DEVELOPING AN IN-SERVICE TRAINING PROGRAM

IN AUDIO-VISUAL AIDS

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THESIS

Presented to the Graduate Council of the North

Texas State Teachers College in Partial

Fulfillment of the Requirements

For the Degree of

MASTER OF ARTS

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158387

Sherman, Texas

August, 1948

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CHAPTER I

INTRODUCTION

Statement of Problem

The purpose of this study is to develop an in-service training program for the teachers of the Sherman Elementary Schools in the use of audio-visual aids and materials as a means toward more effective child growth and development.

In an effort to have a plan of action in the development of such a program, the following objectives are presented as a basis for the program:

1. To acquire an insight into the psychological approach in the use of audio-visual materials.

2. To develop skill in the technique of using audio-visual equipment.

3. To develop skills in the methods of using audio-visual materials effectively.

4. To understand the limitations in the use of audio-visual materials.

5. To develop skills in selecting materials for use in class and to evaluate these materials continuously in terms of their use in class.

6. To suggest possible means of promoting a

continuous in-service training program in the schools.

It was felt that a study of this type is needed in the Sherman Elementary Schools because there are very few teachers who have had any college training in the use of audio-visual materials. Furthermore, there has never been an adequate program presented for teacher understanding of audio-visual aids and materials by the school administration.

Sources of Data

The material presented in this thesis has been obtained from the following sources:

1. Personal interviews and conferences with coordinators and directors of audio-visual education departments of various school systems of similar size to our own.

2. General surveys on a nation wide basis by those interested in making comparative studies of the audio-visual program throughout the country.

3. Conclusions from experimental work by various leaders in the audio-visual field.

4. Reference books in the audio-visual field in both the theoretical and practical phases of audio-visual aids and materials.

5. Articles from current periodicals within

the audio-visual field.

Limitations of the Study

This study is limited in the following manner:

1. The suggested program is applicable to
the five elementary schools of Sherman, Texas.

2. This suggested program is concerned only
with the audio-visual phase of the total in-service
training program of the Sherman Elementary Schools.

3. The suggested program has not been tried
as a whole in any school system.

4. The suggested program omits the mechanics
of operating and maintaining equipment.

Methods of Treating Data

This thesis will be organized according to the follow-
ing plan:

Chapter I consists of an introduction to the study
which includes the definition of the problem and the pro-
cedure employed in carrying it to a conclusion.

Chapter II presents a survey of audio-visual prac-
tices which shows an educational need for audio-visual aids
and materials, which shows a need for a continuous, general
in-service training program, and which points specifically
to a need for an in-service training program in the effec-
tive utilization of audio-visual aids and materials. The
chapter also includes a survey of audio-visual practices

in an in-service training program as conducted by various
school systems of comparable size to Sherman, Texas.

Chapter III presents a survey of the audio-visual
education program as it is at the present time in Sherman,
Texas, and a comparative study of audio-visual education
programs in other cities of comparable size throughout
the country.

Chapter IV consists of factors to be considered in
the organization and promotion of an audio-visual in-service
training program based on suggestions made by various autho-
rities in the field and by coordinators and directors of
audio-visual education departments.

Chapter V includes conclusions and specific recommen-
dations which are outgrowths of this study.

CHAPTER II

SURVEY OF AUDIO-VISUAL PRACTICES

This chapter is three fold in purpose. First, it shows the need for audio-visual aids as an effective teaching device. Second, it indicates the need for an in-service training program in visual aids. Third, it presents current practices in schools of comparable size to Sherman, Texas.

Need for Audio-Visual Aids

Audio-visual materials in various forms, i.e. blackboards, flat pictures, maps and drawings, have been available for use in the classroom for many years; however, it is to be noted, from various surveys,[1] how little has been done in the past and how little is being done at the present to explore, to the fullest extent, the valuable contributions that may be received by children from the use of audio-visual materials.

Evidence presented by various experiments in the educational field shows the greatest gains in learning, retention and economy of time was accomplished when audio-visual materials are used as one of the techniques of

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[1]"Audio-Visual Education in City School Systems", National Education Association Research Bulletin, XXIV (December 1946), 1-175.

teaching. It also reveals that the use of audio-visual materials is a necessity in the progressive school of today. To support this statement Wood and Freeman found that children in an experimental group with whom audio-visual materials were used gained an average of 38 per cent of the standard deviation of all the scores. In the areas of geography and science, gains of 85 and 78 per cent, respectively, of one standard deviation were found.[2]

Arnspiger reported in 1933 that the use of sound films resulted in a gain in knowledge of 25.9 per cent over instruction carried on without the use of sound films.[3]

Although these figures are not reliable in terms of a vast amount of additional experimentation, we may conclude that audio-visual aids and materials effectively used have a definite bearing on the learning situation of the child.

Additional support for the contention made in the preceding paragraph was found in the training problem that confronted our armed forces during World War II. It was necessary to teach millions of men how to fight, how to use and maintain equipment, and how to do the countless

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[2]Ben Wood and Frank Freeman, Motion Pictures in the Classrooms, p. 51.

[3]V. C. Arnspiger, Measuring the Effectiveness of Sound Pictures as Teaching Aids, p. 140.

other things that were necessary in teaching our soldiers
to change from civilians to soldiers in a short period of
time. Here again it has been found that the use of audio-
visual materials was one of the most effective means in
training our soldiers.

According to information from United States Army
authorities one tank center was able to reduce the train-
ing time of mechanics from nine months to nine weeks
through the use of visual aids.[4] Some United States Navy
tests showed that facts learned through visualized in-
struction are remembered up to 55 per cent longer.[5] Other
experiments have shown that film taught pupils retained
from 19 to 25 per cent more after three months of for-
getting.[6]

The figures presented above, although subject to dis-
pute as to amount of per cents, are of sufficient signifi-
cance to challenge every teacher to make an intensive effort
to equip himself with the knowledge of how to use success-
fully audio-visual materials in relation to the teaching
problem which confronts him.

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[4]"Army and Navy Training Sets Fast Pace for Nations
Schools," Newsweek (June 1944).

[5]"More Learning in Less Time," United States Navy
Training Manual (1943).

[6]Wood and Freeman, op. cit., p. 75.

Need for In-Service Training Program

The in-service training program for teachers is educationally desirable. It is becoming more widely used throughout the country as the need for such a program is realized by teachers and administrators. Harap says:

> In-service education is in-service growth. The nature and direction of a teacher's in-service growth is in the development of the curriculum. The conditions for teacher growth are those that exist in a cooperative effort to improve the opportunities for pupil growth which should always include consideration of the direction in which growth occurs. Study, group discussions and conferences with supervisors afford opportunities for the teacher to clarify her thinking about the direction in which pupil growth should be guided.[7]

McGaughy confirms the idea that an in-service training program is desirable for the teacher in the following:

> We must consider provisions which make it possible for her to keep up to date and alert professionally while she serves the community and society in her unique and all important position.[8]

The in-service training of teachers has other well defined advantages. It allows for the development of solutions to problems which are peculiar to the local situation rather than the necessary over all view point of college courses. In such a program the interests of the teachers are common in nature, and there is more purpose to what is being done because the teacher can work

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[7]Henry Harap, The Changing Curriculum, pp. 322-323.

[8]J. R. McGaughy, An Evaluation of the Elementary School, p. 3.

as an individual in the group on his own specific problems in terms of the whole program.

Since it is believed that no teaching aid can be used successfully in a school system without first having the interest and enthusiasm of the teacher, it is felt that the first consideration of establishing a school program, which successfully incorporates the use of audio-visual materials in its program, should be one of in-service training for the teachers. It must be emphasized, however, that the use of audio-visual materials as a technique of teaching is a part of the total program and that care should be taken to avoid undue emphasis being placed on audio-visual materials in regard to the whole school program. Such distorted emphasis may cause the teacher to feel that the audio-visual program is an end within itself rather than one of the various means in reaching the educational aims of the school.

Once the teacher has had his interest aroused, is well informed as to the use of materials, and is informed as to the kinds of materials available and the sources of materials, he will be ready to learn the techniques involved in using them successfully and will constantly evaluate and re-evaluate these materials in relation to the work being presented.[9]

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[9]N. E. A. Research Bulletin, op. cit., p. 165.

