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An Analysis of Media Training for Teachers at the Pre-Service Level at Ithaca College

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Ithaca College

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Ithaca College
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Ithaca, New York

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MASTER OF SCIENCE THESIS

This is to certify that the Thesis of

Marcia Faye Alexander

submitted in partial fulfillment of the
requirements for the degree of Master of
Science in the School of Communications
at Ithaca College has

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8/4/78

AN ANALYSIS OF MEDIA TRAINING
FOR TEACHERS AT
THE PRE-SERVICE LEVEL
AT ITHACA COLLEGE

by

Marcia Faye Alexander

An Abstract

of a thesis submitted in partial fulfillment of the
requirements for the degree of Master of Science
in the School of Communications at
Ithaca College

March 1978

Thesis Advisor: Dr. Arthur A. Schwieder

ABSTRACT

The purpose of this study was to survey recent Ithaca College graduates with teaching certification and attempt to determine:

1) what training they received in educational media at the pre-service level; 2) what media equipment is available to them in their present teaching environments; and 3) how the media training or lack of media training affects their teaching methods.

Seven questions were formulated to achieve those purposes. Those specific questions this study answered were:

- 1) How much training did teachers receive at the pre-service level in media equipment operation and application?
- 2) Are teachers aware of critical media concepts?
- 3) What equipment is available in schools and how often do teachers use it? What are the reasons for limited use of equipment?
- 4) Is media training given in any other courses at Ithaca College?
- 5) Do teachers need media training, regardless of their field of study?
- 6) Are in-service workshops in media-use offered to teachers by their schools/districts?
- 7) How do teachers perceive media training and its value at the pre-service level?

A population of 549 Ithaca College graduates was drawn who met the requirements of: 1) being an Ithaca College graduate with teaching certification; 2) must have taught or be teaching, and 3) must have graduated between 1970 and 1975. From that population, a sample of

276 individuals were surveyed in order to answer the questions proposed in the study.

Data from the 104 respondents was analyzed and the results indicated that:

- 1) A majority of respondents did not study either the operation or application of media equipment or concepts mentioned in the questionnaire.
- 2) With few exceptions, all the equipment surveyed was available in the schools of over 50% of those surveyed.
- 3) The number of respondents indicating in-service workshops in media were available to them approximately equalled those not offered such workshops.
- 4) Responses were overwhelmingly in favor of media training at the pre-service level.

As a result of this study, the following recommendations were made:

- 1) Media training should be given more emphasis at the undergraduate level for teacher candidates in all disciplines.
- 2) There is a wide discrepancy between equipment that is available to teachers and the training teachers receive in how to use that equipment.
- 3) Teachers surveyed recognize the need for and desirability of media training at the pre-service level.
- 4) A cooperative effort is needed among departments at Ithaca College offering teaching certification to develop a uniform course in media training for all teacher candidates.

AN ANALYSIS OF MEDIA TRAINING
FOR TEACHERS AT
THE PRE-SERVICE LEVEL
AT ITHACA COLLEGE

A Thesis Presented to the Faculty
of the School of Communications
Ithaca College

In Partial Fulfillment of the
Requirements for the Degree
Master of Science

by
Marcia Faye Alexander

February 1978

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CHAPTER ONE

INTRODUCTION

The educational system is a complex system of interrelated components carefully balanced so that all parts work together as a successful whole. As with other systems, one change in a component requires the rest of the system to readjust to accommodate that change. The educational system has undergone tremendous changes as its basic components have been altered by new ideas and philosophies. The student, teacher, and school have taken on new roles. (Crary and Petrone, 1971) The student is now recognized as an individual with unique needs; the teacher has become an organizer as well as a dispenser of knowledge from many informational sources other than herself; and the school is now a comfortable place in which students and teachers can work together effectively. Education was not always this way so the system has had to adjust. One of the many adjustments to these new ideas within the system has been the acceptance of educational media and recognition of media's usefulness in modern education. It is the attempt of this study to explore how the new, more important role educational media plays affects one of the educational system's basic components--the teachers and their methods of instruction.

An important part of adjusting learning/teaching methods to the new educational philosophy which governs our educational system has been the increased use of instructional media. Filmstrips and motion pictures have been used in schools for a long time, however, it appears that such equipment and materials are taking on a "new role". They are becoming important elements of learning as educators realize these media offer the wide range of resources needed to accommodate the diversified needs of today's students.

As with other complex systems, overall change is a slow process. The system must readjust and adapt itself completely to alterations in its basic components before the system will function to the maximum capacity of success. In view of the modern educational philosophies adopted, the educational system has made many of the necessary adaptations so that it functions at a high degree of success, but the process of adjustment is not yet completed. (Crary and Petrone, 1971) Specifically, changes are still needed in the methods of training teachers who are to operate in the system.

It has been recognized that media and the newest developments of educational technology can be a definite asset and a valuable vehicle to today's educational system. (Allen and Seifman, 1971) In response, the schools have invested large sums of money into equipping schools with the latest media hardware and software, acknowledging its value. It appears that is not enough. The educational system has still neglected the most important component necessary to the successful use of media--the teacher. The teacher is essential in determining the degree of success of media-use in the educational system. It is vital that the teacher be aware of how to utilize media in the classroom if media is to succeed and its full potential realized.

With respect to technology, the teacher must know not merely the claimed utility of proposed instruments, but he must also know the research that led to their development and the reasons for their use. Tools exist to serve the purpose of the craftsman. They do not exist to be used as often or as broadly as possible simply to prove their utility.

(Crary and Petrone, 1971, p. 235)

Conscientious utilization of instructional media is one area where the educational system still has major readjustments to make. It

is not enough to accept new educational philosophies, recognize the usefulness of media when incorporating these new ideas in the classroom and then purchase the equipment. The teacher must be well-trained in how to utilize media properly. Crary and Petrone (1971) state that the responsibility for this training lies in the teacher training institutions; the undergraduate, pre-service institutions preparing teachers. Incorporating media-use training at the pre-service level should contribute to making teacher education programs more realistic and relevant, in view of today's educational system and the skills demanded of teachers by the schools in that system. The argument might be raised by the pre-service institutions or the teachers themselves, that such skills, if and when they are needed, can be learned through in-service workshops. So, why change the already well-established pre-service education curriculum?

In-service workshops in media are "too little, too late" responses to the critical needs in the schools. After such a workshop, it is unlikely that an educator who has used the same methods for thirty years will change his/her style of teaching. Perhaps in-service workshops are better than nothing, but it is reasonable to assume that initiation of media training at the pre-service level would be a sounder, more logical approach. By doing this, you have that "old dog" while it is still a pup, eager and anxious to learn "new tricks". Media training at the pre-service level should result in teachers who view media as an essential part of their methods of instruction and know how to use it to give their instruction maximum effect and meaning. Teachers would emerge better prepared to face the realities and cope with the needs of today's educational system. Crary and Petrone (1971, p. 313) state

this very clearly in Foundations of Modern Education:

Methods courses for teachers, either elementary or secondary, are perhaps the sources most specifically directed toward teacher education. They have never been in as great a need for study than they are today. Like all other areas of teacher education, the methods courses cannot be approached out of thought patterned in the past. They too must be based on the new psychological, social, and cultural presses.

The education system has adopted a more progressive philosophy resulting in many changes of the basic components; the school, the student, and the teacher. One of the most pervasive changes has been an emphasis on individualized learning. Educational media has taken on a new importance in education because of its utility in individualizing instruction. The teachers who operate in this system must be trained to use methods of instruction which incorporate media as an integral part.

The curriculum of pre-service teacher training institutions is one area that requires additional changes so that media training is given to teachers who are to operate successfully in a system where media plays an increasingly larger and more important role.

STATEMENT OF THE PROBLEM

As a result of either deficient undergraduate training or ineffective in-service training, it appears that many teachers are not adequately prepared to utilize instructional media in the teaching environment. The problem to which this research will be addressed is whether Ithaca College teacher candidates are receiving the necessary training at the pre-service level to operate successfully in their teaching environments.

PURPOSE OF THE INVESTIGATION

The purpose of this investigation was to survey recent Ithaca College graduates certified to teach and attempt to determine:

1) what training they received in educational media at the pre-service level; 2) what media equipment is available to them in their present teaching environments; and, 3) how the media training or lack of media training affects their teaching methods.

QUESTIONS TO BE ANSWERED

This study proposes to answer the following questions:

1. How much training, if any, did teachers surveyed receive at the pre-service level in the preparation, operation, and application of audiovisual equipment and materials?
2. Are teachers aware of critical media concepts and how such knowledge may improve the effectiveness of their instructions?
3. What equipment is available in schools and how often is it used by teachers? What are the reasons for limited use of audiovisual equipment?
4. Is media training, in any form, given in other courses at Ithaca College other than those offered by the Department of Educational Communications?
5. Regardless of the discipline, do teachers use audiovisual equipment and, therefore, need training in how to use these materials most effectively?
6. Are any in-service workshops being conducted by schools/districts to compensate for teachers' lack of media competencies?

