course. Pretests of punctuation skills should also be included in the machine transcription course.

8. Teachers who use machine transcription materials in a self-paced or self-instructional program must develop means of insuring that the student is using all the materials provided in the sequence intended by the authors. Whether the materials develop a single skill or fuse multiple skills, progress cannot be expected unless the student uses all the instructions available.

This concludes the study of the machine transcription skill. Its intent has been to extend what is presently known about the acquisition of the skill during the introductory stages and to provide information useful to business educators preparing students for employment in the word processing environment.

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APPENDICES

APPENDIX A

Scripts for Machine Transcription Instruction

S C R I P T S   F O R

L I S T E N I N G   A N D   C O N V E N T I O N A L

I N S T R U C T I O N

28 Scripts for

Machine Transcription

Dictation

Developed by

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© 1981

LESSON 1   SCRIPT Page 1   LI-CI   MACHINE TRANSCRIPTION SKILL

Hello, student. This is the dictation for Lesson 1, MACHINE TRANSCRIPTION

SKILL. Check to see that you have read and followed all instructions for this

transcription. If there is a word you cannot transcribe, type a double X. Pre-

pare, now, to transcribe by recording your starting time on your stationery. If

your transcript is not complete in 25 minutes, stop the tape, and finish the

remaining instructions. Be sure to run the tape to Lesson 2 when you are done if

you stop early. When you hear the chime, begin your work.

CHIME

Machine transcription is not a single, simple skill, for several other skills,

each learned separately, are fused together. The basic skills are typing, language

use, and listening. Because each one is important, we will now look at them

separately. PARAGRAPH.

The first skill is typing, which is also called keyboarding. Accuracy and speed

are needed, but a major goal for the student is to type continuously. To achieve

this, the student learns to operate the transcribing unit so that no stopping is

necessary. For error correction, the student develops backspace-and-strikeover

techniques. PARAGRAPH.

A second skill is applying language principles. Among these responsibilities,

the student will find punctuating sentences, correcting errors in grammar, and

using special vocabulary. Used especially during proofreading, language princi-

ples are applied both during and after transcription. PARAGRAPH.

Affecting the entire process, listening is a vital, active skill. The student

listens for meaning as well as words, for interpretation is often required. In

addition to unclear, disorganized dictation, the student hears dictation at dif-

ferent speeds. When dictation is poor, the student must ignore incorrect punctua-

tion, interpret mumbled words, and mentally edit communications. Listening, an

active process, must be practiced. PARAGRAPH.

In addition to using typing, language, and listening skills, the effective tran-

LESSON 1   SCRIPT Page 2   LI-CI   MACHINE TRANSCRIPTION SKILL

scriber must possess personal characteristics. To be effective, the transcriber

shows poise under pressure, a sense of humor, and initiative. When TAH tran-

scriber hears unclear VARDS, she or he must DISARD the most likely word TAK use.

This takes UNARKITUV, and it requires confidence IB one's language skills.

PARAGRAPH.

If the student looks at machine transcription as a challenge, the result will

be rapid, accurate transcription, a very useful job skill.

CHIME

Student, this is the end of the material to be transcribed. Please record your

finishing time on the top of the stationery. Then complete the remaining instruc-

tions for Lesson 1. DO NOT REWIND THIS TAPE. YOU ARE READY FOR LESSON 2.

Welcome, student, to Lesson 2, CONTINUOUS KEYBOARDING. If you have read your instructions, prepared your stationery, and adjusted your typewriter, you are ready to preview Lesson 2. The preview will be given in compressed speech, that is, speech that is electronically speeded up. Do not transcribe during the preview. Listen for the sense of the dictation and the vocabulary. Here, now, is the preview.

PREVIEW.

You are now ready to transcribe. The dictation is deliberately paced so that you will keep your typewriter in motion. Try not to stop your tape. Let the dictation guide your keyboarding. A chime will precede and follow the dictation to be transcribed. Begin now.

CHIME

A major goal in developing/machine transcription skill/is continuous keyboarding./ Keyboarding simply means/using a keyboard that may be found/on a typewriter,/computer console,/or word processing unit./ Here are some facts/you might like to know/about continuous keyboarding. PARAGRAPH./

Continuous keyboarding is done/by skilled operation/of the transcribing unit/and the keyboard together./ The footpedal attached/to the transcribing unit/permits the transcriber to start,/stop, and replay the tape./ The replay feature/enables the transcriber to review/some of the dictation./ The transcriber listens/to a meaningful unit of thought,/sometimes called an earful,/and begins to keyboard./ Before keyboarding the entire earful,/however,/the transcriber listens to another earful./ Listening starts and stops,/but keyboarding continues. PARAGRAPH./ Continuous keyboarding by expert transcribers/occurs for varying periods of time./ Because dictated letters and memos/are usually short,/it is common/for transcribers to keyboard/the entire message without stopping./ Some transcribers do not require/a review of dictation/and turn the replay control off/or to its lowest setting./ Transcribers can keyboard/at speeds approaching/80 to 100 words

per minute/on word processing equipment. PARAGRAPH./

What problems do transcribers have/in achieving continuous keyboarding?/Tran-

scribers may be interrupted/by coworkers as well as clients,/or they may pause/

to consult a dictionary./ Adjusting volume,/starting over because/of a misplaced

instruction,/or changing paper and ribbons may occur./ Unfamiliarity with the

equipment or dictator/can contribute to pauses./ The most important reason/for

stopping, however,/is poor dictation. PARAGRAPH./

This should give you ideas/on how the machine transcription skill/is performed./

CHIME

This is the end of dictation for Lesson 2. Now prepare to proofread. The dicta-

tion will be repeated in compressed speech so that you can check your transcript

for completeness and accuracy. Stop your transcribing unit whenever you need to

during this stage. Here now is the dictation.

REVIEW.

When your work is complete, turn it in to your instructor. DO NOT REWIND YOUR

TAPE. YOU ARE NOW READY FOR LESSON 3.

*Each word grouping is dictated in natural phrasing at intervals of five seconds.
Groups of three to four words constitute dictation at about 42 words per minute.
Groups of five to six words are dictated at about 66 words per minute, and
groups of seven to eight words constitute a dictation rate of about 90 words
per minute. Nine to ten words per group are dictated at 114 words per minute.
These word groupings delivered at conversational rates are called "bursts."

LESSON 3   SCRIPT Page 1   LI   TRANSCRIBING ON WORD PROCESSING EQUIPMENT

Hello, student. By now you have read the instructions for Lesson 3. This lesson introduces some basic concepts about word processing and explains the importance of the backspace/strikeover skill. If you have inserted your stationery and checked your margins, listen to the preview of dictation in compressed speech.
PREVIEW.

You are now ready to transcribe. The dictation is phrased to emphasize the natural groups of words. Allow the speed of the dictation to force your transcription. If you need to stop the tape, do so at a natural break in words. A chime will precede and follow the dictation to be transcribed. Begin now.
CHIME

Although word processing units/have many different features,/they also have common features/of importance to the transcriber./ These affect the correction of errors,/ keyboarding procedures,/and the nature of errors./ Here is a brief look at each.
PARAGRAPH./

Error correction is rapid/in word processing./ Word processing units/record all strokes magnetically/on cards, cassette tapes, or discs./ As a result,/errors can be erased/and corrections recorded/without retyping the entire message./ Backspace-and-strikeover skills,/for example,/are used to correct typographical errors.
PARAGRAPH./

New keyboarding procedures/are added to the usual typing/of letters and numbers./ Special keys control/a variety of functions,/hence their name, function keys./ These are used to/center headings, insert lines,/rearrange paragraphs, and so on./ The transcriber uses/these function keys/to edit text in major ways. PARAGRAPH./ Word processing changes/the kinds of mistakes/that are important./ On a conventional typewriter,/these kinds of errors are important/ typographical errors,/ improper hyphenation,/and word omissions./ These may require/retyping the entire item./ On a word processing unit,/the errors that are serious/involve the misuse of the function keys./ These keys drive/the automated unit./ Some understanding

LESSON 3   SCRIPT Page 2   LI   TRANSCRIBING ON WORD PROCESSING EQUIPMENT

of computers/may help the transcriber/to avoid mistakes/and also to solve them/
when they do occur. PARAGRAPH./

It is possible to learn/some word processing skills/using a conventional type-
writer./The backspace-and-strikeover technique/is one such skill./The ease of
making corrections/is one factor/that helps the transcriber/keyboard very rapidly./

CHIME

Now proofread the materials while listening to the dictation repeated in com-
pressed speech. Here is the review.

REVIEW.

Give your completed work to your instructor. DO NOT REWIND YOUR TAPE. YOU ARE
NOW READY FOR LESSON 4.

*See explanation on Page 2 of the script for Lesson 2.

Welcome, student, to Lesson 4, THE WORD PROCESSING ENVIRONMENT. The instructions

for Lesson 4 are the same as for lessons 2 and 3. This lesson will describe the

setting in which word processing appeared at first and some of the problems which

occurred. If you have inserted your stationery and checked your margins, listen

to the preview of dictation in compressed speech.

PREVIEW.

You are now ready to transcribe. The speed of dictation is increasing with each

lesson, but the dictation emphasizes meaningful units, or natural word groups.

Work to remember larger groups of words. A chime will precede and follow the

dictation to be transcribed. Begin now.

CHIME

Word processing changes communication patterns/in very important ways./ Automated

equipment makes/certain communication activities possible/that were not possible

before./ Because of this,/changes have had to occur/in the training of personnel,/

the procedures used to communicate,/and the setting in which word processing is

used./ This setting, or environment,/deserves to be discussed. PARAGRAPH./

Word processing technology was developed/in the middle 1960s./ Compared to today's

technology,/word processing then was quite limited./ Nevertheless, word processing

had to be sold/to business, government, and other users./ Selling new equipment

often means/selling new ideas as well./ Along with the equipment, then,/companies

sold ideas/of how communication should be organized. PARAGRAPH./

In the early days of word processing,/that idea placed all word processing func-

tions/in one central location./ Letters, memos, and reports would be dictated/

to the word processing center/and transcribed by specialists called correspondence

secretaries./ Because all correspondence would now be handled in the center,/other

secretaries would have time/to devote to administrative tasks,/hence their new

title, administrative secretaries./ Fewer of them would be needed than in the past,/

and the one-secretary to one-boss relationship would end. PARAGRAPH./

LESSON 4   SCRIPT Page 2   LI   THE WORD PROCESSING ENVIRONMENT

There was resistance to the idea of word processing centers./ To many people,
they were fancy typing pools./ The correspondence secretary had no contact with
dictators./ Executives feared the loss of their secretaries and their prestige./
Gradually, however, word processing gained acceptance,/adjusting to various
communication needs. PARAGRAPH./
Lesson 5 will discuss a change/in the word processing environment/which has
solved some of these problems./

CHIME

Go ahead now, student, to proofread this transcript. The dictation will be
repeated in compressed speech now.

REVIEW.

When you are finished, give your work to your teacher. DO NOT REWIND YOUR TAPE.
YOU ARE READY FOR LESSON 5.

*See explanation on Page 2 of the script for Lesson 2.

LESSON 5   SCRIPT Page 1   LI-CI   THE WORD PROCESSING SATELLITE

Hello, student. This is the dictation for Lesson 5, THE WORD PROCESSING SATELLITE.
Check to see that you have read and followed all instructions for this transcrip-
tion. Prepare, now, to transcribe by recording your starting time on your sta-
tionery. When you hear the chime, begin your work. Use Sample 1 for the format.
CHIME

Lesson 4 showed that a new idea cannot be forced on people. People must take the
idea, work with it, and adjust it to suit their own needs. The word processing
satellite represents such an adjustment. PARAGRAPH.

For some businesses, the word processing center was isolated and distant. The
word processing specialists could not handle all the specialized work coming from
various parts of a business. As a result, many businesses today do not have a
single, large center. They have several smaller centers, called satellites.
PARAGRAPH.

A satellite is located in the division or department for which it works. There
may be several word processing operators or just one. The number depends on the
work load. Often modular furniture provides an attractive, easily accessible
center. Clients will often visit the satellite to leave work, or the word pro-
cessing specialist may distribute work to the dictators' various locations.
These procedures vary from company to company, but the satellite is decentralized.
PARAGRAPH.

Word processing specialists know the clients for whom they transcribe, and, in
turn, clients use the dictation equipment more readily. The special functions of
a division are better served by correspondence secretaries who know the work
performed by their division. They are treated as a vital part of the work team.
PARAGRAPH.

Early resistance to word processing did not lead to rejection of it. It led
instead to experimentation and adaptation. For some businesses, the single word
processing center is the best way to organize communications. For others, however,

LESSON 5   SCRIPT Page 2   LI-CI   THE WORD PROCESSING SATELLITE

the satellite concept has resolved many of the early criticisms. It is likely

that still more changes will occur in this important technology.

CHIME

This is the end of dictation. Please note the time that you have finished tran-

scribing. Now proofread your transcript, note your finishing time again, and

turn in your work to your instructor. DO NOT REWIND YOUR TAPE. YOU ARE READY

FOR LESSON 6.

LESSON 6   SCRIPT   Page 1   LI   LARKIN LETTER

Hello, student. This is Lesson 6. This letter has been specially designed to
contain many examples of introductory prepositional phrases and series of items.
This has been done to give you experience in identifying sentence patter requiring
punctuation while you listen. Review the punctuation rules in Lesson 6 if you
have not already done so, and listen to the preview of the dictation.
PREVIEW.

Did you hear examples of phrases and series requiring commas? During transcrip-
tion, use the natural pauses in dictation to assist you in punctuating. Listen
for the chime, now, and begin to transcribe.

CHIME

Hello, secretary. Please transcribe the following letter on standard letterhead
with one carbon copy for the files. Use today's date, and prepare the letter in
full-block style. The letter is to go to Ms. Sandra Larkin L A R K I N-as-
in-Nellie. Next line. Thirty-three thirty-three Larchmont L A R C H M-as-
in-Mary O N T Road. Next line. Large City, California Zero zero zero zero
zero. PARAGRAPH. Dear Ms. Larkin. PARAGRAPH.

We are pleased to answer your questions about Educational Conferences, Inc.
PARAGRAPH.

About our services, Educational Conferences develops workshops, training materials,
and other special services for various groups. In effect, you can think of us
as a conference bureau, a consultant, or a training department. With our many
contacts, we generate a great volume of communication. These include letters,
memo   reports, telephone messages, telegrams, and others. Among our contacts
are participants, speakers, technical persons, suppliers, and a great many others.
PARAGRAPH.

On our full-time staff, we have twenty people. These handle the marketing,
publishing, and administrative functions of our business. Of the twenty, six
are former teachers. In addition to the regular staff, we hire speakers on a

contract basis for various programs. For this purpose, we maintain a speakers'
file with names and addresses, areas of experience, and references on speaking
ability. PARAGRAPH.

With increased interest in the office, many groups are requesting programs on
word processing, records management, and communication skills. These are
exciting new areas for us. PARAGRAPH.

For your information, we have enclosed brochures on some of our past programs.
We would be happy to give you a tour of our facilities if you visit Michigan.
Thank you for writing. PARAGRAPH.

Sincerely. Secretary, please skip four lines and type my name, William R-as-in-
Railroad period. Tommmmm T O A-as-in-Mary A S A-as-in-Mary A. Next line.
Program Director. PARAGRAPH. Please type your own initials. This is the end
of dictation. Thank you very much.

CHIME

As in your previous lessons, this letter will be repeated in compressed speech.
Proofread your transcript as you listen to the review of dictation. Correct any
errors or omissions. Now here is the review.

REVIEW.

Turn your completed transcript in to your teacher. DO NOT REWIND YOUR TAPE. YOU
ARE READY FOR LESSON 7.

Welcome to Lesson 7. In this lesson, listen for compound sentences and coordinate adjectives. Review the instructions for Lesson 7 if you are unsure about what these are, and during the preview of the transcription, listen for the sentence patterns. The pauses should help you identify where punctuation marks go. Now listen to the preview in compressed form.

PREVIEW.

Now, if your stationery and typewriter are ready, listen to the dictation phrased in natural word groups. Begin when you hear the chime.

CHIME

Secretary, please transcribe this one-page letter in full-block style on letter-head stationery. Prepare one carbon for the files. Use today's date. The letter is to go to Mr. Jerome J E R O M E McCaffrey M C C A F F R E Y. Next Line. Training Director. Next Line. TranspoCorp T R A N S P-ee-in-Peter O C O R P. Next Line. Industrial City, Texas. That is capital T X. Zero zero zero zero zero. PARAGRAPH. Dear Mr. McCaffrey. PARAGRAPH.

We do provide the thorough, individualized training in dictation that you asked about, for this is a vital part of an effective word processing system. Here is a brief description of our program. PARAGRAPH.

Our program is broken into three sections. The first is for the inexperienced, beginning dictator who may be concerned with QUOTE mike fright UNQUOTE. The exercises are designed to reduce anxiety, for a confident, secure dictator creates better dictation. The dictator works through several reading and creating exercises, and program objectives are to form good dictation habits from the start. PARAGRAPH.

The second program is for those who have dictated previously, but may not be getting the results they want. Here the goal is to identify individual dictation problems and help the dictator change a costly, inefficient dictation style. In

this program, the dictator works directly with an experienced transcriber, and

she transcribes dictation in the presence of the originator. Problem areas are

discussed, and new improved techniques are practiced. PARAGRAPH.

The third program is for successful dictators who want to expand the types of

materials they dictate. This unique, unusual program offers special instruction

for long, difficult formats. PARAGRAPH.

With all of our programs, we try to individualize instruction to the client's

needs. Would you visit us to see our dictation lab, or would you let us visit

you? We will call you next week to set up an appointment at a convenient,

satisfactory time. PARAGRAPH.

Cordially C O R D I A L L Y. Secretary, please skip four lines and

type my name, Linda P period Warren W A R R E N. Next Line. Executive

Director. PARAGRAPH. Secretary, please use your own initials. This is the end

of dictation. Thank you.

CHIME

Please remove your transcript from the typewriter and proofread it while listening

to the dictation repeated in accelerated form. Here is the dictation again.

REVIEW.

When you have finished proofreading, please turn in your work to your instructor.

DO NOT REWIND YOUR TAPE. YOU ARE NOW READY FOR LESSON 8.

LESSON 8   SCRIPT   Page 1   LI   PETROVICH MEMO

Welcome to Lesson 8. In this lesson, listen for sentences which contain intro-
ductory adverb clauses and introductory verbal phrases. The written instructions
for Lesson 8 contain a review and examples of each. During the preview, listen
for the sentence patterns. The temporary and longer pauses should help you to
identify where punctuation marks go. Now listen to the preview.
PREVIEW.

Now, if you are ready, begin to transcribe when you hear the chime.
CHIME

Secretary, please transcribe this one-page memorandum on our internal stationery
with one carbon for the files. Use today's date. The memo is to go to Sue
Petrovich. That is P E T R O V-as-in-Victor I C H. Next Line. From
Bill Tomasma T O M A S M A. Next Line. Subject Compressed Speech.
PARAGRAPH.

Although we have offered programs in listening in the past, these have been
directed toward the human relations area of communication. To expand and update
our programs, we need to include more on informational listening skills. To
explain, we need to assist our clients to listen and remember facts and other
information. Having reviewed a few publications, I think that we could explore
compressed speech. PARAGRAPH.

To state this simply, compressed speech increases the number of words a listener
hears per minute. After a tape recording is produced, the tape is played at a
faster rate. To eliminate distortion, the control unit electronically removes
bits of sound. Although there is a slight wavering of sound, individuals can
listen to speech as much as two-and-one-half times faster than normal speed.
Because the rate is increased, a great deal of valuable time is saved. PARAGRAPH.
Although persons with visual handicaps are users of speech compressors, many pro-
fessionals use speeded speech. Overloaded with new information about their pro-
fessions, medical personnel, educators, attorneys, and others use speech compres-

sion. To review product information, sales representatives find this a great
asset. PARAGRAPH.