Current Audio-Visual Practices

Although there is no set criterion for an effective
in-service training program, it is well to summarize
various programs that are being followed in other cities
as a guide for possible activities that may be incorporated
into our own program and as a basis of comparison with our
own program. Accordingly the following programs were
selected:

In-Service Training Program in Ardmore Schools

The coordinator of elementary schools also
serves as coordinator of audio-visual education.

Objectives:
To assist teachers to recognize and appreciate
the potentialities of audio-visual materials.
To develop teacher competency in the selection
and use of audio-visual materials.

I. Pre-School Conferences
   A. At buildings - Teachers are given bulletins
      containing:
      1. Lists of audio-visual materials at
         the center which are available on
         request.
      2. Listing of other audio-visual materials
         in the building (maps, globes, charts,
         models, bulletin boards, blackboard, etc.).
      3. Methods of securing and returning
         materials from the center or other
         sources.
      4. Discuss proper utilization of materials.

II. Grade Conferences (Conferences for the teachers
    of each grade are held every four to six weeks,
    at which time pertinent problems of the curriculum
    are studied. The emphasis varies at these meet-
    ings, however, some phase of the program which
    lends itself well to the use of some audio-visual
    materials.)

A. First Grade Teachers (and so on through sixth grade).
   1. Give lists of films which have been booked (at their request showing - date - title - number of reels - source.).
   2. Discuss materials suitable for grade available from center.
   3. Discuss proper utilization of materials with emphasis on integration.
   4. Review methods of securing and returning materials.
   5. Review methods of circulation equipment and rented films.
   6. Discuss new materials and techniques of utilization found in books and periodicals.
   7. Demonstrations by teachers on good utilization of various materials.
   8. Review of operation and maintenance of equipment.
   9. Exchange of ideas.

III. Clinics
   We have had two clinics. One sponsored by the University of Oklahoma and the other by the State Department of Education. The latter was conducted in the Ardmore High School in March for teachers and administrators of the schools of Carter, Love, and Marshall Counties. It included very interesting discussions of the following problems:
   A. Organization for administering a local program of audio-visual aids.
   B. Care and maintenance of equipment and materials.
   C. Techniques of projection.
   D. Film and filmstrip previews for primary, intermediate, junior and senior high school teachers.
   E. Utilization of audio-visual materials.
   (Persons participating - State Coordinator of Audio-Visual Education, the Directors of Audio-Visual Education from University of Oklahoma, Oklahoma A. & M. College, Southeastern State College, and a number of audio-visual equipment dealers.)

IV. Visitation of other Oklahoma Schools.

Several groups of teachers have spent one day
each in different school systems within a radius
of 130 miles of Ardmore.

V. Professional References
    A. At Center.
        1. Copies of several audio-visual books
           to be used by interested teachers.
        2. Copies of See and Hear, Educational
           Screen, Audio-Visual Guide, School
           Films and other periodicals.
        3. Teacher's Handbooks are on file in the
           center for all films booked for use
           (if available). Copies of these are
           sent to each building about ten days
           before the films are used.
        4. Educational Film Guide, 1000 and One,
           Educators Guide to Free Films, Educa-
           tional Filmstrip Guide, and a number
           of catalogs from various film distri-
           butors.
    B. At Buildings.
        1. Copies of See and Hear and Educational
           Screen are sent to each building monthly.
        2. Some audio-visual reference books.
        3. Catalogs of various film distributors.

VI. Selection of Materials and Equipment.
    A. Notices of new materials are sent to
       teachers who might be interested in their
       use.
    B. Articles pertinent to individual teachers
       are called to their attention.
    C. Assistance is given to grade committees
       in selection of materials.
    D. Individual assistance for teachers of the
       junior and senior high schools in selecting
       materials for their use.
    E. Previewing committees evaluate materials
       and equipment for purchase.[12]

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[12]Irene McGoodwin, "Report of In-Service Training
Program in Ardmore Public Schools," Seminar Course,
University of Oklahoma, July, 1948.

Another survey of an in-service training program that has proved quite satisfactory is that of the Tahlequah Schools.

Survey of In-Service Training in Tahlequah Schools

A. In-Service Training for Teachers in the use of Audio-Visual Materials, Tahlequah City Schools, Tahlequah, Oklahoma.

Although no over-all or well organized program in the in-service training of teachers in the use of audio-visual materials was carried on in the city schools at Tahlequah, we did recognize the need for such a program and attempted to solve it in the following manner:

1. General Staff Meetings.
These meetings were usually conducted by the principal who spent a part of the time with general problems of supervision and very little time was allotted to discuss problems faced by the teacher in the utilization of audio-visual materials.

We were able to show to the entire staff some teacher training films such as Using the Classroom Film, Tips for Teachers, etc., which did much toward indoctrinating the teacher in the proper use of the motion picture and the film strip.

2. Clinics
One audio-visual education clinic was held in Tahlequah during the year. The clinic was conducted through the cooperation of the State Coordinator, the Regional Director of the Northeastern Regional Film Library, and the Extension Division of the University of Oklahoma and Oklahoma A. & M. College.

Specialists in the field of audio-visual education from these schools and departments conducted the clinic which dealt with the following:

a. Organization of an audio-visual education program in the local schools.

b. Utilization of audio-visual materials in instruction.

c. Operation and maintenance of audio-visual equipment.

Various types of audio-visual equipment were displayed by the commercial companies throughout the area and teachers were given the opportunity to examine this equipment and learn the principles of operation.

Teachers were also given the opportunity to preview films in their various subject matter fields for the purpose of helping them in the selection of classroom materials, which could become an integral part of their curriculum.

The clinic, which was conducted for only one day, was climaxed by a panel discussion which gave teachers as well as administrators an opportunity to present problems which had been pointed up during the course of the day.

3. Individual Instruction.

Individual instruction was given to teachers who desired help with various problems in the utilization of audio-visual materials, operations of machines and the production of materials.

4. Classroom Demonstrations.

Teachers who had acquired some knowledge, skill, and understanding of audio-visual materials were called on to give demonstrations in the use of various types of equipment in an actual classroom procedure.

5. Professional Reference Material, Handbooks, Periodicals, Bulletins, Mimeographed Instructions.

Professional literature on audio-visual methods of instruction was provided for

teachers who wished to keep in touch with
current trends and research.

Bulletins and mimeographed instructions
which might help teachers with problems
of selection, utilization and operation
was also provided for the teachers.[13]

The following in-service training program of the

Bartlesville School System is also an adequate one:

In-Service Training Program of Bartlesville City Schools
1947-1948

I. Director of Visual Education
    A. Elementary School Principal
    B. Part Time Teacher
    C. Two periods per day for Visual Education
    D. Teaches class of Visual Education
        1. 24 boys enrolled
        2. ½ credit offered
    E. Sponsors Reel Club

II. Building Coordinators
    A. Director serves as coordinator for Central
        and Douglass High Schools.
    B. Coordinator of Elementary Schools handles
        audio-visual program for grade buildings.
    C. Coordinator for College High part time job.

III. In-Service Program
    A. Director teaches a class of boys to handle
        all equipment.
        1. Meets each Tuesday morning at 8 a.m.
        2. Instruction, demonstrations and tests.
    B. Teachers are taught to operate and use
        materials when the desire orginates with
        them.
        1. During free periods
        2. School time
        3. After school
    C. Clinic held in Pawhuska, Oklahoma this year.

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[13]Tom Johnson, "Report of In-Service Training Program
in Tahlequah Public Schools," Seminar Course, University
of Oklahoma, July, 1948.

Last year in Bartlesville. Those attending were:
1. Director
2. Coordinators and eight teachers
3. Reel Club (boy operators)
D. Audio-Visual Library in Director's Office as part of school library.
1. Books
2. Periodicals
3. Catalogues
(can be checked out for one week)[14]

Perhaps the programs of these schools, that have been presented, should not be considered as models for an in-service training program in the use of audio-visual materials; however, they do give an idea of what may be done in promoting and organizing an audio-visual program to be used in the curriculum.

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[14]Ben Palmer, "Report of In-Service Training Program in Bartlesville Public Schools," Seminar Course, University of Oklahoma, July, 1948.