7. How do teachers perceive media training generally and the value of media training at the pre-service level?

PROCEDURES

To accomplish the objectives of this study, a questionnaire was developed to survey and analyze the responses of recent Ithaca College graduates, who are teaching, on the extent and nature of the media training they received at the pre-service level. Since no questionnaire existed, the writer developed this survey instrument with the cooperation and advisement of faculty members of the Educational Communications Department at Ithaca College. The questionnaire was based on the content of the existing pre-service media course offered by the Department of Educational Communications.

The individuals' names receiving the questionnaire were furnished by the Alumni Office at Ithaca College. These names were representative of all major fields of study at Ithaca College offering teaching certification, i.e., Music, Speech Pathology, Health, Physical Education and Recreation (HPER), Speech, Social Studies, English, Mathematics, and Foreign Languages.

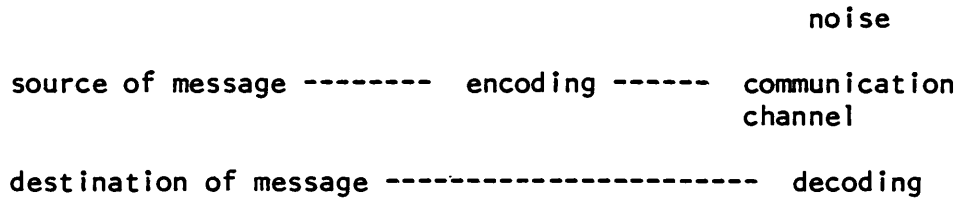
Individuals were randomly selected from the population to receive the survey so that each discipline was represented proportionately in the sample group. A total of 276 individuals were selected for use in this study.

Questionnaires were mailed to each individual in the sample group. Standard frequency analyses were performed on data obtained.

DEFINITION OF TERMS

For the purpose of this study, the following definitions have been used according to Ely (1963):

Communications Model - a display of the steps or stages in a communication:



In-Service Training - all activities engaged in by professional personnel during their service and designed to contribute to improvement on the job.

Instructional Situation - the learning environment in which the student and teacher interact.

Media - term used to describe pertinent materials and technological devices: TV, teaching machines, programmed learning material, electronic learning laboratories; it also includes many well-established audiovisual media such as motion pictures, filmstrips, slides, and recorders.

Pre-Service - undergraduate teacher training.

Self-Instructional Programs - utilization of programmed materials to achieve educational objectives; self-paced materials.

Systems Approach - an integrated, programmed complex of instructional media, machinery, and personnel whose components are structured as a single unit with a schedule of time and sequential phasing. Its purpose is to insure that the components of the organic whole will be available with the proper characteristics at the proper time to contribute to the total system, and in so doing, to fulfill the goals which have been established.

Visual Literacy - refers to a group of vision-competencies a human being can develop by seeing, and at the same time, having and integrating other sensory experiences; ability to manipulate symbols in visual format for thinking and communicating.

LIMITATIONS OF THE STUDY

1. This study was limited to teachers who received their teaching certificates from Ithaca College. For the purpose of this study, the Ithaca College graduates surveyed will adequately represent the overall population of Ithaca College teacher graduates.
2. Due to the nature of the questionnaire, many comparisons and correlations could be drawn. Those which were most pertinent to this study were selected from the possibilities.
(See Questions to be Answered)
3. This study was concerned only with the value of media training in the pre-service teacher education curriculum.

4. The equipment mentioned in this survey was considered basic. It is assumed that this equipment is available and therefore applicable to this survey. It is impossible to know of more elaborate equipment in a particular school, therefore, such equipment, even though available to some, is not included in this survey.
5. The survey was restricted to individuals who graduated between the years of 1970 and 1975 for the following reasons:
 - a) these years were available in computer data bank.
 - b) by 1977, those individuals surveyed had at least a year of teaching experience and will be more aware of their needs and deficiencies in relation to their profession than more recent graduates.

ASSUMPTIONS OF THIS STUDY

To proceed with this study the following basic assumptions were made:

1. The underlying educational philosophies have changed over the years and with these changes, media has become recognized as useful in accommodating these changes within the educational system.
2. Media hardware/software attended to in this survey constitutes basic audiovisual equipment, and therefore, is available to a majority of teachers.
3. Since basic audiovisual hardware/software is available to teachers, they should know how to operate and use this equipment.

4. Media hardware/software and concepts mentioned in the survey are considered basic and should be included in a media-use course at the pre-service level.
5. The pre-service media course offered at Ithaca College by the Department of Educational Communications is assumed to be a basic media course for teachers and, therefore, an adequate model on which to base the questionnaire used and serve as the model of a typical pre-service media course referred to in this paper.

CHAPTER TWO

REVIEW OF LITERATURE

In an effort to determine the needs of today's teachers with regard to media utilization in schools, research in the following areas will be discussed:

- a. the changing roles of students and teachers.
- b. the updating/revision process of pre-service education curricula.
- c. the increasing utilization of media in schools.

"The school system in America today is a vast set of bureaucratically organized systems and subsystems, groups and counter groups, which interact . . ." according to Kenneth H. Silber. (1972, p. 10-11) Thus, any change in one or more components of the educational system necessitates consequent changes in the entire system if it is to operate efficiently.

In the past, several basic beliefs were reflected in the educational system.

Until about 1962, American education tended to place almost exclusive emphasis on good teachers as the vehicle to good learning. It was the teaching . . . that emphasized . . .

(Ely b, 1972, p. 37)

A second basic tenant was ". . . that all students must learn the same things, at the same time, from the same person." (Crane and Kozlowski, 1972, p. 30) In a 1972 (October, p. 37) issue of "AudioVisual Instruction", the authors, in a discussion of these traditional ideas stated that learning experiences were totally group-centered. Regardless of the activity, instruction was always conducted with a large group whereby each individual received the same treatment and stimulus with no recognition of individual differences.

The progressive education movement, however, altered the educational system's philosophy completely.

. . . three successive patterns of interest that have shaped the development of the field during the past 50 years; the use of a broad range of resources for learning, the emphasis on individualized and personalized learning, and the use of the systems approach.

(Ely b, 1972, p. 37)

Edgar Dale (1973) agrees that the key roles of teacher and student have changed.

With the acceptance of these new beliefs, problems arose. The educational system had to adapt to these changes in its underlying philosophy. Silber (1972) says there was no question that the educational system had to change, the crucial point being what exactly the changes should be and how radical (or to what extent) the system had to be changed.

Crane and Kozlowski (1972) believe that educational technology can make direct and important contributions towards this effort. ". . . the field of educational technology . . . serves as the focus for a movement within the larger field of education." (Ely b, 1972, p. 36) ". . . learners in a technological society ought to have the benefits of technology for instruction." (Cochran and Myers, 1973, p. 11) Many of the solutions offered to accommodate these adaptations and changes, including educational media, have not been as successful as it was thought they could be.

Because of the magnitude and complexity of the school system . . . these solutions and their obverses, converses, and inverses have been tried--and the results have always been the same: no real improvement . . .

(Silber, 1972, p. 10)

"As a result, many students are the heirs of an anachronistic and ineffectual educational legacy . . ." (Crane and Kozlowski, 1972, p. 30) Changes must still be made in today's educational system before it will operate at it's maximum efficiency.

This process of change and adaptation is a slow one. Don Davies (1973, p. 14) substantiates this opinion by his remark: "We tend to creep rather than to stride in educational change . . . My greatest concern about technology in education is that it has yet to be fully integrated . . ."

It appears that a large investment in media hardware and software is not sufficient to insure media's success as a means of facilitating the new ideas and consequent changes in today's schools. The need for revised and increased investments in the teachers of today has, seemingly, been ignored.

"Sufficient hardware and software is crucial to the success of . . . education. Equally crucial is the teacher." (McGrady, 1972, p. 9) Silber (1972) agrees that the basic assumptions and structures of the current system demand new types of schools, curricula, methods, and teachers. The problem with today's teachers might be summed up in an old axiom which states that teachers tend to teach the same way they were taught. (Crane and Kozlowski, 1972) This implies that educators are using the "old" methods of teaching; those methods inappropriate for today's schools and students. Davies (1973) has observed extensive use of ineffective approaches to education, thus confirming that a problem does exist with the modern teacher. Utilizing "old" methods, teachers are not meeting the demands of the current educational system. "Most teachers are still not adequately prepared to cope with the

problems or take advantage of the potentials inherent in technological changes in instruction." (Dirr, 1976, p. 25) The key to this problem was discerned by Frank V. Colton (1977, p. 20) when he stated: "Lately, there has been a growing recognition of the interrelatedness of practice and teacher education." In addition to revisions in other areas, teacher education programs are yet another component in the larger system called education that must be looked at and studied.