Even though we produce our own instructional tapes, we have not made much use of
compressed speech. Because you are interested in listening skills, I want you
to prepare a followup report on this area. PARAGRAPH.

Secretary, this is the end of dictation. Please use your initials on the memo.
Thank you very much.

CHIME

The dictation will be repeated now so that you may proofread your transcript.
Here is the review.

REVIEW.

When you have finished your proofreading, please turn your work in to your
teacher. DO NOT REWIND YOUR TAPE. YOU ARE READY FOR LESSON 9.

Welcome to Lesson 9. In this lesson, listen for nonrestrictive words, phrases,

and clauses. Review the instructions for Lesson 9 if you are unsure about what

these are, and during the preview of the transcription, listen for the sentence

patterns. Use the natural grouping of words to assist you in punctuating the

material. Now listen to the preview in compressed speech.

PREVIEW.

Now that the preview is complete, you are ready to transcribe if your stationery

is inserted and your margins adjusted. Listen for the chime, and begin.

CHIME

Secretary, please transcribe this one-page memo on our internal stationery with

one carbon for the files. Use today's date. The memo is to go to Linda Warren

W A R R E N. Next Line. From Sue Petrovich. That is P E T R O V-as-

in-Victor I C H. Next Line. Subject Followup Report on Compressed Speech.

PARAGRAPH.

Bill asked me to report some of the facts on compressed speech, some of which

were reported as much as 35 years ago. He also asked me to suggest some applica-

tions for word processing, an area which could benefit by good listening skills.

This report, admittedly short and incomplete, will first present a few findings

on comprehension and intelligibility. PARAGRAPH.

Comprehension, which means understanding gained from listening, is evaluated with

tests over material. A person may listen to a test story, delivered at varying

speeds, and then answer questions on the general ideas or facts presented. Several

studies report the highest comprehension at 275 words per minute, a speed about

75 percent faster than that used by professional readers and speakers. Intelligi-

bility, a word parallel to legibility in writing, means that words can be identi-

fied clearly. Words are intelligible at higher speeds than they can be compre-

hended, a point which may have significance for word processing applications.

PARAGRAPH.

LESSON 9   SCRIPT Page 2   LI   WARREN MEMO

Some experts feel that listening speeds, generally limited from 140 to 175 words
per minute, could be boosted to reading speeds, which are generally in the high
200-words-per-minute range. Results do not show improved comprehension with
higher listening speeds, a factor not really expected by experts, but they do
show the same level of comprehension at considerable time savings, undoubtedly
a tremendous value. PARAGRAPH.

There are some informal reports that compressed speech is being used in the word
processing center, an innovation of concern to us. Transcribers could use com-
pressed speech for previews of dictation, for adjustment of dictation speeds
during transcription, and for proofreading. We might consider some trials of
compressed speech in these areas. PARAGRAPH.

Secretary, this is the end of dictation. Please use your own initials at the
end of the memo. I appreciate your good work. Thank you.

CHIME

As you have in previous lessons, listen, now, to the dictation repeated in com-
pressed form as you proofread your transcript.

REVIEW.

Please turn in your completed work to your instructor. DO NOT REWIND YOUR TAPE.
YOU ARE READY FOR LESSON 10.

LESSON 10   SCRIPT   Page 1   LI-CI   PROOFREADING IN THE WORD PROCESSING CENTER

Welcome to Lesson 10. This is a progress check. After you have reviewed the instructions, especially Sample 1 for the format, please note your starting time on the stationery. Have your teacher verify it. Now, listen for the chime and begin to transcribe.

CHIME

Proofreading, an essential skill in word processing, is closely related to language skills. Good language skills do not guarentee good proofreading skills, but they help. Proofreading, which insures that mailable documents are produced, must be practiced. PARAGRAPH.

One word processing supervisor states, QUOTE Proofreading is the ability to read what is actually on the page and not what we know should be there. This ability requires a high degree of attention to detail. Proofreading for typographical errors is only one portion of that skill. Checking continuity of thought and making sure the sentence structure makes sense require grammar proficiency. The third element of proofreading is checking for consistency. All of these segments, which are vital to the accuracy of work performed in word processing, comprise the skills necessary in proofreading. UNQUOTE. Among experts, there is general agreement that proofreading is a task completed after the basic keyboarding has been done. Depending on the type of equipment, hyphenation decisions may also be a part of proofreading. PARAGRAPH.

Proofreading practices vary among word processing centers. Transcribers may be responsible for proofreading each document they prepare. Looking at the screen or paper during transcription, many of these transcribers are able to catch typographical errors while transcribing, but proofing is still needed. During the automatic printing of final documents, one transcriber may proofread another document. Another may proofread several documents as a major activity and not combine it with other tasks. Some centers assign proofreading responsibilities to the originators, and still others have one person, sometimes a supervisor,

LESSON 10   SCRIPT Page 2   LI-CI   PROOFREADING IN THE WORD PROCESSING CENTER

responsible for final proofreading. This arrangement makes it possible to hire the visually handicapped person to transcribe rough drafts. PARAGRAPH.
Whatever the arrangement, proofreading is as much a part of the machine transcription skill as keyboarding itself.
CHIME
Student, please record the time you have finished this transcript. Now proofread your document, using red pen or pencil. Record your finishing time again, and turn in all of your work to your teacher. DO NOT REWIND YOUR TAPE. YOU ARE NOW READY FOR LESSON 11.

LESSON 11   SCRIPT Page 1 LI   LAROUX LETTER

Welcome, student, to Lesson 11. In this lesson you will be asked to handle

some ambiguous, or unclear, dictation. A word will be mispronounced. Using

your AID TO TRANSCRIPTION in your instructions, select a grammatically correct

word. First listen to the preview paragraph so that you will know what to expect.

Do not try to transcribe during the preview, but use your transcription aid.

Here is the preview.

PREVIEW.

You are now ready to transcribe. When you hear the chime, the dictation will

begin.

CHIME

Secretary, this is Linda Warren. Please prepare this one- page letter on standard

letterhead in full-block style. We need an extra carbon for the files, and use

today's date. Send the letter to Ms. Janet J A N E T Laroux L A R O U

X Next Line. 4 3 6 Abbott A B-as-in-Boy B-as-in-Boy O T-as-in-Turkey

T-as-in-Turkey Street. Next Line. Another City, Michigan Zero zero zero zero

zero. PARAGRAPH. Dear Ms. Laroux. PARAGRAPH.

Thank you for your inquiry on the SECKARIES average day. I will try to give

YI some examples based on our company's administrative SECKARIES. There is, of

course, no typical day. EVAT day is different, and each secretary deals with

her EXECUNOTS unique requests. In a day's time, however, THIP are some tasks

which all secretaries must PERFPET. PARAGRAPH.

Because we are a company which sells by direct mail, handling correspondence is

a must. Each day's mail is sorted and directed to the office by 9:30 a.m. The

secretaries sort the routine from special correspondence and deliver the latter

to their superiors. The secretaries then dictate the replies to routine corres-

pondence, using guide paragraphs and standard letters prepared for use with the

word processing center. In this way, mail is frequently sent out within two to

three hours' time of its arrival. Executive time is used to handle the decision-

making situations. Our administrative secretaries handle many of the records management functions, which include microfilming and distributing records. PARAGRAPH.

Of course, correspondence handling is just one FUNCTURE. Telephone handling, setting meeting agendas, controlling the CALUNNIP, and performing other administrative tasks keep EXTRACTIVES time free to concentrate on management functions. IN is management's responsibility to set policy and MALF decisions. Providing the executive with the time TEE do this is a major contribution made BOE our company's secretaries. PARAGRAPH.

Sincerely. Secretary, please skip four lines and type my name, Linda P. Warren. Next Line. Executive Director. Secretary, please use your initials. This is the end of dictation. Thank you very much.

CHIME

Now remove your transcript and ready it for proofreading. The dictation will be repeated in compressed form for you.

REVIEW

When you have finished your transcript, turn it in to your instructor and ready yourself for the next lesson. DO NOT REWIND YOUR TAPE. YOU ARE READY FOR LESSON 12.

Hello, student. Welcome to Lesson 12. In this lesson you are to listen for
the context in order to handle ambiguous dictation. Listen to the preview para-
graph, using your transcription aid to select a grammatically correct word. Here,
now, is your preview.

PREVIEW

This is the end of the preview. If you have inserted your stationery and adjusted
your margins, you are ready to begin. Listen for the chime, and start.

CHIME

Secretary, this is Bill Tomasma. This is a one-page letter with carbon copy and
should be on standard letterhead. Use today's date, and send it to: Mr. Allen
A double-L E N Stone S T O N E. Next Line. Marketing Director. Next
Line. Allied W P Systems. That is Allied A double-L I E D Capital W space
Capital P space Systems S Y S T E M S. Next Line. Three hundred Brazil
Basin Building. That is Brazil B R A Z I L Basin B A S I N Building.
Next Line. Windy City, Illinois. Zero zero zero zero zero. PARAGRAPH. Dear
Mr. Stone. PARAGRAPH.

Your questions about the productivity to be ACHERT with word processing and the
hiring standards OT word processing operators are difficult to answer. Many
COPERIES have run their own production studies, but THRIF are few general stan-
dards which can be SIDERO. Manufacturers may cite 2,000 or 20,000 lines PEF
day per station. This leaves the area OM productivity ambiguous. PARAGRAPH.
One way that experts handle the question of productivity is by citing the time
savings for word originators or principals. Another way that productivity is dis-
cussed is by comparing the transcription process from shorthand notes and from
machine dictation. The latter uses secretarial time more efficiently. PARAGRAPH.
As to hiring requirements, many supervisors hire PERILY on the basis of language
skills, typing SPORK and accuracy, and personality. Prior word processing ARL
machine transcription experience is less important right NIF for these positions,

but as equipment becomes INCORSERLY sophistocated, this may change. My own belief

IP that some experience with automated equipment is HIEWER desirable. PARAGRAPH.

If we may answer other questions, please contact us again. We are enclosing a

brochure about our other services for your information. PARAGRAPH.

Cordially yours. Secretary, please skip four lines and type my name, William

R. Tomasma T O M A S M A. Next Line. Program Director. Secretary, use

your own initials on the letter. This is the end of dictation. Thank you for

your help.

CHIME

Now remove your transcript and ready it for proofreading. The dictation will be

repeated in compressed speech. Listen now for the review.

REVIEW

When you have finished your transcript, turn it in to your teacher, and ready

yourself for the next lesson. DO NOT REWIND YOUR TAPE. YOU ARE READY FOR

LESSON 13.

Hello, student. This is Lesson 13. Please circle 13 on the top of your stationery. This lesson continues your work with ambiguous dictation. Concentrate on the meaning of the letter rather than on the word itself. If you have read the instructions and previewed the AID TO TRANSCRIPTION, listen now to the preview of the first paragraph.

PREVIEW.

Now that the preview is complete, prepare to transcribe. When you hear the chime, the dictation will begin.

CHIME

Secretary, this is Linda Warren. Please prepare this one-page letter with a single carbon for the files. Use today's date, and send it to Ms. Marcelle M A R C E L L A Baylor B-as-in-Boy A Y L O R. COMMA ALL CAPS C R M. Next Line. 1 3 0 0 Mountain Boulevard. Next Line. Major City, Ohio Zero zero zero zero zero. PARAGRAPH. Dear Ms. Baylor. PARAGRAPH.

Your outstanding work in RAGETS management and retention problems PRETS this invitation. Would you SPALL at our organization's upcoming CONTRADICE being held on the FIV of June? It will BAH held at the Harrison H A R R I S O N Hotel's COTERDICE center. PARAGRAPH.

The planned session WOV be a technical presentation AB 11:00 a.m. to last one OHL. The audience will consist OB working records management personnel. MUTY of these individuals are MOBERTS of the association and ENDRIPOND the problems very well. They ranked this topic as a top priority for them. PARAGRAPH.

Please telephone me to say that you will be able to accept our invitation. We genuinely hope you will join us for our June conference and extend our invitation to your guests as well. PARAGRAPH.

Sincerely yours. Secretary, please skip four oines and sign the letter Linda P. Warren. Next Line. Executive Director. Please use your initials on the letter. This is the end of dictation. Thank you for your assistance.

LESSON 13   SCRIPT Page 2   LI   BAYLOR LETTER

CHIME

Prepare now to proofread your transcript as you listen to the dictation given

again in compressed speech. Here is the review of dictation.

REVIEW.

When your transcript is complete, turn it in to your instructor. You are ready

for your final evaluation on these introductory lessons. DO NOT REWIND YOUR

TAPE. YOU ARE READY FOR LESSON 14.

LESSON 14   SCRIPT Page 1   LI-CI   RECORDS DISTRIBUTION AND TURNAROUND TIME

Hello, student. This is the dictation for Lesson 14, RECORDS DISTRIBUTION AND
TURNAROUND TIME. This transcription should be done as you have done lessons 1,
5, and 10. Use Sample 1 for the format. If there is a word you cannot transcribe,
type a double X. Prepare now, to transcribe by recording your starting time on
your stationery. When you hear the chime, begin your work.
CHIME   .

Turnaround time, the term describing the time required to return a document from
word processing services, depends on rapid, accurate transcription. Of equal
importance, work must be received, handled, and returned efficiently. Records
distribution is influenced by centralization, automation, and electronic mail.
PARAGRAPH.

Word processing can be handled in a single, large center or in smaller, decen-
tralized satellites. For the most part, dictation input by telephone is not
influenced by distance. If dictation arrives by mail, the total distance it
travels affects turnaround time. This factor, physical location, affects the
time required to return documents also. Because shorter distances usually require
less distribution time, centralization of services influences turnaround.
PARAGRAPH.

Besides centralization of services, a second factor, automating the mail system,
influences time. Requiring personnel to pick up, sort, and deliver communications,
a manual system may work best with low volume and distance. Automated equipment,
which includes self-guided robots, can travel large distances. To determine the
better method, businesses consider distance, volume of mail, and other distribu-
tion needs. PARAGRAPH.

Called QUOTE electronic mail UNQUOTE, the paperless transmission of communications
is increasing. Some use the term QUOTE communicating word processing UNQUOTE,
for there are similarities between the two. When a priority message must be sent,
an originator dictates to the telex center. Using a keyboard, the operator

LESSON 14   SCRIPT Page 2   LI-CI   RECORDS DISTRIBUTION AND TURNAROUND TIME

transcribes the message, and it is sent electronically by telephone lines, micro-
wave networks, or satellites. On the other end, the message is received, and a
record in paper form is created. PARAGRAPH.
As YOT think about word processing, THIRP about the whole, complex PRANEST.
Records distribution is the ORGARIED way that communications are DISTECTUTED,
and it is important TAH that whole process.
CHIME
Student, this is the end of transcription. Please record your finishing time on
the stationery. Go on to proofread your transcript before turning it in to your
teacher. You have done a fine job with these lessons, and you may now rewind the
tape. Thank you.

LESSON 1   SCRIPT Page 1   LI-CI   MACHINE TRANSCRIPTION SKILL

Hello, student. This is the dictation for Lesson 1, MACHINE TRANSCRIPTION
SKILL. Check to see that you have read and followed all instructions for this
transcription. If there is a word you cannot transcribe, type a double X. Pre-
pare, now, to transcribe by recording your starting time on your stationery. If
your transcript is not complete in 25 minutes, stop the tape, and finish the
remaining instructions. Be sure to run the tape to Lesson 2 when you are done if
you stop early. When you hear the chime, begin your work.

CHIME

Machine transcription is not a single, simple skill, for several other skills,
each learned separately, are fused together. The basic skills are typing, language
use, and listening. Because each one is important, we will now look at them
separately. PARAGRAPH.

The first skill is typing, which is also called keyboarding. Accuracy and speed
are needed, but a major goal for the student is to type continuously. To achieve
this, the student learns to operate the transcribing unit so that no stopping is
necessary. For error correction, the student develops backspace-and-strikeover
techniques. PARAGRAPH.

A second skill is applying language principles. Among these responsibilities,
the student will find punctuating sentences, correcting errors in grammar, and
using special vocabulary. Used especially during proofreading, language princi-
ples are applied both during and after transcription. PARAGRAPH.

Affecting the entire process, listening is a vital, active skill. The student
listens for meaning as well as words, for interpretation is often required. In
addition to unclear, disorganized dictation, the student hears dictation at dif-
ferent speeds. When dictation is poor, the student must ignore incorrect punctua-
tion, interpret mumbled words, and mentally edit communications. Listening, an
active process, must be practiced. PARAGRAPH.

In addition to using typing, language, and listening skills, the effective tran-

LESSON 1   SCRIPT Page 2   LI-CI   MACHINE TRANSCRIPTION SKILL

scriber must possess personal characteristics. To be effective, the transcriber

shows poise under pressure, a sense of humor, and initiative. When TAH tran-

scriber hears unclear VARDS, she or he must DISARD the most likely word TAK use.

This takes UNARKITUV, and it requires confidence IB one's language skills.

PARAGRAPH.

If the student looks at machine transcription as a challenge, the result will

be rapid, accurate transcription, a very useful job skill.

CHIME

Student, this is the end of the material to be transcribed. Please record your

finishing time on the top of the stationery. Then complete the remaining instruc-

tions for Lesson 1. DO NOT REWIND THIS TAPE. YOU ARE READY FOR LESSON 2.

Welcome, student, to Lesson 2, CONTINUOUS KEYBOARDING. If you have read your instructions, prepared your stationery, and adjusted your typewriter, you are ready to transcribe Lesson 2. Chimes will mark the beginning and ending of the dictation. Begin now.

CHIME

A major goal in developing machine transcription skill is continuous keyboarding. Keyboarding simply means using a keyboard that may be found on a typewriter, computer console, or word processing unit. Here are some facts you might like to know about continuous keyboarding. PARAGRAPH.

Continuous keyboarding is done by skilled operation of the transcribing unit and the keyboard together. The footpedal attached to the transcribing unit permits the transcriber to start, stop, and replay the tape. The replay feature enables the transcriber to review some of the dictation. The transcriber listens to a meaningful unit of thought, sometimes called an earful, and begins to keyboard. Before keyboarding the entire earful, however, the transcriber listens to another earful. Listening starts and stops, but keyboarding continues. PARAGRAPH.

Continuous keyboarding by expert transcribers occurs for varying periods of time. Because dictated letters and memos are usually short, it is common for transcribers to keyboard the entire message without stopping. Some transcribers do not require a review of dictation and turn the replay control off or to its lowest setting. Transcribers can keyboard at speeds approaching 80 to 100 words per minute on word processing equipment. PARAGRAPH.

What problems do transcribers have in achieving continuous keyboarding? Transcribers may be interrupted by coworkers as well as clients, or they may pause to consult a dictionary. Adjusting volume, starting over because of a misplaced instruction, or changing paper and ribbons may occur. Unfamiliarity with the equipment or dictator can contribute to pauses. The most important reason for stopping, however, is poor dictation. PARAGRAPH.

This should give you ideas on how the machine transcription skill is performed.

CHIME

This is the end of dictation for Lesson 2. Now complete the proofreading for this transcript using the KEY TO TRANSCRIPTION. When you have completed your work, turn it in to your teacher. DO NOT REWIND THIS TAPE. YOU ARE READY FOR LESSON 3.

LESSON 3   SCRIPT Page 1   CI   TRANSCRIBING ON WORD PROCESSING EQUIPMENT

Hello, student. By now you have read the instructions for Lesson 3. This lesson
introduces some basic concepts about word processing and explains the importance
of the backspace/strikeover skill. A chime will mark the beginning and ending
of the material you are to transcribe. If you have inserted your stationery and
checked your margins, begin now to transcribe the dictation.

CHIME

Although word processing units have many different features, they also have common
features of importance to the transcriber. These affect the correction of errors,
keyboarding procedures, and the nature of errors. Here is a brief look at each.
PARAGRAPH.