CHAPTER III

COMPARATIVE STUDY OF AUDIO-VISUAL PROGRAM OF SHERMAN ELEMENTARY SCHOOLS AND OTHER SCHOOL SYSTEMS OF SIMILAR SIZE

Before an adequate recommendation for an in-service training program in the use of audio-visual aids can be made, it seems necessary to review briefly what the overall situation is in the Sherman system at present, and it is also wise to present what is being done in other systems of comparable size. A successful teacher should have this information as a background for a thorough understanding of the problems that the schools face because he can use this information as a basis for adjusting his needs to the facilities at hand.

Survey of Present Audio-Visual Program In Sherman Elementary Schools

At present, the administrative personnel of the Sherman program consists of an audio-visual director. In addition to his duty as director of audio-visual education, he has full time responsibility as an elementary school principal. The director has had no special training in the use and establishment of an audio-visual center and other audio-visual supervisory duties for which is is responsible.

There are no assistants working with the director.
All bookings, materials, film repairs, bulletins, and all
related duties of a center are the sole responsibility of
the director of audio-visual aids. Due to lack of space
in the schools, there is no audio-visual center in the
strict sense of the word.

Each elementary school has one building coordinator
who, like the director, has no special training in the
use of audio-visual aids. There is no time set aside for
these coordinators to work with the teachers in their
respective buildings during the regular school day. It
is to their credit that these building coordinators have
assumed responsibility for the development of use of
audio-visual materials in their building. Each building
does have student operators to project and care for
materials and equipment used in the building.

The in-service training program is of necessity a
curtailed one due to lack of provision of time during the
school day for either the director or the coordinators to
give assistance needed to the teachers.

The director and the building coordinators meet twice
monthly after school for the following purposes:

1. To acquaint the coordinators with various
problems that have arisen in our school system.

2. To decide on systematic methods of acquir-
ing and classifying materials for individual schools.

3. To discuss new methods and satisfactory use of equipment.

4. To preview and discuss new materials.

5. To review new professional magazines, books, and pamphlets that are available in the system.

The building coordinators disseminate, as best they can, the information received in these meetings to the teachers in their respective buildings by means of time given in regular faculty meetings or in individual conferences with the teachers. The building coordinators also assist the teachers individually and in small groups after the school day in preparation of materials, in use of the equipment, in use of materials, or in any individual problem that may arise with the teacher.

At the present time, our elementary schools have some audio-visual equipment, but we are lacking in proper balance in variety of types and in quantity of equipment. Each of the five elementary schools has a 16 millimeter sound projector, an opaque projector, a 4" x $3\frac{1}{4}$" slide projector, and a radio-phonograph combination. In addition to the above listed equipment, one of the elementary schools has two 35 millimeter film strip projectors and ten portable type radios.

We do have a rather good selection of physical and political maps in each of the elementary schools. Each school has four globe maps and some incomplete series of

4" x 3½" slide sets. We are in the process of establish-
ing a film library for our elementary schools at the pre-
sent time. We have a library of fifty educational reels
which were selected by a teacher-principal committee last
year. These films are primarily science and social science
in nature. The grade level of the films is primary and
elementary in scope.

There is no audio-visual aids center in the Sherman
system. Our films are kept in one of the elementary
schools. All repair work, bookings, and shipping is
carried on from this school by the director, who is also
the principal of the school. Our system does not have a
central library of flat pictures, models, graphs, and
other devices. All of the materials, with the exception
of the sound films, are collected by the interested
teacher for use in his own situation.

The school buildings were not designed with the idea
of being physically adapted for use with audio-visual aids.
Each school has devised a black-out system for its own
situation. In every case, at present, the auditorium has
been equipped with black shades or with heavy drapes. No
special provision has been made for ventilation. Many of
our teachers use various aids in the classroom under ad-
verse circumstances due to lack of ventilation, black-out
curtains, and acoustical difficulties.

The Sherman school administration has not set forth
a separate budget for an audio-visual program. All
materials and equipment purchased and all materials
rented by the administration are paid out of the supply
item in the budget. This method of financing has defi-
nite limitations in developing the audio-visual program.
The major job in financing the purchasing of equipment
and materials thus far has been done through promotional
work by the director and building coordinators in inter-
esting Parent-Teacher organizations and various civic
clubs concerning the needs of the schools for such
materials and in receiving financial assistance from
these groups.

Survey of Audio-Visual Departments of Schools of Comparative Size

In establishing a basis for what is needed in the
audio-visual department of the Sherman Public Schools,
the director is faced with certain obstacles that will
have no satisfactory solution until put to actual use in
the schools. However, a suggested program of needs may
be presented based on surveys of similar sized cities
over the nation and through personal interviews with
directors of audio-visual aids in cities of comparable
size to our own.

Before an adequate program for the effective use of audio-visual aids can be inaugurated, there should be a definite guiding force behind the entire program; that is, there should be someone to assume responsibility for the program. He may be called the director, coordinator, supervisor, or any other title of audio-visual instruction. Such an officer should have a definite amount of time allotted to him for such duties. This time allotment will depend on a number of factors. Some of these factors are financial, size of school system, and amount of administrative personnel.

The National Education Association Research Bulletin has some interesting information concerning statistics gathered from replies actually received from 1726 schools over the nation.[1] The information received in this survey was classified by city size. Since Sherman has a population of approximately 25,000, the figures used in this report will be those referring to cities of the population group of 10,000 to 30,000 population.

It was found in this survey that, of 36 reports received, eight systems had full time directors of audio-visual aids, three had three-fourths time directors,

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[1]"Audio-Visual Education in City School Systems," <u>National Education Research Bulletin</u>, XXIV (December 1946), 134.

thirteen had half time directors, and twelve had one-fourth time directors.[2]

It was found in the state of Oklahoma, in systems whose city population fall in the 10,000 to 30,000 population group, that, in twenty-four out of twenty-seven cities from which replies were received in the survey, there was a full time audio-visual director.[3] Every city of 25,000 or greater population should have a full time specialist in audio-visual education.[4]

When we consider the amount of equipment necessary to conduct a satisfactory audio-visual program, we are again faced with the myriad problems which will present themselves. Budget, utilization of materials, and needs of the schools will vary from system to system. However, in the overall picture of what appears to be the minimum amount of equipment, the following list seems to be in keeping with the thinking of others who have made lists through the study of equipment needs. There is no set criteria for equipment needs due to local conditions.

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[2] Ibid., XXIV, p. 137.

[3] Statement by Earl J. Cross, Coordinator of Visual Education, State of Oklahoma, Department of Public Instruction, July 1, 1948 in Seminar Course, University of Oklahoma.

[4] N. E. A. Research Bulletin, op. cit., p. 136.

Schreiber and Claver list the following equipment needs of a school based on pupil enrollment:

1 16 millimeter projector for every 200
   students
1 combination film strip and 2" x 2" slide
   projector for every 200 pupils
1 standard slide projector for every 400
   pupils
1 opaque projector for every 400 pupils
1 screen for each projector
1 set of 35 stereoscopes for every 400 pupils
1 portable or semiportable AM-FM radio in
   each school and record transcription player
   for each school
1 portable wire recorder for each 400 pupils
1 portable public address system for each
   school[5]

Before any real progress can be made in the purchase of needed equipment and materials, an adequate and well planned budget should be a part of the total scheme of things. Many are the recommendations that have been made as to the amount of money required to carry on an adequate audio-visual aids program. One survey showed that school systems without an audio-visual department spent an average of $.32 per pupil per year, while those schools with an audio-visual department spent, on an average, $.83 per pupil per year.[6] Another suggestion made as to adequate financing suggested that one per cent of the per pupil

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[5] R. E. Schreiber and Leonard Claver, "Building an Audio-Visual Program," Science Research Associates (1946), pp. 40-42.

