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A STUDY TO DETERMINE THE STATUS OF AUDIO LEARNING LABORATORIES USED FOR SHORTHAND INSTRUCTION IN UTAH

by

Carol McPherson

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

of

MASTER OF SCIENCE

in

Business Education

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Logan, Utah

1969

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Kate L. Turabian notes in her book, A Manual for Writers:

> Although the student would wish to acknowledge special assistance such as consultation on technical matters and aid in securing of unusual equipment and source materials, he may with propriety omit an expression of formal thanks for the routine help given by an adviser or a thesis committee.[1]

It would be a gross understatement to say that the assistance Dr. Ted Ivarie gave in helping to prepare this report was not "routine help." For his extraordinary patience and fine insight in advising the writing of this report, I give a special thanks.

Appreciation is expressed to Dr. Dona Frost and Mrs. Floris Olsen for suggestions offered in the preparation of the questionnaire used in this study.

Gratitude is also expressed to anyone who in any way contributed to the completion of this project.

Carol McPherson

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[1] Kate L. Turabian, A Manual for Writers (Third Edition; Chicago, Illinois: University of Chicago Press, 1967), p. 4.

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CHAPTER I

INTRODUCTION

> This is the age of change or revolution. In the field of shorthand, we are also having a revolution. First of all, we have the new Diamond Jubilee Revision of Gregg Shorthand, which in itself is quite a revolution. However, it is probably in the area of new teaching media and equipment that the greatest revolution is taking place.[1]

The importance of new equipment and teaching media has been accentuated by innovations in curriculum planning such as modular scheduling. An important feature ". . . of the modular program is that the unscheduled or 'free' time ranges from 15 to 50 percent of a student's schedule and is to be used for independent study."[2]

Such "free" time could be spent by shorthand students in hours of shorthand dictation practice. As a result of modular scheduling, shorthand practice dictation laboratories can now be included in the regular school-day curriculum. Prior to the advent of modular scheduling, the shorthand student did not have time during the regular school day to take advantage of outside-of-class, teacher-directed dictation. However, this lack of practice time is now being counteracted and business teachers appear to be taking steps to insure the opportunity of added dictation practice out of class as well as

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[1]Arnold Condon, "Improving Shorthand Learning Through Better Use of New Media and Equipment," NBEA Yearbook Number Five (Washington, D. C.: National Business Education Association, 1967), p. 259.

[2]R. Shanus, S. Bouchard, and H. O. Toupin, "Modular Scheduling: How Much Fact--How Much Illusion?" Business Education World, XLIX (October, 1968), 9.

dictation procedures during regular class periods.

The combination of flexible scheduling (or other programs instigated by administrators or teachers designed to allow for individual differences in student ability) and audio learning laboratories can make an important contribution in the area of new teaching and equipment. One ". . . goal of flexible scheduling is to individualize instruction allowing students to learn at their own pace."[3] This goal is certainly compatible, if not identical, to that of audio learning laboratories.

An adequate amount of dictation practice is a major factor in developing shorthand writing skill and speed. "Over the years, one of the most frustrating aspects of shorthand teaching has been the difficulty of providing appropriate dictation practice for varying student abilities within a class group."[4] The availability of audio learning devices provides not only shorthand dictation at various speeds but also frees the teacher to give more attention to the needs of individual students. Through an arrangement such as a multi-channel dictation laboratory, "individual students are given dictation within their immediate skill range and challenged to progress to the next higher range."[5]

Dictation equipment, such as the types discussed in this report, may be the means to more individualized study and should be

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[3] Ibid.

[4] H. J. Boer, The Shorthand Dictation Laboratory and Its Place in the Shorthand-Secretarial Course (New York: Gregg Recordings and Supplies, 1965), p. 3.

[5] Ibid.

considered to help insure a more complete educational experience for the students who elect shorthand classes from the business curriculum.

> Education is one of the world's truly basic problems--a problem accentuated by the population explosion. There is no single answer to it, but one that is increasingly catching the interest of educators is the use of electronic recording instruments.[6]

This study reports the extent to which business educators in Utah are utilizing such electronic recording instruments to help solve educational problems.

Statement of the Problem

The purpose of this study was to determine the extent to which business educators in Utah were utilizing multi-channel dictation equipment presently available for improved shorthand instruction.

Specifically the problem was to gather data to determine the status of audio learning laboratories within the state of Utah. This data included the following areas:

1. Which schools offer shorthand; and of these schools, which have multi-channel dictation equipment?

2. How many semesters of shorthand are offered in the schools that have shorthand, and which of these semesters use multi-channel dictation equipment?

3. What is the source of tapes used on the dictation equipment: commercial, University, or instructor prepared?

4. What is the length of time the equipment is used weekly in

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[6]Rita Barrows, A Teacher's Experience With the Electronic Classroom (Cincinnati, Ohio: Dictaphone Corporation, 1960), p. 1.

first- and second-year shorthand as compared to the total weekly time which first- and second-year shorthand are taught?

5. What uses have various shorthand teachers found for multi-channel dictation equipment in shorthand instruction?

6. What is the voice clarity of the equipment, and how is this clarity related to the source or brand name of the equipment?

7. What is the method of wiring the equipment?

8. How long have the schools had the dictation equipment?

9. Is the equipment adequate in regard to channels, headsets, and the number of students who can simultaneously tune into dictation?

10. To what degree has the equipment helped shorthand instructors achieve their course objectives?

11. How many teachers coordinate the tapes with the lessons in the textbook?

12. What is the maximum length of time dictation equipment is used in any one shorthand period?

Importance of the Study

In 1964, a study was made to determine the extent of dictation laboratories in the country up to that date.[7] The findings revealed weak points and placed that needed improvement in existing programs. The value of a similar study on a state basis seems evident, for as Kallus states:

> Business teachers, perhaps more than any other group of teachers, must continuously stay on their toes to keep

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[7]Sandra Krajicke, "Nationwide Survey of Shorthand Dictation Labs," Business Education World, XLVI (February, 1966), 23.

> abreast of the never-ending developments of science that are converted to the use of business.[8]

"With funds now available through the Vocational Education Act of 1963, many of us are able to buy equipment that we could only dream about a few years ago."[9] Data providing information that could be used to identify schools that do not have shorthand laboratory equipment and are perhaps not aware of funding opportunities now available for programs of this nature might be helpful to those responsible for allocating funds for business education.

The information supplied in this report lists the schools that have equipment and may, therefore, be a helpful source of information for districts considering the installation of audio learning laboratories.

This information is especially crucial because

> . . . educators in every field of instruction are faced with the problem of teaching more in less time--and more effectively. In shorthand, teachers are attempting to solve this problem through the classroom use of devices that fall under the category of electronic equipment.[10]

The gamut of equipment that can be used for an audio learning laboratory in shorthand is vast.

> Each type has many advantages and disadvantages which means that the person planning an installation should check

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[8]Norman F. Kallaus, "Data Communications: New Term, New Concept, New Challenge," NBEA Yearbook Number Five (Washington, D. C.: National Business Education Association, 1967), p. 271.

[9]Joe Corrigon, "Dictation Laboratories--Used or Abused?" Business Education Forum, XXI (January, 1967), 29.

[10]C. C. Miller and Ernest E. Miller, "Shorthand Dictation Labs at the College Level," Business Education World, XLIII (September, 1962), 11.

carefully with someone who has had experience before purchase in order to avoid costly errors in planning.[11]

For those instructors presently using dictation equipment, this study will supply suggestions for using the equipment in a variety of different ways.

The data gathered in this study can supply the basis for future studies attempting to determine shorthand success of students trained with and those trained without the assistance of audio learning laboratories in their shorthand work in high school.