In-service training programs are believed to be, by many, the solution to compensating for the lack of these vital skills and knowledge, including media training, on the part of many teachers. However, in-service training programs are not sufficient. "They are band-aid solutions . . . temporary means of patching a piece of the system, temporary means of keeping the system limping along with the illusion that all is now well." (Silber, 1972, p. 11) Davies (1973) believes that the solution lies with the institutions that prepare teachers. Harold H. Roeder (1973, p. 40) asks the crucial question; "How adequately are our colleges and universities preparing teachers to use audiovisual aids?"

Educational media currently finds itself in the ironic position of being assigned an integral and indispensable role in the instructional process, while historic practice has assigned it the role of an aid or enrichment-supportive but not supplemental to the actual teaching.

(Gorman, 1977, p. 15)

The success of today's educational system depends, in part, on teachers who view media as integral to their teaching, not supplemental. "The future of instructional technology in education, . . . relies upon the attitudes and reactions of the teaching force." (Dirr, 1976, p. 25)

Viable instructional media education programs need to be developed that prepare classroom teachers with competencies relevant to implementing a wide range of new and diverse programs.

(Gorman, 1977, p. 15)

Changes in the educational system have caused students and teachers to play new roles. Instructional media has become an important part of facilitating these changes and new roles. In view of this, teachers should be trained to use instructional media successfully in the classroom. Many of the existing pre-service teacher education curricula do not incorporate such training. It is generally felt that revising the existing education programs to include media training would help teachers operate more effectively in educational environments where instructional media plays an increasingly important role.

CHAPTER THREE

PROCEDURES

This chapter will review the background of the study, the topic selection, development of materials, selection and nature of the population and sampling procedures, statistical analysis used and a summary of all procedures.

BACKGROUND OF THE STUDY

The writer has taught in a wide variety of situations where media was used, properly and improperly, or where the equipment was available and not used at all. After discussions with many of the teachers in these schools as well as media professionals at Ithaca College, the author determined that media training for teachers was an area worth investigating.

TOPIC SELECTION

In the fall of 1976, the writer was a graduate assistant involved in a pre-service media course for teacher candidates offered by the Educational Communications Department at Ithaca College. The writer, after discussions with the professors in the Educational Communications Department, determined that a study of pre-service training received by teachers graduated from Ithaca College would be a significant specific area to explore in detail in order to understand the larger problem of media needs of teachers in general and how those needs are/are not being met.

DEVELOPMENT OF MATERIALS

It was determined that the pre-service media course offered by the Educational Communications Department at Ithaca College constituted a

basic media course for teacher candidates. Therefore, it was determined that the contents of the survey instrument to be used should correlate with the content and competencies taught in the media course mentioned. After a thorough search of literature and consultations with faculty members at Ithaca College, it was determined that an appropriate survey instrument for use at Ithaca College was not available. A questionnaire was developed by the researcher, in cooperation with her advisor and teacher of the media course, Dr. Arthur Schwieder, based on the contents of the media course taught. (See Appendix A)

SELECTION AND NATURE OF THE POPULATION

It was determined that the population to be surveyed should meet the following criteria:

- a. must have graduated from Ithaca College with teaching certification.
- b. must have taught or currently be teaching since graduation from Ithaca College.
- c. must have graduated from Ithaca College between 1970 and 1975 so that they would have had time to become established in their profession and, therefore, be more aware of their needs as an educator.

The Alumni Office at Ithaca College cooperated in furnishing the names of individuals who met the criteria established. This provided a population of 549 individuals. The fields of study represented by these names were: Music, Speech Pathology, HPER, Speech, Social Studies, English, Mathematics and Foreign Languages.

SAMPLING PROCEDURES

The names within the population were divided into groups according to discipline. It was important to the integrity of this study that each discipline be represented proportionately within the sample group, therefore, fifty-percent of the subjects within each discipline were surveyed. Several of the disciplines in the population were represented by a very small number of individuals. By surveying 50% of the individuals in each discipline, it was felt that each area of study would be represented proportionately, and, at the same time, full advantage would be taken of the few names that were provided in several of the disciplines.

From each group of names representing the major areas of study, a fixed-interval random sample was drawn until fifty-percent of those names were selected for use in the survey. A total of 276 individuals were selected for use in this study. This sample, broken down by major areas of study, resulted in the following number of individuals representing each area of study:

Music	107	Mathematics	8
HPER	106	Foreign Languages	7
Social Studies	16	Speech Pathology	6
English	18	Speech	8

Once the sample had been determined, questionnaires (See Appendix A), accompanied by an explanatory cover letter (See Appendix B) and return stamped, addressed envelope were mailed to each individual within the sample group.

STATISTIC ANALYSIS

The responses on the surveys returned were recorded in preparation for computer analysis. Standard frequency analyses were employed with the data to obtain results and, therefore, draw conclusions.

SUMMARY

This chapter reviewed the problem of teachers not using media at all or using it improperly and how a media training course at the pre-service level, such as the one offered at Ithaca College by the Educational Communications Department might solve this problem. A questionnaire was developed to determine the nature and extent of media training Ithaca College graduates who have taught or are teaching received, and how such training has affected their use of media in their classrooms.

The population for this study consisted of Ithaca College graduates who graduated between 1970 and 1975 with teaching certification and who have taught or are teaching.

A sample group was randomly selected from the population so that each major area of study was represented proportionately within the sample group.

The questionnaire developed for this study was sent to each individual within the sample group.

The data resulting from the questionnaires returned was subjected to standard frequency analyses in order to obtain results and draw conclusions.

CHAPTER FOUR

RESULTS OF ANALYSIS OF DATA

The data resulting from questionnaires returned from individuals within the sample is organized and reported in this chapter. This study has attempted to determine the nature and extent of media training respondents received at the pre-service level and how such training relates to/affects their use of media in their classrooms.

The results are organized into four areas:

- I. Training received at the pre-service level in the operation and application of media equipment.
- II. Training received at the pre-service level in media concepts.
- III. Availability of equipment, frequency of use, and reasons for limited use.
- IV. In-service training available and respondent's opinions of the value of media training they received at the pre-service level and the value of media training generally.

Only 104 questionnaires were returned, therefore, results are reported in general terms (See Appendices Ca, Da, Ea, and F). Data from specific disciplines are not always individually reported, but were used to highlight and/or support conclusions drawn from the general results. A complete breakdown of data by disciplines is available in Appendices Cb-i, Db-i, Eb-i, and F.

Due to the small number of respondents in all disciplines, with the exceptions of HPER and Music, that data was used only as a support of trends noted and conclusions drawn from the data for the entire population. The extremely small number of respondents in those disciplines invalidated any conclusions that might have been made.

In some cases, respondents marked more than one course choice on the questionnaire, therefore, the writer had to create a fourth choice which is represented in data results, but not on the questionnaire (4 category on data analysts represents multiple course choice responses).

On the questionnaire some respondents indicated that "Other" equipment was available to them and they did use it. Other equipment specifically mentioned included Display Boards, IBM and Xerox Copiers, Microfilm Readers/Printers, Audio Recorders (reel and cassette), and Ditto Machines.

RESULTS - SECTION I

Training Received at Pre-Service Level in Operation and Application of Media Equipment

A large percentage of respondents did not study either the operation or application of the equipment. Eighty-three percent did not study the operation of equipment and 64% did not study the application of equipment mentioned.

Twenty-five percent of the respondents studied the operation of the Overhead Projector and 44% studied it's application in education making it the most popularly studied piece of audio-visual equipment.

The three least studied instructional media were the Video Tape Recorder (9% studied), the Dry Mount Press (3% studied) and Lettering Techniques (4% studied).

In all cases, the application of the equipment in education was studied to a greater degree than the actual operation of the same equipment. For example, only 25% studied the operation of the Overhead Projector while 41% studied the applications.

If the equipment operation was studied, it was done more often in methods courses than media or other courses.

Music majors reported the lowest percentage who studied the operation of equipment as compared to HPER majors. Several disciplines (English and Speech Pathology) reported never studying either the application or operation of any of the media equipment mentioned.