[6] N. E. A. Research Bulletin, op. cit., p. 137.

cost should be set aside in the budget of the system for the use of audio-visual aids.[7] Still another suggestion was based on $50 per teacher per year for a minimum program or $150 per teacher per year for an adequate program.[8]

Ardmore, Oklahoma has a budgetary allowance of one dollar per pupil per year.[9] Bartlesville, Oklahoma has a budgetary allowance of eighty-five cents per pupil per year.[10] Tahlequah, Oklahoma has set aside one dollar per pupil per year.[11]

From these surveys of cities of comparable size to Sherman, and from the statement of directors of audio-visual programs throughout the state of Oklahoma, one is able to draw specific conclusions and recommendations in the final chapter.

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[7]Schreiber and Claver, op. cit., p. 40.

[8]"Handbook for the Audio-Visual Program," Audio-Visual Instruction Directors (1948), p. 31.

[9]Statement by Irene McGoodwin, Director of Audio-Visual Aids, Ardmore, Oklahoma, made in Seminar Course in Audio-Visual Aids at University of Oklahoma, June 25, 1948.

[10]Statement by Ben Palmer, Director of Audio-Visual Aids, Bartlesville, Oklahoma, made in Seminar Course in Audio-Visual Aids at University of Oklahoma, June 25, 1948.

[11]Statement by Tom Johnson, Director of Audio-Visual Aids, Tahlequah, Oklahoma, made in Seminar Course in Audio-Visual Aids at University of Oklahoma, June 25, 1948.

CHAPTER IV

FACTORS TO BE CONSIDERED IN ORGANIZATION AND PROMOTION OF AN AUDIO-VISUAL IN-SERVICE TRAINING PROGRAM

The purpose of this chapter is two fold. First, a suggested program for in-service training in the effective utilization of audio-visual aids and materials in the Sherman school system will be given. This suggested program will be drawn from selected programs of a similar nature as outlined by two authorities in the field of audio-visual education. The suggested program outline will be elaborated upon by giving a general discussion of points that should be considered. Second, some suggested techniques showing the manner in which an in-service training program should be carried on successfully in the school system will be given.

Factors to be Considered in Organization of an Audio-Visual In-Service Training Program

An attempt has been made thus far to show the need for an in-service training program in the use of audio-visual aids in the Sherman school system. Based on the assumption that such a program is needed, a survey will be made of the possible fields for exploration in the

audio-visual education program that will be most beneficial to the teachers in the Sherman school system. Since no real in-service training program in the use of audio-visual aids has been held in this system previously, it will not be possible to develop all of the phases of the program in a single school year. It will be necessary therefore, to select such areas as will be most helpful to the program.

Edgar Dale says that the areas of classification for the study to be made by an in-service training group should follow the following outline of thought:

I. Materials
    A. What visual aids are available and where may they be secured?
    B. What is the quality of visual materials now available?
    C. Why are comics so popular with children?

II. Philosophy or Theory of Visual Education
    A. How do children of various levels react to different types of visual education?
    B. What are some of the general objectives of visual education?
    C. How does the effectiveness of visual aids vary with the subject material?

III. Technique of Teaching and Preparation
    A. Exactly how does one teach, prepare, and follow up?
    B. How can one get the most out of a field trip?

IV. Equipment
    A. What mechanical devices are necessary for the showing of visual materials?
    B. How may camera clubs be used to aid class work?
    C. How should the projection-room be arranged for the full utilization of space and visual efficiency?

V. Finance
    A. How may funds be used for purchase and rental?
    B. How much does it cost to start building a small library of visual aids?
    C. How can we get more financial aid for aids from the board?

VI. Evaluation
    A. What are the criteria for evaluating visual aids?
    B. What constitutes a good criterion for evaluating facilities for showing films?
    C. How can we best use the wealth of free materials furnished by commercial organizations?

VII. Administration
    A. What are the best methods of filing, cataloguing, and enumerating visual aids?
    B. How can teachers influence administrators to allow them to select materials for their own classes?

VIII. Initiation of Project
    A. What are the steps one should take in setting up a school museum?
    B. How can greater cooperation among schools, industries and civic organizations of the community be realized?
    C. What procedures can be used to educate parents to the values of visual education?[1]

Dale's outline for a suggested program of in-service training has been given in detail because it appears to cover rather thoroughly all major fields of the audio-visual program. Also, the questions under each topic heading show the countless possibilities for exploration in the audio-visual field. Dale is one of the acknowledged leaders in the audio-visual field of education.

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[1]Edgar Dale, "What Do They Want To Know," Educational Screen, XXVI (June 1947), 302.

Another outline of a suggested in-service training program in the use of audio-visual aids and materials has been presented by William R. Fulton. The main problems will be listed for comparison with Dale's program. The points under each heading, however, will not be listed for the sake of brevity. Fulton suggests the following topics for study:

I. The place of audio-visual materials in the curriculum
II. The operation of machines
III. The use of motion pictures
IV. The use of slides, filmstrips and opaque projection
V. The use of flat pictures and other graphic materials
VI. The use of exhibits and other museum materials
VII. The use of the telebinocular and audiometer
VIII. The use of excursions
IX. The use of auditory aids[2]

There are many suggested programs that could be presented for consideration, but the similarity of these other suggested programs to the ones presented is so great that it would be repetitious.

From the two programs presented, an outline may be developed for an in-service training program. This program should be based on local needs so that a successful program in the use of audio-visual aids in the curriculum will give teachers an overview of the functions of audio-visual aids as it pertains to them in teaching their classes.

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[2]William R. Fulton, A Guide to In-Service Study of Audio-Visual Aids (1947).

Organization of an In-Service Training Program
for the Sherman Elementary Schools

I. Psychological understandings necessary in a
successful audio-visual program

    A. Necessity for integration and dif-
ferentiation in the learning process

    B. The place of audio-visual materials
in motivation

    C. The place of audio-visual materials
in imaging

    D. The place of audio-visual material in
association

    E. The place of audio-visual materials
in retention and memory

II. Utilizing materials effectively

    A. Teacher preparation

    B. Class preparation

    C. Class presentation

    D. Follow up

        1. Testing

        2. Projects

III. Selection and evaluation of audio-visual materials

    A. General selection of materials

        1. Criteria for selection of materials
for program

2. Specific selection of materials

    a. Selection in terms of specific class needs

    b. Student participation

IV. Types of audio-visual aids

  A. Auditory aids

    1. Radio

    2. Phonograph

    3. Recorders

    4. Public address system

  B. Graphing materials

    1. Maps

    2. Globes

    3. Charts

    4. Bulletin boards

    5. Blackboards

  C. Still picture projections

    1. Filmstrip projection

    2. Opaque projection

    3. Glass slide projection

  D. Motion picture projection

  E. Field trips

This outline has been selected arbitrarily as including the phases of an audio-visual program that teachers should understand in properly utilizing audio-visual aids

as a technique in good teaching. A brief discussion of
of each of the points outlined will give a basis for the
trend of thinking in the various phases of these problems.

Psychological Understanding Necessary in an Audio-Visual In-Service Training Program

In approaching the problem of effective teacher use
of audio-visual aids as a teaching aid in a modern curri-
culum, there are certain educational principles which
should be considered before a program is developed.

> Mental growth is in part the result of two
> apparently anthithetical processes; differentiation
> and integration. Through the course of experience
> differentiation of response develops out of a total
> unitary response. Psychological objects are dif-
> ferentieted out of their environment as they attain
> significance to the child through his needs. It is
> in the elementary processes of differentiation that
> audio-visual aids have their value. Without con-
> crete experiences with objects there is no dif-
> ferentiation of this object out of a vast envir-
> onment. Differentiation is generally accompanied
> by a secondary process of integration. Through some
> common element or elements the various differentia-
> tion patterns of response become integrated into a
> higher order of reaction. Each concrete experience
> becomes integrated into subordinate relationships
> within the higher order response. Thus through the
> process of integration of differentiated concrete
> experiences that type of reaction is developed which
> is known as abstraction or generalization. The
> abstraction or generalization attains a richness of
> meaning to the extent that the wide and varied con-
> crete experiences become integrated into a higher
> order of relationships.[3]

[3]Charles F. Hoban, Charles F. Hoban, Jr., and Samuel
B. Zisman, Visualizing the Curriculum, pp. 264-265.