Definitions of Terms Used

For purposes of this study, terms will be defined as follows:

Audio Passive Equipment: Audio passive equipment is machinery consisting of a tape recorder with earphones. The student listens to dictation as it is presented over the tapes.[12]

Console: A console is a panel or cabinet on which are mounted dials, switches, and other apparatus used in centrally controlling electrical or mechanical devices.

Audio Learning Laboratory: An audio learning laboratory is a place providing practice in a field of study through the transmission, reception, or reproduction of sound used to facilitate the gaining of knowledge or understanding or of skill in by study.

Multi-Channel Dictation Unit: A multi-channel dictation unit

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[11]Elizabeth Van Derveer Tonne, "The Multiple Listening Station in Shorthand Speed Building," NBEA Yearbook Number Five (Washington, D. C.: National Business Education Association, 1967), p. 247.

[12]Miller and Miller, p. 11.

is one which enables more than two people to individually and simultaneously hear recorded material from a central console.

Traditional Method of Teaching: The traditional method of teaching shorthand refers to the self-contained classroom with some confinement and rigidity where the instructor prescribes to conventional practices.[13]

Summary

Changes in educational procedures such as modular scheduling and an increased effort to provide for individualized instruction are making multi-channel dictation equipment more important than ever before. Availability of federal funds and an increasing population needing education also accentuate the importance of audio learning laboratories.

Dictation equipment is advantageous in the classroom because it provides appropriate dictation practice for varying student abilities, frees the instructors to give students individual attention, and challenges the students' abilities.

The purpose of this study was to determine the status of multi-channel dictation equipment for teaching shorthand in Utah. The information herein is important in providing information to those schools considering the purchase of dictation equipment. The study is also pertinent to schools with dictation equipment because of the presentation of suggestions on how to use the equipment in a variety of advantageous ways.

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[13]Shirley A. Eiken, "New Systems Needed in Business Education," Business Education Forum, XXIII (May, 1969), 5.

CHAPTER II

RELATED LITERATURE

Chapter 2 reviews the literature dealing with the various aspects of using multi-channel dictation equipment. The chapter is subdivided in the following manner: Purposes of a multi-channel dictation unit; the instructor's role in using multi-listening devices; cost of the audio learning laboratory; instigation of an audio learning laboratory; types of playback equipment; types of shorthand dictation laboratories; the multiple-listening station library; and advantages and disadvantages of an audio learning laboratory.

Purposes of a Multi-Channel Dictation Unit

Throughout the reading of this report, one should remember that the use of audio learning laboratories is an adjunct to the classical teaching methods and not a lecture-reproducing system or a substitute for the teacher. Multi-channel dictation units have the possibility of becoming just one new means to better education. As Tonne states:

> Multiple channel instruction is another innovation made possible by recent technical advances. Properly used, multiple-channel programs for the development of transcription abilities in shorthand are excellent. They can relieve the teacher of much routine dictation. Multiple channel dictation procedures as aids to learning in shorthand and in other subjects should be studied. At the present time, some practical, but certainly not research organized, studies are being undertaken. Glowing reports will probably come from the studies. The probabilities are that the studies when analyzed will show that when properly used by teachers who believe in the procedure, multiple outlets serve a useful purpose and give

> an added dimension to the teaching of transcription, but that they are not a complete substitute for traditional dictation by the teacher. There will still be the need for constant correction of the material. Dictation material will need to be developed individually by the teacher. Servicemen coming to repair the equipment will create problems. Filing tapes and belts and getting students to use them without serious misfiling may be a difficulty to be overcome. The use of multiple outlets requires much more work on the part of the teacher than does simple oral dictation, if it is to be effective.[1]

Even with the disadvantages Tonne sees with phases of the equipment, the believes that there are purposes and uses for dictation equipment.

The main purpose and value of the multi-listening unit is to permit various learning levels within the same class.

> When differences in learning capabilities begin to appear, the lockstep can be broken with the certainty that the student will not suffer and the teacher has the aids necessary for proper supervision and individual instruction.[2]

Tapes should not normally be used to replace class presentations. According to Coleman, "There is ample evidence to support the notion that taped types of class presentations are not superior to traditional forms of shorthand instruction techniques."[3]

The reference Coleman makes is directed to in-class instruction only, not in-class instruction combined with out-of-class practice. In fact, ". . . when two equated groups of beginning shorthand students were compared, the group taught in the traditional fashion excelled or

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[1] Herbert A. Tonne, "Innovation as the Solution," The Journal of Business Education, XLII (January, 1967), 137.

[2] Elizabeth Van Derveer Tonne, p. 248.

[3] Brendan G. Coleman, "Making Optimum Use of a Dictation Lab," Business Education World, XLV (May, 1965), 18.

was significantly better shorthand students."[4] John Kraeer noted in a report, however, that "on the average, shorthand students do considerably better in advanced shorthand classes when the tape laboratory facilities of the University are utilized freely both in and out of class."[5] It could be concluded, therefore, that the most successful use of audio learning laboratories would be some in-class use and much practice outside of regular class periods.

Lab periods and tape drills can be used for such purposes as:

Brief form drills	Student make-up work
Building dictation speeds	Remedial drills
Workbooks in conjunction with regular class work	Motivation
Adult courses	Specialized study such as theory work or brief forms
Drills to increase automatization	Office style dictation
Review	Specialized problems
Home study	

This list is undoubtedly not all inclusive as teachers may have devised purposes to fit the individual needs of a specific class.

"For secretarial office practice, the multiple-listening stations are useful to maintain shorthand speed, to control machine transcription practice, and to provide office-style dictation."[6]

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[4] Ibid.

[5] John Kraeer, Report, College of Business, East Lansing, Michigan: Department of Law, Insurance and Office Administration, Michigan State University, 1965, p. 3.

[6] Elizabeth T. Van Derveer, "Planning for Student-Selected Stenographic Dictation," Business Education World, XLIV (January, 1964), 8.

> Instructors . . . must use their imaginations and creativity in designing meaningful activities which allow teachers to take full advantage of the up-to-date equipment that is available for classroom use. Many of the new procedures represent more effective classroom instruction.[7]

With careful planning and effective control of outside-of-class dictation and judicious in-class utilization of multi-channel units, students could gain from such resources when available in the schools. If the purposes for a multi-channel laboratory are not abused, there is a possibility that even proponents of the traditional method of teaching might approve of the new equipment.

The Instructor's Role in Using Multi-Listening Devices

One reasonable assumption is that no matter how much equipment a school has, the equipment cannot be the complete answer to better teaching. However, a multi-listening device in shorthand classes is a help to the teacher when the equipment is used properly.

As previously mentioned, such equipment does not replace the teacher. "In fact, the teacher may need to be more active than usual to make best use of the equipment."[8] One should remember that ". . . the teacher is the main 'audio' aid in the secretarial classroom. The tape recorder and dictating equipment are, however, rapidly becoming first-class assistants."[9] Care must be taken to insure that "the teacher does not use the dictation laboratory as a crutch when there is nothing else to do, when he does not feel like lecturing, or

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[7]Buford W. Jones, "Multiple-Listening Stations Have Many Uses," Business Education Forum, XXII (November, 1967), 16.

[8]Elizabeth Van Derveer Tonne, p. 248.

[9]Van Derveer, "Planning," p. 1.

discussing, or dictating or doing anything."[10] Proper use of equipment by the teacher will help insure more utility from laboratory sessions in the shorthand classroom. "The equipment should be used to its fullest potential in capabilities of program diversity and time usage and not operate merely as a make-up period or as an afterthought."[11]

Instructors should remember two things at all times: "Mechanizing the classroom does not obviate the need for the teacher to provide guidance, inspiration, and constant attention to the needs of the student";[12] and that "the prime concern of a multi-channel program is for student benefit and improvement; not to relieve the teacher from the classroom nor to 'free' the teacher for catching up on paper work."[13]

As Hosler points out:

> The teacher's responsibility is to see that the students utilize the time properly in previewing and postviewing notes, checking to make sure that they are working with the proper level of dictation as provided by the multi-channel equipment, visiting with individual students to deal with their problems and, finally, monitoring the actual dictation that individual students are taking.[14]

Cost of the Audio Learning Laboratory

Cost of a dictation center installation will vary with the type of equipment provided. Included in any budget should be not only

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[10] Corrigon, p. 29.