Error correction is rapid in word processing. Word processing units record all
strokes magnetically on cards, cassette tapes, or discs. As a result, errors
can be erased and corrections recorded without retyping the entire message. Back-
space-and-strikeover skills, for example, are used to correct typographical errors.
PARAGRAPH.

New keyboarding procedures are added to the usual typing of letters and numbers.
Special keys control a variety of functions, hence their name, function keys.
These are used to center headings, insert lines, rearrange paragraphs, and so on.
The transcriber uses these function keys to edit text in major ways. PARAGRAPH.
Word processing changes the kinds of mistakes that are important. On a conven-
tional typewriter, these kinds of errors are important: typographical errors,
improper hyphenation, and word omissions. These may require retyping the entire
item. On a word processing unit, the errors that are serious involve the misuse
of the function keys. These keys drive the automated unit. Some understanding
of computers may help the transcriber to avoid mistakes and also to solve them
when they do occur. PARAGRAPH.

It is possible to learn some word processing skills using a conventional type-
writer. The backspace-and-strikeover technique is one such skill. The ease of

LESSON 3   SCRIPT Page 2   CI   TRANSCRIBING ON WORD PROCESSING EQUIPMENT

making corrections is one factor that helps the transcriber keyboard very rapidly.

CHIME

Now complete proofreading this transcript using the key to transcription. When

you have turned in your work to your instructor, you are ready to go on. DO NOT

REWIND THIS TAPE. YOU ARE READY FOR LESSON 4.

LESSON 4   SCRIPT Page 1   CI   THE WORD PROCESSING ENVIRONMENT

Welcome, student, to Lesson 4, THE WORD PROCESSING ENVIRONMENT. Have you pre-
viewed the vocabulary for this lesson, readied your stationery, and adjusted your
machine? If so, you are ready for this lesson which discusses early ideas on
word processing and some of the problems which occurred. A chime marks the
beginning and ending of dictation. Begin now.

CHIME

Word processing changes communication patterns in very important ways. Automated
equipment makes certain communication activities possible that were not possible
before. Because of this, changes have had to occur in the training of personnel,
the procedures used to communicate, and the setting in which word processing is
used. This setting, or environment, deserves to be discussed. PARAGRAPH.

Word processing technology was developed in the middle 1960s. Compared to today's
technology, word processing then was quite limited. Nevertheless, word processing
had to be sold to business, government, and other users. Selling new equipment
often means selling new ideas as well. Along with the equipment, then, companies
sold ideas of how communication should be organized. PARAGRAPH.

In the early days of word processing, that idea placed all word processing func-
tions in one central location. Letters, memos, and reports would be dictated
to the word processing center and transcribed by specialists called correspondence
secretaries. Because all correspondence would now be handled in the center, other
secretaries would have time to devote to administrative tasks, hence their new
title, administrative secretaries. Fewer of them would be needed than in the past,
and the one-secretary to one-boss relationship would end. PARAGRAPH.

There was resistance to the idea of word processing centers. To many people,
they were fancy typing pools. The correspondence secretary had no contact with
dictators. Executives feared the loss of their secretaries and their prestige.
Gradually, however, word processing gained acceptance, adjusting to various
communication needs. PARAGRAPH.

LESSON 4   SCRIPT Page 2   CI   THE WORD PROCESSING ENVIRONMENT

Lesson 5 will discuss a change in the word processing environment which has solved some of these problems.

CHIME

Now complete the proofreading of Lesson 4 using the KEY TO TRANSCRIPTION, as you have in lessons 2 and 3. Turn your work in to your instructor when you are finished. DO NOT REWIND YOUR TAPE. YOU ARE NOW READY FOR LESSON 5.

LESSON 5   SCRIPT Page 1   LI-CI   THE WORD PROCESSING SATELLITE

Hello, student. This is the dictation for Lesson 5, THE WORD PROCESSING SATELLITE.
Check to see that you have read and followed all instructions for this transcrip-
tion. Prepare, now, to transcribe by recording your starting time on your sta-
tionery. When you hear the chime, begin your work. Use Sample 1 for the format.
CHIME

Lesson 4 showed that a new idea cannot be forced on people. People must take the
idea, work with it, and adjust it to suit their own needs. The word processing
satellite represents such an adjustment. PARAGRAPH.

For some businesses, the word processing center was isolated and distant. The
word processing specialists could not handle all the specialized work coming from
various parts of a business. As a result, many businesses today do not have a
single, large center. They have several smaller centers, called satellites.
PARAGRAPH.

A satellite is located in the division or department for which it works. There
may be several word processing operators or just one. The number depends on the
work load. Often modular furniture provides an attractive, easily accessible
center. Clients will often visit the satellite to leave work, or the word pro-
cessing specialist may distribute work to the dictators' various locations.
These procedures vary from company to company, but the satellite is decentralized.
PARAGRAPH.

Word processing specialists know the clients for whom they transcribe, and, in
turn, clients use the dictation equipment more readily. The special functions of
a division are better served by correspondence secretaries who know the work
performed by their division. They are treated as a vital part of the work team.
PARAGRAPH.

Early resistance to word processing did not lead to rejection of it. It led
instead to experimentation and adaptation. For some businesses, the single word
processing center is the best way to organize communications. For others, however,

LESSON 5   SCRIPT Page 2   LI-CI   THE WORD PROCESSING SATELLITE

the satellite concept has resolved many of the early criticisms. It is likely

that still more changes will occur in this important technology.

CHIME

This is the end of dictation. Please note the time that you have finished tran-

scribing. Now proofread your transcript, note your finishing time again, and

turn in your work to your instructor. DO NOT REWIND YOUR TAPE. YOU ARE READY

FOR LESSON 6.

LESSON 6   SCRIPT Page 1 CI   LARKIN LETTER

Welcome, student, to Lesson 6. This lesson asks you to transcribe a letter

concerning the business, Educational Conferences, Inc. If you have read the

instructions, you will notice some changes in format and should use Sample 2 to

assist you. You will notice that the speed of transcription has been increased.

Now, if you have inserted your stationery, previewed the vocabulary for the

lesson, and reviewed the punctuation guide, prepare to transcribe. Begin when

you hear the chime.

CHIME

Hello, secretary. Please transcribe the following letter on standard letterhead

with one carbon copy for the files. Use today's date, and prepare the letter in

full-block style. The letter is to go to Ms. Sandra Larkin L A R K I N—as—

in—Nellie. Next line. Thirty-three thirty-three Larchmont L A R C H M—as—

in—Mary O N T Road. Next line. Large City, California Zero zero zero zero

zero. PARAGRAPH. Dear Ms. Larkin. PARAGRAPH.

We are pleased to answer your questions about Educational Conferences, Inc.

PARAGRAPH.

About our services, Educational Conferences develops workshops, training materials,

and other special services for various groups. In effect, you can think of us

as a conference bureau, a consultant, or a training department. With our many

contacts, we generate a great volume of communication. These include letters,

memo. . reports, telephone messages, telegrams, and others. Among our contacts

are participants, speakers, technical persons, suppliers, and a great many others.

PARAGRAPH.

On our full-time staff, we have twenty people. These handle the marketing,

publishing, and administrative functions of our business. Of the twenty, six

are former teachers. In addition to the regular staff, we hire speakers on a

contract basis for various programs. For this purpose, we maintain a speakers'

file with names and addresses, areas of experience, and references on speaking

ability. PARAGRAPH.

With increased interest in the office, many groups are requesting programs on word processing, records management, and communication skills. These are exciting new areas for us. PARAGRAPH.

For your information, we have enclosed brochures on some of our past programs. We would be happy to give you a tour of our facilities if you visit Michigan. Thank you for writing. PARAGRAPH.

Sincerely. Secretary, please skip four lines and type my name, William R-as-in-Railroad period. Tomeams T O R-as-in-Mary A S R-as-in-Mary A. Next line. Program Director. PARAGRAPH. Please type your own initials. This is the end of dictation. Thank you very much.

CHIME

Now obtain the KEY TO TRANSCRIPTION from your teacher and proofread this transcript. When you have turned it in to your instructor, you are ready to go on. DO NOT REWIND YOUR TAPE. YOU ARE READY FOR LESSON 7.

LESSON 7   SCRIPT Page 1   CI   MCCAFFREY LETTER

Hello, student. By now you have read the instructions for Lesson 7. This
lesson asks you to transcribe a letter about Educational Conference's services.
A chime will mark the beginning and ending of the material you are to transcribe.
Now, if you have inserted your stationery, previewed the vocabulary for the
lesson, and reviewed the language use material, listen for the chime and begin
transcribing.

CHIME

Secretary, please transcribe this one-page letter in full-block style on letter-
head stationery. Prepare one carbon for the files. Use today's date. The
letter is to go to Mr. Jerome J E R O M E McCaffrey M C C A F F R
E Y. Next line. Training Director. Next line. TranspoCorp T R A N S
P-as-in-Peter O C O R P. Next line. Industrial City, Texas. That is
capital T X. Zero zero zero zero zero. PARAGRAPH. Dear Mr. McCaffrey.
PARAGRAPH.

We do provide the thorough, individualized training in dictation that you asked
about, for this is a vital part of an effective word processing system. Here
is a brief description of our program. PARAGRAPH.

Our program is broken into three sections. The first is for the inexperienced,
beginning dictator who may be concerned with QUOTE mike fright UNQUOTE. The
exercises are designed to reduce anxiety, for a confident, secure dictator
creates better dictation. The dictator works through several reading and creating
exercises, and program objectives are to form good dictation habits from the
start. PARAGRAPH.

The second program is for those who have dictated previously, but may not be
getting the results they want. Here the goal is to identify individual dictation
problems and help the dictator change a costly, inefficient dictation style. In
this program, the dictator works directly with an experienced transcriber, and
she transcribes dictation in the presence of the originator. Problem areas are

LESSON 7   SCRIPT   Page 2   CI   MCCAFFREY LETTER

discussed, and new, improved techniques are practiced. PARAGRAPH.

The third program is for successful dictators who want to expand the types of

materials they dictate. This unique, unusual program offers special instruction

for long, difficult formats. PARAGRAPH.

With all of our programs, we try to individualize instruction to the client's

needs. Would you visit us to see our dictation lab, or would you let us visit

you? We will call you next week to set up an appointment at a convenient,

satisfactory time. PARAGRAPH.

Cordially C O R D I A L L Y. Secretary, please skip four lines and

type my name, Linda P period Warren W A R R E N. Next line. Executive

Director. PARAGRAPH. Secretary, please use your own initials. This is the end

of dictation. Thank you.

CHIME

Using the KEY TO TRANSCRIPTION, proofread your transcript. When you are done,

turn in your work to your teacher. DO NOT REWIND YOUR TAPE. YOU ARE READY FOR

LESSON 8.

LESSON 8   SCRIPT Page 1   CI   PETROVICH MEMO

Hello, student. You are now ready to transcribe Lesson 8. This dictation is
a memorandum which describes compressed speech. If you have inserted your sta-
tionery, previewed the vocabulary for the lesson, and reviewed the punctuation
guide, prepare to transcribe. Begin when you hear the chime.

CHIME

Secretary, please transcribe this one-page memorandum on our internal stationery
with one carbon for the files. Use today's date. The memo is to go to Sue
Petrovich. That is P E T R O V-as-in-Victor I C H. Next line. From
Bill Tomasms T O M A S M A. Next line. Subject Compressed Speech.

PARAGRAPH

Although we have offered programs in listening in the past, these have been
directed toward the human relations area of communication. To expand and update
our programs, we need to include more on informational listening skills. To
explain, we need to assist our clients to listen and remember facts and other
information. Having reviewed a few publications, I think that we could explore
compressed speech. PARAGRAPH.

To state this simply, compressed speech increases the number of words a listener
hears per minute. After a tape recording is produced, the tape is played at a
faster rate. To eliminate distortion, the control unit electronically removes
bits of sound. Although there is a slight wavering of sound, individuals can
listen to speech as much as two-and-one-half times faster than normal speed.
Because the rate is increased, a great deal of valuable time is saved. PARAGRAPH.
Although persons with visual handicaps are users of speech compressors, many pro-
fessionals use speeded speech. Overloaded with new information about their pro-
fessions, medical personnel, educators, attorneys, and others use speech compres-
sion. To review product information, sales representatives find this a great
asset. PARAGRAPH.

Even though we produce our own instructional tapes, we have not made much use of

compressed speech. Because you are interested in listening skills, I want you

to prepare a followup report on this area. PARAGRAPH.

Secretary, this is the end of dictation. Please use your initials on the memo.

Thank you very much.

CHIME

Now obtain the KEY TO TRANSCRIPTION for Lesson 8 from your teacher, and proofread

this transcript. When you have turned it in to your teacher, you are ready to go

on. DO NOT REWIND YOUR TAPE. YOU ARE READY FOR LESSON 9.

LESSON 9   SCRIPT   Page 1   CI   WARREN MEMO

Hello, student. By now you have read the instructions for Lesson 9. This
lesson asks you to transcribe a memorandum. A chime will mark the beginning and
ending of the material you are to transcribe. Please note the vocabulary for the
lesson as well as the punctuation guide. If you have inserted your stationery
and adjusted your typewriter, you are ready to begin. Listen for the chime.
CHIME

Secretary, please transcribe this one-page memo on our internal stationery with
one carbon for the files. Use today's date. The memo is to go to Linda Warren
W A R R E N. Next line. From Sue Petrovich. That is P E T R O V-as-
in-Victor I C H. Next line. Subject Followup on Compressed Speech.
PARAGRAPH.

Bill asked me to report some of the facts on compressed speech, some of which
were reported as much as 35 years ago. He also asked me to suggest some applica-
tions for word processing, an area which could benefit by good listening skills.
This report, admittedly short and incomplete, will first present a few findings
on comprehension and intelligibility. PARAGRAPH.

Comprehension, which means understanding gained from listening, is evaluated with
tests over material. A person may listen to a test story, delivered at varying
speeds, and then answer questions on the general ideas or facts presented. Several
studies report the highest comprehension at 275 words per minute, a speed about
75 percent faster than that used by professional readers and speakers. Intelligi-
bility, a word parallel to legibility in writing, means that words can be identi-
fied clearly. Words are intelligible at higher speeds than they can be compre-
hended, a point which may have significance for word processing applications.
PARAGRAPH.

Some experts feel that listening speeds, generally limited from 140 to 175 words
per minute, could be boosted to reading speeds, which are generally in the high
200-words-per-minute range. Results do not show improved comprehension with

LESSON 9   SCRIPT Page 2   CI   WARREN MEMO

higher listening speeds, a factor not really expected by experts, but they do show the same level of comprehension at considerable time savings, undoubtedly a tremendous value. PARAGRAPH.

There are some informal reports that compressed speech is being used in the word processing center, an innovation of concern to us. Transcribers could use compressed speech for previews of dictation, for adjustment of dictation speeds during transcription, and for proofreading. We might consider some trials of compressed speech in these areas. PARAGRAPH.

Secretary, this is the end of dictation. Please use your own initials at the end of the memo. I appreciate your good work. Thank you.

CHIME

Student, ask your teacher for the KEY TO TRANSCRIPTION. Proofread your transcript, and, when you are done, turn it in to your instructor. DO NOT REWIND YOUR TAPE. YOU ARE NOW READY FOR LESSON 10.

LESSON 10   SCRIPT Page 1   LI-CI   PROOFREADING IN THE WORD PROCESSING CENTER

Welcome to Lesson 10. This is a progress check. After you have reviewed the
instructions, especially Sample 1 for the format, please note your starting time
on the stationery. Have your teacher verify it. Now, listen for the chime and
begin to transcribe.

CHIME

Proofreading, an essential skill in word processing, is closely related to lan-
guage skills. Good language skills do not guarantee good proofreading skills,
but they help. Proofreading, which insures that mailable documents are produced,
must be practiced. PARAGRAPH.

One word processing supervisor states, QUOTE Proofreading is the ability to read
what is actually on the page and not what we know should be there. This ability
requires a high degree of attention to detail. Proofreading for typographical
errors is only one portion of that skill. Checking continuity of thought and
making sure the sentence structure makes sense require grammar proficiency. The
third element of proofreading is checking for consistency. All of these segments,
which are vital to the accuracy of work performed in word processing, comprise the
skills necessary in proofreading. UNQUOTE. Among experts, there is general agree-
ment that proofreading is a task completed after the basic keyboarding has been
done. Depending on the type of equipment, hyphenation decisions may also be a
part of proofreading. PARAGRAPH.

Proofreading practices vary among word processing centers. Transcribers may be
responsible for proofreading each document they prepare. Looking at the screen
or paper during transcription, many of these transcribers are able to catch typo-
graphical errors while transcribing, but proofing is still needed. During the
automatic printing of final documents, one transcriber may proofread another
document. Another may proofread several documents as a major activity and not
combine it with other tasks. Some centers assign proofreading responsibilities
to the originators, and still others have one person, sometimes a supervisor,

LESSON 10   SCRIPT Page 2   LI—CI   PROOFREADING IN THE WORD PROCESSING CENTER

responsible for final proofreading. This arrangement makes it possible to hire

the visually handicapped person to transcribe rough drafts. PARAGRAPH.

Whatever the arrangement, proofreading is as much a part of the machine transcrip-

tion skill as keyboarding itself.

CHIME

Student, please record the time you have finished this transcript. Now proofread

your document, using red pen or pencil. Record your finishing time again, and

turn in all of your work to your teacher. DO NOT REWIND YOUR TAPE. YOU ARE NOW

READY FOR LESSON 11.

Welcome, student, to Lesson 11. In these lessons, you will be asked to handle some ambiguous, or unclear, dictation. A word will be mispronounced. Do not try to interpret the word you hear; simply try to insert a word that fits the context. If you are unable to do that, type a double X and continue transcription. If you have inserted your stationery, adjusted your margins, and read the instructions, you are ready. Circle the 11 on the top right of the paper. Listen for the chime, and begin.

CHIME

Secretary, this is Linda Warren. Please prepare this one-page letter on standard letterhead in full-block style. We need an extra carbon for the files, and use today's date. Send the letter to Ms. Janet J A N E T Leroux L A R O U X Next line. 4 3 6 Abbott A B-as-in-Boy B-as-in-Boy O T-as-in-Turkey T-as-in-Turkey Street. Next line. Another City, Michigan Zero zero zero zero zero. PARAGRAPH. Dear Ms. Leroux. PARAGRAPH.

Thank you for your inquiry on the SECKARIES average day. I will try to give YI some examples based on our company's administrative SECKARIES. There is, of course, no typical day. EVAT day is different, and each secretary deals with her EXECUNOTS unique requests. In a day's time, however, THIP are some tasks which all secretaries must PERFRET. PARAGRAPH.

Because we are a company which sells by direct mail, handling correspondence is a must. Each day's mail is sorted and directed to the office by 9:30 a.m. The secretaries sort the routine from special correspondence and deliver the letter to their superiors. The secretaries then dictate the replies to routine correspondence, using guide paragraphs and standard letters prepared for use with the word processing center. In this way, mail is frequently sent out within two to three hours' time of its arrival. Executive time is used to handle the decision-making situations. Our administrative secretaries handle much of the records management functions, which include microfilming and distributing records. PARAGRAPH.

LESSON 11   SCRIPT Page 2   CI   LAROUX LETTER

Of course, correspondence handling is just one FUNCTURE. Telephone handling,
setting meeting agendas, controlling the CALUNNIP, and performing other adminis-
trative tasks keep EXTRACTIVES time free to concentrate on management functions.
IM is management's responsibility to set policy and MALF decisions. Providing
the executive with the time TEE do this is a major contribution made BOE our
company's secretaries. PARAGRAPH.

Sincerely. Secretary, please skip four lines and type my name, Linda P. Warren.
Next line. Executive Director. Secretary, please use your initials. This is
the end of dictation. Thank you very much.

CHIME

Now remove your transcript from the typewriter, proofread your transcript using
the KEY TO TRANSCRIPTION, and turn in your work to your instructor. DO NOT
REWIND YOUR TAPE. YOU ARE READY FOR LESSON 12.