We may say briefly that for differentiation and integration of materials it is essential that the pupil be given as many concrete experiences as possible so that the experience will not be a distorted one. A child living in an area in which the only type of trees found is pine would have a distorted idea of trees in general unless he has some concrete experiences in either seeing other kinds of trees by traveling to where they are located or by seeing these various kinds of trees by means of flat pictures, film strips or motion pictures. Reading about trees is not enough. The printed word does not give adequate perspective alone.

> The importance of audio-visual aids in learning is immediately apparent to the study of educational psychology who considers such aids in the light of the laws of learning; namely, imaging, association, interest, retention, and memory.[4]

We learn through the stimulation of the senses; namely, hearing, seeing, feeling and tasting. If we are to develop sensory concepts which will integrate themselves into a desirable generalization, it is necessary that learning situations that appeal to as many of the senses as possible be used. Each sense stimulated creates a learning situation. Such a learning situation will not be a meaningful one in the truest sense unless every

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[4]"Visual Aids in Education," Curricular Syllabus #1, New Jersey State Teacher College (1944), p. 2.

possible concept is presented to the child. An example
of inadequate experiences in the learning process is
given as a reminder of what may happen when our methods
are narrow.

Pupil: What is a zebra?
Teacher: A zebra is something like a donkey.
Pupil: I never saw a donkey. What is it like?
Teacher: A donkey, dear, is something like a horse.
Pupil: Like old dobbin?
Teacher: No, no, dear, old dobbin is a big horse.
    I mean somewhat like a Shetland pony.
Pupil: A Shetland pony? What is a Shetland pony?
Teacher: Well, it is a very small horse.[5]

It is seen immediately that the child had no concept
of what a zebra appeared to be because the child's
associations concerning the zebra were verbalisms. No
image of a zebra had presented itself to him in reading
about zebras. The nearest association that the child
could make through his experiences was with that of a
horse which came after a lengthy question and answer
session with the teacher. Even so, his impression of
a zebra was still a false one.

The ability to image or picture an object is one of
the first laws of learning. John Dewey said in his
Educational Creed, "The image is the greatest instrument
of instruction."[6] A desirable way to obtain the correct

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[5]"Visual Education and the School Journey," Educational Monograph, Department of Public Instruction,
Harrisburg (1930), p. 5.

[6]Hoban, Hoban, and Zisman, op. cit., p. 20.

concepts or images of things to be learned is to experience
these things with all the senses. The best way to stim-
ulate all of the senses is by means of the excursion or
field trip. Upon making such a trip the pupil may observe
the thing being studied with all of the senses. The fact
that the material being studied is in its natural environ-
ment is a valuable one in properly identifying the material
being studied with its natural locale. However, all of
the things we desire to experience are not so easily
studied by means of the excursion. We must content our-
selves by using other means of sensory stimulation. We
may use picture collections, film strips, motion pictures,
maps, and many other aids in vicariously experiencing
these situations. "As each previous level has been de-
veloped out of the preceding levels of experience, visual
aids more and more removed from object reality may be
used to advantage."[7]

> Direct experiences, contrived experiences,
> and dramatic participation involve doing in order
> of decreasing directness. Demonstrations, field
> trips, exhibits, motion pictures, radio programs,
> recordings, and still pictures involve observing
> in order of decreasing directness. Visual symbols
> and verbal symbols involve symbolizing in order of
> increasing abstractness.[8]

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[7]Ibid., p. 24.

[8]Edgar Dale, Audio-Visual Methods in Teaching, p. 48.

A child's interest must be aroused and held if
learning is to be effective. Initial interest is
brought about by motivation. Philosophy of the proper
way to motivate a child has changed considerably in the
last few years. Motivation for many years was largely
extrinsic, both negative and positive. In the negative
type of motivation the pupil was compelled to perform a
particular task through punishment or fear of it. In
the positive type of extrinsic motivation the pupil was
encouraged to learn by such devices as grades, prizes,
special privileges, honors, and recognition.[9]

Intrinsic motivation has been brought about through
thinking in educational psychology which stresses the
ideas that:

1. The child has vital inherent interests.
2. It is the business of education to discover,
   develop, and capitalize these interests for
   beneficial ends.
   Visual aids have a definite function in the
   intrinsic idea of motivation. These aids
   stimulate motivation because:
   1. These aids are novel.

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[9]Harry C. McKown and Alvin B. Roberts, _Audio-Visual
Aids to Instruction_, p. 22.

2. Sensory aids allow some freedom from formal restrictions of traditional recitation.
3. Sensory aids are easy to understand and master because they are concrete.
4. Sensory aids cause the child immediately to focus his entire attention on them.
5. Many aids provide the child with opportunities to manipulate.
6. Sensory aids satisfy the immediate curiosity caused by them.
7. An aid makes an appeal because it does not satisfy completely.[10]

The points previously mentioned are those that arouse the child's interest and hold the child's interest because he is able to see purpose and need to his learning. This is based, of course, on the assumption that the teacher has properly presented and used all the materials at her command.

It can safely be assumed that from a psychological standpoint the use of audio-visual materials is another teaching device which when properly used is a valuable aid in the learning processes of the individual.

Utilizing Materials Effectively

No matter how conscientiously a teacher may prepare work with audio-visual aids in mind, all is to no avail unless the children have the proper mental attitude concerning the teaching aids. If the children feel that "we're having a picture show" or "we're going to see some pictures during social science" or "we're going to play with modelling clay," then a great deal of

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[10]*Ibid.*, pp. 23-24.

re-education is needed by the children on the part of
the teacher so that the use of these materials will be
just as much a part of the school program as textbooks.
The desirable thing, of course, is for audio-visual
materials to be used from the first grade on through
school so that their use will be a natural one.

Teacher preparation for use of audio-visual aids
should be a careful one. Needless to say, adequate pre-
paration takes time and planning. There should be first
an evaluation on the part of the teacher as to what type
aids should be used. This evaluation may be based on
catalogue of materials available on a particular phase
of work. The best way is to take materials and actually
see what is available. In selecting proper materials the
following questions should be kept in mind:

1. Is the educational element overshadowed by the
   dramatic or the spectacular?
2. Can it be used effectively by or for the pupils
   for whom it is designed?
3. Is it free from undesirable advertising or
   propaganda?[11]

There are many teaching situations in which audio-visual
aids are not needed. Other situations require careful
selection as to the type of aid needed. There is no
point in using motion pictures concerning the manufacture
of flour when there are six flour mills in the city that
could be visited on a field trip.

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[11]McKown and Roberts, op. cit., p. 41.

The use of motion pictures, film strips, slides, and records should be previewed several days ahead of actual class use so that proper teaching techniques may be developed for class preparation in knowing what to look for and what to do. Instances have been noted of teachers using two or three children as a committee in previewing films with the teacher. The children's reaction to the film gives the teacher a child's insight into what the film potential is in a classroom situation. Such materials might prove to have little value from a child's viewpoint or the film might have possibilities not considered by the teacher.

An administrative function which can promote this type of work on the part of the teacher is to make certain that a place, equipment, and time off be provided during the school day so that this preview and search for materials may be a part of the teacher's school day.[12] To offset this need to some extent demonstrations and experimentations within the system and within the individual school may be used to good advantage.

Once adequate teacher preparation has been made it is then necessary for the teacher to prepare the class. This class preparation should begin with the setting up of a purpose for the material to be used. The teacher

[12]Ibid., p. 42.

should also develop a readiness in the pupils for the
things to be learned from this material by relating
what is to be learned to the previous experiences and
backgrounds of pupils. The pupil must understand the
reason for the new materials to be learned and he must
also have his interest aroused in this material to be
used.

In presentation of materials the teacher should
exercise care that these audio-visual materials do not
become the end in the teaching rather than the means to
an end. The stage for the use of audio-visual materials
should be set prior to the time of use because time lost
and interest lost due to improper planning defeats good
presentation. Presentation should begin several days
prior to the actual use of the material so that when the
materials are used they are a part of the regular class
work. The teacher may assure active participation on
the part of the pupil by asking the pupils to look for
specific facts, principal ideas, general impressions, and
relationships which help achieve the purpose of the lesson.

Many types of follow up may be used after the material
has been presented to further achieve the purposes of the
materials being used. Some of the techniques of follow up
are:

1. To discuss points brought out by materials used

in terms of the particular unit of work being studied.