(See Appendix C for complete breakdown of results by
1) sample as a whole and 2) sample by discipline)

RESULTS - SECTION II

Training Received at Pre-Service Level in Media Concepts

Most media concepts were not studied a meaningful amount with the exception of Behavioral Objectives. Seventy-one percent of all participants responded that they had studied Behavioral Objectives. Of that, 44% reported this concept was studied in a methods course.

Of those indicating that media concepts were studied, a large percentage indicated that such material was covered in a methods course, i.e., Self-Instructional Programs were studied by 2% in a media course while 23% studied this concept in a methods course.

Self-Instructional Programs were studied by 39% of the sample group, making it the second most studied concept followed by Systems Approach (20%) and Communications Model (11%).

Visual Literacy was studied the least as indicated by only 8% of the sample reporting familiarity with it.

(See Appendix D for complete breakdown of results by
1) sample as a whole and 2) sample by discipline)

RESULTS - SECTION III

Equipment Availability, Usage Frequency, and Reasons for Limited Use

In most cases, over 60% of the respondents indicated that the equipment specifically mentioned in the survey is available in their schools. Exceptions were the Dry Mount Press and lettering materials which were available to approximately 37% of the sample. Data indicates that 16mm Projectors (92%) and Filmstrip/Slide Projectors (93%) were most often available.

Data indicated that the piece of equipment most often used was the Thermal Copier (49%). Equipment cited as next most popularly used were the Filmstrip/Slide Projector (22%) and the 16mm Projector (20%).

The piece of equipment least used was the Opaque Projector with 44% responding they never use it. Next were Overhead Projectors and 8mm Loop Projectors with 35% and 31%, respectively, reporting they never used those items.

The most often cited reasons for limited usage were lack of training, lack of time, and lack of interest. Lack of training was cited as the main reason for limited use of the Video Tape Recorder, Dry Mount Press and Lettering Techniques.

Music majors marked "Never" on their usage rates, the highest percentage as compared with other disciplines.

(See Appendix E for complete breakdown of results by
1) sample as a whole and 2) sample by discipline)

RESULTS - SECTION IV

In-Service Training and Opinions Regarding Value of Media Training
Actually Received and Media Training Generally

The number of respondents indicating that in-service media training was available to them (48%) approximately equals those indicating they did not have such training (47%).

Within disciplines, more in-service workshops were provided for HPER teachers (54%) than for Music teachers (34%).

Fifty-three percent responded "Does Not Apply" to the question regarding the value of the media training they actually received at the pre-service level. Of those that responded they had received training in media at the pre-service level, 28% felt it was valuable as compared to 15% that felt it was not valuable.

Of all disciplines, HPER was the largest group responding that they had media training at the undergraduate level. HPER was also the largest group giving a positive response regarding the value of that media training received at the pre-service level with 49% responding that it was valuable, 15% responding it was of no value, and 34% reporting that the question did not apply to them.

Respondents indicated overwhelmingly (93%) that media training would be a valuable addition in the pre-service teacher education curriculum.

(See Appendix F for complete breakdown of results by
1) sample as a whole and 2) sample by discipline)

SUMMARY

Based on the analysis of the gathered data, it was clear that a majority of respondents did not study either the operation or application of the media equipment or media concepts specifically mentioned in the questionnaire. Of those indicating that these particular competencies were taught, a large percentage indicated they were taught in traditional methods courses.

With the exception of the Dry Mount Press and Lettering materials, all equipment surveyed was available in the schools of over 50% of those surveyed.

The number of respondents indicating in-service media workshops were made available for them approximately equals those indicating such in-service training was not available.

Responses regarding the value of media training actually received and the value of media training at the pre-service level in general were overwhelmingly in favor of such training.

CHAPTER FIVE

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

This study attempted to discover the nature and extent of media training at the pre-service level received by teachers who graduated from Ithaca College and how that training or lack of training affects their methods of teaching; specifically, if and how they use media in the classroom.

Specific questions this research attempted to answer were:

1. How much training, if any, did teachers surveyed receive at the pre-service level in the preparation, operation, and application of audiovisual equipment and materials?
2. Are teachers aware of critical media concepts and how such knowledge may improve the effectiveness of their instruction?
3. What equipment is available in schools and how often is it used by teachers? What are the reasons for limited use of audiovisual equipment?
4. Is media training, in any form, given in other courses at Ithaca College other than those offered by the Department of Educational Communications?
5. Regardless of the discipline, do teachers use audiovisual equipment, and therefore, need training in how to use these materials effectively?
6. Are any in-service workshops available to teachers through their schools/districts?
7. How do teachers view media training generally and it's value at the pre-service level?

A sample of Ithaca College graduates meeting specific criteria were sent a questionnaire exploring their pre-service training in specific media competency areas, those areas being based on the content of the existing pre-service media course offered at Ithaca College.

Results from the 104 questionnaires returned indicated that pre-service training does have a positive bearing on teachers' use of available media equipment. Therefore, media training should be included in the pre-service curriculum of teacher training institutions.

At Ithaca College specifically, there appears to be tremendous inconsistencies among disciplines in the teacher education courses. To institute an effective media training program, it appears to this researcher that a cooperative planning effort would be required among the various departments offering teaching certificates and the Department of Educational Communications offering a media course.

CONCLUSIONS

This study has sought to answer seven questions which may be of concern to institutions offering undergraduate teacher certification programs. These questions were:

1. How much training did teachers surveyed receive in the preparation, operation, and application of AV equipment and materials?
2. Are teachers aware of the critical media concepts and how those concepts apply to their teaching?
3. What equipment is available in the schools and how often is it used? What are the reasons for limited use of available AV equipment.

4. Is media training offered to teacher candidates in any other courses at Ithaca College?
5. Do all teachers use audiovisual equipment, regardless of their specific subject area, and therefore, need training in how to use media?
6. Are in-service workshops available to teachers who lack media skills?
7. How do teachers perceive the value of media training?

These questions were asked in a questionnaire consisting of four main areas. The four areas are: I) Training received at the pre-service level in the operation and application of equipment, II) Training received at the pre-service level in media concepts, III) Equipment available, the frequency of use, and reasons for limited use, and IV) Availability of in-service media training and opinions regarding the value of media training. The evidence gathered and the conclusions drawn are organized into these four main areas of interest.

CONCLUSIONS - SECTION I

Training Received at Pre-Service Level Operation and Application of
Media Equipment

A majority of respondents did not study either the operation or application of audiovisual equipment indicating that such skills should be included in the pre-service education curriculum or required in a separate media course.

Some information regarding equipment operation and application was covered somewhere in the pre-service education curriculum (usually methods courses) but there appeared to be no consistent pattern in acquiring such skills. The Overhead Projector and Filmstrip/Slide Projectors were the most widely studied equipment, possibly because instructors use that equipment in their own instruction and therefore, students were exposed to their operation and uses vicariously.

The knowledge of the application of equipment was covered to a higher degree than the operation. This is inconsistent and undesirable since knowing how to operate a machine is as vital as knowing how to apply/use the machine in teaching. Many individuals feel intimidated by machines and will not use them, even though they have a general idea of how they work. Teaching both the application and actual operation of hardware (with a hands-on approach) may resolve this problem to a certain degree.

If equipment operation and application was covered, it was done in various methods courses. Such training could be made more consistent by requiring a specific media course whereby experts in the media field could teach media skills in more depth and with greater accuracy and consistency. To do this at Ithaca College, would probably require

a cooperative planning effort between various departments offering methods courses and the Educational Communications Department.

Of all the disciplines surveyed, a greater percentage of HPER majors learned of audiovisual hardware operation and applications. This could be explained by the fact that HPER majors are strongly urged to take the media course offered at Ithaca College. Most HPER majors, however, indicated the source of media training were methods courses, not a media course. Perhaps this was because HPER majors viewed the media course as a methods course.

Data from HPER teachers surveyed indicated that audiovisual devices that lend themselves in particular to their area of concern (psycho-motor skills) were not emphasized. Perhaps more emphasis should be made on the value of these devices for HPER majors in particular.

CONCLUSIONS - SECTION II

Training Received at Pre-Service Level in Media Concepts

Behavioral Objectives were the most widely studied media concepts in methods courses. This indicated that teacher education courses within individual departments recognize the value of Behavioral Objectives in teaching. The researcher feels that, in addition to Behavioral Objectives, all the other concepts mentioned are basic to teaching in general, as well as being particularly pertinent to media-use. Therefore, those concepts should be included somewhere in the pre-service teacher education courses. Proper use of media would be better facilitated if these concepts were included in teacher education curricula.

Visual Literacy was indicated to be the least studied concept. This is probably due to the fact that it is a relatively new concept and has not yet been incorporated into the established pre-service curricula. It's importance in education in general, as well as media use in particular, is obvious and therefore should be included.