Welcome to Lesson 12, student. You will find more ambiguous dictation in this letter. As in Lesson 11, do not try to interpret the word you hear, but try to concentrate on the meaning of the sentence. Find a word which would fit the meaning of the sentence. Please circle 12 on the top of your stationery, and insert it. If you have read the instructions, you are now ready. Listen for the chime and begin.

CHIME

Secretary, this is Bill Tomasme. This one-page letter with carbon should be prepared on standard letterhead. Use today's date, and sent it to: Mr. Allen A double-L E N Stone S T O N E. Next Line. Marketing Director. Next Line. Allied W P Systems. That is Allied A double-L I E D Capital W space Capital P space Systems S Y S T E M S. Next Line. Three hundred Brazil Basin Building. That is Brazil B R A Z I L Basin B A S I N Building. Next Line. Windy City, Illinois. Zero zero zero zero zero. PARAGRAPH. Dear Mr. Stone. PARAGRAPH.

Your questions about the productivity to be ACHERT with word processing and the hiring standards OT word processing operators are difficult to answer. Many COPERIES have run their own production studies, but THRIF are few general standards which can be SIDERO. Manufacturers may city 2,000 or 20,000 lines PEF day per station. This leaves the area OM productivity ambiguous. PARAGRAPH. One way that experts handle the question of productivity is by citing the time savings for word originators or principals. Another way that productivity is discussed is by comparing the transcription process from shorthand notes and from machine dictation. The latter uses shorthand notes more efficiently. PARAGRAPH. As to hiring requirements, many supervisors hire PERILY on the basis of language skills, typing SPORK and accuracy, and personality. Prior word processing ARL machine transcription experience is less important right NIF for these positions, but as equipment becomes INCORSERLY sophistocated, this may change. My own belief

LESSON 12   SCRIPT Page 2   CI   STONE LETTER

IP that some experience with automated equipment is HIEWER desirable. PARAGRAPH.

If we may answer other questions, please contact us again. We are enclosing a

brochure about our other services for your information. PARAGRAPH.

Cordially yours. Secretary, please skip four lines and type my name, William

R. Tomasma T O M A S M A. Next Line. Program Director. Secretary, use

your own initials on the letter. This is the end of dictation. Thank you for

your help.

CHIME

After you obtain the KEY TO TRANSCRIPTION, proofread this transcript and turn

your work in to your instructor. DO NOT REWIND YOUR TAPE. YOU ARE NOW READY

FOR LESSON 13.

LESSON 13   SCRIPT Page 1   CI   BAYLOR LETTER

Welcome, student, to Lesson 13. This lesson continues your work with ambiguous dictation. Concentrate on the meaning of the letter rather than on the ambiguous word. Please circle 13 on the top of your stationery. If you have read the instructions and readied your workstation, listen for the chime. Begin now.

CHIME

Secretary, this is Linda Warren. Please prepare this one-page letter with a single carbon for the files. Use today's date, and send it to Ms. Marcella M A R C E L L A Baylor B-ee-in-Boy A Y L O R COMMA ALL CAPS C R M. Next Line. 1 3 0 0 Mountain Boulevard. Next Line. Major City, Ohio Zero zero zero zero zero. PARAGRAPH. Dear Ms. Baylor. PARAGRAPH.

Your outstanding work in RACETS management and retention problems PRETS this invitation. Would you SPALL at our organization's upcoming CONTRADICE being held on the FIV of June? It will BAH held at the Herrison H A R R I S O N Hotel's COTERDICE center. PARAGRAPH.

The planned session WOV be a technical presentation AB 11:00 a.m. to last one OHL. The audience will consist OB working records management personnel. MUTY of these individuals are MOBERTS of the association and ENDRIPOND the problems very well. They ranked this topic as a top priority for them. PARAGRAPH.

Please telephone me to say that you will be able to accept our invitation. We genuinely hope you will join us for our June conference and extend our invitation to your guests as well. PARAGRAPH.

Sincerely yours. Secretary, please skip four lines and sign the letter Linda P. Warren. Next Line. Executive Director. Please use your initials on the letter. This is the end of dictation. Thank you for your assistance.

CHIME

After you obtain the KEY TO TRANSCRIPTION, proofread this transcript and turn your work in to your instructor. DO NOT REWIND YOUR TAPE. YOU ARE NOW READY FOR YOUR LAST LESSON, LESSON 14.

LESSON 14   SCRIPT Page 1   LI-CI   RECORDS DISTRIBUTION AND TURNAROUND TIME

Hello, student. This is the dictation for Lesson 14, RECORDS DISTRIBUTION AND
TURNAROUND TIME. This transcription should be done as you have done lessons 1,
5, and 10. Use Sample 1 for the format. If there is a word you cannot transcribe,
type a double X. Prepare now to transcribe by recording your starting time on
your stationery. When you hear the chime, begin your work.
CHIME

Turnaround time, the term describing the time required to return a document from
word processing services, depends on rapid, accurate transcription. Of equal
importance, work must be received, handled, and returned efficiently. Records
distribution is influenced by centralization, automation, and electronic mail.
PARAGRAPH.

Word processing can be handled in a single, large center or in smaller, decen-
tralized satellites. For the most part, dictation input by telephone is not
influenced by distance. If dictation arrives by mail, the total distance it
travels affects turnaround time. This factor, physical location, affects the
time required to return documents also. Because shorter distances usually require
less distribution time, centralization of services influences turnaround.
PARAGRAPH.

Besides centralization of services, a second factor, automating the mail system,
influences time. Requiring personnel to pick up, sort, and deliver communications,
a manual system may work best with low volume and distance. Automated equipment,
which includes self-guided robots, can travel large distances. To determine the
better method, businesses consider distance, volume of mail, and other distribu-
tion needs. PARAGRAPH.

Called QUOTE electronic mail UNQUOTE, the paperless transmission of communications
is increasing. Some use the term QUOTE communicating word processing UNQUOTE,
for there are similarities between the two. When a priority message must be sent,
an originator dictates to the telex center. Using a keyboard, the operator

LESSON 14   SCRIPT Page 2   LI-CI   RECORDS DISTRIBUTION AND TURNAROUND TIME

transcribes the message, and it is sent electronically by telephone lines, micro-
wave networks, or satellites. On the other end, the message is received, and a
record in paper form is created. PARAGRAPH.

As YOT think about word processing, THIRP about the whole, complex PRANEST.
Records distribution is the ORGARIED way that communications are DISTECTUTED,
and it is important TAH that whole process.

CHIME

Student, this is the end of transcription. Please record ycur finishing time on
the stationery. Go on to proofread your transcript before turning it in to your
teacher. You have done a fine job with these lessons, and you may now rewind the
tape. Thank you.

APPENDIX B

LI

Instructional Booklets

MACHINE TRANSCRIPTION
IN THE
WORD PROCESSING ENVIRONMENT

14 Introductory Lessons

in Machine Transcription

-Listening Instruction-

Developed by

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East Lansing, Michigan

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LI-CI

<div align="center">

INSTRUCTIONS FOR LESSON 1:
UNGRADED PRETEST

</div>

Machine transcription means typing word for word what you hear dictated, making decisions on punctuation, spelling, wording, and so on. The purpose of this lesson is to determine how you would handle this dictation without instruction. Some students may have some prior experience, while others have none. It is important to map progress in learning based on where you start.

Make sure, before you go any further, that you know how to operate your footpedal and volume control on the transcribing unit. These are the only features you will use in these lessons. Here are the steps you should follow for this pretest:

1. SUPPLIES, STATIONERY, AND MACHINE ADJUSTMENT

   You need a red pen or pencil, one carbon set, and the stationery for Lesson 1 (MACHINE TRANSCRIPTION SKILL--Lesson 1). The dot (.) on the stationery shows where you should start. Set one-inch left and right margins, and double space your transcript. Using different content, Sample 1 provides an example of what your transcript might look like after proofreading.

2. TRANSCRIPTION INSTRUCTIONS

   Transcribe, or type, a rough draft of the material that you hear as best you can, making decisions on spelling, punctuation, and wording. Type what you think you hear, but if you cannot transcribe a word, type a double-X (XX) and go on. Remember, this transcript is not graded, and it is a rough draft. YOU WILL BE ABLE TO PROOFREAD THE MATERIAL AFTER YOU HAVE FINISHED.

   Record your time before you begin and after you finish transcribing and after you finish proofreading. Have your teacher verify the times. If you require more than 25 minutes to transcribe Lesson 1, stop, record your time, and complete the remaining instructions.

   A chime will precede and follow the material you are to transcribe to identify it for you.

3. PROOFREADING INSTRUCTIONS

   After you transcribe the dictation and record your time, proofread your transcript. Use red pen or pencil to make any changes needed. When you finish, record your time again. Then turn in your work to your teacher.

4. BACKGROUND SURVEY

   Will you now complete the questionnaire with Lesson 1 to the best of your ability? Give it to your teacher.

   DO NOT REWIND YOUR TAPE. YOU ARE READY FOR LESSON 2.

Begin
Transcript _10: 15 a.m._ End
Transcript _10: 37 a.m._ End
Proofread _11: 00 a.m._
LI-CI
NAME _Ellen Romero_ DATE _March 10, 198X_

WORD PROCESSING—A DEFINITION—Lesson X

Machine transcription is a complex communication process involving skills in listening, recording, and applying language principles. This process has been thrust to the fore because of the emergence of word processing. Word processing is a technological component of the information system of an organization which

1) manipulates primarily qualitative information that is originally in one form to another form (for example, communication in dictated form to written from), and 2) participates in the search for and distribution of information from one location to another (for example, transferring a message from a location in one city to a similar word processing unit in another city).

The input phase of word processing in many organizations focuses on correspondence and reports dictated by executives and transcribed, or converted into typewritten form, by machine transcribers. These specialized people, if they operate a word processing unit, are also called word processing operators, word processing specialists, correspondence secretaries, and other titles. The input is recorded on magnetic media, such as cassette tapes or floppy discs, which allow storage of the typed material. This stored material can then be recalled and revised to produce high-speed, error-free, and continually updatable records.

Some of the most important applications (another word for "use") for word processing are: to revise and update long reports XX, to prepare copies of the same letter going to many people, to maintain indexes for filing systems, to alphabetize mailing lists and expand them, and many other functions.

Word processing equipment requires the operator to be very versatile. he or she must learn to use many special function keys, to unlearn some procedures which are not used with word processing equipment, to add some new procedures—to learn how equipment run by a computer "thinks" so that problems can be solved. Word processing. . . .
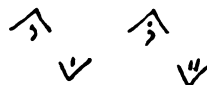
SAMPLE 1
Manuscript

LI-CI

BRIEF REVIEW OF

PROOFREADING MARKS

When correcting your rough drafts in these lessons, use these common proofreading marks:

| INSERT | on base of line |
| | from top of line |

DELETE

performance

works

| ADD SPACE | # | wordprocessing |

| CLOSE UP | | back space |

| TRANSPOSE | | recieve |

| | | breif |

| CAPITALIZE | ≡ | ms. Romero |

| USE LOWER CASE | / or /le | Word Processing Unit |

| ADD PARAGRAPH | | |

| OMIT PARAGRAPH | | no |

The use of informal corrections is acceptable in these lessons as well as the proofreading marks. Simply cross out the error and write the correction above or beside it:

proofreading
~~setting~~

kword

LI—CI

LESSON 2: SPECIAL NOTE TO STUDENT

Dear Student:

Word processing, the automation of communications, influences in some way every office student who will be seeking employment in the future. Word processing affects the way that communications of all kinds are now created.

A look at letters and memos shows that many executive groups in companies with word processing facilities are dictating messages to machines, a process called machine dictation. Secretaries are converting this dictation into written messages by the process called machine transcription. This transcription skill is going to be increasingly important to employees in today's and tomorrow's offices. That is what these lessons are about.
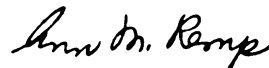
Each lesson will attempt to focus on skills important to machine transcription, and you will also learn about word processing concepts along the way. Please follow the instructions with each lesson carefully.

For right now, please note the following items:

1) Please use the stationery provided for the lesson for your rough draft. You will need to provide your own carbon sets.

2) Do not use an eraser or other correction materials during transcription. This will only slow you down.

3) Be sure to record the beginning and ending transcription times and the ending proofreading time in lessons 1, 5, 10, and 14.

4) If you cannot transcribe a word, type a double-X (XX) and continue your transcription. Return to the problem during proofreading.

5) Use the samples provided in the lessons for examples of the format.

6) When you complete a lesson, DO NOT REWIND THE TAPE. This will leave the tape in position for the next lesson.

Now you are ready for Lesson 2. Read the instructions for Lesson 2, insert the tape, listen for the chime, and transcribe. Do as well as you can on all of these lessons.

Sincerely,

Ann M. Remp, Designer
Transcription Materials

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LI

INSTRUCTIONS FOR LESSON 2:
CONTINUOUS KEYBOARDING

1. **OBJECTIVE FOR LESSON 2**

   The objective for this lesson is TO KEYBOARD CONTINUOUSLY WHILE
   COORDINATING THE LISTEN-STOP-REPLAY FEATURE OF THE TRANSCRIBING UNIT.

2. **GENERAL PROCEDURES**

   The dictation for the lesson will be previewed for you in compressed
   speech (that is, electronically speeded speech). Do not transcribe
   during the preview; rather listen for the meaning and vocabulary of
   the dictation.

   The dictation to be transcribed is preceded and followed by a chime.
   It is also dictated in short, natural phrases followed by pauses to
   allow you to type with the dictation WITHOUT HAVING TO STOP OR REPLAY
   the tape. Try to type with the tape. Do not stop to correct errors.
   Do not stop to check your dictionary during transcription. If you
   cannot transcribe a word, type a double-X (XX). If the dictation ex-
   ceeds your typing speed, stop the tape during a pause. Remember,
   however, to let the tape pace you as much as you can. Do not let the
   replay feature become a crutch for slow keyboarding.

3. **SUPPLIES, STATIONERY, AND MACHINE ADJUSTMENT**

   You will need a red pen or pencil, one carbon set, and the stationery
   for Lesson 2 (CONTINUOUS KEYBOARDING--Lesson 2). Set one-inch left
   and right margins, and double space your transcript. Begin on the
   dot (.), using Sample 1 as a model.

4. **TRANSCRIPTION AND PROOFREADING INSTRUCTIONS**

   When you are ready to begin, insert the tape and listen to the preview.
   Transcribe the dictation, and then proofread. The dictation will be
   repeated in compressed speech so that you may read your transcript as
   you hear the dictation. Compare your transcript to the dictation and
   correct any omissions. Use your dictionary or other reference materials
   at this time. Write all corrections in red. When you are done, turn
   in your work to your teacher, saving the carbon copy for a later time.

   DO NOT REWIND YOUR TAPE. YOU ARE NOW READY FOR LESSON 3.

LI

INSTRUCTIONS FOR LESSONS 3 AND 4:
BACKSPACE AND STRIKEOVER

1. OBJECTIVES FOR LESSONS 3 AND 4

The first objective for these lessons is TO KEYBOARD CONTINUOUSLY,
COORDINATING THE LISTEN-STOP-REPLAY FEATURE OF THE TRANSCRIBING UNIT.

The second objective for these lessons is TO USE BACKSPACE-AND-
STRIKEOVER TECHNIQUES TO CORRECT TYPOGRAPHICAL ERRORS.

2. GENERAL PROCEDURES

As in Lesson 2, the material is previewed in compressed speech for
you. The dictation to be transcribed is preceded and followed by a
chime and is dictated in short phrases followed by pauses. The dic-
tation will be dictated more rapidly than in Lesson 2, and when the
dictation exceeds your typing speed, stop the tape during the pauses.
Always try to stay with the tape because it will "force" your tran-
scribing speed.

If you notice a typographical error as you make it, begin now to
backspace and strikeover the incorrect letters or numbers and type
the corrections right over them. Only use this procedure IF you are
on the word which contains the error. Do not go back a few words, a
line, or a paragraph to correct errors this way. Leave these other
errors for the proofreading phase.

3. SUPPLIES, STATIONERY, AND MACHINE ADJUSTMENT

You will need a red pen or pencil, one carbon set, and the stationery
for Lesson 3 (TRANSCRIBING ON WORD PROCESSING EQUIPMENT—Lesson 3) or
Lesson 4 (THE WORD PROCESSING ENVIRONMENT—Lesson 4). Set one-inch
left and right margins. Double space your transcript, beginning on the
dot (.). Use Sample 1 for a model.

4. TRANSCRIPTION AND PROOFREADING INSTRUCTIONS

When you are ready to begin, insert the tape and listen to the preview.
Transcribe the dictation, and then proofread. The dictation will be
repeated in compressed speech so that you may read your transcript as
you hear the dictation. Compare your transcript to the dictation and
correct any omissions. Use your dictionary or other reference materials
at this time. Write all corrections in red. When you are done, turn
in your work to your teacher, saving the carbon copy of each lesson for
a later time.

DO NOT REWIND YOUR TAPE. YOU ARE NOW READY FOR LESSON 4 (OR LESSON 5).

LI-CI

INSTRUCTIONS FOR LESSON 5:
PROGRESS CHECK

How are you doing so far? Are you getting the "feel" of machine tran-
scription? Are you finding error correction easier during transcription?
If so, you are acquiring an invaluable skill needed in the word processing
environment.

The purpose of this lesson is to determine how well you are doing. You
are probably interested in your progress as well. As in Lesson 1, the
pretest, you are asked to record your time three times. The other proce-
dures are identical to those you have followed in lessons 2, 3, and 4.
Review the instructions if you have questions about the procedures. Your
completed work should look like Sample 1.

1. SUPPLIES, STATIONERY, AND MACHINE ADJUSTMENT

   You need a red pen or pencil, one carbon set, and the stationery for
   Lesson 5 (THE WORD PROCESSING SATELLITE--Lesson 5). The dot (.) shows
   the place to start your transcription. Set one-inch left and right
   margins.

2. TRANSCRIPTION INSTRUCTIONS

   Transcribe the document using the continuous typing and backspace/
   strikeover technique that you have learned. Type a double-X (XX) for
   any word you cannot transcribe. Insert punctuation and make other
   decisions as best you can. Following the transcription, proofread the
   material.

   The chime will precede and follow the dictation to be transcribed.
   Be sure to have your instructor verify your beginning and ending tran-
   scription times and the time you finish proofreading.

3. PROOFREADING INSTRUCTIONS

   With red pen or pencil, make any corrections you need to your transcript.
   When you are done, turn in all your work to your instructor.

   DO NOT REWIND YOUR TAPE. YOU ARE NOW READY FOR LESSON 6.

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LESSON 6: SPECIAL NOTE TO THE STUDENT

Dear Student:

Up to this point in your lessons, stress has been placed on continuous transcription of the dictated material. You are to continue to keep these basic skills in mind as you work on these next lessons, but you have probably also noticed that there are many decisions that must be made by the transcriber. Even if a dictator does a fairly good job of spelling unusual words or giving unusual punctuation, most of the decisions about "normal" punctuation belong to the word processing specialist.

Perhaps you will think that transcription would be easier if the dictator gave you all punctuation so that you would not have to make any decisions. This would be true if you knew very little about English skills. Many operators find that dictating all punctuation creates more problems than it solves. Dictators dictate errors, such as incorrect punctuation marks, and often the transcriber has to ignore or change the punctuation. While transcribers appreciate dictation of unusual punctuation or spelling, most prefer to make the decisions on normal punctuation and spelling themselves. They feel that they serve their clients more effectively by making competent decisions.
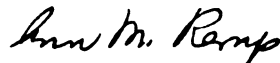
Dictators do assist transcribers in other ways, namely by the natural phrasing of their sentences. The transcriber learns to listen for sentence patterns, for by these patterns the transcriber can insert punctuation reliably. Sentence patterns are made up of pauses, both long and short, and inflections, rising or lowered tones.