2. To find out points that may have been overlooked.

3. To clarify points not understood.

4. To plan ways for applying what has been learned to the problems being solved or to new problems that may have presented themselves.

5. To make plans for oral or written reports.

Testing or evaluating the results of teaching with audio-visual materials may be accomplished in a variety of ways. Verbal discussion by means of question and answer on the part of the teacher or discussion leader may give the pupils an opportunity to emphasize the points that need emphasis in the material presented. If a more definite reaction is desired by the teacher, a definite test by means of written questions may be used as a follow up. If the desired results are not achieved, then further preparation of the children by the teacher is desirable and material again presented with the main emphasis on the points overlooked in the original presentation. Testing by means of audio-visual materials may be a final phase of evaluating teaching materials that were not audio-visual materials. In this case it

becomes a testing technique that is different from the
ordinary type.[13]

If the materials used have done an adequate job in
assisting in the learning of the child, there are usually
some further activities which come from the child as a
natural follow up of his own field of interests concerning
the problem under consideration. In the film Using the
Classroom Film such activities are well illustrated. These
activities may fall into such categories as additional
reading, excursions, plotting of charts and graphs, making
of maps, and writing of letters to different sources seek-
ing additional information about the problem under con-
sideration.

Selection and Evaluation of Audio-Visual Materials

It is well to divide the selection of audio-visual
materials into two classifications; namely, general
selection and specific selection.

In the general selection of materials for an audio-
visual program we are primarily interested in establish-
ing a workable criteria for evaluation in our selection
of materials. Prior to the time that the materials are

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[13]Hoban, Hoban, and Zisman, op. cit., pp. 264-265.

selected by director and teacher committees, it is well
for the director to limit or discard materials which de-
finitely have little or no value in a particular program.
"This elimination process may be accomplished by study
of catalogues of materials, reviews of materials given
by others, magazine articles, advertisements, trade
exhibits and samples of materials."[14] By following
such a procedure the director can eliminate much need-
less previewing time on the part of the committee and
can make more time available for more careful selection
of materials that are potential aids in the curriculum.
General selection should be made by staff members of the
audio-visual department with the assistance of teacher
preview committees. The teacher is a vital link in
selection because he is the one who, in the final analysis,
must utilize the materials effectively if the program is
to succeed. Evaluation forms are generally used as a
specific means of recording committee reaction to new
materials being considered for use. Noel and Leonard give
the following criteria as basis for judging materials
under consideration:

    1. The grade levels for which the material is
        suited.
    2. The curriculum areas or subject fields for
        which it is appropriate.

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[14]McKown and Roberts, *op. cit.*, p. 41.

3. The educational purposes or objectives which
    the material serves.
4. The authenticity or accuracy of the content.
5. The validity of the general impressions which
    the materials give.
6. The objectivity or bias of the content.
7. The effectiveness of its organization and manner
    of presentation for instructional purposes.
8. The technical quality.
9. The strong points and weak points of the
    material.[15]

From the listed criteria for general selection of
audio-visual materials, more specific points might be
drawn concerning various phases of the evaluation. How-
ever, practically all of the leading authorities in the
field follow generally the same criteria as listed by
Noel and Leonard. As the name implies, general selection
is an over all attempt to obtain a well balanced and need-
ed amount of audio-visual materials for a school.

Once such selection is made, the teacher who has a
specific assignment to teach must avail himself of the
materials which will be most useful in teaching his assign-
ment. A suggested criteria for specific evaluation by the
classroom teacher of available materials is as follows:

1. Is the material appropriate to the age and
    grade level of the pupils?
2. Is it adapted to the understanding and ex-
    perience of the group?
3. Is it related to the interest and needs of
    the pupils?

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[15]Elizabeth Goudy Noel and J. Paul Leonard, "Founda-
tions for Teacher Education in Audio-Visual Instruction,"
American Council on Education Studies, p. 27.

4. Is it related to the unit being studied?
5. Will it contribute to the specific objectives of the unit or the problem being studied?
6. Is it interesting?
7. Is it of suitable length?
8. Are the concepts it presents too difficult?
9. Is the information presented important for students to know?
10. What understandings should result from the use of this particular device?
11. What attitudes or appreciations are likely to result from its use?
12. What skills may be improved from its use?
13. If there is more than one type of audio-visual material available for a unit, which one will do the best teaching job in the shortest time?[16]

Since the criteria listed for specific selection of teaching materials is very comprehensive, all of the criteria listed would not be needed in each selection of materials. Some films and other materials teach attitudes and skills almost entirely; whereas, other films and materials deal with factual materials. Our selective criteria would then depend on what our objectives are in the particular work being presented. The entire plan of selection should have one major objective; that is, that all materials should be evaluated in terms of child growth.

Analysis of Types of Audio-Visual Aids

A visual aid by definition is any picture, model, object, or device which provides concrete visual experience to the learner for the purpose of:

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[16]Ibid., p. 28.

1. Introducing, building up, enriching, or
    clarifying abstract concepts.
2. Developing desirable attitudes.
3. Stimulating further activity on the part
    of the learner.[17]

An important function in developing an in-service training program for teacher growth in the use of audio-visual equipment is to know the potentialities of specific audio-visual materials as well as to know the disadvantages of the specific types of materials. The teacher should also acquaint himself with the mechanical functions and with maintenance of equipment. There are many pamphlets and manuals, however, that give specific instruction in mechanics and maintenance of equipment. Maintenance and function of equipment will not be considered in this thesis.

The audio phase of the audio-visual education program has not been developed in most school systems to the extent that the visual phase has been developed. The uses of various types of audio-equipment, however, are many and varied. The same techniques of good teaching; that is, teacher preparation, pupil preparation, presentation, and follow up should be used with audio materials.

The radio is one of the best audio aids available to the schools at present. It is highly desirable for each class to have a radio of its own. Programs suitable for

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[17]Hoban, Hoban, and Zisman, op. cit., p. 9.

language lessons, social studies discussions, forums, historical and political broadcasts, music appreciation, specific educational broadcasts, news broadcasts, evaluation of speech and science stories and improvement of listening techniques are a few of the many ways in which the radio may be adapted for classroom use.

There are two distinct disadvantages to the use of radio. First, the radio receiving set is expensive, and second, the time element of the programs is not always suitable to the school program. The large city school systems are solving this problem by establishing frequency modulation radio stations for their own school use. Smaller systems such as ours may solve this problem by recording these programs on tape or wire recorders so that the material may be presented when it is most appropriate in the learning situation.

The tape and wire recorder sets are also excellent auditory aids. Other uses for which they may be recommended as well as making transcriptions from radio programs are for speech training, music programs, and special programs of all types. If any of the programs mentioned are to be recorded in a permanent form, it is well to use a disc recorder so that records or discs may be filed for permanent reference. The tape and wire recorder sets are more inexpensive to operate due to the fact that the tape

or wire may be used over and over again; whereas the disc recorder cuts a permanent record each time and requires a new record for each program.

The phonograph is a desirable aid also in that it may be used for playing records obtained from record library on music appreciation, music theory, drama, primary stories and a host of other suitable materials now available.

There are other types of desirable auditory aids such as public address systems and inter-communication systems which might be mentioned, but at present they are financially impractical in the Sherman situation.

"The field trip or the school journey is the most effective audio-visual aid available because it deals with real things in real situations."[18] The field trip must be so planned that the children are aware of what they are seeking. The same program of teacher preparation, pupil preparation, presentation, and follow up, which was discussed in the utilization of audio-visual aids, should be followed carefully if the children are to receive the benefits intended.

The field trip has several definite advantages:

1. No expensive equipment is needed.

2. Concrete and life situations are viewed.

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[18]Hoban, Hoban, and Zisman, op. cit., p. 10.

3. Incidental learning is accomplished by perfecting
   organization for the group in preparation for the
   school journey.

The field trip has several disadvantages:

1. The transportation facilities and the distance
   of the trip may make the school journey un-
   feasible.

2. In many cases the teacher is held responsible
   for any accidents that may occur to the children.

3. Many administrators maintain a traditional
   attitude about making trips during the school
   day.

The school museum may include a vast variety of
materials. It may include specimens of animals, leaves,
plants and stones. It may take in such materials as
miniature models of houses, villages, trains, and auto-
mobiles. The museum may be built around objects such as
Indian arrows, spears, war trophies and many others. The
museum is a good substitute for the field trip.