[11] Geraldine Ebert and Hetrick A. Foss, "Shorthand Dictation Lab--Tool or Frill?" Balance Sheet, XLVIII (February, 1967), 248.

[12] Corrigon, p. 30.

[13] Ebert and Foss, p. 248.

[14] Russell J. Hosler, "The Teacher's Role in a Dictation Lab," Business Education World, XLV (May, 1965), 19.

the initial cost of the equipment to play dictation, but also the cost of the tapes for dictation and some commercial tapes as well. Buying tapes over a period of time could be superior to a sizable initial investment.

The actual price of labs can run as high as ". . . $25,000,[15] or as low as the cost of a tape recorder or phonograph which would enable an instructor to install a simple audio passive laboratory. A reasonable assumption is that the price of any laboratory will be influenced by the number of listening stations, selection of tapes, and many extras that can be included in any installation. Backing and support from school administration will naturally affect the allotment for starting a shorthand laboratory. "It is important to start, even though it may be in a small way."[16]

Instigation of an Audio Learning Laboratory

Instigation of a program can be handled in several ways. "Experience indicates that most classes split naturally into three speed groups--a lower, an average, and a fast group."[17] It stands to reason, therefore, that at least three tapes should be utilized. A fourth could be added to a series to increase incentive for the most advanced group.

The instructor who finds himself in a position where he must

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[15]Charles E. Lord, "Audio Equipment: What Price Progress?" Business Education World, XLIV (January, 1964), 10.

[16]Van Derveer, "Planning," p. 2.

[17]Elizabeth Van Derveer Tonne, p. 2.

instigate a multiple-listening program with limited equipment and/or funds is not at the disadvantage one might suppose. Starting a lab with a single tape recorder or a single dictation machine affords the advantage of simplicity. An instructor "is not then overwhelmed by the desire to make maximum use of too much equipment at one time."[18] Building a program gradually has many definite compensations.

For the instructor who desires to build a dictation laboratory but is faced with the problem of limited funds, Lamb offers suggestions from a plan of action instigated by Corrigon:

> Place four tape recorders . . . . . on a long, narrow table at the front of the classroom, and outlet boxes (each equipped with four inputs) at 36-inch intervals completely around the room.
>
> On the chalkboard, directly above the tape recorders, the students see a key of the speeds that are on the various machines. A typical selection of speeds might be:
>
> Recorder #1---60-- 70-- 80
> Recorder #2---70-- 80-- 90
> Recorder #3---80-- 90--100
> Recorder #4---90--100--110[19]

For a program of this nature, tapes, of course, would be changed at frequent intervals. The units used to play the tapes are simple boxes with inputs for six pairs of earphones and a plug in the back of the tape recorder.

In planning a program, new purchasers should be certain that a variety of mediums will be able to be used on the equipment. This would include those tapes made in the school as well as those made available through publishing companies and other sources.

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[18] Ibid., p. 249.

[19] Marion M. Lamb, Your First Year of Teaching Shorthand and Transcription (Cincinnati, Ohio: South-Western Publishing Company, 1961), p. 11.

Despite whatever method is used to start a program, thought must be given to the location of the nearest service office. Fidelity and clarity of voices must also be a consideration.

> Other points to be considered are: Is one-day service available? Is the equipment relatively service free, is there a possibility of a breakdown that would render the laboratory useless? Can the equipment be operated by a student without the teacher's help? Can the medium be quickly changed? Are the dictation materials easily and quickly stored?[20]

Any program instigated should take into consideration the importance of an assigned specific room space for the stenographic teacher. "The nomadic stenography teacher who carried his teaching materials from room to room manually cannot carry the equipment also."[21] Whatever room or rooms are assigned should be suitable for use as study rooms for students' homework practice. In selecting and arranging the room designated to house an audio learning laboratory, full emphasis should be focused on student participation and sagacious teacher supervision.

> To permit this kind of student participation and teacher supervision, the equipment should be placed so that its use--the main purpose of which is individualized instruction--is possible. Setting up the room according to the easiest wiring pattern is not acceptable unless it is also the best instructional arrangement.[22]

The particular brand chosen for any particular school will depend upon that school's needs, desires, and finances. A summary of the features of several brands is included in the appendix.

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[20] Krajicke, p. 3.

[21] Elizabeth Van Derveer Tonne, p. 248.

[22] *Ibid*.

Types of Playback Equipment

The main part of any dictation laboratory is the machine that will be utilized to play back the recorded material to which the student listens.

> Broadly speaking, playback equipment may take any of these forms: A record player on which you play dictation material that has been recorded on phonograph discs.
>
> An important consideration will be the variety and scope of recorded material available in disc form, and the convenience of operating the record player; an office dictation transcriber (belt, disc, or tape); a conventional tape recorder accommodating standard reels on which the tape flows from one reel to another take up reel. This form of tape playback--the reel-to-reel machine--is the most prevalent form today.[23]

Each instructor will have to ascertain which type is best for the individual situation.

Types of Shorthand Dictation Laboratories

> Dictation laboratory is a rather loosely used phrase. Dictation "labs" exist in many different forms and degrees of complexity, depending on local budgets and desires. In general, dictation "labs" may be classified as follows:
>
> Type One: A single playback instrument--a tape recorder or record player. This is the audio passive type laboratory.
>
> Type Two: Two or more playback instruments and a number of individual listening stations. The listening stations are usually fitted with selectors, so that students may choose from the two or more recordings.
>
> Type Three: Similar to Type Two, but with the addition of a control room, or booth, for the teacher, and individual "booths" for the students.[24]

Whatever the basic classification,

> Lab equipment narrows down to two basic types--wired or cordless. Each serves an important function; but for

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[23] Boer, p. 3.

[24] *Ibid.*

> general shorthand lab purposes in the average classroom of the average school, the cordless equipment seems to be the "more successful."[25]

When using a wireless system, the student picks up sound through a battery-operated set. Wired operations consist of sets attached to the audio by wires extending from the output of the student's desk.

The minimum equipment for a classroom would consist of a single tape recorder or a dictation machine with provision for four to six students to use the output simultaneously. "Generally, three channels will adequately handle most shorthand laboratories."[26]

Maximum equipment would consist of a console which allows various output equipment to be attached. "The most efficient equipment permits teacher control at the console and selection of dictation by the student at his desk."[27]

Regardless of what type of lab is installed "tape receptacles available are spool to spool in many varieties, cartridge types, recorder types, belt types, single, double, and up to 22-channel types."[28] This equipment is adaptable to a variety of playback equipment.

The Multiple-Listening Station Library

Any materials collected for the tape library "must be an

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[25] Ebert and Foss, p. 249.

[26] *Ibid.*

[27] *Ibid.*

[28] *Ibid.*, p. 248.

integral, important part of projected lesson plans."[29] The library set up to accompany an audio learning laboratory should be arranged so "the recording media will be easy to use and to catalog for use."[30]

In selecting material to be taped, commercial recordings should not be the only source considered. Facilities for recording in the school should not be overlooked. "Each school should be provided with a supply of prepared tapes. Although the teacher will want to prepare certain practice materials and tests themselves, it is impossible to prepare all materials needed."[31] This would, of course, be especially true the first few years after the laboratory had been instigated.

"Tapes may be purchased from numerous sources, but care should be taken that the teacher knows, understands, and has use for the various available materials."[32] As Ebert points out:

> One complaint often heard is that most of the commercial tapes are too professional. Not only is this kind of dictation unrealistic, but the students tend to become bored even with careful scheduling of the tapes.[33]

A good rule of thumb to consider when determining the use of the multiple-listening station library is that the use of the laboratory equipment should follow a planned schedule with materials for a definite purpose.