These lessons are designed to help you listen to sentence types so that you will punctuate sentences correctly. In these lessons, you will review some punctuation rules. The dictation will contain the same kind of sentences which the rules are about. Listen for the sentence patterns, and then apply the punctuation rule. The rules concern commas, for commas are the most difficult punctuation marks to use. As in lessons 2, 3, and 4, the dictation will be previewed and repeated for proofreading in compressed speech.

You will be transcribing letters and memos in these letters. The prepared stationery has been designed to simplify your transcription task. Some material that you hear dictated will already be on your stationery. Familiarize yourself with the dictation of instructions and the alternative address format so that you can use this information in later lessons.

Remember to keyboard continuously, to use the backspace/strikeover technique, and to make punctuation decisions rapidly. Leave problems for the proofreading stage. Go ahead, now, with Lesson 6, and do well.

Sincerely,

Ann M. Ramp

Ann M. Ramp, Designer
Transcription Materials

ml

LI-CI

NAME _*Ellen Romero*_   DATE _*March 14, 198x*_

EDUCATIONAL CONFERENCES, INC.

Small City, Michigan

August 5, 198x

DR ELEANORE L WILEY
PCF AGENCY
450 HILLSIDE LANE
COLLEGE COMMUNITY FL 00000

Dear Dr. Wiley

We are pleased to answer your request for a word processing seminar.
You are especially concerned about time factors and instructional
materials. Here is some brief information on each.

First, the time needed for word processing operators to learn a unit
will vary. The basic operation of a unit can often be learned with as
little as eight to ten hours of instruction and hands-on experience.
We recommend that any purchaser of a word processing system take advan-
tage of all the instruction made available by the manufacturer before
coming to us. Once that is exhausted, however, there are some types
of instruction that we can provide to help the client get the most from
the word processing system. We find that many word processors are under-
utilized, and we try to identify other applications and train operators
to accomplish these.

Second, we provide instructional materials. As before, we recommend that
the client thoroughly use the materials provided by the manufacturer, and
we will, at the client's request, use the training XX already on hand.
We prefer, however, to develop our own materials, for we design them
to develop confidence along with skills in sophistocated operations.

Would you let us talk to you further about the seminars? Our philosophy
here is to provide you with the training you need. We do our best to
learn your needs first and then tailor a program for you. We will call
you next week to set up an appointment.

Cordially yours

William R. Tomesma
Program Director

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SAMPLE 2
Full-Block Style Letter

LI—CI

NAME *Ellen Romero*   DATE *March 16, 198x*

EDUCATIONAL CONFERENCES, INC.

Memorandum

DATE: May 29, 198x

TO: Bill Tomeama

FROM: Sue Petrovich

SUBJECT: High School Tour

The office procedures class from Edwin High school wishes to visit
our training laboratories later this month. They want to arrange a
morning tour any day but Friday. Could you check our conference calen-
ender to determine available dates and set up a tentative agenda.

The person to contact at the school is Webber Brown. You might want
to call him at 736-0842 to determine his specific interests, as well
as set a date and time. Because we do have a number of films on
different topics, such as word processing, records management, dicta-
tion, and so on, you might include one on the program.

Would you also check with our part-time people to see who would be
available to give demonstrations of our equipment. Let me know whether
you or I will handle the tour itself. Thanks.

yl

SAMPLE 3
Full-Block Style Memorandum

LI

<div style="text-align: center">

INSTRUCTIONS FOR LESSON 6:
LISTENING FOR SENTENCE PATTERNS

</div>

1. **OBJECTIVES FOR LESSON 6**

   The first objective is TO LISTEN FOR AND PUNCTUATE SENTENCES WHICH CONTAIN INTRODUCTORY PREPOSITIONAL PHRASES AND LISTS OR SERIES OF ITEMS.

   The other objectives are to continue TO KEYBOARD CONTINUOUSLY AND USE BACKSPACE/STRIKEOVER SKILLS TO CORRECT TYPOGRAPHICAL ERRORS.

2. **GENERAL PROCEDURES**

   Lesson 6 dictates a letter containing sentences with introductory prepositional phrases and series of items, or lists, which require commas. You should transcribe a rough draft of this letter, making these punctuation decisions as rapidly as possible.

   The tape will continue to preview the dictation and repeat it for proofreading in compressed form. Use the preview to identify the sentence patterns in advance.

3. **SUPPLIES, STATIONERY, AND MACHINE ADJUSTMENT**

   You will need a red pen or pencil, one carbon set, and the stationery for Lesson 6 (LARKIN LETTER--Lesson 6). Use Sample 2 (Full-Block Style Letter) for a model of transcription, and begin transcription on the dot (.). Set your margins for one-and-one-half inches on left and right sides. Single space within each paragraph, and double space between paragraphs.

4. **PUNCTUATION REVIEW**

   You will use two basic rules for commas in this lesson. They are:

   USE A COMMA AFTER EACH ITEM IN A LIST OR SERIES. The list may appear in the beginning, middle, or end of a sentence. The item may be any part of speech (noun, verb, etc.) or phrase. Use a comma before the final conjunction.

   EXAMPLES: <u>Listening, transcribing, and proofreading</u> are three important activities in the word processing center.

   The correspondence secretary <u>inserted the cassette, adjusted the volume, and began to transcribe.</u>

   USE A COMMA AFTER A LONG INTRODUCTORY PREPOSITIONAL PHRASE OR A COMBINATION OF PHRASES. Three or more words usually make a long phrase. Use a comma for shorter phrases if confusion will result without the comma.

LI

EXAMPLES: After introductory instruction, the student will use
other features of the transcribing unit.

In the instruction manual under "troubleshooting," the
operator will find suggested ways of solving word pro-
cessing problems.

5. TRANSCRIPTION AND PROOFREADING INSTRUCTIONS

When you are ready to begin, insert the tape and listen to the preview.
Transcribe the dictation, using Sample 2 as a model, and then proof-
read your transcript. The dictation will be presented again in com-
pressed speech so that you may read your transcript as you hear the
dictation. In red, correct any omissions or other errors you find.
Use your dictionary or other reference materials at this time. Turn
your completed work in to your instructor, saving your carbon for
later use.

DO NOT REWIND YOUR TAPE. YOU ARE NOW READY FOR LESSON 7.

LI

INSTRUCTIONS FOR LESSONS 7, 8, AND 9:
LISTENING FOR SENTENCE PATTERNS

Because the instructions for lessons 7, 8, and 9 are generally the same as those in Lesson 6, they will be combined and abbreviated here. The general procedures are for you to review the punctuation rules for each lesson, and use those rules during transcription. Lesson 7 is a letter following Sample 2; lessons 8 and 9 are memoranda, following the format shown in Sample 3. Review these formats before transcribing.

Handle the preview, transcription, and proofreading as you have in Lesson 6. Here, now, are the punctuation rules for each lesson.

LESSON 7: PUNCTUATION REVIEW

You will use two basic rules for commas in this lesson. They are:

IN A COMPOUND SENTENCE, USE A COMMA BETWEEN THE TWO INDEPENDENT CLAUSES. Place the comma before the coordinate conjunctions (and, but, or, for, nor, and sometimes yet).

EXAMPLES: The dictator pronounced words carefully, and his rate of speaking was just right.

A dictator usually has name and address information readily available, but the transcriber must spend time to look it up.

USE A COMMA BETWEEN TWO ADJECTIVES IN A SERIES OR LIST IF THE ADJECTIVES COULD BE REVERSED OR IF THE ADJECTIVES COULD HAVE "AND" PLACED BETWEEN THEM. These are called coordinate adjectives.

EXAMPLES: Word processing is a new, complex technology. (This could be written new and complex or complex, new without changing the meaning.)

The rapid, accurate production of communications is a major reason for the popularity of word processing.

If you have inserted the stationory for Lesson 7 (MCCAFFREY LETTER--Lesson 7) and adjusted your margins to one-and-one-half inches, please listen now to the preview. Then transcribe when you hear the chime. After proofreading your work, turn in the original to your teacher.

DO NOT REWIND YOUR TAPE. YOU ARE READY FOR LESSON 8.

LESSON 8: PUNCTUATION REVIEW

You will use two basic rules for commas in this lesson. They are:

PLACE A COMMA AFTER AN INTRODUCTORY VERBAL PHRASE THAT IS USED AS A MODIFIER, THAT IS, AS AN ADJECTIVE OR ADVERB.

LI

VERBAL PHRASES   Participles: Looking to the future, she learned
as much as possible about word processing.

Preposition with Gerund: Before leaving, he
answered questions about the new system.

Infinitive: To make matters worse, the manager
wrote the report entirely in longhand.

PLACE A COMMA AFTER AN INTRODUCTORY ADVERB CLAUSE.

EXAMPLES: If you attend the seminar, please record the speaker's
talk.

While he sat in the office, he listened to the training
tape in compressed speech.

If you have inserted the stationery for Lesson 8 (PETROVICH MEMO—
Lesson 8) and adjusted the margins for this memorandum, please listen
to the preview. Then, when you hear the chime, transcribe the dictation.
After proofreading, turn in your work to your instructor.

DO NOT REWIND YOUR TAPE. YOU ARE READY FOR LESSON 9.

LESSON 9: PUNCTUATION REVIEW

You will use two closely related rules in Lesson 9:

USE COMMAS TO SET OFF (THAT IS, BEFORE AND AFTER) NONRESTRICTIVE
ITEMS WHEREVER THEY OCCUR IN A SENTENCE.

NONRESTRICTIVE ITEM: The word, phrase, or clause is NOT NEEDED
TO IDENTIFY ANOTHER WORD OR PHRASE; the nonrestrictive item identi-
fies something in a sentence which is ALREADY CLEARLY IDENTIFIED.

APPOSITIVES: Charles Langdon, our customer support representative,
visits our word processing center regularly.

The communication field, a leading industry, is con-
tinuing to grow.

VERBAL PHRASES: The Pritchard Building, located on Main Street,
houses our communication services.

The right rear panel, obviously badly damaged, needs
to be replaced.

CLAUSES: The new personnel director, whom you will meet soon, plans
to institute a dictation training program.

The necessary dictation, all of which arrived today, will
be transcribed by this afternoon.

DO NOT USE COMMAS TO SET OFF WORDS, PHRASES, OR CLAUSES ESSENTIAL TO
IDENTIFYING SOME OTHER ITEM IN A SENTENCE.

LI

    PHRASES: The report <u>assigned for Thursday</u> was completed early.

                The building <u>to the west of this one</u> is now too small.

    CLAUSES: The employee <u>who just entered the room</u> is a word process-
                ing project leader.

                The file <u>which was delivered by Ms. Weston</u> contained the
                missing report.

If you have inserted the stationery for Lesson 9 (WARREN MEMO--Lesson 9)
and adjusted the margins for this memorandum, please listen to the preview.
Begin to transcribe when you hear the chime. After proofreading your
transcript, turn it in to your teacher.

    DO NOT REWIND THE TAPE. YOU ARE NOW READY FOR LESSON 10.

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INSTRUCTIONS FOR LESSON 10:
PROGRESS CHECK

By now you have learned some terminology used in word processing and some ideas to improve various skills used in the word processing center. It is time again, now, to determine how you are doing on some of the basic machine transcription skills.

This lesson has the same purpose as lessons 1 and 5 and is set up in an identical fashion. You will need to record three times as indicated on the stationery. Although you have been transcribing letters and memoes in lessons 6 through 9, this lesson asks you to transcribe a manuscript in the same way that you did for lessons 1 and 5. Use Sample 1 for the format. Review these instructions only if you have questions about procedures.

1. SUPPLIES, STATIONERY, AND MACHINE ADJUSTMENT

You need a red pen or pencil, one carbon set, and the stationery for Lesson 10 (PROOFREADING IN THE WORD PROCESSING CENTER--Lesson 10). The dot (.) shows you where to start your transcription. Set one-inch left and right margins.

2. TRANSCRIPTION INSTRUCTIONS

Transcribe the document using the continuous typing and backspace/strikeover technique that you have learned. Type a double-X (XX) for any word you cannot transcribe. Insert punctuation marks, using the rules you have reviewed to guide you. Make other decisions as best you can. Following the transcription, proofread the material.

The chime will procede and follow the dictation to be transcribed. Be sure to have your instructor verify your beginning and ending transcription times and the time you finish proofreading.

3. PROOFREADING INSTRUCTIONS

With red pen or pencil, make any corrections you need to your transcript. When you are done, turn in all your work to your instructor.

DO NOT REWIND YOUR TAPE. YOU ARE READY FOR LESSON 11.

LI

LESSON 11: SPECIAL NOTE TO THE STUDENT

Dear Student:

Word originators, or principals, are not perfect dictators. They may unexpectedly pause to think about their message. They may speed up to very high rates. Even if they are trained well, a drop in voice or a distraction can cause garbled dictation. The word originator can, on occasion, dictate ungrammatical sentences or fragments. For this reason, the machine transcriber needs to listen for grammatical structure. This is also called listening for context.
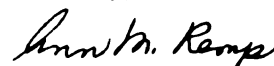
One way to learn to listen for grammatical structure is to learn to anticipate the form of a word to be dictated. The transcriber learns whether a verb will be singular or plural or whether a simple past tense or a perfect tense will be required. If the transcriber knows what part of speech or what form the word will take, garbled or incorrect dictation will more easily be handled.

This lesson and the two that follow it are designed to help the transcriber to listen actively to the dictation and supply words for "faulty dictation." In these exercises, words have been deliberately mispronounced so that they do not make sense. On the instruction page, there are lists of possible words which might fit the context. When you hear a "bad" word, consult the list quickly and select the best word on the basis of grammatical rules. There is only one grammatically correct word in each list.

Remember, do those exercises as rapidly as possible, listening for the sense of the dictation and the grammatical structure of the sentence. If you cannot make a rapid decision, continue keyboarding. Return to the problem area during proofreading. Keep in mind your other objectives as well (continuous keyboarding, backspace-and-strikeover techniques, and accurate punctuation).

As you acquire the listening-for-context skill, you are beginning to edit communications as word processing specialists do. You should try to become as much of an expert in language use as you can. Now begin these lessons by reading the instructions on the next page, preparing your stationery, setting your margins, and inserting your tape.

Sincerely,

Ann M. Remp

Ann M. Remp, Designer
Transcription Materials

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INSTRUCTIONS FOR LESSONS 11, 12, AND 13:
LISTENING FOR CONTEXT

1. OBJECTIVES FOR THE LESSONS

The first objective for these lessons is TO MAKE RAPID DECISIONS ON
WORDING WHEN THE DICTATION IS GARBLED.

The second objective for these lessons is TO TRANSCRIBE COMPLETE
LETTERS FROM INSTRUCTIONS DICTATED BY THE ORIGINATOR.

The continuing objectives are TO KEYBOARD CONTINUOUSLY, BACKSPACE
AND STRIKEOVER TYPOGRAPHICAL ERRORS, AND PUNCTUATE ACCURATELY DURING
TRANSCRIPTION.

2. GENERAL PROCEDURES

The dictation for these three lessons is office style. You must
transcribe the inside addresses, dates, and salutations based on
the dictation. Line and paragraph instructions will be given.

You will find in the dictation that some words are deliberately mis-
pronounced so that they become nonsense words. Using the TRANSCRIP-
TION AID for each lesson, choose a grammatically correct word to use
in your transcript. Make those decisions rapidly. You will have a
one-paragraph preview of dictation to assist you.

3. SUPPLIES, STATIONERY, AND MACHINE ADJUSTMENT

You will need a red pen or pencil and a carbon set for each lesson.
The same stationery is used for all three lessons, and you must circle
the lesson on which you are working on the top right of the page. Use
one-and-one-half inch margins on left and right sides. Single space
within paragraphs, and double space between paragraphs. Use Sample 2
as a model for completed transcription.

4. TRANSCRIPTION AND PROOFREADING INSTRUCTIONS

Read the TRANSCRIPTION AID while you are listening to the one-paragraph
preview of dictation. Then, when you hear the chime, transcribe the
letters, consulting your TRANSCRIPTION AID whenever you need to. The
dictation will be repeated for proofreading purposes, and you may make
any corrections you wish in red pen or pencil. When you are done,
turn in your work to your instructor. Save your carbon copy for use
at a later time.

DO NOT REWIND YOUR TAPE. YOU ARE READY FOR THE NEXT LESSON.

LI

TRANSCRIPTION AIDS FOR LESSONS 11, 12, AND 13

While transcribing the letter for each lesson, use these lists of words
which might fit the context. Choose the one which is grammatically
correct. Prepare for each lesson by previewing the first paragraph with
this list.

LESSON 11:

Paragraph 1:
1. secretary's secretaries secretaries'	2. you your them	3. secretary's secretaries secretaries'
4. after only every	5. originator's originators originators'	6. they're their there
7. performs performed perform		

Paragraph 3:
1. functions functioned function	2. columned calendar calender	3. executive's executives executives'
4. Its It's It	5. make made makes	6. too to two
7. by buy bye		

LESSON 12:

Paragraph 1:
1. have achieved achieve achieved	2. by for in	3. comapny's companies companies'
4. they're their there	5. sited sighted cited	6. pro pre per
7. of for in		

Paragraph 3:
1. primary primarily previous	2. speedily speed speedy	3. and but for
4. off onto for	5. increased increasingly increasing	6. has been have is

LI

LESSON 12:

Paragraph 3: 7. very high
highly
higher

LESSON 13:

Paragraph 1:
1. records
recording
record

2. have prompted
prompted
prompts

3. have spoken
speak
speaks

4. conference
oonfrence
Conference

5. five
5th
fifth

6. of been
have been
be

7. Confrence
conference
Conference

Paragraph 2:
1. could
would
would of

2. for
at
around

3. hour
our
are

4. around
of
in

5. Alot
Many
A lot

6. member
Member
Members

7. have understood
understand
did understand

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<center>INSTRUCTIONS FOR LESSON 14:
FINAL PROGRESS CHECK</center>

Congratulations! You have completed the introductory lessons in machine transcription. The objectives of these lessons have been to help you keyboard continuously, use correct punctuation, and develop related skills. The final step is to determine how far you have come. It is important to be able to compare your skill now with your starting skill.

The lesson is set up in the same way that lessons 1, 5, and 10 were. You will need to record three times as indicated on the stationery. You are to use Sample 1 for the manuscript in this lesson. Review the remaining instructions only if you have questions about procedures.

1. SUPPLIES, STATIONERY, AND MACHINE ADJUSTMENT

    You need a red pen or pencil, one carbon set, and the stationery for LESSON 14 (RECORDS DISTRIBUTION AND TURNAROUND TIME—Lesson 14). The dot (.) shows you where to start your transcription. Set one-inch left and right margins.

2. TRANSCRIPTION INSTRUCTIONS

    In this lesson, you are to demonstrate all the skills you have developed in these lessons: continuous typing, correct punctuation, handling unclear dictation, and related skills. Type a double-X (XX) for any word you cannot transcribe. Insert punctuation marks, using the rules you have reviewed to guide you. Make other decisions as best you can. Following the transcription, proofread the material.

    A chime will precede and follow the dictation to be transcribed. Be sure to have your teacher verify your beginning and ending transcription times and the time you complete proofreading the document.

3. PROOFREADING INSTRUCTIONS

    With red pen or pencil, make any corrections you need to your transcript. When you are done, turn in all your work to your teacher.

    YOU HAVE SUCCESSFULLY COMPLETED THIS INSTRUCTIONAL MATERIAL. YOU MAY NOW REWIND YOUR TAPE! CONTINUE, HOWEVER, TO DEVELOP THIS VALUABLE JOB SKILL. GOOD LUCK!

CI

MACHINE TRANSCRIPTION
IN THE
WORD PROCESSING ENVIRONMENT

14 Introductory Lessons

in Machine Transcription

—Written Instruction—

Developed by

Ann M. Remp

Under the Direction of

Dr. Robert Poland
Business and Office Education
Michigan State University
East Lansing, Michigan

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INSTRUCTIONS FOR LESSON 1:
UNGRADED PRETEST

Machine transcription means typing word for word what you hear dictated, making decisions on punctuation, spelling, wording, and so on. The purpose of this lesson is to determine how you would handle this dictation without instruction. Some students may have some prior experience, while others have none. It is important to map progress in learning based on where you start.