Some advantages of establishing a school museum are:

1. The materials are three dimensional.

2. The materials may be arranged in any sequence
   or manner for presentation.

3. The museums do not involve costly equipment.

Perhaps the greatest disadvantages to the museum are:

1. Some elements of actual materials are missing.

2. The environmental setting of the materials in their natural habitat is missing.

One of the most inexpensive types of visual aids and materials available for the school system is the still picture. There are several categories of still pictures. The glass slide, the film strip, and the mounted picture are the most common types of still pictures to be found at present.

The glass slide requires a comparatively inexpensive machine for projection purposes. These slides are 4" x $3\frac{1}{4}$ " in size. There are several advantages in using the glass slide. Sets of slides may be obtained from commercial sources for specific units of work. These slides may be presented in any order or sequence. As much time as is necessary may be given to each slide for discussion by the teacher. Slides may be made by the teacher and the children from inexpensive materials obtained commercially. The construction of slide sets may be kept permanently or they may be cleaned and re-used from time to time. These slides may be made to illustrate the materials that are not otherwise available for presentation.

The main disadvantage to the glass slide is the fact that it may be broken if unusual care is not exercised.

The film strip is a very desirable type of still film projection. The film strip is 35 millimeters wide, and it is a series of pictures on one strip of film that has a definite continuity of thought in a particular field or unit of work. These film strips require a comparatively inexpensive machine for projection purposes. Film strips may be purchased at the present time on most all levels and in most all fields of the curriculum. The teacher does not have the choice of continuity or sequence in the film strip as in the glass slide projector; however, he may use as much time as he requires to present each frame or picture. Film strips with accompanying record transcriptions are available in many instances. When the transcription is used, the film strip must be changed to accompany the transcription. Film strips of local situations may be made by the teacher who has a 35 millimeter camera. Such activity involves a great deal of planning, but a good activity program might be developed in the production of these film strips.

The opaque projector is one of the most versatile of all visual aids. By means of reflected light a picture or an object may be projected upon a screen. This picture or object used need not be transparent nor does it need any special treatment for use in projection. In many instances only one object or picture may be available for class use, and by means of the opaque projector,

the teacher can show such an object or picture to the
entire group at the same time. This image is magnified
in proportion to its distance away from the screen.
Picture collections obtained from magazines, books, and
papers may be made on various units of work and may be
mounted on cardboard for permanence. These picture
collections can be used over and over in any sequence
desired by the teacher. As much time as is desired by
the teacher may be given to each picture or object pre-
sented.

The principal disadvantages in using the opaque
projector are:

1. A well darkened room is essential for clear
   projection.

2. The size of the original picture or object that
   may be projected is limited to 8" x 10".

Another type of visual aid often mentioned is graph-
ing materials. Graphing materials include the following
specific type of aids: maps, globes, charts, bulletin
boards and blackboards.

Although graphing materials are one of the most
common types of visual aids found in the average class-
room, they are subject to frequent misuse because they
are one of the intermediate aids found between concrete
materials and verbalistic materials. For instance, when

using maps and charts, there are various symbols for their interpretation which should be made meaningful to the child before understanding can result. If care is not taken, these symbols will be as difficult for the child to understand as the printed word.

The motion picture is one of the most widely used of all visual aids at present. It is one of the most satisfactory teaching aids yet devised. Its advantages are numerous and offset the disadvantages that may be pointed out.

Some of the main advantages of the motion picture as a teaching aid are:

1. It is particularly adapted to those subjects in the curriculum in which sound is an essential element.

2. It is particularly adapted to those subjects in which dramatic continuity, motion, slow motion, animation, and microphotography are essential to development of meaning.

3. It compresses time and space.

4. It is novel.

5. It gains and holds attention.

Some of the disadvantages of the motion picture are:

1. It is used improperly by teachers.

2. It is expensive.

3. It requires special physical facilities for

darkening and ventilation.

4. It omits some experiences that are needed in
   the learning situation.

In presenting a short analysis of audio-visual aids
and materials used with each aid, it is well to point out
some desirable and undesirable features of each type of
equipment. There are many additional items of equipment
not specifically mentioned, but these pieces of equipment
are highly specialized and quite expensive at the present
time. They are not within the scope of our program for
the present.

An effort has been made to present various problems
needing study and exploration by the teacher in our system
in the effective utilization of audio-visual aids. Since
this program has not been used at the present time, no
effort has been made to tie this suggested program specifi-
cally to our local situation. Rather en attempt has
been made to present materials and problems which will be
of some benefit to the teacher in our system when our in-
service training program in the use of audio-visual aids
is begun.

Suggested Techniques for Promotion and Continuation of an In-Service Training Program

There are many ways in which an in-service training

program may be presented to the teachers. The various techniques of presentation that are to be briefly discussed have been tried by other groups and have been reported to be worthwhile. Each technique, however, is different in some respects to the other. The techniques employed by the group in the Sherman system will be determined on a basis of our approach to the various problems considered.

Faculty meeting.--One of the most common techniques for promotion of the audio-visual program is in the faculty meetings. This type of technique is especially valuable in giving the teacher an overall picture of equipment, materials, and procedures involved in the audio-visual department of a system. This type of meeting might well be used at the beginning of the school year so that each teacher will know what is available for him. The following objectives are listed as possible ones for use in the entire system or individual school faculty meeting group:

1. To acquaint general faculty groups with the purposes and services of the audio-visual department as they are related to curriculum problems.
2. To explain the procedure by which teachers may obtain materials and equipment from the audio-visual department.
3. To generate interest in the audio-visual program by demonstrating teaching techniques that employ various types of audio-visual materials to enrich and extend learning in the classroom.

4. To arrange for demonstrations of the use of various types of equipment in the audio-visual department.
5. To acquaint the group with community resources.
6. To acquaint teachers and administrators with sources of audio-visual materials.
7. To demonstrate, or arrange for demonstration of, techniques of production and utilization of various teacher-made, pupil-made audio-visual materials.
8. To direct attention to professional magazines and books in the field of audio-visual education.[19]

Specific recommendations for the coordinator or director to follow in the faculty meeting is given by Kralman:

A. Supervisor or principal must help teachers recognize and appreciate the place and possibilities of all visual aids by providing training in correlating materials with each other and with the curriculum.
   1. Outgrowth of such aid has follow up of reading, reports and group discussions.
B. Acquaint teachers with a wide variety of available materials and show them the advantages, limitations and instructional possibilities of each.
   1. Make such materials available to teachers for experimental use in the classroom.[20]

Workshop.--Another technique of motivation for teacher utilization of audio-visual materials is by means of the workshop. The workshop technique has definite characteristics which should be kept in mind in establishing such a program. Caldwell has said of this that the workshop technique is desirable when:

[19]Dale, op. cit., p. 74.

[20]Evelyn Kralman, "For Your Faculty Meetings," See and Hear, III, No. IV (December 1947), 34.

1. Any activity based on needs and interests of the individual participants is presented.
2. Each participant is expected to do something about his own problem.
3. It exemplifies the principles of democracy.
4. It does not evaluate its members, its members evaluate the workshop.[21]

A consultant or leader in the field is usually present to advise, suggest, and guide the members of the group in its problems. Each member, although primarily interested in a special problem of his own, may contribute worthwhile suggestions to the other members of the group concerning their problems. The workshop technique, if properly used, is one of the most important and beneficial of all.