CONCLUSIONS - SECTION III

Equipment Availability, Usage Frequency, and Reasons for Limited Use

The basic assumption of this research, which was that equipment specifically mentioned in the survey was widely available, was confirmed.

The Thermal Copier was indicated to have the highest rate of usage. Perhaps this is due to the multi-faceted nature of the machine; a copier and transparency and spirit master. 16mm and Filmstrip/Slide Projectors were the next most popularly used. This could be due to the fact that they are very familiar machines and large amounts of accompanying software are available in schools to use in conjunction with them.

The Opaque Projector was indicated to be the least used piece of equipment. This particular machine has been available for many years, and therefore, many teachers may view it as old-fashioned and archaic. The researcher feels it is important that teachers be taught or reminded of the tremendous utility of this particular machine.

Lack of training, time and interest were the most often cited reasons for limited use of audiovisual equipment. This researcher feels all these reasons are interrelated. If properly trained in media, teachers would be interested in the valuable assistance media could give them in their teaching and would realize that the time involved in using media would, in the long run, save them a tremendous amount of time.

It would be expected that HPER, being a field where psycho-motor skills are emphasized, would report a high rate of usage of the audiovisual devices that lend themselves to those skills. The data indicates that this is not true. Perhaps such devices and their

advantages in this particular field should be emphasized for HPER teachers.

Music teachers indicate they use media devices the least. Lack of training and materials are cited most times as the reasons for limited use, not lack of interest. This indicates that Music teachers may be more interested in learning how to use media in music education than the Music Department at Ithaca College realizes.

Videotape Recorders were available to a high percentage (71%) of individuals, but a large proportion (59%) report that they use it very little. Twenty-six percent cited lack of training as the reason. These figures are indicative of the tremendous investment schools have made in costly equipment with no complementary training for teachers in how to use it.

CONCLUSIONS - SECTION IV

In-Service Training and Opinions Regarding Value of Media Training Actually Received and Media Training Generally

In-service workshops were given in about half the respondents' schools, with HPER majors reporting the highest degree of participation. This data is indicative that schools are recognizing the benefit of audiovisual aids in learning, especially psycho-motor skills.

Fifty-three percent responding "Does Not Apply" to the question regarding the value of media training given/received at the pre-service level indicated that 53% did not have any media training at all. Of those that did indicate they had media training, 28% reported it was valuable, as compared to 15% that felt it was not valuable, thus confirming the idea proposed in this thesis that media training would be helpful to teachers.

Forty-nine percent of the HPER majors responded that the media training they received was valuable, making it the discipline with the highest percentage of positive responses to that question. This could be due to the fact the HPER majors are strongly urged to take the media course offered, but it also confirms the idea that the media course they took had been valuable in their teaching careers in that field.

The high percentage of respondents reporting that media training would be valuable at the pre-service level is indicative that once a teacher trainee begins actually teaching, the need for media skills becomes apparent and possessing those skills is recognized as an asset and a valuable skill.

GENERALIZATION OF THE RESULTS

There should be more emphasis given to media training in all disciplines, not just those traditionally thought of as most applicable to media use. The apparent lack of interest of many of those individuals from fields other than HPER might be resolved by emphasizing the particular advantages and uses of media possible in that particular subject area.

The importance in education of all media equipment and concepts mentioned, with the exception of Behavioral Objectives, need to be covered in more depth in pre-service education programs within all disciplines at Ithaca College.

When data from Sections I and II are compared, it becomes apparent that there is a wide discrepancy between the equipment that is available and the training that is received in how such equipment should be used.

Respondents indicate that they recognize the need for, and the desirability of, media training at the pre-service level so as to enhance their teaching skills and performance.

A cooperative effort is needed at Ithaca College between departments offering teacher certification to erase the inconsistencies in the pre-service curriculum they each offer. Particularly in the case of media training, a cooperative effort would ensure that teacher candidates would learn how to use media properly and how to use it in their area of specialization. The Educational Communications Department could teach the basic operation and application of equipment, while the education courses in each discipline could be responsible for demonstrating the specific applications of the media equipment in that field of study.

SUGGESTIONS FOR FUTURE RESEARCH

1. Develop a course-model for use at Ithaca College whereby all candidates for teaching certification from the various departments could participate in a media course.
2. Investigate non-teaching graduates from Ithaca College in various fields regarding their use of media in their diverse range of jobs. Perhaps there are other disciplines whose students could benefit from media training in their professional careers.
3. Survey teachers as to specific knowledge they possess about particular pieces of equipment to discover what specific skills should/should not be taught in a media course for teachers.
4. Compare various media course formats to discover which method is most effective, i.e., lecture only vs. hands-on/competency-based method vs. combination of lecture and hands-on.
5. Repeat this study in other higher educational institutions that are similar to Ithaca College in their pre-service teacher education curriculum to discover if results are the same thus confirming the validity/reliability of conclusions made in this study.

SUMMARY

This study has attempted to determine the extent and nature of pre-service media training given at Ithaca College for teacher certification candidates and how such training has affected their present

teaching methods, specifically, how they use available audiovisual equipment in their classrooms.

A sample of 276 individuals were chosen randomly from a population meeting specific criteria developed by the researcher. A questionnaire based on the content of the media course presently offered at Ithaca College was sent to each individual. One hundred and four questionnaires were returned to the researcher. The resulting data was subjected to standard frequency analyses.

The following conclusions were drawn; media training should be required in all disciplines offering teacher certification at Ithaca College. The importance of media concepts and equipment in education should be given more emphasis in teacher education curricula. There is a wide discrepancy between available equipment and the training teachers receive in how to operate that equipment. Respondents indicated a need for media training and the desirability of such training in order to upgrade their teaching skills and performance.

APPENDIX A
QUESTIONNAIRE

1. What was your major at Ithaca College? _____
2. What year did you graduate from Ithaca College? _____
3. Have you ever taught or are you currently teaching?
(Either part-time or full-time) YES NO
- a. If YES, what was the teaching area and level? AREA _____
- LEVEL _____
4. In your undergraduate courses, did you ever receive training
in the following audiovisual equipment in terms of the operation
of and potential utilization of this equipment in education?
(Please circle the appropriate answers)

	<u>HOW TO OPERATE</u>		<u>APPLICATION IN EDUCATION</u>		<i>Media/AV Course</i>	<i>Methods Course</i>	<i>Other</i> _____
	Yes	No	Yes	No	1	2	3
16mm Projector	Yes	No	Yes	No	1	2	3
Filmstrip/Slide Projector	Yes	No	Yes	No	1	2	3
8mm Loop Projector	Yes	No	Yes	No	1	2	3
Portable Videotape Unit	Yes	No	Yes	No	1	2	3
Overhead Projector	Yes	No	Yes	No	1	2	3
Opaque Projector	Yes	No	Yes	No	1	2	3
Thermal Copier	Yes	No	Yes	No	1	2	3
Dry Mount Press	Yes	No	Yes	No	1	2	3
Lettering Techniques/Materials	Yes	No	Yes	No	1	2	3
Other _____	Yes	No	Yes	No	1	2	3

5. In your undergraduate courses, did you ever study the following
concepts and their applications in learning?
(Please circle the appropriate answer)

	Yes	No	<i>Media/AV Course</i>	<i>Methods Course</i>	<i>Other</i> _____
	Yes	No	1	2	3
Communications Model	Yes	No	1	2	3
Visual Literacy	Yes	No	1	2	3
Behavioral Objectives	Yes	No	1	2	3
Systems Approach to Instruction	Yes	No	1	2	3
Self-Instructional Programs	Yes	No	1	2	3

- i.e., Programmed Learning
Slide/Tape Presentations
Filmstrip/Tape Presentations

6. In your current or past instructional situation, is the following equipment available for you to use and how often do you use it? If you DO NOT use the particular piece of equipment, why? (More than one answer is acceptable)

(Please circle the appropriate answer(s))

	<u>AVAILABLE</u>		<u>FREQUENCY OF USE</u>			<u>REASON(S) FOR LIMITED/NO USE</u>					
	Yes	No	1	2	3	1	2	3	4	5	6
16mm Projector	Yes	No	1	2	3	1	2	3	4	5	6
Filmstrip/Slide Proj.	Yes	No	1	2	3	1	2	3	4	5	6
8mm Loop Projector	Yes	No	1	2	3	1	2	3	4	5	6
Portable Videotape Unit	Yes	No	1	2	3	1	2	3	4	5	6
Overhead Projector	Yes	No	1	2	3	1	2	3	4	5	6
Opaque Projector	Yes	No	1	2	3	1	2	3	4	5	6
Thermal Copier	Yes	No	1	2	3	1	2	3	4	5	6
Dry Mount Press	Yes	No	1	2	3	1	2	3	4	5	6
Lettering Tech./Materials	Yes	No	1	2	3	1	2	3	4	5	6
Other _____	Yes	No	1	2	3	1	2	3	4	5	6

Never
 Once Month or Less
 More Than Once a Month
 Lack of Training
 Lack of Time
 Lack of Materials
 No Interest
 Hassle
 Other

(Please circle the appropriate answers to following questions 7-9)

7. Does your school/district conduct in-service training workshops for media-use in education? Yes No
8. Did you find media-use courses at the undergraduate level valuable in your present teaching situation? Yes No
DOES NOT APPLY
9. Do you feel undergraduate media training would be a valuable part of the teacher education curriculum? Yes No

I would like to see the results of this survey as soon as they are available.