Make sure, before you go any further, that you know how to operate your footpedal and volume control on the transcribing unit. These are the only features you will use in these lessons. Here are the steps you should follow for this pretest:

1. SUPPLIES, STATIONERY, AND MACHINE ADJUSTMENT

   You need a red pen or pencil, one carbon set, and the stationery for Lesson 1 (MACHINE TRANSCRIPTION SKILL--Lesson 1). The dot (.) on the stationery shows where you should start. Set one-inch left and right margins, and double space your transcript. Using different content, Sample 1 provides an example of what your transcript might look like after proofreading.

2. TRANSCRIPTION INSTRUCTIONS

   Transcribe, or type, a rough draft of the material that you hear as best you can, making decisions on spelling, punctuation, and wording. Type what you think you hear, but if you cannot transcribe a word, type a double-X (XX) and go on. Remember, this transcript is not graded, and it is a rough draft. YOU WILL BE ABLE TO PROOFREAD THE MATERIAL AFTER YOU HAVE FINISHED.

   Record your time before you begin and after you finish transcribing and after you finish proofreading. Have your teacher verify the times. If you require more than 25 minutes to transcribe Lesson 1, stop, record your time, and complete the remaining instructions.

   A chime will precede and follow the material you are to transcribe to identify it for you.

3. PROOFREADING INSTRUCTIONS

   After you transcribe the dictation and record your time, proofread your transcript. Use red pen or pencil to make any changes needed. When you finish, record your time again. Then turn in your work to your teacher.

4. BACKGROUND SURVEY

   Will you now complete the questionnaire with Lesson 1 to the best of your ability? Give it to your teacher.

   DO NOT REWIND YOUR TAPE. YOU ARE READY FOR LESSON 2.

Begin
Transcript _10:15 a.m._   End Transcript _10:37 a.m._   End Proofread _11:00 a.m._
LI-CI
NAME _Ellen Romero_   DATE _March 10, 198X_

WORD PROCESSING—A DEFINITION—Lesson X

Machine transcription is a complex communication process involving skills in listening, recording, and applying language principles. This process has been thrust to the fore because of the emergence of word processing. Word processing is a technological component of the information system of an organization which 1) maniupulates primarily qualitative information that is originally in one form to another form (for example, communication in dictated form to written form), and 2) participates in the search for and distribution of information from one location to another (for example, transferring a message from a location in one city to a similar word processing unit in another city).

The input phase of word processing in many organizations focuses on correspondence and reports dictated by executives and transcribed, or converted into typewritten form, by machine transcribers. These specialised people, if they operate a word processing unit, are also called word processing operators, word processing specialists, correspondence secretaries, and other titles. The input is recorded on magnetic media, such as cassette tapes or floppy discs, which allow storage of the typed material. This stored material can then be recalled and revised to produce high-speed, error-free, and continually updatable records.

Some of the most important applications (another word for "use") for word processing are: to revise and update long reports XX, to prepare copies of the same letter going to many people, to maintain indexes for filing systems, to alphabetize mailing lists and expand them, and many other functions.

Word processing equipment requires the operator to be very versatile. He or she must learn to use many special function keys, to unlearn some procedures which are not used with word processing equipment, to add some new procedures— to learn how equipment run by a computer "thinks" so that problems can be solved. Word processing. . . .

SAMPLE 1
Manuscript

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<div style="text-align: center">

BRIEF REVIEW OF

PROOFREADING MARKS

</div>

When correcting your rough drafts in these lessons, use these common proofreading marks:

INSERT	on base of line		
	from top of line		
DELETE			per~~f~~ormance
			work~~s~~
ADD SPACE	#		word processing
CLOSE UP			back space
TRANSPOSE			recieve
			brefir
CAPITALIZE			ms. Romero
USE LOWER CASE			Word Processing Unit
ADD PARAGRAPH			
OMIT PARAGRAPH			

The use of informal corrections is acceptable in these lessons as well as the proofreading marks. Simply cross out the error and write the correction above or beside it:

proofreading ~~perfing~~

kword

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LESSON 2: SPECIAL NOTE TO STUDENT

Dear Student:

Word processing, the automation of communications, influences in some way every office student who will be seeking employment in the future. Word processing effects the way that communications of all kinds are now created.

A look at letters and memos shows that many executive groups in companies with word processing facilities are dictating messages to machines, a process called machine dictation. Secretaries are converting this dictation into written messages by the process called machine transcription. This transcription skill is going to be increasingly important to employees in today's and tomorrow's offices. That is what these lessons are about.
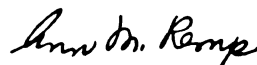
Each lesson will attempt to focus on skills important to machine transcription, and you will also learn about word processing concepts along the way. Please follow the instructions with each lesson carefully.

For right now, please note the following items:

1) Please use the stationery provided for the lesson for your rough draft. You will need to provide your own carbon sets.

2) Do not use an eraser or other correction materials during transcription. This will only slow you down.

3) Be sure to record the beginning and ending transcription times and the ending proofreading time in lessons 1, 5, 10, and 14.

4) If you cannot transcribe a word, type a double-X (XX) and continue your transcription. Return to the problem during proofreading.

5) Use the samples provided in the lessons for examples of the format.

6) When you complete a lesson, DO NOT REWIND THE TAPE. This will leave the tape in position for the next lesson.

Now you are ready for Lesson 2. Read the instructions for Lesson 2, insert the tape, listen for the chime, and transcribe. Do as well as you can on all of these lessons.

Sincerely,

Ann M. Remp, Designer
Transcription Materials

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INSTRUCTIONS FOR LESSON 2:
CONTINUOUS KEYBOARDING

1. OBJECTIVES FOR LESSON 2

The first objective for this lesson is TO KEYBOARD CONTINUOUSLY
WHILE COORDINATING THE LISTEN-STOP-REPLAY FEATURE OF THE TRANSCRIB-
ING UNIT.

Other objectives are TO PLACE PUNCTUATION MARKS AND SPELL THE
TERMINOLOGY USED IN THE LESSON ACCURATELY.

2. GENERAL PROCEDURES

The material in Lesson 2 is dictated at a slow rate of speed so that
you can learn to operate your stop-replay feature. You are to listen
to a phrase or group of words, and begin to type those words. Before
you finish typing, listen to the next group of words. As you practice,
you will develop continuous keyboarding skills.

You will be transcribing a rough draft, so there will be an oppor-
tunity to proofread your work. Even so, you will need to make deci-
sions about punctuation, spelling, and wording as you go. If you
cannot transcribe a word, type a double-X (XX), and continue your
work.

3. SUPPLIES, STATIONERY, AND MACHINE ADJUSTMENT

You will need a red pen or pencil, one carbon set, and the stationery
for Lesson 2 (CONTINUOUS KEYBOARDING--Lesson 2). Set one-inch margins
for left and right sides, and double space your transcript. Use
Sample 1 for a model.

4. VOCABULARY AND PUNCTUATION GUIDES

Here are several terms for you to preview that appear in Lesson 2:

COMPUTER CONSOLE	MEANINGFUL UNIT	WORD PROCESSING
EARFUL	CONTROL MECHANISM	INTERRUPTION
REPLAY FEATURE	DICTATION HABITS	CLIENTS

Here is one rule on comma use for you to review:

USE A COMMA AFTER EACH ITEM IN A LIST OR SERIES. The list may appear
in the beginning, middle, or end of a sentence. The item may be any
part of speech (noun, verb, etc.) or phrase. Use a comma before the
final conjunction.

EXAMPLES: Listening, transcribing, and proofreading are three
important activities in the word processing center.

The correspondence secretary inserted the cassette,
adjusted the volume, and began to transcribe.

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5. TRANSCRIPTION AND PROOFREADING INSTRUCTIONS

    After you have reviewed the instructions, vocabulary preview, and
    punctuation rule, you are ready to begin. A chime will mark the
    beginning and end of the dictation you are to transcribe. When your
    stationery is inserted and your margins adjusted, insert the tape
    and begin. When you are done, obtain the KEY TO TRANSCRIPTION for
    Lesson 2 from your instructor, and proofread your transcript, making
    corrections in red. When you are done, turn in your work to your
    teacher. Keep your corrected carbon copy for later use.

    DO NOT REWIND YOUR TAPE. YOU ARE READY FOR LESSON 3.

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<div align="center">
INSTRUCTIONS FOR LESSONS 3 AND 4:
BACKSPACE AND STRIKEOVER
</div>

1. OBJECTIVES FOR LESSONS 3 AND 4

The first objective for these lessons is to continue TO KEYBOARD CONTINUOUSLY WHILE COORDINATING THE LISTEN-STOP-REPLAY FEATURE OF THE TRANSCRIBING UNIT.

The second objective for these lessons is TO USE BACKSPACE-AND-STRIKEOVER PROCEDURES TO CORRECT TYPOGRAPHICAL ERRORS.

Other objectives are TO PLACE PUNCTUATION MARKS AND SPELL THE TERMI-NOLOGY USED IN THE LESSON ACCURATELY.

2. GENERAL PROCEDURES

The material in lessons 3 and 4 is dictated at the same speed as in Lesson 2. Determine the amount of dictation that you can transcribe at one time, and continue to use the stop-replay feature of your transcribing unit.

If you notice a typographical error as you make it, begin now to backspace and strikeover the incorrect letters or numbers. Use this procedure only if you are on the word which contains the error. Do not go back a line, a paragraph, or even a few words to correct an error this way. Leave these other errors for the proofreading phase.

3. SUPPLIES, STATIONERY, AND MACHINE ADJUSTMENT

You will need a red pen or pencil, a carbon set for each lesson, and the stationery for Lesson 3 (TRANSCRIBING ON WORD PROCESSING EQUIPMENT--Lesson 3) and Lesson 4 (THE WORD PROCESSING ENVIRONMENT--Lesson 4). Set one-inch margins on left and right sides, and double space your transcript. Use Sample 1 as a model.

4. VOCABULARY AND PUNCTUATION GUIDES

Here are several terms for you to preview that appear in Lesson 3:

FEATURES	STROKES or KEYSTROKES	DISCS
MAGNETICALLY	CASSETTE TAPES	AUTOMATED UNIT
FUNCTION KEYS	CONVENTIONAL TYPEWRITER	WORD OMISSIONS

Here is one rule on comma use for you to review:

IN A COMPOUND SENTENCE, USE A COMMA BETWEEN THE TWO INDEPENDENT CLAUSES. Place the comma before the coordinate conjunctions (and, but, or, for, nor, and sometimes yet).

CI

EXAMPLES: The dictator pronounced words carefully, and his rate
of speaking was just right.

A dictator usually has name and address information
readily available, but the transcriber must spend time
to look it up.

Here are several terms for you to preview that appear in Lesson 4:

TECHNOLOGY	RESISTANCE	PROCEDURES
SPECIALISTS	ENVIRONMENT	ADMINISTRATIVE SECRETARIES
CORRESPONDENCE SECRETARIES	WORD PROCESSING PERSONNEL	

Here is one rule on comma use for you to review:

USE A COMMA AFTER A LONG INTRODUCTORY PREPOSITIONAL PHRASE OR A COM-
BINATION OF PHRASES. Three or more words usually make a long phrase.
Use a comma for shorter phrases if confusion will result without the
comma.

EXAMPLES: After introductory instruction, the student will use
other features of the transcribing unit.

In the instruction manual under "troubleshooting," the
operator will find suggested ways of solving word
processing problems.

5. TRANSCRIPTION AND PROOFREADING INSTRUCTIONS

After you have reviewed the instructions, vocabulary preview, and
punctuation rules, you are ready to begin. A chime will mark the
beginning and end of the dictation you are to transcribe. When your
stationery is ready and your margins adjusted, insert the tape and
begin. When you are done, obtain the KEY TO TRANSCRIPTION for Lesson
3 (or for Lesson 4), and proofread your transcript, making corrections
in red. When you are done, turn in your work to your teacher. Keep
your corrected carbon copy for later use.

DO NOT REWIND YOUR TAPE. YOU ARE NOW READY FOR LESSON 4 (OR LESSON 5).

LI-CI

INSTRUCTIONS FOR LESSON 5:
PROGRESS CHECK

How are you doing so far? Are you getting the "feel" of machine tran-
scription? Are you finding error correction easier during transcription?
If so, you are acquiring an invaluable skill needed in the word processing
environment.

The purpose of this lesson is to determine how well you are doing. You
are probably interested in your progress as well. As in Lesson 1, the
pretest, you are asked to record your time three times. The other proce-
dures are identical to those you have followed in lessons 2, 3, and 4.
Review the instructions if you have questions about the procedures. Your
completed work should look like Sample 1.

1. SUPPLIES, STATIONERY, AND MACHINE ADJUSTMENT

    You need a red pen or pencil, one carbon set, and the stationery for
    Lesson 5 (THE WORD PROCESSING SATELLITE—Lesson 5). The dot (.) shows
    the place to start your transcription. Set one-inch left and right
    margins.

2. TRANSCRIPTION INSTRUCTIONS

    Transcribe the document using the continuous typing and backspace/
    strikeover technique that you have learned. Type a double-X (XX) for
    any word you cannot transcribe. Insert punctuation and make other
    decisions as best you can. Following the transcription, proofread the
    material.

    The chime will precede and follow the dictation to be transcribed.
    Be sure to have your instructor verify your beginning and ending tran-
    scription times and the time you finish proofreading.

3. PROOFREADING INSTRUCTIONS

    With red pen or pencil, make any corrections you need to your transcript.
    When you are done, turn in all your work to your instructor.

    DO NOT REWIND YOUR TAPE. YOU ARE NOW READY FOR LESSON 6.

CI

LESSON 6: SPECIAL NOTE TO THE STUDENT

Dear Student:

The next four lessons will continue what you have begun already with a few additions. First, the dictation will resemble office style dictation, and you will transcribe letters and memos, rather than manuscripts. Two new samples have been added for your use in setting up the first few items. Second, the speed of dictation will be increased from that of the first few lessons.
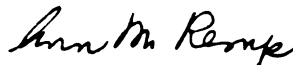
Transcribing material becomes easier with experience on the job. The secretary or word processing specialist becomes familiar with the types of correspondence, the special vocabulary, and the habits of the dictators themselves. For the remaining lessons, imagine that you word for a business called Educational Conferences, Inc. As you learn about this business, you will find that transcribing materials becomes faster and easier.

Educational Conferences, Inc., a fictitious company, sets up workshops and conferences for a variety of groups. The company also prepares training materials in many forms: videotape, audio cassette, and slide/tape combinations. These materials are specially designed for the groups which need them. The letters and memos you transcribe will provide more information on the specific programs this company prepares.

The company generates a tremendous amount of correspondence. It creates its business by direct mail advertizing. Letters and memos are required to handle the administrative work of setting up conferences. Because the training materials are published by Educational Conferences, many manuals are written and produced. With what you already know about word processing, you can probably see why a word processing system is so essential to the business.

As you begin, now, to produce letters and memos, continue to develop the skills you have begun. Simply apply them to a new situation. You will find, as in previous lessons, that there are vocabulary previews and punctuation reviews. Go ahead with Lesson 6, and do well.

Sincerely,

Ann M. Remp

Ann M. Remp, Designer
Transcription Materials

mi

LI—CI
NAME _Ellen Romero_ DATE _March 14, 198x_

EDUCATIONAL CONFERENCES, INC.

Small City, Michigan

August 5, 198x

DR ELEANORE L WILEY
PCF AGENCY
450 HILLSIDE LANE
COLLEGE COMMUNITY FL 00000

Dear Dr. Wiley

We are pleased to answer your request for a word processing seminar.
You are especially concerned about time factors and instructional
materials. here is some brief information on each.

First, the time needed for word processing operators to learn a unit
will vary. The basic operation of a unit can often be learned with as
little as eight to ten hours of instruction and hands-on experience.
We recommend that any purchaser of a word processing system take advan-
tage of all the instruction made available by the manufacturer before
coming to us. Once that is exhausted, however, there are some types
of instruction that we can provide to help the client get the most from
the word processing system. We find that many word processors are under-
utilized, and we try to identify other applications and train operators
to accomplish those.

Second, we provide instructional materials. As before, we recommend that
the client thoroughly use the materials provided by the manufacturer, and
we will, at the client's request, use the training XX already on hand.
We prefer, however, to develop our own materials, for we design them
to develop confidence along with skills in sophistocated operations.

Would you let us talk to you further about the seminars? Our philosophy
here is to provide you with the training you need. We do our best to
learn your needs first and then tailor a program for you. We will call
you next week to set up an appointment.

Cordially yours

William R. Tomasma
Program Director

yi

SAMPLE 2
Full-Block Style Letter

EDUCATIONAL CONFERENCES, INC.

Memorandum

DATE: May 29, 198x

TO: Bill Tomasma

FROM: Sue Petrovich

SUBJECT: High School Tour

The office procedures class from Edwin High School wishes to visit
our training laboratories later this month. They want to arrange a
morning tour any day but Friday. Could you check our conference calen-
endar to determine available dates and set up a tentative agenda.

The person to contact at the school is Webber Brown. You might want
to call him at 736-0842 to determine his specific interests, as well
as set a date and time. Because we do have a number of films on
different topics, such as word processing, records management, dicta-
tion, and so on, you might include one on the program.

Would you also check with our part-time people to see who would be
available to give demonstrations of our equipment. Let me know whether
you or I will handle the tour itself. Thanks.

yi

SAMPLE 3
Full-Block Style Memorandum

CI

<div align="center">

INSTRUCTIONS FOR LESSONS 6, 7, 8, AND 9:
TRANSCRIBING LETTERS AND MEMOS

</div>

1. **OBJECTIVES FOR THE LESSONS**

   The first objective is TO TRANSCRIBE OFFICE-STYLE DICTATION FOR LETTERS AND MEMOES.

   Other objectives for the lessons are to continue to KEYBOARD CONTINUOUSLY, USE BACKSPACE/STRIKEOVER TECHNIQUES, PLACE PUNCTUATION MARKS CORRECTLY, AND SPELL THE TERMINOLOGY USED IN THE LESSONS ACCURATELY.

2. **GENERAL PROCEDURES**

   The material in these lessons is dictated in an office style. Unusual punctuation is given, but normal punctuation should be placed by the transcriber. Line and paragraph spacing is indicated by "next line" or "paragraph" identifications. Phonetic spelling is used for some letters of the alphabet. Other instructions are given to the secretary at the beginning and ending of the dictation.

   Part of the dictation is already transcribed on the stationery to simplify your learning task, but you should note how the dictated instructions are converted into typewritten form. Two new samples for full-block letters and memoes are included for your use.

3. **SUPPLIES, STATIONERY, AND MACHINE ADJUSTMENT**

   You will need your red pen or pencil, one carbon set for each lesson, and the stationery designated for the lessons. Set your margins at one-and-one-half inches for left and right sides. Single space within paragraphs, and double space between. See samples 2 and 3 for examples.

4. **VOCABULARY AND PUNCTUATION GUIDES**

   Here are several terms for you to preview that appear in LESSON 6:

CONFERENCE BUREAU	CONSULTANT	GENERATE
PUBLISHING	SPEAKERS' FILE	REFERENCES
RECORDS MANAGEMENT	BROCHURES	FACILITIES

   Here is one rule on comma use for you to review:

   USE A COMMA BETWEEN TWO ADJECTIVES IN A SERIES OR LIST IF THE ADJECTIVES COULD BE REVERSED OR IF THE ADJECTIVES COULD HAVE "AND" PLACED BETWEEN THEM. These are called coordinate adjectives.

   EXAMPLES: Word processing is a new, complex technology. (This could be written new and complex or complex, new without changing the meaning.

CI

The rapid, accurate production of communications is a major reason for the popularity of word processing.