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[29] Ibid.

[30] Elizabeth Van Derveer Tonne, p. 251.

[31] James Hodge, "Shorthand Labs Aid Teaching," Balance Sheet, XLVII (January, 1966), 207.

[32] Ebert and Foss, p. 248.

[33] Ibid.

Advantages and Disadvantages of an Audio Learning Laboratory

Various advantages of having an audio learning laboratory have been cited throughout this report. However, dictation equipment is not perfect. As Coleman states:

> In consideration of advantages and disadvantages of shorthand tape laboratories, the number of advantages far outweighs the disadvantages reported in formal research and/or from the publications of teachers who have firsthand experience with shorthand tape labs. One individual, however, stated the belief that taped dictation can be dull, and still another researcher reported that students sometimes feel isolated and thus separated from what might be considered normal interpersonal functioning, which is typical in a traditional teaching situation.[34]

Summary

Dictation laboratories serve many and varied functions and can be most advantageous when combined with regular in-class dictation.

Of course, ideal equipment would have sufficient channels and headsets for an entire class to use the equipment simultaneously. However, equipment of this nature can be expensive. A simple tape recorder or record player can suffice when starting a dictation laboratory.

The instructor using dictation equipment must be cognizant of the need for extra effort to help insure proper use of the equipment.

There are many types of playback equipment (and dictation equipment, in general). The type selected will depend on the school's needs and desires. The cost of building a laboratory installation should also include the cost of dictation tapes to be used on the equipment.

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[34]Coleman, p. 18.

CHAPTER III

PROCEDURES

The methods and procedures used to carry out this study included these steps:

A review of literature concerning audio-learning laboratories was undertaken to discover important considerations and factors to be included in the study. Pertinent issues were extracted from this related literature, and a questionnaire was constructed employing information gathered through the reading of various sources.

A preliminary draft of the questionnaire was then submitted to six teachers for critical evaluation. Suggestions were considered and integrated into the final questionnaire which was sent to the business education departments of 85 Utah high schools. A cover letter explaining the importance and purpose of the study accompanied the questionnaire.

Two weeks elapsed after the mailing of the first letters and questionnaires. At this time, follow-up letters were sent to all schools not initially responding to the questionnaire. This procedure was repeated in two weeks to all schools that had not responded to any of the previous letters.

Nine weeks after the initial letter was sent, those schools that had not replied were telephoned; and the remaining questionnaires were completed through telephone conversations.

When all data had been received, the results were tabulated

in percentage form to determine the present status of multi-channel equipment in Utah.

The results of the study are contained in the following pages.

CHAPTER IV

FINDINGS

This chapter discusses the findings discovered through the tabulation of the material contained in the questionnaires. Chapter 4 will be subdivided in this manner: Number of schools that offer shorthand; semesters of shorthand offered and relationship to frequency of dictation laboratories; weekly time shorthand is taught as related to number of minutes weekly shorthand dictation equipment is used in first and second year shorthand; maximum length of time equipment is used in any one period; source or brand name of equipment related to the efficiency of the equipment in helping the instructor achieve course objectives and voice clarity and fidelity; length of time schools have had dictation equipment; types of equipment in use--wired or cordless; source of tapes for equipment in use; coordination of tapes with textbook lessons as related to equipment's ability to help achieve course objectives; adequacy of equipment in regard to listening channels; headsets and number of students who can simultaneously tune in dictation; uses for dictation equipment; equipment's voice clarity and ability to help achieve course objectives as related to commercial and school innovated dictation equipment; school use of shorthand dictation equipment; and summary.

The results of the study were gathered from 85 questionnaires that were returned from 85 mailed.

Curriculum Offerings and Shorthand Dictation Equipment

Of the 85 schools surveyed in Utah, only 76 (89.41 percent) offer shorthand. As can be seen from Table 1, nearly half (42, or 49.41 percent) of the schools offering shorthand have multi-channel dictation equipment.

Of the schools with shorthand in the curriculum, 22 (25.88 percent) offer only 2 semesters of shorthand. Of these 22 schools, 6 (27.27 percent) have dictation equipment. Three semesters of shorthand are offered in 3 (3.54 percent) of the schools, and 1 (33.33 percent) of the schools with 3 semesters of shorthand has dictation equipment. The remaining 51 (60.00 percent) schools offer 4 semesters of shorthand. Dictation equipment is installed in 35 (69.23 percent) of the 51 schools having 4 semesters of shorthand.

Table 1. Shorthand courses, semesters, and dictation equipment offerings

Semesters offered	Schools		Dictation equipment available	
	No.	%	No.	%
0	9	10.58	---	-----
1	0	-----	---	-----
2	22	25.88	6	27.27
3	3	3.54	1	33.33
4	51	60.00	35	69.23
Total	85	100.00	42	49.41

Time Utilization of Dictation Equipment

Time time utilization of dictation equipment is an important consideration. As reported in Table 2, the information received through the questionnaire indicated that first year shorthand is taught a total of 344.68 hours weekly on a state-wide basis. Second year shorthand is taught only 304.46 hours weekly. However, there is an inverse relationship between time spent in first and second year shorthand and time spent using dictation equipment. Despite the fact that second year shorthand is taught less time weekly than first year shorthand, tapes and equipment are used more frequently in second year shorthand courses.

Table 2. Weekly time utilization of dictation equipment

Course	Minutes taught	Minutes equipment used	Average time equipment used	Maximum minutes equipment used in any period
First year shorthand	206,809	3,400	.016	30
Second year shorthand	182,676	4,100	.022	30
Total	389,485	7,500	.019	30

In response to the question asking the average maximum time instructors use dictation equipment in any average period, the mean response was 30 minutes. However, 11 teachers occasionally use the equipment for the entire class period. One instructor lets the tapes play all period, and the students are required to tune in ten minutes

at some time during the class period.

Source of Dictation Equipment, Voice Clarity, and Achievement of Objectives

Conceivably, the source of dictation equipment could affect the voice clarity of the equipment. Likewise, the voice clarity could affect the instructor's ability to achieve his course objectives. On the questionnaire designed to provide information for this study, questions were included asking for brand names of equipment and how well the equipment had helped the instructor to meet his course objectives. Another question was included asking about the voice clarity and fidelity of dictation equipment in use. Instructors were asked to rate the equipment's ability to help achieve course objectives and also to rate voice clarity and fidelity as compared to a tape recorder. The scale provided for the instructor to complete included blanks for "good," "fair," and "poor" ratings. References made in the remainder of this report to "good," "fair," or "poor" ratings refer to this scale on the questionnaire. The term "objective achievement" will indicate, for the rest of the report, the degree to which the equipment helped the instructor to meet his course objectives.

Sources of equipment are many and varied. In Utah, Dictaphone multi-channel systems were the most popular type of dictation equipment. As can be seen from Table 3, of the 42 schools with dictation equipment, 14 (33.33 percent) have Dictaphone equipment. Two of the schools with Dictaphone equipment made marginal notes that their equipment "is broken most of the time." Of the 14 Dictaphone systems

Table 3. Effectiveness of specific brand names

Brand	Number of Installations		Objective Achievement						Voice Clarity & Fidelity					
			Good		Fair		Poor		Good		Fair		Poor	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Dictaphone	14	33.33	6	42.85	5	35.91	3	21.24	7	50.00	4	28.57	3	21.43
Edison Envoy	6	14.28	5	83.33	1	16.68			5	83.33	1	16.68		
Norelco	4	9.52	3	75.00	1	25.00			3	75.00	1	25.00		
IBM	2	4.76	0	-----	2	100.00					2	100.00		
School Innovation	2	4.76	2	100.00					2	100.00				
Switchcraft	2	4.76	2	100.00					2	100.00				
EFI	1	2.38	1	100.00					1	100.00				
Stenocord	1	2.38	1	100.00					1	100.00				
Viking of Minneapolis	1	2.38	1	100.00					1	100.00				
Other	9	21.45	8	88.89	1	11.11			7	77.78	2	22.22		
Total	42	100.00	29		10		3		29		10		3	

in service, 7 (50.00 percent) rated their clarity as "good"; 4 (28.57 percent) as "fair"; and 3 (21.43 percent) as "poor." In helping to achieve course objectives, 6 (42.85 percent) of the schools with Dictaphone equipment rated their installations as "good"; 5 (35.91 percent) as "fair"; and 3 (21.24 percent) as "poor."