NAME _____

ADDRESS _____

APPENDIX B
COVER LETTER

ITHACA COLLEGE

Ithaca, New York 14850

TELEPHONE (607) 274-3214

SCHOOL OF COMMUNICATIONS

Dear Graduate:

My name is Marcia Faye Alexander. I am a graduate student in the Educational Communications program at Ithaca College. As part of the requirements for my Master's degree, I am taking a survey of Ithaca College graduates with teaching certification who have taught or are presently teaching.

The purposes of this project are:

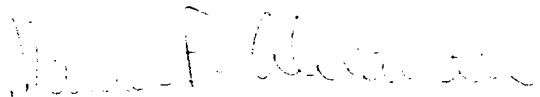
- 1) to analyze the nature of pre-service training Ithaca College graduates received in the use of audiovisual hardware and software and educational technology in general.
- 2) to analyze what Ithaca College graduates' media-related needs currently are, now that they are teaching and working in an actual instructional situation.

I would very much appreciate your taking a few minutes to complete the enclosed questionnaire. I've also enclosed a stamped, addressed envelope for your convenience in returning the completed form to me. In the interest of time, I ask that you complete this form and return it to me within one week. If, however, more than a week does pass, please return the questionnaire anyway.

If you would like to know the results of this survey, please indicate so at the bottom of the questionnaire and I will be happy to send the results to you as soon as they are available.

Thank you for your help and cooperation.

Sincerely,



Marcia Faye Alexander

APPENDIX C

SECTION I

APPENDIX Ca

SECTION I

General Results	How To Operate		Application in Education		Course ***			
	Yes	No	Yes	No	1	2	3	4
n = 104								
16mm Projector	17 (18)	83 (86)	35 (36)	64 (67)	2 (2)	25 (26)	2 (2)	1 -
Film/Slide Proj.	20 (21)	79 (82)*	40 (42)	58 (60)	2 (2)	31 (32)	3 (3)	1 (1)
8mm Projector	12 (12)	89 (92)	24 (25)	75 (78)	1 (1)	16 (17)	2 (2)	- -
Video Recorder	9 (9)	91 (95)	25 (26)	75 (78)	1 (1)	12 (12)	5 (5)	- -
Overhead Proj	25 (26)	75 (78)	41 (42)	59 (61)	2 (2)	28 (29)	3 (3)	2 (2)
Opaque Projector	18 (19)	82 (85)	29 (30)	71 (74)	1 (1)	20 (21)	2 (2)	1 (1)
Thermal Copies	10 (10)	90 (94)	19 (20)	81 (84)	- -	9 (9)	1 (1)	1 (1)
Dry Mount Press	3 (3)	97 (101)	7 (7)	93 (97)	1 (1)	3 (3)	- -	- -
Lettering Tech.	4 (4)	96 (100)	8 (8)	92 (96)	1 (1)	2 (2)	- -	- -
Other	2 (2)	11 (11)	2 (2)	11 (11)	1 (1)	1 (1)	- -	- -

*NOTE: Discrepancies in percentages in data analysis due to individuals who answered questionnaires incompletely or incorrectly.

** () - indicates actual number of individuals.

***Courses - 1 = Media Course 3 = Other Course
 2 = Methods Course 4 = Combination of Courses

APPENDIX Cb

SECTION I

HPER	How To Operate		Application in Education		Course			
	Yes	No	Yes	No	1	2	3	4
n = 41								
16mm Proj	39 (16)	61 (25)	54 (22)	44 (18)	2 (1)	16 (19)	5 (2)	-
Film/Slide Proj	37 (15)	61 (25)	54 (22)	42 (17)	2 (1)	46 (19)	7 (3)	-
8mm Projector	29 (12)	71 (29)	49 (20)	49 (20)	2 (1)	39 (16)	5 (2)	
Video Recorder	15 (6)	85 (35)	37 (16)	63 (26)	-	17 (7)	12 (5)	-
Overhead Proj.	35 (14)	66 (27)	49 (20)	49 (20)	2 (1)	39 (16)	7 (3)	-
Opaque Projector	24 (10)	76 (31)	27 (11)	73 (30)	-	24 (10)	5 (2)	-
Thermal Copier	5 (2)	95 (39)	15 (6)	85 (35)	-	5 (2)	2 (1)	-
Dry Mount Press	2 (1)	98 (40)	5 (2)	95 (39)	2 (1)	-	-	-
Lettering Tech	5 (2)	95 (39)	7 (3)	93 (38)	2 (1)	2 (1)	-	-
Other	2 (1)	12 (5)	2 (1)	12 (5)	2 (1)	-	-	-

APPENDIX Cc

SECTION I

Music	How To Operate		Application in Education		Course			
	Yes	No	Yes	No	1	2	3	4
n = 41								
16mm Proj.	2 (1)	98 (40)	22 (9)	78 (32)	2 (1)	15 (6)	-	-
Film/Slide Proj.	7 (3)	93 (38)	32 (13)	68 (28)	2 (1)	24 (10)	-	-
8mm Projector	-	100 (41)	7 (3)	93 (38)	-	2 (1)	-	-
Video Recorder	7 (3)	93 (38)	24 (10)	76 (31)	2 (1)	12 (5)	-	-
Overhead Proj.	15 (6)	85 (35)	32 (13)	68 (28)	2 (1)	20 (8)	-	-
Opaque Projector	15 (6)	85 (35)	34 (14)	66 (27)	2 (1)	20 (8)	-	-
Thermal Copier	7 (3)	93 (38)	15 (6)	85 (35)	-	7 (3)	-	-
Dry Mount Press	-	100 (41)	5 (2)	95 (39)	-	-	-	-
Lettering Tech.	2 (1)	98 (40)	7 (3)	93 (38)	-	-	-	-
Other	2 (1)	10 (4)	2 (1)	10 (4)	-	2 (1)	-	-

APPENDIX Cd

SECTION I

Social Studies	How to Operate		Application in Education		Course			
	Yes	No	Yes	No	1	2	3	4
n = 5								
16mm Proj	20 (1)	80 (4)	20 (1)	80 (4)	- -	20 (1)	- -	- -
Film/Slide Proj.	20 (1)	80 (4)	40 (2)	60 (3)	- -	20 -	- -	- -
8mm Projector	- -	100 (5)	- -	100 (5)	- -	- -	- -	- -
Video Recorder	- -	100 (5)	- -	100 (5)	- -	- -	- -	- -
Overhead Proj.	20 (1)	80 (4)	40 (2)	60 (3)	60 (3)	20 (1)	20 (1)	- -
Opaque Projector	20 (1)	80 (4)	40 (2)	60 (3)	- -	20 (1)	- -	- -
Thermal Copier	- -	100 (5)	20 (1)	80 (4)	- -	20 (1)	- -	- -
Dry Mount Press	- -	100 (5)	20 (1)	80 (4)	- -	20 (1)	- -	- -
Lettering Tech.	- -	- -	100 (5)	- -	100 (5)	- -	- -	- -
Other	- -	- -	20 (1)	- -	20 (1)	- -	- -	- -

APPENDIX Ce

SECTION I

English	How to Operate		Application in Education		Course			
	Yes	No	Yes	No	1	2	3	4
n = 5								
16mm Proj.	-	100 (5)	-	100 (5)	-	-	-	-
Film/Slide Proj.	-	100 (5)	-	100 (5)	-	-	-	-
8mm Projector	-	100 (5)	-	100 (5)	-	-	-	-
Video Recorder	-	100 (5)	-	100 (5)	-	-	-	-
Overhead Proj.	-	100 (5)	-	100 (5)	-	-	-	-
Opaque Projector	-	100 (5)	-	100 (5)	-	-	-	-
Thermal Copier	-	100 (5)	-	100 (5)	-	-	-	-
Dry Mount Press	-	100 (5)	-	100 (5)	-	-	-	-
Lettering Tech.	-	100 (5)	-	100 (5)	-	-	-	-
Other	-	100 (5)	-	100 (5)	-	-	-	-