If you have inserted the stationery for Lesson 6 (LARKIN LETTER—Lesson 6) and adjusted your margins, please insert your tape and begin to transcribe. When you are done, proofread your work using the KEY TO TRANSCRIPTION. Turn your work in to your teacher.

DO NOT REWIND YOUR TAPE. YOU ARE READY FOR LESSON 7.

Here are several terms for you to preview that appear in Lesson 7:

DICTATOR   CONFIDENT   PROGRAM OBJECTIVES

INDIVIDUALIZED   CREATING EXERCISES   DICTATION STYLE

"MIKE FRIGHT"   DICTATION HABITS

Here is one rule on comma use for you to review:

PLACE A COMMA AFTER AN INTRODUCTORY VERBAL PHRASE THAT IS USED AS A MODIFIER, THAT IS, AS AN ADJECTIVE OR ADVERB.

VERBAL PHRASES   Participles: Looking to the future, she learned as much as possible about word processing.

                 Preposition with Gerund: Before leaving, he answered questions about the new system.

                 Infinitive: To make matters worse, the manager wrote the report entirely in longhand.

If you have prepared your stationery and margins, insert the tape and begin to transcribe. Proofread your transcript with the KEY for Lesson 7, and give your work to your instructor.

DO NOT REWIND YOUR TAPE. YOU ARE NOW READY FOR LESSON 8.

Here are several terms for you to preview that appear in LESSON 8:

HUMAN RELATIONS   ELIMINATE   ELECTRONICALLY

PUBLICATIONS   DISTORTION   VISUAL HANDICAPS

COMPRESSED SPEECH   SLIGHT WAVERING   COMPREHENSION

Here is one rule on comma use for you to review:

PLACE A COMMA AFTER AN INTRODUCTORY ADVERB CLAUSE.

EXAMPLES: If you attend the seminar, please record the speaker's talk.

           While he sat in the office, he listened to the training tape in compressed speech.

CI

If your preparations for transcription are complete and you have reviewed Sample 3 for the memorandum format, insert your tape and begin Lesson 8. After proofreading, turn your work in to your teacher, and retain your carbon copy for later use.

DO NOT REWIND YOUR TAPE. YOU ARE READY TO BEGIN LESSON 9.

Here are several terms for you to preview that appear in LESSON 9:

COMPREHENSION   SIGNIFICANCE   INNOVATION

INTELLIGIBILITY   VARIABLE SPEED   PITCH

LEGIBILITY   TRIAL BASIS   PARALLEL

Here is a rule on comma use for you to review:

USE COMMAS TO SET OFF (THAT IS, BEFORE AND AFTER) NONRESTRICTIVE ITEMS WHEREVER THEY OCCUR IN A SENTENCE.

NONRESTRICTIVE ITEM: The word, phrase, or clause is NOT NEEDED TO IDENTIFY ANOTHER WORD OR PHRASE; the nonrestrictive item identifies something in a sentence which is ALREADY CLEARLY IDENTIFIED.

APPOSITIVES: Charles Langdon, our customer support representative, visits our word processing center regularly.

               The communication field, a leading industry, is continuing to grow.

VERBAL PHRASES: The Pritchard Building, located on Main Street, houses our communication services.

               The right rear panel, obviously badly damaged, needs to be replaced.

CLAUSES: The new personnel director, whom you will meet soon, plans to institute a dictation training program.

           The necessary dictation, all of which arrived today, will be transcribed by this afternoon.

DO NOT USE COMMAS TO SET OFF WORDS, PHRASES, OR CLAUSES ESSENTIAL TO IDENTIFYING SOME OTHER ITEM IN A SENTENCE.

PHRASES: The report assigned for Thursday was completed early.

           The building to the west of this one is now too small.

CLAUSES: The employee who just entered the room is a word processing project leader.

           The file which was delivered by Ms. Weston contained the missing report.

CI

If your review of vocabulary and comma use is complete and your stationery is ready, insert your tape and begin Lesson 9. After you have proofread the transcript, using the KEY TO TRANSCRIPTION, give your work to your teacher.

DO NOT REWIND YOUR TAPE. YOU ARE NOW READY FOR LESSON 10.

LI-CI

INSTRUCTIONS FOR LESSON 10:
PROGRESS CHECK

By now you have learned some terminology used in word processing and
some ideas to improve various skills used in the word processing center.
It is time again, now, to determine how you are doing on some of the
basic machine transcription skills.

This lesson has the same purpose as lessons 1 and 5 and is set up in an
identical fashion. You will need to record three times as indicated on
the stationery. Although you have been transcribing letters and memoes
in lessons 6 through 9, this lesson asks you to transcribe a manuscript
in the same way that you did for lessons 1 and 5. Use Sample 1 for the
format. Review these instructions only if you have questions about pro-
cedures.

1. SUPPLIES, STATIONERY, AND MACHINE ADJUSTMENT

   You need a red pen or pencil, one carbon set, and the stationery for
   Lesson 10 (PROOFREADING IN THE WORD PROCESSING CENTER--Lesson 10).
   The dot (.) shows you where to start your transcription. Set one-inch
   left and right margins.

2. TRANSCRIPTION INSTRUCTIONS

   Transcribe the document using the continuous typing and backspace/
   strikeover technique that you have learned. Type a double-X (XX) for
   any word you cannot transcribe. Insert punctuation marks, using the
   rules you have reviewed to guide you. Make other decisions as best
   you can. Following the transcription, proofread the material.

   The chime will precede and follow the dictation to be transcribed.
   Be sure to have your instructor verify your beginning and ending tran-
   scription times and the time you finish proofreading.

3. PROOFREADING INSTRUCTIONS

   With red pen or pencil, make any corrections you need to your transcript.
   When you are done, turn in all your work to your instructor.

   DO NOT REWIND YOUR TAPE. YOU ARE READY FOR LESSON 11.

CI

LESSON 11: SPECIAL NOTE TO THE STUDENT

Dear Student:

Word originators, or dictators, are not perfect speakers. They may unexpectedly pause to think about their message. They may speed up to a very high rate. Even if they are trained well, a drop in voice or a distraction can cause garbled dictation. The word originator can, on occasion, dictate ungrammatical sentences or fragments. For this reason, the machine transcriber becomes a decision maker or editor of documents.
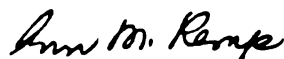
Decision making with dictation is very important to keeping production speeds high. When a transcriber comes upon an ambiguous section of dictation (and this is frequent, given the variety of dictators and the highly technical nature of some dictation), there are several ways to handle it. Reference to the dictionary is a possibility. Asking a co-worker or supervisor is another. Calling the originator or principal is a third approach. These are good approaches when the ambiguity comes from the technical material being presented. When the problem is mispronunciation, the transcriber should make a tentative decision on wording based on grammar and context.

Observation of word processing operators shows that most referencing is done after transcription is complete, during the proofreading stage. This maintains the momentum of transcribing. Too many interruptions to handle books or telephones slow the transcriber down. A quick decision on word choice or punctuation allows the transcriber to keep a fast pace, and the choice can be reviewed during proofreading.

The next three lessons contain some unclear dictation, words that are mispronounced or unclear. You will have an opportunity to practice the editing skill eventually required of a good machine transcriber. In addition, the lessons now require you to transcribe the full letter based on the instructions given by the dictator. Sample 2 should be used as a model.

Begin these lessons by reading the instructions. Then insert your tape and transcribe. Do well.

Sincerely yours,

Ann M. Remp, Designer
Transcription Materials

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INSTRUCTIONS FOR LESSONS 11, 12, AND 13:
TRANSCRIBING MORE LETTERS FROM OFFICE-STYLE DICTATION

1. OBJECTIVES FOR THE LESSONS

The first objective is to TRANSCRIBE COMPLETE LETTERS FROM INSTRUCTIONS
DICTATED BY THE ORIGINATOR.

The second objective is to TRANSCRIBE DICTATION WITHOUT A PREVIEW OF
VOCABULARY.

The third objective is to TRANSCRIBE AMBIGUOUS DICTATION BY MAKING
RAPID DECISIONS ON WORDING BASED ON GRAMMAR AND CONTEXT.

The other objectives are to continue to keyboard continuously, back-
space and strikeover typographical errors, and place punctuation marks
accurately.

2. GENERAL PROCEDURES

There are no vocabulary previews or punctuation rules provided for
the student. All transcription must be completed on the basis of
dictation. The speed of dictation has been increased to conversational
levels. The stationery does not provide the dates or inside addresses
for the letters.

The dictation contains some unclear wording. The student needs to
decide what word to use in the transcript on the basis of grammar and
context (the general meaning of the dictation).

3. SUPPLIES, STATIONERY, AND MACHINE ADJUSTMENT

The same stationery has been provided for lessons 11, 12, and 13. The
student needs to circle the appropriate lesson number. Each lesson
still requires one carbon copy, and proofreading should be done in red.
Set the margins for one-and-one-half inches. Use Sample 2 as a model.

4. TRANSCRIPTION AND PROOFREADING INSTRUCTIONS

When you are ready, insert your tape, listen for the chime, and begin
your transcription. When you are finished, obtain the KEY TO TRANSCRIP-
TION from your teacher, and proofread your transcript. Make your cor-
rections in red. When you are done, turn in your work. Keep your
carbon copies for later use.

DO NOT REWIND YOUR TAPE. YOU ARE READY FOR THE NEXT LESSON.

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INSTRUCTIONS FOR LESSON 14:
FINAL PROGRESS CHECK

Congratulations! You have completed the introductory lessons in machine
transcription. The objectives of these lessons have been to help you key-
board continuously, use correct punctuation, and develop related skills.
The final step is to determine how far you have come. It is important to
be able to compare your skill now with your starting skill.

The lesson is set up in the same way that lessons 1, 5, and 10 were. You
will need to record three times as indicated on the stationery. You are
to use Sample 1 for the manuscript in this lesson. Review the remaining
instructions only if you have questions about procedures.

1. SUPPLIES, STATIONERY, AND MACHINE ADJUSTMENT

    You need a red pen or pencil, one carbon set, and the stationery for
    LESSON 14 (RECORDS DISTRIBUTION AND TURNAROUND TIME--Lesson 14). The
    dot (.) shows you where to start your transcription. Set one-inch
    left and right margins.

2. TRANSCRIPTION INSTRUCTIONS

    In this lesson, you are to demonstrate all the skills you have developed
    in these lessons: continuous typing, correct punctuation, handling
    unclear dictation, and related skills. Type a double-X (XX) for any
    word you cannot transcribe. Insert punctuation marks, using the rules
    you have reviewed to guide you. Make other decisions as best you can.
    Following the transcription, proofread the material.

    A chime will precede and follow the dictation to be transcribed.
    Be sure to have your teacher verify your beginning and ending transcrip-
    tion times and the time you complete proofreading the document.

3. PROOFREADING INSTRUCTIONS

    With red pen or pencil, make any corrections you need to your transcript.
    When you are done, turn in all your work to your teacher.

    YOU HAVE SUCCESSFULLY COMPLETED THIS INSTRUCTIONAL MATERIAL. YOU MAY
    NOW REWIND YOUR TAPE! CONTINUE, HOWEVER, TO DEVELOP THIS VALUABLE
    JOB SKILL. GOOD LUCK!

APPENDIX C

Background Survey and Special Stationery

BACKGROUND SURVEY

AND SPECIAL STATIONERY

FOR MACHINE TRANSCRIPTION

Background Survey and

Stationery for 14 Lessons

Developed by

Ann M. Remp

Under the Direction of

Dr. Robert Poland
Business and Office Education
Michigan State University
East Lansing, Michigan

© 1981

LI-CI

STUDENT BACKGROUND QUESTIONNAIRE

NAME: _____ CREDITS COMPLETED AS OF LAST TERM: _____

CURRICULUM: _____ CREDITS CARRIED THIS TERM: _____

Please answer these questions to the best of your ability. There are no right
or wrong answers. If you cannot remember exactly, put your best guess.

1. Have you transcribed by machine before entering this class?

   NO _____ (Skip to 1c.)   YES _____ (Go to 1a.)

   1a. Have you had a machine transcription class before? NO _____ YES _____
       If yes, what speed in transcription did you achieve? _____

   1b. Have you transcribed on the job? NO _____ YES _____
       If yes, were you trained on the job? NO _____ YES _____
       If yes, what speed in transcription did you achieve? _____

   1c. How easy or difficult do you expect machine transcription to be?

       ___Very Easy ___Somewhat Easy ___Somewhat Difficult __Very Difficult

2. How many courses in English or grammar have you completed in high school?

   _____ in college? _____ in another place? _____

   2a. Of all the classes mentioned, how many were: grammar-oriented? _____
       literature-oriented? _____

   2b. Are you currently enrolled in a grammar-oriented language class? _____

   2c. How difficult or easy would you say that grammar and punctuation are
       for you?

       ___Very Difficult ___Somewhat Difficult ___Somewhat Easy ___Very Easy

   2d. What would you say your average grade in grammar-oriented language classes

       is? Please use a letter (D-, B+, C, and so on). _____

3. What is your straight copy typing speed? _____wpm. When was your last

   typing test? _____

   3a. How accurate would you say you are when you type?

       ___Very Accurate ___Somewhat Accurate ___Somewhat Inaccurate ___Very Inacc.

   3b. How accurate would you say you are when you proofread?

       ___Very Inaccurate ___Somewhat Inaccurate ___Somewhat Accurate ___Very Acc.

-Over-

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4. Have you studied shorthand? NO _____ (Skip to 5.)   YES _____ (Go to 4a.)

   4a. For how long have you studied shorthand? Years _____ Months _____

   4b. What speed have you achieved in transcribing from your notes? _____wpm.

5. Do you speak a language besides English at home? NO _____ YES _____

   If yes, what language(s)? _____

Thank you very much, student. Your answers will be kept confidential. They
are helpful, though, in evaluating the results of these transcription materials.

Begin
Transcript _____

End
Transcript _____

End
Proofread _____

NAME _____ DATE _____

MACHINE TRANSCRIPTION SKILL--Lesson 1

.

NAME _____ DATE _____

CONTINUOUS KEYBOARDING—Lesson 2

.

NAME _____ DATE _____

TRANSCRIBING ON WORD PROCESSING EQUIPMENT—Lesson 3

NAME _____ DATE _____

THE WORD PROCESSING ENVIRONMENT--Lesson 4

•

Begin
Transcript _____
End
Transcript _____
End
Proofread _____

NAME _____ DATE _____

THE WORD PROCESSING SATELLITE--Lesson 5

.

NAME _____ DATE _____ LESSON 6

EDUCATIONAL CONFERENCES, INC.

Small City, Michigan

January 2, 198x

MS SANDRA LARKIN
3333 LARCHMONT ROAD
LARGE CITY   CA   00000

Dear Ms. Larkin

.

NAME _____ DATE _____ LESSON 7

EDUCATIONAL CONFERENCES, INC.

Small City, Michigan

April 9, 198x

MR JEROME MCCAFFREY
TRAINING DIRECTOR
TRANSPOCORP
INDUSTRIAL CITY TX 00000

Dear Mr. McCaffrey

.

NAME _____ DATE _____ LESSON 8

EDUCATIONAL CONFERENCES, INC.

Memorandum

DATE: July 16, 198x

TO: Sue Petrovich

FROM: Bill Tomaema

SUBJECT: Compressed Speech

.

NAME _____ DATE _____ LESSON 9

EDUCATIONAL CONFERENCES, INC.

Memorandum

DATE: October 23, 198x

TO: Linda Warren

FROM: Sue Petrovich

SUBJECT: Followup Report on Compressed Speech

.

Begin
Transcript _____ End
Transcript _____ End
Proofread _____

NAME _____ DATE _____

PROOFREADING IN THE WORD PROCESSING CENTER--Lesson 10

NAME _____ DATE _____ LESSON 11 12 13

EDUCATIONAL CONFERENCES, INC.

Small City, Michigan

.

Begin
Transcript _____   End
Transcript _____   End
Proofread _____

NAME _____   DATE _____

RECORDS DISTRIBUTION AND TURNAROUND TIME--Lesson 14

.

APPENDIX D

Teacher's Key

M A C H I N E   T R A N S C R I P T I O N

I N   T H E

W O R D   P R O C E S S I N G   E N V I R O N M E N T

Teacher's Key

14 Introductory Lessons

in Machine Transcription

Developed by

Ann M. Ramp

Under the Direction of

Dr. Robert Poland
Business and Office Education
Michigan State University
East Lansing, Michigan

SPECIAL NOTE TO THE TEACHER

Dear Teacher:

Thank you very much for your assistance in evaluating these materials. There are some questions you may have about them and their use. Perhaps I can anticipate some of them.

First, what do you actually have? The materials you have received contain: one cassette tape for each student, each containing 14 introductory lessons; one instruction booklet for each student; enough stationery for each lesson for each student; this teacher's manual, containing the answer keys for each lesson; and, for those using the special written instructions, additional keys to transcription for lessons 2, 3, 4, 6, 7, 8, 9, 11, 12, and 13. These keys are for student use.

Next, what are the objectives and procedures for the materials? The student instruction booklet contains detailed procedures for the use of the materials. The objectives of the lessons are stated, samples of completed transcription, and other learning guides are contained in the student manual. Reading this manual should answer many of your questions about the study. I would especially ask you to guide the students through the first few lessons and to verify the times they record for lessons 1, 5, 10, and 14. These are the evaluation lessons and are important in the evaluation of the materials.

What about the confidentiality of student materials that you send to me, including the ACT score and typing speed information? All information I receive will be held in confidence, and the report of the study will be in statistical form. No students, schools, or other individual information will be given out.
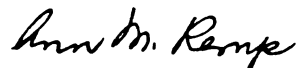
What should you send back to me? I would like all the materials returned to me at the end of the study, and I will pay the postage for their return. Of special importance are the corrected rough drafts that each student prepares on the stationery provided. These are essential to the study. Students are free to write in their booklets, but I would also like their return and the return of the cassette tapes.

What about transcribing final copy? These introductory lessons are designed to have the student learn continuous keyboarding, decision-making with ambiguous dictation, placing punctuation while transcribing, and so on. Focus is not on first-time-final copy. Emphasis on accuracy occurs during proofreading, and students are asked to proofread carefully. The study does not require the students to take the proofed rough draft and convert it into final copy. It is, of course, your option to do so. These lessons should also phase well into your own lessons dealing with first-time-final transcription.

Should students practice other material between lessons? I would appreciate it if students would not use other materials during these lessons. If they want to move ahead, please have them go to the next lesson. Although there are 14 lessons, it is up to you whether they take a week or three weeks. Lessons 1, 5, 10, and 14 should be supervised by you, but the other lessons can be handled as you wish.

I am sure that you will have other questions. Please call me at my office (616-796-0461 Ext. 4328) or at home (616-796-5170) for clarification. Your help is invaluable to me, and I appreciate your willingness to use these materials. The results will not be available for about a year, but if you wish to know the results, I will try to get them to you. Thank you again.

Sincerely,

Ann M. Remp

Ann M. Remp

MACHINE TRANSCRIPTION SKILL--Lesson 1

Machine transcription is not a single, simple skill, for several other skills, each learned separately, are fused together. The basic skills are typing, language use, and listening. Because each one is important, we will now look at them separately.

The first skill is typing, which is also called keyboarding. Accuracy and speed are needed, but a major goal for the student is to type continuously. To achieve this, the student learns to operate the transcribing unit so that no stopping is necessary. For error correction, the student develops backspace-and-strikeover techniques.

A second skill is applying language principles. Among these responsibilities, the student will find punctuating sentences, correcting errors in grammar, and using special vocabulary. Used especially during proofreading, language principles are applied both during and after transcription.

Affecting the entire process, listening is a vital, active skill. The student listens for meaning as well as words, for interpretation is often required. In addition to unclear, disorganized dictation, the student hears dictation at different speeds. When dictation is poor, the student must ignore incorrect punctuation, interpret mumbled words, and mentally edit communications. Listening, an active process, must be practiced.