Six (14.28 percent) of the Utah schools with dictation equipment have Edison Envoy Dictators installed. Of these schools, 5 (83.33 percent) rated voice clarity as "fair." The figures were identical in the category of the equipment's ability to help achieve course objectives.

Norelco has 4 (9.52 percent) sets of equipment in operation in Utah. Of the four schools with this type of equipment, 3 (75.00 percent) rated voice clarity as "good': the other school (25.00 percent) rated voice clarity as "fair." The figures given for the equipment's ability to help achieve course objectives were identical.

IBM has 2 (4.76 percent) of the dictation equipment in operation in Utah. Both (100 percent) of the schools with IBM rated voice clarity and the equipment's ability to help achieve course objectives as "fair."

Two (4.76 percent) schools in Utah devised their own dictation equipment. Both (100 percent) of these schools rated both voice clarity and the equipment's ability to help achieve course objectives as "good."

Switchcraft has 2 (4.76 percent) sets of equipment in Utah schools, and both (100 percent) rated clarity and the equipment's ability to help achieve course objectives as "good."

EFI (2.38 percent), Viking of Minneapolis (2.38 percent), and

Stenocord (2.38 percent) each have one set in operation in Utah. Each of the schools with these brand names rated both voice clarity and the equipment's ability to help achieve course objectives as "good."

The disparity between the number of brand names reported and the number of total schools with dictation equipment is the result of those schools that did not record a brand name on the questionnaire. The schools not reporting specific sources of equipment are recorded in the "Other" category in Table 3.

Length of Time Schools Have Had Dictation Equipment

The advent of dictation equipment in Utah is a relatively new phenomenon. The mean number of years that such equipment has been used in Utah is approximately two years. Five schools purchased the equipment only this year, but as can be seen from the table below, some schools have had their equipment a considerable length of time.

Table 4. Age of dictation equipment in Utah

Months	Number of Schools
1-12	5
13-25	19
26-38	8
39-51	1
52-64	2
65-77	0
78-90	0
91-103	0
104-116	0
117-129	1
Total	42

Types of Equipment in Use--Wired or Cordless

There are basically two types of multiple-channel installations--those which transmit recorded messages by a wired system and those that "broadcast" the message without wire.

As can be seen from Table 5, 14 (33.33 percent) of the dictation equipment in Utah is wired. Cordless installments outnumber wired equipment considerably as 28 (66.67 percent) of the total dictation equipment in Utah is cordless.

Table 5. Types of dictation equipment

Type of Installment	Number of Installations	
	No.	%
Wired	14	33.33
Cordless	28	66.67
Total	42	100.00

Source of Tapes for Equipment

Before dictation equipment can be used for instructional purposes, tapes must be available for dictation. Tapes are provided from three sources--university, commercial, and instructor prepared.

Of the 42 schools in Utah with dictation equipment, 33 (78.57 percent) use commercially prepared tapes. Of the schools using commercially prepared tapes, 15 (45.75 percent) use them exclusively; and 18 (54.57 percent) of the schools combine them with tapes from other sources.

Instructor prepared tapes are used by 29 (69.04 percent) of

the schools with dictation equipment. Of the schools that use instructor prepared tapes, 21 (72.41 percent) use them in combination with other sources of tapes. The remaining 8 (27.58 percent) of the schools that use instructor prepared tapes use them exclusively.

University prepared tapes are used by only 7 (16.66 percent) of the schools. Of these schools, 5 (71.42 percent) combine these tapes with other sources and 2 (28.57 percent) use them exclusively.

Table 6. Source of dictation tapes

Source	No.	%	Use			
			Combination		Exclusive	
			No.	%	No.	%
Commercial	33	78.57	18	54.57	15	45.75
Instructor	29	69.04	21	72.41	8	27.58
University	7	16.66	5	71.42	2	28.57

Dictation Tapes and Textbook Lesson Coordination

Many different kinds of tapes are available for use on dictation equipment. By listening to the tapes prior to using them in class and reading the textbook lessons, the two could be coordinated for student use.

Of the 42 schools with dictation equipment in Utah, 13 (30.95 percent) instructors consistently coordinate the textbook lessons and dictation tapes. The remaining 29 (69.05 percent) do not consistently coordinate textbook lessons and dictation tapes.

As can be seen from Table 7, of the 69.05 percent that do not consistently coordinate tapes with textbook lessons, 12 (41.37 percent)

believed the multi-channel dictation equipment helped them achieve their objectives only "fair" or "poor." The remaining 17 (58.63 percent) believed the equipment helped them achieve their course objectives "good."

Of the 13 (30.95 percent) schools that coordinate tapes and textbook lessons consistently, 1 (7.69 percent) of the schools reported "fair" success of the equipment in helping to meet course objectives. The remaining 12 (92.31 percent) felt the equipment helped them reach their objectives "good."

Table 7. Effect of tape and textbook coordination

Degree of coordination	Instructors		Equipment's objective achievement					
			Good		Fair		Poor	
	No.	%	No.	%	No.	%	No.	%
Consistent	13	30.95	12	92.31	1	7.69	--	--
Inconsistent	29	69.05	17	58.63	9	31.03	3	10.34
Total	42	100.00	29		10		3	

Adequacy of Listening Channels, Headsets, and Simultaneous Use

Dictation laboratories can, of course, vary greatly in size. In some cases, only a few headsets might be necessary to simultaneously accommodate the entire shorthand class. Larger classes would, however, require more equipment if all students wanted to take dictation together.

In Utah, the average shorthand room equipped with dictation equipment has 22 headsets. The range was as low as 6 and as high as 62. The average schools has 6 headsets more than it normally uses, as Table 8 shows.

Three schools reported they did not have sufficient headsets for the entire class to tune in simultaneously. All schools but one indicated that all headsets could be used simultaneously.

The mean school's equipment had three channels, and only one instructor made a marginal note that he needed another channel. However, this information was not included in an entry on the questionnaire; and there is, therefore, a possibility this problem is more widespread than would appear evident.

Table 8. Average number of channels and headsets normally used in first and second year shorthand

Equipment component	Range reported		Average No. available		Average No. used	
	High	Low	Group	No.	Group	No.
Headsets	62	6	6-12	1	6-12	1
			13-25	18	13-25	24
			26-37	19	26-37	15
			38-62	4	38-62	2
Average				22		16
Channels	3	3			3- 3	3

As previously mentioned in this report, the uses for dictation equipment are many and varied. In Utah, instructors have found several different ways to use their dictation equipment.

When asked how many of the schools use the equipment for provision for individual differences, 31 (73.80 percent) reported they had found individual difference provision one use for the equipment. Another 31 (73.80 percent) of the schools use the equipment for speed building work; 13 (30.75 percent) for remedial work; 11 (26.19 percent)

for review purposes; 10 (23.80 percent) for special drills; 9 (21.42 percent) for administering tests; 24 (57.17 percent) for variety in dictators; 6 (14.28 percent) for office style dictation; 13 (30.95 percent) for out-of-class dictation; 7 (16.66 percent) for mailable copy practice; 14 (33.33 percent) for transcription speed development; 8 (19.04 percent) for make-up work; and 10 (23.80 percent) use the equipment for warm-up drills. As Table 9 indicates, only one school reported any other uses for the equipment than those specifically mentioned on the questionnaire. This instructor prepared tapes for individualized instruction in bookkeeping and office practice.