APPENDIX Cf

SECTION I

Mathematics	How to Operate		Application in Education		Course			
	Yes	No	Yes	No	1	2	3	4
n = 4								
16mm Proj.	- (-)	100 (4)	25 (1)	75 (3)	- (-)	- (-)	- (-)	- (-)
Film/Slide Proj.	25 (1)	75 (3)	25 (1)	75 (3)	- (-)	25 (1)	- (-)	- (-)
8mm Projector	- (-)	100 (4)	- (-)	100 (4)	- (-)	- (-)	- (-)	- (-)
Video Recorder	- (-)	100 (4)	- (-)	100 (4)	- (-)	- (-)	- (-)	- (-)
Overhead Proj.	- (-)	100 (4)	- (-)	100 (4)	- (-)	- (-)	- (-)	- (-)
Opaque Projector	50 (2)	50 (2)	50 (2)	50 (2)	- (-)	50 (2)	- (-)	- (-)
Thermal Copier	75 (3)	25 (1)	- (-)	100 (4)	- (-)	75 (3)	- (-)	- (-)
Dry Mount Press	50 (2)	50 (2)	50 (2)	50 (2)	- (-)	50 (2)	- (-)	- (-)
Lettering Tech.	25 (1)	75 (3)	25 (1)	75 (3)	- (-)	25 (1)	- (-)	- (-)
Other	- (-)	100 (4)	- (-)	100 (4)	- (-)	- (-)	- (-)	- (-)

APPENDIX Cg

SECTION I

Foreign Languages	How to Operate		Application in Education		Course			
	Yes	No	Yes	No	1	2	3	4
n = 4								
16mm Proj.	- -	100 (4)	75 (3)	25 (1)	- -	- -	- -	25 (1)
Film/Slide Proj.	- -	100 (4)	75 (3)	25 (1)	- -	- -	- -	25 (1)
8mm Projector	- -	100 (4)	50 (2)	50 (2)	- -	- -	- -	- -
Video Recorder	- -	100 (4)	25 (1)	75 (3)	- -	- -	- -	- -
Overhead Proj.	- -	100 (4)	50 (2)	50 (2)	- -	- -	- -	25 (1)
Opaque Projector	- -	100 (4)	25 (1)	75 (3)	- -	- -	- -	25 (1)
Thermal Copier	25 (1)	75 (3)	50 (2)	50 (2)	- -	- -	- -	- -
Dry Mount Press	- -	100 (4)	- -	100 (4)	- -	- -	- -	- -
Lettering Tech.	- -	100 (4)	25 (1)	75 (3)	- -	- -	- -	- -
Other	- -	100 (4)	- -	100 (4)	- -	- -	- -	- -

APPENDIX Ch

SECTION I

Speech Pathology	How to Operate		Application in Education		Course			
	Yes	No	Yes	No	1	2	3	4
n = 2								
16mm Proj.	-	100 (2)	-	100 (2)	-	-	-	-
Film/Slide Proj.	-	100 (2)	-	100 (2)	-	-	-	-
8mm Projector	-	100 (2)	-	100 (2)	-	-	-	-
Video Recorder	-	100 (2)	-	100 (2)	-	-	-	-
Overhead Proj.	-	100 (2)	-	100 (2)	-	-	-	-
Opaque Projector	-	100 (2)	-	100 (2)	-	-	-	-
Thermal Copier	-	100 (2)	-	100 (2)	-	-	-	-
Dry Mount Press	-	100 (2)	-	100 (2)	-	-	-	-
Lettering Tech.	-	100 (2)	-	100 (2)	-	-	-	-
Other	-	100 (2)	-	100 (2)	-	-	-	-

APPENDIX Ci

SECTION I

Speech	How to Operate		Application in Education		Course			
	Yes	No	Yes	No	1	2	3	4
n = 2								
16mm Proj.	- (2)	100 (2)	0 (2)	100 (2)	-	-	-	-
Film/Slide Proj.	50 (1)	50 (1)	50 (1)	50 (1)	-	50 (1)	-	-
8mm Projector	- (2)	100 (2)	- (2)	100 (2)	-	-	-	-
Video Recorder	- (2)	100 (2)	- (2)	100 (2)	-	-	-	-
Overhead Proj.	50 (1)	50 (1)	50 (1)	50 (1)	-	-	-	50 (1)
Opaque Projector	- (2)	100 (2)	- (2)	100 (2)	-	-	-	-
Thermal Copier	50 (1)	50 (1)	50 (1)	50 (1)	-	-	-	50 (1)
Dry Mount Pres	- (2)	100 (2)	- (2)	100 (2)	-	-	-	-
Lettering Tech.	- (2)	100 (2)	- (2)	100 (2)	-	-	-	-
Other	50 (1)	50 (1)	50 (1)	50 (1)	-	-	-	-

APPENDIX D

SECTION II

APPENDIX Da

SECTION II

General

n = 104

	Did You Study?		Course ***			
	Yes	No	1	2	3	4
Communications Model	11 (11)	89 (93)	1 (1)	7 (7)	- -	- -
Visual Literacy	8 (8)	91 (95)*	1 (1)	6 (6)	- -	- -
Behavioral Objectives	71 (74)	28 (29)	- -	44 (46)	14 (15)	1 (1)
Systems Approach	20 (21)	80 (83)	- -	14 (14)	4 (4)	- -
Self-Instructional Programs	39 (41)	60 (62)	2 (2)	23 (24)	10 (10)	- -

*NOTE: Discrepancies in percentages in data analysis due to individuals who answered questions incompletely or incorrectly.

** () - Indicates actual number of individuals.

***Courses - 1 = Media Course 3 = Other Course
 2 = Methods Course 4 = Combination of Courses

APPENDIX Db

SECTION II

HPER

n = 41

	Did You Study?		Course			
	Yes	No	1	2	3	4
Communications Model	7 (3)	93 (38)	- -	5 (2)	- -	- -
Visual Literacy	5 (2)	93 (38)	- -	2 (1)	- -	- -
Behavioral Objectives	71 (29)	27 (11)	- -	44 (18)	7 (3)	- -
Systems Approach	10 (4)	90 (37)	- -	5 (2)	- -	- -
Self-Instructional Programs	32 (13)	68 (28)	2 (1)	15 (6)	7 (3)	- -

APPENDIX Dc

SECTION II

Music

n = 41

	Did You Study?		Course			
	Yes	No	1	2	3	4
Communications Model	7 (3)	93 (38)	- -	5 (2)	- -	- -
Visual Literacy	7 (3)	93 (38)	- -	7 (3)	- -	- -
Behavioral Objectives	71 (29)	29 (12)	- -	46 (19)	20 (8)	- -
Systems Approach	32 (13)	68 (28)	- -	20 (8)	10 (4)	- -
Self-Instructional Programs	46 (19)	51 (21)	- -	32 (13)	12 (5)	- -

APPENDIX Dd

SECTION II

Social Studies

n - 5

	Did You Study?		Course			
	Yes	No	1	2	3	4
Communications Model	-	100	-	-	-	-
	-	(5)	-	-	-	-
Visual Literacy	-	100	-	-	-	-
	-	(5)	-	-	-	-
Behavioral Objectives	60	40	-	20	20	-
	(3)	(2)	-	(1)	(1)	-
Systems Approach	20	80	-	20	-	-
	(1)	(4)	-	(1)	-	-
Self-Instructional Programs	-	100	-	-	-	-
	-	(5)	-	-	-	-

APPENDIX De

SECTION II

English

n = 5

	Did You Study		Course			
	Yes	No	1	2	3	4
Communications Model	20 (1)	80 (4)	20 (1)	-	-	-
Visual Literacy	20 (1)	80 (4)	20 (1)	-	-	-
Behavioral Objectives	40 (2)	60 (3)	-	-	-	20 (1)
Systems Approach	-	100 (5)	-	-	-	-
Self-Instructional Programs	20 (1)	80 (4)	20 (1)	-	-	-

APPENDIX Df

SECTION II

Mathematics

n = 4

	Did You Study?		Course			
	Yes	No	1	2	3	4
Communications	-	100	-	-	-	-
	-	(4)	-	-	-	-
Visual Literacy	-	100	-	-	-	-
	-	(4)	-	-	-	-
Behavioral Objectives	75	25	-	50	25	-
	(3)	(1)	-	(2)	(1)	-
Systems Approach	-	100	-	-	-	-
	-	(4)	-	-	-	-
Self-Instructional Programs	50	50	-	25	-	-
	(2)	(2)	-	(1)	-	-