Demonstration.--Demonstrations in the use of audio-visual materials is a valuable contribution to motivation. Many teachers are reluctant to try new ideas in teaching due to a lack of knowledge in proper techniques of utilization of materials. It is well to have a teacher who has had success in the use of audio-visual materials give a demonstration in the effective use of different types of audio-visual aids by having a class of children present for the demonstration or by using the group to whom he is demonstrating as the class. One interesting experiment conducted by using a group of teachers as a class, which

[21]Statement by James F. Caldwell, Director, Audio-Visual Aids Service, University of Alabama, July 2, 1948 in Seminar Course, University of Oklahoma.

will illustrate this technique, was conducted by Tom
Johnson.[22] He selected two educational films of approxi-
mately equal content. The first film was shown to the
group with no class preparation or class follow up. At
the conclusion of the showing of the film a test over the
content of the film was given. Prior to the showing of
the second film adequate class preparation was made. After
showing the second film, a discussion was held about the
various points that were presented prior to the showing.
A test of comparable difficulty with the first one was
then given over the second film. The teachers then graded
both tests and were thoroughly convinced of the value of
adequate preparation and follow up. The comparison made
by each teacher of his own test papers showed clearly the
difference in his own learning when the material was pre-
sented poorly and when it was presented properly. This
demonstration technique may take a variety of forms with
different visual aids.

Clinic.--A technique that has been tried successfully
in many school systems is the audio-visual aids clinic.
By definition the word "clinic" as used here refers to a
one day meeting designed primarily for those teachers who
are interested in audio-visual aids and materials and who

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[22]Tom Johnson, Director of Audio-Visual Aids, Tahle-
quah Public Schools, Tahlequah, Oklahoma.

wish to learn more about them. The staff of the clinic
is made up of experts in the field of audio-visual aids.
In group meetings and general meetings, these leaders
attempt to give practical suggestions and answers to
questions presented to them. The services of these ex-
perts can usually be obtained through the State Department
of Education, Teachers' Colleges, University Extension
Centers, and Directors of various audio-visual aid centers.
Usually the various commercial companies are invited to
send representatives to attend the clinic and to demonstrate
their equipment as well as to talk over equipment and mate-
rials problems with the teachers. The clinic usually
divides itself into two natural groups. The first group
will usually consist of those who have had some experience
with audio-visual materials but are eager to learn more.
The second group will include teachers who are curious
about teaching with audio-visual aids but who are almost
completely uninformed. Other techniques used by demon-
strators may be incorporated in the clinic to offer
variety to the program. If at all possible the clinic
should be held during a school day.

Individual conference.--One of the most successful
techniques in encouraging teacher utilization of audio-
visual materials is by means of individual conferences
between the director or building coordinators and the
teacher. Often times a teacher feels embarrassed to ask

questions before a group but he does not mind asking an individual. In addition he can receive more individual help in his particular problem by the individual conference method. The individual conference affords excellent opportunity for the director to make suggestions for further use of audio-visual materials to the teacher. This technique takes a great amount of the time of the director or the coordinator, but it is probably one of the best means of teacher motivation. According to Dale, the individual conference is valuable in that:

1. It provides an opportunity for the director to obtain information of the teachers needs.
2. It acquaints the teacher with the services of the audio-visual department.
3. It increases the proficiency in the use of equipment.
4. It aids the teacher in the selection of audio-visual materials according to the needs of his pupils.[23]

Allowing a day or two a year for teacher visitation to other rooms in the system or for visitation in other school systems for the purpose of seeing how other teachers successfully utilize audio-visual material is a good technique in stimulating the teacher to greater efforts in his own teaching. This technique has been tried in the Ardmore, Oklahoma Public Schools with very successful results.[24]

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[23]Edgar Dale, Audio-Visual Methods in Teaching, p. 76.

[24]Statement by Irene McGoodwin, Director of Audio-Visual Aids, Ardmore Public Schools, Ardmore, Oklahoma, Seminar Course, University of Oklahoma, July 2, 1948.

Several techniques for promotion of an in-service training program in the use of audio-visual aids have been discussed briefly. These promotional ideas should be interspersed throughout the school year to motivate and to hold teacher interest in the audio-visual program.

There should be a plan of action that will be used throughout the year for making the in-service training program a continuous one. This organization may easily fall into natural interest groups. These interest groups will probably be on a grade level basis or on a subject matter field. These groups can set up their own problems based on their needs and meet at stated intervals for the purpose of discussion of their problems, solution of their problems, and in the exchange of ideas.

In order for these studies to be most effective, it is necessary to have some library facilities so that research and reference work may be accomplished. The establishment of a reference shelf for audio-visual aids and materials is desirable. This professional reference shelf should have a complete library of reference books on audio-visual aids and materials. If a complete library is not possible, there are some basic references in the audio-visual field that is felt are essential in a good background for the audio-visual program. These references are found in the appendix.

There are some excellent professional magazines in
the audio-visual field which should be included on a
reference shelf. These magazines give experiments con-
ducted by various teachers, reviews and evaluations of
new materials, and various other bits of timely informa-
tion that are of interest to the individual teacher.
Some of the best of these periodicals are given in the
appendix.

There is also a group of books that gives general
information concerning films and film libraries. These
are especially helpful in selecting materials for use.
These source materials are found in the appendix.

In addition to the reference shelf for the use of
teachers, it is desirable for the director to issue
periodically a bulletin on all new materials received
by the school system so that the teachers may utilize
such materials as they are needed. Mimeographed materials
should be issued by the director also on the operation,
maintenance, and any other routine need of the individual
teacher in making the audio-visual program more meaningful
as it is used in the curriculum.

This chapter has given a brief discussion of some of
the procedures that may be developed in a suggested in-
service training program in the use of audio-visual aids.
It has also presented some possible plans for motivation
of such a program. In this chapter many things have been

left undone that will have to be considered in inaugurating
an in-service training program, but it is believed that
many problems have been presented with some valuable
criteria and suggestions for solving these problems.

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

In developing an in-service training program in the use of audio-visual aids and materials, a great number of pertinent facts have been found that should be listed as a brief summarization of the most important points of this study. There are some specific recommendations that may be presented from this study also. These points will be of benefit to others who are considering the establishment of a similar program in their school systems.

Conclusions

The findings and conclusions drawn from this study are:

1. Audio-visual materials have been used in some form for many years.

2. Teaching with audio-visual aids is just one of many good techniques of teaching.

3. Evidence by experimentation has shown that teaching with audio-visual materials has indicated definite gains in amount learned, amount retained, and amount of time saved.

4. There is a definite need for an in-service training program in the effective utilization

of audio-visual aids and materials due to
lack of knowledge concerning them by most
teachers.

5. The technique of teacher training by an in-
service training program is educationally
desirable.

6. The use of audio-visual materials is a technique
of teaching and is not an end within itself.

7. There can be no set criterion for an audio-visual
education program within a school system due to
varying conditions.

8. The present in-service training program in
utilization of audio-visual materials is
inadequate.

9. Definite leadership and responsibility is needed
for a successful audio-visual program.

10. The audio-visual equipment of the Sherman Public
Schools in inadequate.

11. The audio-visual materials available in the
Sherman Public Schools are inadequate.

12. The budgetary allowance for the audio-visual
program is inadequate.

Recommendations

From the findings obtained from this study, some
definite needs may be observed, and some suggested

recommendations may be made which will improve the audio-visual program in the Serman Public Schools.

These recommendations are:

1. A vigorous in-service training program in the effective utilization of audio-visual aids and materials should be inaugurated in the Sherman Elementary Schools.

2. A full-time director of the audio-visual education department should be selected as the person responsible for the audio-visual program in the Sherman Public Schools.

3. An audio-visual center should be established in the Sherman Public Schools.

4. Off-time during the school day should be provided for the classroom teacher so that he may select, evaluate, and prepare audio-visual materials effectively for his teaching.

5. One dollar per pupil per year should be established as a basis for adequately financing an audio-visual program in the Sherman Public Schools.

6. Our present equipment and materials should be carefully evaluated in terms of needs and additional materials and equipment should be purchased to fulfil these needs.

7. All possible promotional techniques should be utilized in motivating and continuing a successful in-service training program in the use of audio-visual aids and materials.

8. Teachers should be encouraged to take college courses in the use of audio-visual aids and equipment.

9. Bulletins, bibliography, and periodicals concerning audio-visual aids and materials should be made available for teacher use.

10. The State Department of Education should be asked to assist in establishing a criteria for the evaluation of audio-visual materials.

There are many additional problems about which the teacher should have a basic knowledge before a well-rounded idea of the audio-visual field can be obtained. These are considered secondary to the ones presented previously. Future study should include the administration of an audio-visual program, the financing of an audio-visual program, the classifying and cataloguing of audio-visual materials, and the functioning of an audio-visual center.

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