Table 9. Uses for dictation equipment

Purposes for which dictation equipment is used	Schools	
	No.	%
For provision of individual differences	31	73.80
For speed building work	31	73.80
For remedial work	13	30.95
For review purposes	11	26.19
For special drills	10	23.80
For administering tests	9	21.42
For variety in dictators	24	57.17
For office style dictation	6	14.28
For out-of-class dictation	13	30.95
For mailable copy practice	7	16.66
For transcription speed development	14	33.33
For make-up work	8	19.04
For warm-up drills	10	23.80
Other	1	2.38

Source of Multi-Channel Dictation Equipment

When making plans to install a dictation laboratory in a school, the instigator must decide whether to purchase the equipment from a manufacturer or devise the equipment in his own school.

As can be seen from Table 10, of the 42 schools with dictation equipment in Utah, 40 (95.23 percent) purchased the equipment from commercial manufacturers. Therefore, 2 (4.77 percent) of the schools devised their equipment in their own schools.

The schools that devised their own equipment feel that the equipment has helped them meet their objectives and that the equipment has "good" voice clarity and fidelity. As illustrated in Table 10, however, not all of the schools with commercial equipment reported as favorable a response. Of the schools with commercially manufactured equipment, 27 (67.50 percent) felt the equipment has "good" voice clarity; 10 (25.00 percent) reported "fair" voice clarity; and the remaining 3 (7.50 percent) rated voice clarity as "poor." The given figures are the same for the equipment's ability to help instructors achieve course objectives.

Classes for Which Dictation Equipment is Used

After dictation equipment has been installed in a room for shorthand use, the question arises about the advisability of using the dictation equipment for all semesters of shorthand.

Of the 42 schools with dictation equipment in Utah, 31 (73.82 percent) use the equipment in both first and second year shorthand. There are 6 (14.28 percent) that use the equipment in first year

Table 10. Equipment's voice clarity and ability to help achieve course objectives

Source	Schools		Voice Clarity						Objective Achievement					
			Good		Fair		Poor		Good		Fair		Poor	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Commercial	40	95.23	27	67.50	10	25.00	3	7.50	27	67.50	10	25.00	3	7.50
School innovation	2	4.77	2	100					2	100				
Total	42	100.00	29		10		3		29		10		3	

shorthand exclusively. However, of these 6 schools that use dictation equipment in first year shorthand exclusively, 100 percent of them offer only two semesters of shorthand in the curriculum. The remaining 5 (11.90 percent) of the schools use dictation equipment in second year shorthand only.

The above findings are summarized in Table 11. Mention should be made of the fact that two schools who reported they use the equipment in second year shorthand only also reported that the first year shorthand classes were not scheduled in the room where the dictation equipment is located.

Table 11. School use of shorthand dictation equipment

Use	Schools	
	No.	%
First year shorthand exclusively	6	14.28
Second year shorthand exclusively	5	11.90
Combination--first and second year shorthand	31	73.82
Total	42	100.00

Summary

Shorthand is offered in 76 schools in Utah. Nearly half of these schools have multi-channel dictation equipment. This equipment is used more time weekly in second year shorthand even though first year shorthand is taught more time weekly.

Nine brand names were mentioned on the questionnaire in regard to the specific sources of dictation equipment. The majority of the schools have Dictaphone or Edison Envoy dictation equipment.

The average school in Utah has had its dictation equipment two years. There are twice as many cordless as wired installations.

Commercially prepared tapes are used more frequently than university or instructor prepared tapes. The majority of instructors combine different sources of taped dictation.

Instructors using dictation equipment find taped materials help them achieve course objectives better when they coordinate dictation material and textbook lessons. However, only 30.95 percent of the instructors consistently coordinate textbook lessons and taped materials.

Listening channels and headsets are presently adequate to meet the needs in the average shorthand class with dictation equipment.

Instructors have found many uses for dictation equipment, the most frequent being provision for individual differences and speed building work.

Only two schools in Utah have devised their own dictation equipment. The majority purchased their school's equipment from commercial sources.

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

From the basis of the information gathered and reported in this report, the following conclusions can be reached.

1. More time is spent teaching first year shorthand than second year shorthand. Yet, more time is spent using multi-channel dictation equipment in second year shorthand classes.

2. The more semesters of shorthand offered in the curriculum, the higher the percentage of shorthand dictation equipment. That is, there is a relationship between extent of curricula offerings in shorthand and the frequency of dictation equipment.

3. Most of the schools in Utah purchased their equipment from a commercial manufacturer. Only 4.77 percent of the schools with equipment contrived the equipment in their own schools.

4. School-made dictation equipment helps achieve objectives as efficiently as commercially purchased equipment.

5. Of all dictation equipment in use in Utah, 92.85 percent have "good" or "fair" voice fidelity and clarity in comparison to a tape recorder.

6. Commercially prepared tapes are used more extensively than instructor prepared tapes. Instructor prepared tapes, however, are used more extensively than university prepared tapes. Of all schools with equipment, 66.29 percent combine university, commercial,

and instructor prepared tapes for instructional use.

7. Instructors who coordinate tapes with textbook lessons find the equipment helps them to achieve their objectives better than those instructors who do not coordinate tapes and textbook lessons.

8. The maximum length of time dictation equipment is used in the average shorthand class in Utah is 30 minutes.

9. The average school "overbuys" headset equipment. The average school has six excess headsets. However, three listening channels are apparently adequate and appropriate for the sets in use.

10. The equipment is largely utilized for provision for individual differences and speed building work as 73.80 percent of the schools reported these usages.

11. Dictaphone and Edison Envoy have more units in Utah than other manufacturers combined.

12. Combining all brand names, 69.05 percent of the teachers felt the dictation equipment helps them reach course objectives "good"; 23.81 percent felt it helped them "fair"; and 7.14 percent "poor." Apparently, most schools find the equipment to be an advantage.

Recommendations

On the basis of the information gathered through the study, the following recommendations are made:

1. More uses should be found for dictation equipment so that the purchase, upkeep, and use of dictation equipment will be even more economically and efficiently justified.

2. Teachers should be introduced to the variations and wide

possibilities in multi-channel dictation equipment. The equipment should not be confined to usage in shorthand classes only. Programs for typewriting, office practice, bookkeeping, and any other subjects that can advantageously use individualized instruction could use dictation equipment.

3. Teachers should not only be aware of the varied purposes for dictation equipment but should become accustomed to using the equipment for a number of purposes.

4. Especially careful scheduling of classes in the room where dictation equipment is located is needed. The room should be available for first and second year shorthand as well as alloted time for out-of-class dictation practice. This will help to insure full utility from the equipment.

5. A good working rapport between school and dictation equipment manufacturers should be established from the onset of the purchase of the equipment. Then if problems are encountered in the operation of the equipment, reasonable terms for repair can be made. This would eliminate equipment sitting idle because of faulty operation.

6. Tapes used on multi-channel dictation equipment should be adapted to correlate with the daily lessons presented in the text. This will help the teacher to achieve set course objectives.

7. Schools without dictation equipment should receive instruction on construction of dictation equipment so that they can build their own for use in various classes. Schools anticipating the purchase of dictation equipment should check with schools who have already purchased equipment so they might better determine what features to look for in commercially manufactured dictation equipment.

8. Because of the limited number of schools using university prepared dictation materials, schools should be made more aware of the fact that universities have dictation tapes available for shorthand instruction.

SOURCES CONSULTED

Books

Lamb, Marion M. Your First Year of Teaching Shorthand and Transcription. Cincinnati, Ohio: South-Western Publishing Company, 1961.