APPENDIX Dg

SECTION II

Foreign Languages

n = 4

	Did You Study?		Course			
	Yes	No	1	2	3	4
Communications Model	25 (1)	75 (3)	-	25 (1)	-	-
Visual Literacy	25 (1)	75 (3)	-	25 (1)	-	-
Behavioral Objectives	100 (4)	-	-	50 (2)	50 (2)	-
Systems Approach	25 (1)	75 (3)	-	25 (1)	-	-
Self-Instructional Programs	100 (4)	-	-	50 (2)	50 (2)	-

APPENDIX Dh

SECTION II

Speech Pathology

n = 2

	Did You Study?		Course			
	Yes	No	1	2	3	4
Communications Model	50 (1)	50 (1)	- -	50 (1)	- -	- -
Visual Literacy	50 (1)	50 (1)	- -	50 (1)	- -	- -
Behavioral Objectives	100 (2)	- -	- -	100 (2)	- -	- -
Systems Approach	50 (1)	50 (1)	- -	50 (1)	- -	- -
Self-Instructional Programs	50 (1)	50 (1)	- -	50 (1)	- -	- -

APPENDIX Di

SECTION II

Speech

n = 2

	Did You Study?		Course			
	Yes	No	1	2	3	4
Communications Model	100 (2)	- -	- -	50 (1)	- -	- -
Visual Literacy	- -	100 (2)	- -	- -	- -	- -
Behavioral Objectives	100 (2)	- -	- -	100 (2)	- -	- -
Systems Approach	50 (1)	50 (1)	- -	50 (1)	- -	- -
Self-Instructional Programs	50 (1)	50 (1)	- -	50 (1)	- -	- -

APPENDIX E

SECTION III

APPENDIX Ea

SECTION III

General

n = 104

	Availability		Usage Rate ***			Reasons For Limited Use****				
	Yes	No	1	2	3	1	2	3	4	5
16mm Projector	92 (96)	6 (6)*	25 (26)	47 (49)	20 (21)	8 (6)	28 (21)	37 (28)	13 (10)	5 (4)
Film/Slide Proj.	93 (97)	6 (5)	24 (26)	47 (49)	22 (23)	3 (2)	22 (16)	38 (28)	12 (9)	7 (5)
8mm Projector	67 (70)	30 (31)	21 (32)	29 (30)	8 (8)	13 (8)	19 (12)	31 (19)	11 (7)	8 (5)
Video Recorder	71 (74)	27 (28)	29 (30)	30 (31)	12 (12)	26 (16)	26 (16)	16 (10)	11 (7)	13 (8)
Overhead Proj.	88 (91)	11 (11)	35 (36)	34 (35)	17 (18)	3 (2)	23 (16)	15 (11)	24 (17)	13 (9)
Opaque Projector	76 (79)	22 (23)	44 (46)	25 (26)	5 (5)	6 (4)	17 (12)	14 (10)	32 (23)	11 (8)
Thermal Copier	77 (80)	21 (22)	14 (14)	21 (22)	41 (43)	19 (7)	6 (2)	11 (4)	17 (6)	-
Dry Mount Press	38 (39)	58 (60)	26 (27)	8 (8)	3 (3)	31 (11)	9 (3)	11 (4)	23 (8)	3 (1)
Lettering Tech.	37 (38)	57 (59)	21 (22)	7 (7)	6 (6)	31 (9)	7 (2)	7 (2)	21 (6)	-
Other	10 (10)	5 (5)	4 (4)	-	4 (4)	-	-	-	5 (2)	-

*NOTE: Discrepancies in percentages in data analysis due to individuals who answered questions incompletely or incorrectly.

** () - indicates actual number of individuals

***Usage Rates - 1 = Never
2 = Once a month or less
3 = More than once a month

****Limited Use Reasons - 1 = Lack of Training
2 = Lack of Time
3 = Lack of Materials
4 = No Interest
5 = Hassle

APPENDIX Eb

SECTION III

HPER

n = 41

	Availability		Usage Rate			Reasons For Limited Use				
	Yes	No	1	2	3	1	2	3	4	5
16mm Projector	98 (40)	2 (1)	10 (4)	61 (25)	27 (11)	3 (1)	34 (10)	31 (9)	3 (1)	3 (1)
Film/Slide Proj.	95 (39)	5 (2)	27 (11)	54 (22)	15 (6)	3 (1)	18 (6)	39 (13)	6 (2)	3 (1)
8mm Projector	78 (32)	20 (8)	22 (9)	42 (17)	15 (6)	4 (1)	23 (6)	27 (7)	8 (2)	8 (2)
Video Recorder	78 (32)	22 (9)	20 (8)	34 (14)	22 (9)	14 (3)	23 (5)	23 (5)	-	14 (3)
Overhead Proj.	88 (36)	12 (5)	37 (15)	32 (13)	15 (6)	-	21 (6)	25 (7)	21 (6)	7 (2)
Opaque Projector	76 (31)	24 (10)	39 (16)	27 (11)	5 (2)	4 (1)	15 (4)	15 (4)	22 (6)	7 (2)
Thermal Copier	76 (31)	24 (10)	15 (6)	15 (6)	44 (18)	17 (2)	8 (1)	17 (2)	8 (1)	-
Dry Mount Press	42 (17)	54 (22)	29 (12)	7 (3)	2 (1)	33 (5)	7 (1)	13 (2)	2 (3)	-
Lettering Tech.	44 (18)	54 (22)	22 (9)	7 (3)	10 (4)	42 (5)	-	8 (1)	8 (1)	-
Other	10 (4)	10 (4)	2 (1)	-	5 (2)	-	-	-	-	-

APPENDIX Ec

SECTION III

Music

n = 41

	Availability		Usage Rate			Reasons For Limited Use				
	Yes	No	1	2	3	1	2	3	4	5
16mm Projector	88 (36)	12 (5)	46 (19)	32 (13)	10 (4)	6 (2)	19 (6)	41 (3)	22 (7)	6 (2)
Film/Slide Proj.	93 (83)	7 (3)	29 (12)	46 (19)	17 (7)	3 (1)	19 (6)	35 (11)	19 (6)	10 (3)
8mm Projector	54 (22)	46 (19)	42 (17)	10 (4)	2 (1)	14 (3)	14 (3)	33 (7)	24 (5)	10 (2)
Video Recorder	71 (29)	29 (12)	42 (17)	24 (10)	5 (2)	33 (9)	4 (7)	11 (3)	26 (7)	19 (5)
Overhead Proj.	88 (36)	12 (5)	42 (17)	34 (14)	12 (5)	3 (1)	33 (7)	6 (2)	32 (10)	19 (6)
Opaque Projector	76 (31)	24 (10)	49 (20)	22 (9)	5 (2)	3 (1)	24 (7)	14 (4)	38 (11)	17 (5)
Thermal Copier	80 (33)	20 (8)	15 (6)	24 (10)	42 (17)	25 (4)	6 (1)	13 (2)	31 (5)	-
Dry Mount Press	39 (16)	61 (25)	27 (11)	10 (4)	2 (1)	33 (5)	13 (2)	13 (2)	20 (3)	7 (1)
Lettering Tech.	37 (15)	59 (24)	22 (9)	10 (4)	2 (1)	23 (3)	15 (2)	8 (1)	31 (4)	-
Other	12 (5)	2 (1)	7 (3)	-	5 (2)	-	-	-	66 (2)	-

APPENDIX F
SECTION IV

APPENDIX F

SECTION IV

General and Disciplines

	In-Service Workshops		Actual Training U-Grad Level			Media Value U-Grad Level	
	Yes	No	Yes	No	DNA	Yes	No
General (104)	48 (50)	47 (49)*	28 (29)	15 (16)	53 (55)	93 (97)	7 (7)
HPER (41)	54 (22)	39 (16)	49 (20)	15 (6)	34 (14)	98 (40)	2 (1)
Music (41)	34 (14)	63 (26)	10 (4)	17 (7)	68 (28)	93 (38)	7 (3)
Social Studies (5)	60 (3)	20 (1)	20 (1)	- -	80 (4)	80 (4)	20 (1)
English (5)	40 (2)	60 (3)	20 (1)	- -	80 (4)	100 (5)	- -
Mathematics (4)	50 (2)	50 (2)	25 (1)	25 (1)	25 (1)	100 (4)	- -
Foreign Lang. (4)	100 (4)	- -	25 (1)	25 (1)	25 (1)	75 (3)	25 (1)
Speech Path. (2)	100 (2)	- -	- -	- -	100 (2)	50 (1)	50 (1)
Speech (2)	50 (1)	50 (1)	50 (1)	50 (1)	- -	100 (2)	- -

*NOTE: Discrepancies in percentages in data analysis due to individuals who answered questions incompletely or incorrectly.

** () - indicates actual number of individuals

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