In addition to using typing, language, and listening skills, the effective transcriber must possess personal characteristics. To be effective, the transcriber shows poise under pressure, a sense of humor, and initiative. When the transcriber hears unclear words, she or he must decide the most likely word to use. This takes initiative, and it requires confidence in one's language skills. If the student looks at machine transcription as a challenge, the result will be rapid, accurate transcription, a very useful job skill.

CONTINUOUS KEYBOARDING—Lesson 2

A major goal in developing machine transcription skill is continuous keyboarding. Keyboarding simply means using a keyboard that may be found on a typewriter, computer console, or word processing unit. Here are some facts you might like to know about continuous keyboarding.

Continuous keyboarding is done by skilled operation of the transcribing unit and the keyboard together. The footpedal attached to the transcribing unit permits the transcriber to start, stop, and replay the tape. The replay feature enables the transcriber to review some of the dictation. The transcriber listens to a meaningful unit of thought, sometimes called an earful, and begins to keyboard. Before keyboarding the entire earful, however, the transcriber listens to another earful. Listening starts and stops, but keyboarding continues.

Continuous keyboarding by expert transcribers occurs for varying periods of time. Because dictated letters and memos are usually short, it is common for transcribers to keyboard the entire message without stopping. Some transcribers do not require a review of dictation and turn the replay control off or to its lowest setting. Transcribers can keyboard at speeds approaching 80 to 100 words per minute on word processing equipment.

What problems do transcribers have in achieving continuous keyboarding? Transcribers may be interrupted by coworkers as well as clients, or they may pause to consult a dictionary. Adjusting volume, starting over because of a misplaced instruction, or changing paper and ribbons may occur. Unfamiliarity with the equipment or dictator can contribute to pauses. The most important reason for stopping, however, is poor dictation.

This should give you ideas on how the machine transcription skill is performed.

TRANSCRIBING ON WORD PROCESSING EQUIPMENT--Lesson 3

Although word processing units have many different features, they also have common features of importance to the transcriber. These affect the correction of errors, keyboarding procedures, and the nature of errors. Here is a brief look at each.

Error correction is rapid in word processing. Word processing units record all strokes magnetically on cards, cassette tapes, or discs. As a result, errors can be erased and corrections recorded without retyping the entire message. Backspace-and-strikeover skills, for example, are used to correct typographical errors.

New keyboarding procedures are added to the usual typing of letters and numbers. Special keys control a variety of functions, hence their name, function keys. These are used to center headings, insert lines, rearrange paragraphs, and so on. The transcriber uses these function keys to edit text in major ways.

Word processing changes the kinds of mistakes that are important. On a conventional typewriter, these kinds of errors are important: typographical errors, improper hyphenation, and word omissions. These may require retyping the entire item. On a word processing unit, the errors that are serious involve the misuse of the function keys. These keys drive the automated unit. Some understanding of computers may help the transcriber to avoid mistakes and also to solve them when they do occur.

It is possible to learn some word processing skills using a conventional typewriter. The backspace-and-strikeover technique is one such skill. The ease of making corrections is one factor that helps the transcriber keyboard very rapidly.

THE WORD PROCESSING ENVIRONMENT--Lesson 4

Word processing changes communication patterns in very important ways. Automated equipment makes certain communication activities possible that were not possible before. Because of this, changes have had to occur in the training of personnel, the procedures used to communicate, and the setting in which word processing is used. This setting, or environment, deserves to be discussed.

Word processing technology was developed in the middle 1960s. Compared to today's technology, word processing then was quite limited. Nevertheless, word processing had to be sold to business, government, and other users. Selling new equipment often means selling new ideas as well. Along with the equipment, then, companies sold ideas of how communication should be organized.

In the early days of word processing, that idea placed all word processing functions in one central location. Letters, memos, and reports would be dictated to the word processing center and transcribed by specialists called correspondence secretaries. Because all correspondence would now be handled in the center, other secretaries would have time to devote to administrative tasks, hence their new title, administrative secretaries. Fewer of them would be needed than in the past, and the one-secretary to one-boss relationship would end.

There was resistance to the idea of word processing centers. To many people, they were fancy typing pools. The correspondence secretary had no contact with dictators. Executives feared the loss of their secretaries and their prestige. Gradually, however, word processing gained acceptance, adjusting to various communication needs.

Lesson 5 will discuss a change in the word processing environment which has solved some of these problems.

LESSON 5   269 WORDS   KEY TO TRANSCRIPTION

THE WORD PROCESSING SATELLITE—Lesson 5

Lesson 4 showed that a new idea cannot be forced on people. People must take the idea, work with it, and adjust it to suit their own needs. The word processing satellite represents such an adjustment.

For some businesses, the word processing center was isolated and distant. The word processing specialists could not handle all the specialized work coming from various parts of a business. As a result, many businesses today do not have a single large center. They have several smaller centers, called satellites.

A satellite is located in the division or department for which it works. There may be several word processing operators or just one. The number depends on the work load. Often modular furniture provides an attractive, easily accessible center. Clients will often visit the satellite to leave work, or the word processing specialist may distribute work to the dictators' various locations.

These procedures vary from company to company, but the satellite is decentralized. Word processing specialists know the clients for whom they transcribe, and, in turn, clients use the dictation equipment more readily. The special functions of a division are better served by correspondence secretaries who know the work performed by their division. They are treated as a vital part of the work team. Early resistance to word processing did not lead to rejection of it. It led instead to experimentation and adaptation. For some businesses, the single word processing center is the best way to organize communications. For others, however, the satellite concept has resolved many of the early criticisms. It is likely that still more changes will occur in this important technology.

EDUCATIONAL CONFERENCES, INC.

Small City, Michigan

January 2, 198x

MS SANDRA LARKIN
3333 LARCHMONT ROAD
LARGE CITY CA 00000

Dear Ms. Larkin

We are pleased to answer your questions about Educational Conferences,
Inc.

About our services, Educational Conferences develops workshops, training
materials, and other special services for various groups. In effect,
you can think of us as a conference bureau, a consultant, or a training
department. With our many contacts, we generate a great volume of com-
munication. These include letters, memos, reports, telephone messages,
telegrams, and others. Among our contacts are participants, speakers,
technical persons, suppliers, and a great many others.

On our full-time staff, we have twenty people. These handle the market-
ing, publishing, and administrative functions of our business. Of the
twenty, six are former teachers. In addition to the regular staff, we
hire speakers on a contract basis for various programs. For this
purpose, we maintain a speakers' file with names and addresses, areas of
experience, and references on speaking ability.

With increased interest in the office, many groups are requesting
programs on word processing, records management, and communication skills.
These are exciting new areas for us.

For your information, we have enclosed brochures on some of our past
programs. We would be happy to give you a tour of our facilities if you
visit Michigan. Thank you for writing.

Sincerely

William R. Tomasmo
Program Director

yi

Enclosures

EDUCATIONAL CONFERENCES, INC.

Small City, Michigan

April 9, 198x

MR JEROME MCCAFFREY
TRAINING DIRECTOR
TRANSPOCORP
INDUSTRIAL CITY TX 00000

Dear Mr. McCaffrey

We do provide the thorough, individualized training in dictation that
you asked about, for this is a vital part of an effective word process-
ing system. Here is a brief description of our program.

Our program is broken into three sections. The first is for the inex-
perienced, beginning dictator who may be concerned with "mike fright."
The exercises are designed to reduce anxiety, for a confident, secure
dictator creates better dictation. The dictator works through several
reading and creating exercises, and program objectives are to form good
dictation habits from the start.

The second program is for those who have dictated previously, but may
not be getting the results they want. Here the goal is to identify
individual dictation problems and help the dictator change a costly,
inefficient dictation style. In this program, the dictator works directly
with an experienced transcriber, and she transcribes dictation in the
presence of the originator. Problem areas are discussed, and new, improved
techniques are practiced.

The third program is for successful dictators who want to expand the
types of materials they dictate. This unique, unusual program offers
special instruction for long, difficult formats.

With all of our programs, we try to individualize instruction to the
client's needs. Would you visit us to see our dictation lab, or would
you let us visit you? We will call you next week to set up an appoint-
ment at a convenient, satisfactory time.

Cordially

Linda P. Warren
Executive Director

yi

EDUCATIONAL CONFERENCES, INC.

Memorandum

DATE: July 16, 198x

TO: Sue Petrovich

FROM: Bill Tomaama

SUBJECT: Compressed Speech

Although we have offered programs in listening in the past, these
have been directed toward the human relations area of communication.
To expand and update our programs, we need to include more on infor-
mational listening skills. To explain, we need to assist our clients
to listen and remember facts and other information. Having reviewed
a few publications, I think that we could explore compressed speech.

To state this simply, compressed speech increases the number of words
a listener hears per minute. After a tape recording is produced, the
tape is played at a faster rate. To eliminate distortion, the control
unit electronically removes bits of sound. Although there is a slight
wavering of sound, individuals can listen to speech as much as two-
and-one-half times faster than normal speed. Because the rate is
increased, a great deal of valuable time is saved.

Although persons with visual handicaps are users of speech compressors,
many professionals use speeded speech. Overloaded with new information
about their professions, medical personnel, educators, attorneys, and
others use speech compression. To review product information, sales
representatives find this a great asset.

Even though we produce our own instructional tapes, we have not made
much use of compressed speech. Because you are interested in listening
skills, I want you to prepare a followup report on this area.

yi

LESSON 9   274 WORDS   KEY TO TRANSCRIPTION

EDUCATIONAL CONFERENCES, INC.

Memorandum

DATE: October 23, 198x

TO: Linda Warren

FROM: Sue Petrovich

SUBJECT: Followup Report on Compressed Speech

Bill asked me to report some of the facts on compressed speech, some
of which were reported as much as 35 years ago. He also asked me to
suggest some applications for word processing, an area which could
benefit by good listening skills. This report, admittedly short and
incomplete, will first present a few findings on comprehension and
intelligibility.

Comprehension, which means understanding gained from listening, is
evaluated with tests over material. A person may listen to a test
story, delivered at varying speeds, and then answer questions on the
general ideas or facts presented. Several studies report the highest
comprehension at 275 words per minute, a speed about 75 percent faster
than that used by professional readers and speakers. Intelligibility,
a word parallel to legibility in writing, means that words can be
identified clearly. Words are intelligible at higher speeds that they
can be comprehended, a point which may have significance for word
processing applications.

Some experts feel that listening speeds, generally limited from 140 to
175 words per minute, could be boosted to reading speeds, which are
generally in the high 200-words-per-minute range. Results do not show
improved comprehension with higher listening speeds, a factor not
really expected by experts, but they do show the same level of compre-
hension at considerable time savings, undoubtedly a tremendous value.

There are some informal reports that compressed speech is being used in
the word processing center, an innovation of concern to us. Transcribers
could use compressed speech for previews of dictation, for adjustment
of dictation speeds during transcription, and for proofreading. We
might consider some trials of compressed speech in these areas.

yi

PROOFREADING IN THE WORD PROCESSING CENTER--Lesson 10

Proofreading, an essential skill in word processing, is closely related to language skills. Good language skills do not guarantee good proofreading skills, but they help. Proofreading, which insures that mailable documents are produced, must be practiced.

One word processing supervisor states, "Proofreading is the ability to read what is actually on the page and not what we know should be there. This ability requires a high degree of attention to detail. Proofreading for typographical errors is only one portion of that skill. Checking continuity of thought and making sure the sentence structure makes sense require grammar proficiency. The third element of proofreading is checking for consistency. All of these segments, which are vital to the accuracy of work performed in word processing, comprise the skills necessary in proofreading." Among experts, there is general agreement that proofreading is a task completed after the basic keyboarding has been done. Depending on the type of equipment, hyphenation decisions may also be a part of proofreading.

Proofreading practices vary among word processing centers. Transcribers may be responsible for proofreading each document they prepare. Looking at the screen or paper during transcription, many of these transcribers are able to catch typographical errors while transcribing, but proofing is still needed. During the automatic printing of final documents, one transcriber may proofread another document. Another may proofread several documents as a major activity and not combine it with other tasks. Some centers assign proofreading responsibilities to the originators, and still others have one person, sometimes a supervisor, responsible for final proofreading. This arrangement makes it possible to hire the visually handicapped person to transcribe rough drafts.

Whatever the arrangement, proofreading is as much a part of the machine transcription skill as keyboarding itself.

LESSON 11   225 WORDS   KEY TO TRANSCRIPTION

EDUCATIONAL CONFERENCES, INC.

Small City, Michigan

(Current Date)

MS JANET LAROUX
436 ABBOTT STREET
ANOTHER CITY MI 00000

Dear Ms. Leroux

Thank you for your inquiry on the secretary's average day. I will
try to give you some examples based on our company's administrative
secretaries. There is, of course, no typical day. Every day is
different, and each secretary deals with her executive's unique
requests. In a day's time, however, there are some tasks which all
secretaries must perform.

Because we are a company which sells by direct mail, handling correspon-
dence is a must. Each day's mail is sorted and directed to the office
by 9:30 a.m. The secretaries sort the routine from special correspon-
dence and deliver the letter to their superiors. The secretaries then
dictate the replies to routine correspondence, using guide paragraphs
and standard letters prepared for use with the word processing center.
In this way, mail is frequently sent out within two to three hours'
time of its arrival. Executive time is used to handle the decision-
making situations. Our administrative secretaries handle many of the
records management functions, which include microfilming and distributing
records.

Of course, correspondence handling is just one function. Telephone
handling, setting meeting agendas, controlling the calendar, and perform-
ing other administrative tasks keep executives' time free to concentrate
on management functions. It is management's responsibility to set
policy and make decisions. Providing the executive with the time to
do this is a major contribution made by our company's secretaries.

Sincerely

Linda P. Warren
Executive Director

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NOTE: The underlined words are suggested ways of handling the distorted
       dictation in the lesson. Other words may fit the meaning of the
       letter, and you should treat your word as correct if it is in
       correct grammatical form and makes sense.

EDUCATIONAL CONFERENCES, INC.

Small City, Michigan

(Current Date)

MR ALLEN STONE
MARKETING DIRECTOR
ALLIED W P SYSTEMS
300 BRAZIL BASIN BUILDING
WINDY CITY IL 00000

Dear Mr. Stone

Your questions about productivity to be achieved with word processing
and the hiring standards of word processing operators are difficult
to answer. Many companies have run their own production studies, but
there are few general standards which can be cited. Manufacturers may
cite 2,000 or 20,000 lines per day per station. This leaves the area
of productivity ambiguous.

One way that experts handle the question of productivity is by citing
the time savings for word originators or principals. Another way that
productivity is discussed is by comparing the transcription process from
shorthand notes and from machine dictation. The latter uses secretarial
time more efficiently.

As to hiring requirements, many supervisors hire primarily on the basis
of language skills, typing speed and accuracy, and personality. Prior
word processing and machine transcription experience is less important
right now for these positions, but as equipment becomes increasingly
sophistocated, this may change. My own belief is that some experience
with automated equipment is highly desirable.

If we may answer other questions, please contact us again. We are
enclosing a brochure about our other services for your information.

Cordially yours

William R. Tomasma
Program Director

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Enclosure

NOTE: The underlined words were distorted during dictation. Consider
       your words correct if they are grammatically correct and fit the
       sense of the dictation.

EDUCATIONAL CONFERENCES, INC.

Small City, Michigan

(Current Date)

MS MARCELLA BAYLOR, CRM
1300 MOUNTAIN BOULEVARD
MAJOR CITY OH 00000

Dear Ms. Baylor

Your outstanding work in records management and retention problems
prompts this invitation. Would you speak at our organization's
upcoming conference being held on the fifth of June? It will be
held at the Harrison Hotel's conference center.

The planned session would be a technical presentation at 11:00 a.m.
to last one hour. The audience will consist of working records
management personnel. Many of these individuals are members of the
association and understand the problems very well. They ranked
this topic as a top priority for them.

Please telephone me to say that you will be able to accept our
invitation. We genuinely hope you will join us for our June con-
ference and extend our invitation to your guests as well.

Sincerely yours

Linda P. Warren
Executive Director

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NOTE: The underlined words are suggested inserts for the garbled
       dictation. If your word differs, consider it correct if it
       fits the meaning of the letter and is in grammatically correct
       form.

LESSON 14   271 WORDS   KEY TO TRANSCRIPTION

RECORDS DISTRIBUTION AND TURNAROUND TIME--Lesson 14

Turnaround time, the term describing the time required to return a document from word processing services, depends on rapid, accurate transcription. Of equal importance, work must be received, handled, and returned efficiently. Records distribution is influenced by centralization, automation, and electronic mail. Word processing can be handled in a single, large center or in smaller, decentralized satellites. For the most part, dictation input by telephone is not influenced by distance. If dictation arrives by mail, the total distance it travels affects turnaround time. This factor, physical location, affects the time required to return documents also. Because shorter distances usually require less distribution time, centralization of services influences turnaround.

Besides centralization of services, a second factor, automating the mail system, influences time. Requiring personnel to pick up, sort, and deliver communications, a manual system may work best with low volume and distance. Automated equipment, which includes self-guided robots, can travel large distances. To determine the better method, businesses consider distance, volume of mail, and other distribution needs.

Called "electronic mail," the paperless transmission of communications is increasing. Some use the term "communicating word processing," for there are similarities between the two. When a priority message must be sent, an originator dictates to the telex center. Using a keyboard, the operator transcribes the message, and it is sent electronically by telephone lines, microwave networks, or satellites. On the other end, the message is received, and a record in paper form is created.

As you think about word processing, think about the whole, complex process. Records distribution is the organized way that communications are distributed, and it is important to that whole process.

APPENDIX E

Letter To Community Colleges

P. O. Box 418
Big Rapids, MI 49307
June 6, 1980

Dean of the Faculty
      Community College
   , MI 49707

Dear Dean ı   :

    Would you be able to put me in touch with faculty teaching machine transcription or word processing courses? I would like to ask their assistance in an instructional materials project under the direction of Dr. Robert Poland, Office Education, Michigan State University.

    Your college catalog does not identify a specific transcription course, but you may have interested faculty nevertheless. I have 14 introductory machine transcription lessons on cassette tapes, along with the instructional booklets and stationery, which I will provide at no cost to teachers in the quantities they require if they are able to use them in their classes. The details on these materials and the project are on the reverse side of this letter.

    Would you pass this letter and the enclosed postcard along to faculty who might be interested in this project? I would be very grateful for your help.

                  Sincerely,

                  Ann M. Remp

Enclosure

June 6, 1980

Dear Office Educator

Because of word processing, machine transcription has become very important in the office curriculum. Yet there is little research to tell us how effective machine transcription materials are in developing skills. Would you be willing to test a set of introductory lessons to determine whether the manner of presenting dictation effects the speed and quality of skill development?

There are some features of the materials you should know before deciding whether to use these materials:

1. These materials will be available for use this fall.

2. Each participating classroom will be assigned randomly to one of two sets of lessons. The first is designed to be like many currently available materials (vocabulary preview, gradual speed increments, etc.); the second has pretranscription skill development exercises (continuous keyboarding, punctuation review, deciphering ambiguous dictation, etc.).

3. Because these are introductory lessons, stress is on rough drafting rapidly leaving error correction to post-transcription proofreading. Students are encouraged to use backspace/strikeover techniques. This does not preclude a teacher from stressing first-time-final copy following the introductory lessons, however.

4. The materials (tapes, stationery, instruction booklets) will be provided at no cost in the quantities you need. I would ask for the return of the cassette tapes after their use because of their cost.

5. You would be asked to provide ACT English scores and straight copy typing speeds for each student and to collect rough draft and test materials to forward to me.

Would you consider helping me? The results may help to establish what kinds of transcription speeds can be achieved in introductory instruction. The materials are compatible with other dictation you may be already using. They are also compatible with the skills needed by word processing specialists. When you make your decision, would you complete the enclosed postcard? Further information will be sent to you at that time. Thank you so much for your consideration.

Ann M. Remp