Turabian, Kate L. A Manual for Writers. Third Edition. Chicago, Illinois: University of Chicago Press, 1967.

Periodicals

Coleman, Brendan G. "Making Optimum Use of a Dictation Lab." Business Education World, XLV (May, 1965), 18.

Corrigon, Joe. "Dictation Laboratories--Used or Abused?" Business Education Forum, XXL (January, 1967), 29-30.

Ebert, Geraldine, and Hetrick A. Foss. "Shorthand Dictation Lab--Tool or Frill?" Balance Sheet, XLVIII (February, 1967), 248.

Eiken, Shirley A. "New Systems Needed in Business Education." Business Education Forum, XXIII (May, 1969), 5.

Hodge, James. "Shorthand Labs Aid Teaching." Balance Sheet, XLVII (January, 1966), 207.

Hosler, Russell J. "The Teacher's Role in a Dictation Lab." Business Education World, XLV (May, 1965), 19.

Jones, Buford W. "Multiple-Listening Stations Have Many Uses." Business Education Forum, XXII (November, 1967), 16.

Krajicke, Sandra. "Nationwide Survey of Shorthand Dictation Labs." Business Education World, XLVI (February, 1966), 23.

Lord, Charles E. "Audio Equipment: What Price Progress?" Business Education World, XLIV (January, 1964), 10.

Miller, C. C., and Ernest E. Miller. "Shorthand Dictation Labs at the College Level." Business Education World, XLIII (September, 1962), 11.

Shanus, R., S. Bouchard, and H. O. Toupin. "Modular Scheduling: How Much Fact--How Much Illusion?" Business Education World, XLIX (October, 1968), 9.

Tonne, Herbert A. "Innovation as the Solution." The Journal of Business Education, XLII (January, 1967), 137.

Van Derveer, Elizabeth T. "New Media for Teaching Shorthand." National Business Education Yearbook, III, 75-85.

Van Derveer, Elizabeth T. "Planning for Student-Selected Stenographic Dictation." Business Education World, XLIV (January, 1964), 8.

Unpublished Materials

Boer, H. J. The Shorthand Dictation Laboratory and Its Place in the Shorthand-Secretarial Course. New York: Gregg Recordings and Supplies, 1965, p. 3.

Barrows, Rita. A Teacher's Experience with the Electronic Classroom. Cincinnati, Ohio: Dictaphone Corporation, 1960, p. 1.

Kraeer, John. Report, College of Business. East Lansing, Michigan: Department of Law, Insurance and Office Administration, Michigan State University, 1965.

Yearbooks

Condon, Arnold. "Improving Shorthand Learning Through Better Use of New Media and Equipment." NBEA Yearbook Number Five. Washington, D. C.: National Business Education Association, 1967.

Kallaus, Norman F. "Data Communications: New Term, New Concept, New Challenge." NBEA Yearbook Number Five. Washington, D. C.: National Business Education Association, 1967.

Tonne, Elizabeth Van Derveer. "The Multiple Listening Station in Shorthand Speed Building." NBEA Yearbook Number Five. Washington, D. C.: National Business Education Association, 1967.

APPENDIXES

Appendix A

List of Utah Schools

American Fork
Lehi
Orem**
Pleasant Grove
Beaver
Milford
Bear River
Box Elder
Sky View**
Carbon**
East Carbon**
Manila
Bountiful**
Clearfield**
Davis
Layton
Viewmont**
Altamont
Duchesne
Bryce Valley*
Escalante
Tintic
Dugway
Millard**
Morgan
Spanish Fork
Grantsville
Tooele
Wendover*

Uintah**
Union**
Tabiona*
Emery**
Green River*
Panguitch
Grand
Cyprus**
Granger
Granite**
Kearns**
Olympus**
Skyline**
Cedar City**
Parowan
Bingham**
Hillcrest**
Jordan**
Juab**
Kanab**
Delta**
Valley High
Springville
Payson
North Sanpete**
North Summit**
Park City*
Piute
North Rich*

South Rich*
Montecello**
San Juan
North Sevier
Richfield
South Sevier
Gunnison
Manti**
South Summit*
Sevier Valley Technical**
Wasatch**
Dixie***
Enterprise*
Hurricane***
Wayne
Bonneville**
Roy**
Weber**
East**
South**
West**
Ben Lomond**
Ogden**
Provo**
Logan
Murray**
Highland**

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*No shorthand in the curriculum; **Dictation Labs; ***School innovation.

Appendix B

Comparative Evaluation of Shorthand Dictation Labs

Comparative Evaluation of

Features	Dictaphone	Dictation Disc	Edison Envoy	EFI	IBM	Norelco	Switchcraft
1. Number of channels:	4	any number	4	3	4	4	5
Can this number be expanded?	yes	yes	yes	yes, to 6 channels	no	yes	yes
2. Can each student select a channel?	yes	no	yes	yes	yes	yes	yes
3. Type of installation:	wired	wired	wired	wireless	wired	wired	wired
4. Portability of system:	source portable, student positions s tationary	source portable, student positions stationary	source portable, student positions stationary	portable	portable	portable	source portable, student positions stationary
5. Can the system be installed in an already constructed building?	yes	yes	yes	yes	yes	yes	yes
6. Monitoring device?	yes	yes	yes	yes	yes	yes	yes
If yes: at student's desk___ from console___ both___	both	student's desk	both	both	both	student's desk	both
7. Loudspeaker system?	no	no	yes	yes	yes	yes	yes
8. Cord on headset: coiled___ uncoiled___	coiled	uncoiled	both available	uncoiled (both available)	both available	coiled (both available)	coiled
9. What steps are advisable to sanitize headset?	remove sponges and wash	remove sponges frequently	remove sponges frequently	remove tips frequently	remove sponges frequently	remove sponges frequently	remove sponges frequently
10. Does each student position have separate volume control?	yes	yes	yes	yes	yes	yes	yes
11. What can be used as a source? record player___ tape recorder___ transcription machine___ audio notebook___ teacher's voice___	record player, tape recorder, transcription machine*	record player	transcription machine*	record player, tape recorder, transcription machine,* audio notebook	transcription machine, teacher's voice	dictation machine, transcription machine*	any source that has standard speaker output into fifth channel
The source uses standard tape___ standard cartridge___ plastic disc___ standard phono record___ special tape___ magnetic belt___ special cartridge___ plastic belt___ other___	standard phono record, standard tape, plastic belt*	standard phono record	standard tape (special tape spool*)	special cartridge* plus all sources	special magnetic belt	special cartridge,* standard tape, standard phono record	standard tape, phono record
12. Can source be prepared for continuous play?	n	no	no	yes	no	no	continuous loop machine or automatic rewind self-start tape deck can be installed
13. Can teacher speak over system?	no	no	no	yes	no	no	yes
If yes, to each separate channel?	no	no	no	yes	no	no	yes
14. Will the company install any desired tape recorder as a source?	yes	not applicable	no	yes	not applicable	yes	yes
15. Can teacher speak over material being heard through the channel?	no	no	no	yes	no	no	no
16. Number of hours (or minutes) available on medium:	15 min.	45 min. (set of 4 records)	45 min. 1 hour 2 hours	22 tracks of 15 min. each for audio notebook	14 min.	1 hour (30 min. each side)	2 hours

Shorthand Dictation Labs

Features	Dictaphone	Dictation Disc	Edison Envoy	EFI	IBM	Norelco	Switchcraft
17. Does the medium rewind automatically?	no	no	no	no	yes (if requested)	no (yes, if erasing)	no
18. Can material be taken from one medium and be placed on another?	yes	yes	yes	yes	yes	yes	yes
Is the fidelity of the dubbed material impaired?	no	no	no	no	no	no	no
19. Can the equipment also be used for machine transcription and office practice?	yes	no	yes	only if transcription machine is used as source	yes	yes	no
20. Can medium be erased and redicated?	no	no	yes	yes	yes	yes	yes
21. What is cost of medium?	5¢–7¢	$4.31	$3.75, $4.50, $6 (blank tapes)	$4.75 (cartridge)	$0.65 (belt)	$ 5.50 (cartridge)	$2.50 per tape
22. What is normal life of medium?	approx. 1 year	indefinite	indefinite	indefinite	indefinite	indefinite	indefinite
23. Can one record directly onto the medium?	yes	no	yes	yes	yes	yes	yes
24. Is prerecorded dictation material available for the equipment?	yes	yes	yes	yes	yes	yes	yes
If yes, is material correlated with Diamond Jubilee text for first semester?	yes	yes	yes	yes	yes	yes	yes
25. Are media available that are correlated with Gregg textbook?	yes	yes	yes	yes	yes	yes	yes
26. Can the material be purchased from Gregg, or must it come from equipment manufacturers? Gregg___ Equip. mfrs. ___ both___	equipment mfr.	both	equipment mfr.	both	equipment mfr.	both	equipment mfr.
27. Can other mfrs'. equipment be channeled through student listening station?	yes	yes	yes	yes	yes	yes	yes
If yes, with adaptor___ without adaptor___	with	without	with	with	with	with	without
28. Can one duplicate or dub onto the equipment from other sources?	yes	no	yes	yes	yes	yes	yes
29. How long does it take to rewind medium?	no rewind	no rewind	2 min. (1 hr. tape) notebook)	2 min. (audio notebook)	1 sec.	45 sec.	depends on length of program material
30. Is any maintenance required by teacher? If so, what?	no	no	no	no	no	no	Clean recording head
31. How long is the warranty period?	90 days (1 year for replacing defective parts)	none	1 year	1 year	90 days	90 days (1 year for replacing defective parts)	1 year

*Standard equipment for this system.

Other points to be considered before buying system:

Location of nearest service office. Is one-day service available? Is the equipment relatively service-free? Is there a possibility of a breakdown that would render the lab unusable?

Fidelity and clarity of voice.

Can the equipment be operated by a student without the teacher's help?

Can the medium be easily and quickly changed?

Are the dictation materials easily stored?

(NOTE: Most companies can build almost any type of system to order on request. The above checklist was completed by judging the manufacturer's standard system.)

Appendix C

Questionnaire

MULTI-CHANNEL DICTATION EQUIPMENT

School Name: _____

1. Does your school offer shorthand?
   _____ Yes
   _____ No If your response is "no." you need not respond to the remaining questions. Please enclose your questionnaire in the envelope provided and return.

2. How many semesters of shorthand are offered in your curriculum?
   _____ 1 _____ 3 _____ Other (please specify):
   _____ 2 _____ 4

3. How much time a week are each of the following classes taught in your school?

	Hours and Minutes	
First year shorthand		
Second year shorthand	____	_____

4. Is your school equipped with multi-channel shorthand dictation equipment?
   _____ Yes
   _____ No If your response is "no," you need not respond to the remaining questions. Please enclose your questionnaire in the envelope provided and return.

5. How long has your school had multi-channel shorthand dictation equipment?
   _____ Years and _____ Months

6. Please indicate whether your equipment was purchased from a manufacturer or devised in your school.
   _____ Commercial Brand Name _____
   _____ School

7. Is your equipment wired or cordless?
   _____ Wired
   _____ Cordless

8. How would you rate the voice clarity and fidelity of your multi-channel equipment compared to a tape recorder?
   _____ Good
   _____ Fair
   _____ Poor

9. What is your source of recordings for your multi-channel shorthand dictation equipment? (Check those applicable)
   _____ Instructor prepared
   _____ Commercial
   _____ University

10. Are the recordings used for in-class dictation coordinated with the lessons in the textbook?
   _____ Yes
   _____ No

11. Please indicate the classes in which shorthand dictation equipment is used.
   _____ First year shorthand
   _____ Second year shorthand

12. How much time a week is multi-channel dictation equipment used in the following classes:

	Hours and Minutes	
First year shorthand	_____	_____
Second year shorthand	_____	_____

13. What is the maximum length of time you normally use multi-channel dictation equipment in any one shorthand period?
   _____ Minutes

14. How many listening channels does your equipment have?
   _____

15. How many students can simultaneously tune in dictation from your multi-channel equipment?
   _____

16. How many channels and headsets do you normally use in an average section of the following classes:

	Channels	Headsets
First year shorthand	_____	_____
Second year shorthand	_____	_____

17. Please indicate the purposes for which multi-channel dictation equipment is used in your school: (Check those applicable)

_____ For provision of individual differences
_____ For speed building work
_____ For remedial work
_____ For review purposes
_____ For special drills (brief form, theory, and preview)
_____ For administering tests
_____ For variety in dictators
_____ For office style dictation
_____ For out-of-class dictation
_____ For mailable copy practice
_____ For transcription speed development
_____ For make-up work
_____ For warm-up drills
_____ Other (Please specify below)

18. In comparison to your instruction techniques prior to using multi-channel dictation equipment in teaching shorthand, to what extent do you feel the multi-channel dictation equipment has helped you meet your course objectives?

_____ Good
_____ Fair
_____ Poor

Appendix D

Correspondence

UTAH STATE UNIVERSITY · LOGAN, UTAH 84321
COLLEGE OF BUSINESS

DEPARTMENT OF
SINESS EDUCATION AND
FFICE ADMINISTRATION
801-752-4100

DATE

XXXXX
XXXXX
XXXXX
XXXXX

XXXXXXXXXXXXXXX:

The Business Education Department at Utah State University is presently conducting a study to determine the extent to which business educators in Utah are utilizing multi-channel dictation equipment.

Such a study is of value in providing information to schools that are considering the installation of multi-channel dictation equipment. The data gathered will also supply information regarding the various activities for which educators have found multi-channel dictation equipment well suited.

Please fill out the enclosed questionnaire and return it in the enclosed envelope. Your prompt assistance will be greatly appreciated.

Carol McPherson
Graduate Teaching Assistant

Ted Ivarie
Department Head

Enclosures (2)

UTAH STATE UNIVERSITY · LOGAN, UTAH 84321
COLLEGE OF BUSINESS

DEPARTMENT OF
SINESS EDUCATION AND
FFICE ADMINISTRATION
801-752-4100

DATE

XXXXX
XXXXX
XXXXX

XXXXXXXXXXXXXXX:

About 10 days ago you received a questionnaire which was part of a study to determine the present status of multi-channel dictation equipment in Utah.

The data for the study is presently being tabulated, and the questionnaire from your school is missing. In order to accurately compile the inforamtion, a completed questionnaire from your school would be most valuable.

If your questionnaire is already in the mail, please accept our thanks for your cooperation. If you have not had the opportunity to fill out and return the questionnaire, won't you please take a minute to complete the enclosed copy now and return it in the accompanying envelope. Your prompt assistance will be greatly appreciated.

Carol McPherson
Graduate Teaching Assistant

Ted Ivarie
Department Head

UTAH STATE UNIVERSITY · LOGAN, UTAH 84321
COLLEGE OF BUSINESS

DEPARTMENT OF
SINESS EDUCATION AND
FFICE ADMINISTRATION
801-752-4100

DATE

XXXXX
XXXXX
XXXXX

XXXXXXXXXXXXXXX:

The study on the status of multi-channel dictation equipment in Utah is in the final phase. However, the study cannot be completed without a contribution from your school, and our data indicates your questionnaire is missing. Perhaps you have already mailed yours. If so, please accept our sincere thanks for your cooperation.

If you have not had opportunity to complete the questionnaire, won't you please take a minute to do so now. Just fill out the enclosed questionnaire and return it in the accompanying envelope.

We'd really appreciate your prompt assistance.

Carol McPherson
Graduate Teaching Assistant

Ted Ivarie
Department Head

Enclosure