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Proposed plan for the organization and administration of a department of audio-visual education in the town of Cumberland, Rhode Island

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A PROPOSED PLAN FOR THE ORGANIZATION
AND ADMINISTRATION OF A DEPARTMENT OF
AUDIO-VISUAL EDUCATION IN THE TOWN OF
CUMBERLAND, RHODE ISLAND

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CHAPTER I

An Overview of the Problem

Statement of the problem. The purpose of this study is to formulate a plan for the organization and administration of a department of audio-visual education in the Town of Cumberland, Rhode Island.

Scope of the investigation. An effort will be made in this study to establish the present status of audio-visual aids in grades one through twelve by a brief survey of the present use of these particular teaching aids, an inventory of available equipment, and a detailed analysis of the physical facilities provided.

The very nature of this topic limits its direct application to a particular school system. It is felt, however, that the method employed in the study will be of some assistance to others making a similar investigation in towns or cities with a population of 10,000.
Definition of the terms used. According to McKown and Roberts, audio-visual aids "...are supplementary devices by which the teacher, through the utilization of more than one sensory channel, helps to clarify, establish, and correlate accurate concepts, interpretations, and appreciation."

A number of audio-visual aids in current use in our schools are blackboards, bulletin boards, maps, charts, graphs, models, objects, specimens, film strips, lantern slides, the phonograph, radio, the sound motion picture and field trip.

A department of audio-visual education or audio-visual instruction is a sub-division of the school organization responsible for the selection, evaluation and integration of these aids, as well as their distribution, storage and maintenance.

The director of audio-visual education is the person responsible for the administration and supervision of the program. He is equal in rank to the heads of such departments as physical education, music and art.

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Plan of the Study

Method of procedure. The first attack upon
the problem was made by a preliminary study of
available material related to the problem. The
vast quantity of books and periodicals devoted
to the subject of audio-visual education was
reviewed and pertinent data extracted. The major
source of related research was the unpublished
investigations of candidates for advanced degrees
in the field.

Aware of the data necessary for a portion
of this work, a variety of methods has been em-
ployed in its efficient procurement. A brief
description of them follows:

1. Room analysis sheet - - To evaluate
   the facilities existing for the utili-
   zation of present materials and equip-
   ment as well as future purchases.

2. Equipment inventory sheet - - To determine
   the location, quantity, and condition of
   certain audio-visual aids owned by the
   school system.

3. A personal interview with each of the
system's school principals to determine the amount of use of audio-visual aids to instruction in the classroom.

These devices were used as the basic tools of the survey in which the writer endeavored to lay the foundation for a plan to organize and administer a department of audio-visual education.

**Importance of the study.** This paper is an attempt to construct a foundation for the future activities of a director of audio-visual education in the Town of Cumberland, R. I., or a community similar in size and faced with like educational problems. The plan evolved for this new capacity is part of a long range program recently initiated to increase the calibre of instruction in the town's public schools.

The necessity of such a study is emphasized by Devereux who makes this statement:

"Education is a process that involves the use of many aids and devices. Inasmuch as it depends so largely upon the senses of sight and hearing for its results, the audio-visual aids are very important. These aids cannot function..."

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efficiently unless special provision is made for administering and supervising their use. To school system should attempt any extensive plan of including these aids as a part of its methods and procedures unless it has first outlined the plan of use and set up some administrative program."

This view is shared by Brunstetter who comments:

"The effective utilization of audio-visual materials must be planned in terms of local objectives, curriculum needs, available services, and plant facilities. It is clearly evident, therefore, that before plans are made for the use of films [and other aids] the local situation should have been thoroughly studied."

3 M. R. Brunstetter, How To Use The Educational Sound Film, (Chicago: The University of Chicago Press, 1937), p. 75.
CHAPTER II.

A Review of the Literature.

To fully understand the background of any problem, it is necessary to examine the findings of other investigators who have made studies of a similar nature. This chapter is a summary of those investigations which appear to be most pertinent to the present question. Other works completed in the field of audio-visual education were analyzed and their value should not be lessened because of their omission. They were excluded because they have less bearing on the present problem.

Powell¹ made a study of the organization and administration of visual aids in the public schools of Houston, Texas. The purpose of his investigation was that of evolving a plan for the expansion of the department of visual aids on the basis of what had been previously accomplished.

The text is not legible due to the quality of the image.
In describing the scope of his work the author says:

"This study deals with the organization of visual aids from the standpoint of their assembly, classification care and physical production and distribution, and with their integration into the educational program through courses of study and development of teaching techniques by means of some in-service training and supervision." 2

As a foundation for his task an intensive review of the literature was made to indicate the basic principles suggested for the making of plans and the operation of visual education programs.

To increase the efficiency and effectiveness of the visual aids department, the author recommended certain basic steps to be taken.

Paraphrasing Powell's recommendations, educational services may be increased by:

1. Appointing a full-time director.
2. Encouraging teachers to take courses in visual education at local colleges.
3. Promoting in-service training demonstrations, committee work and group conferences.
4. Providing the necessary mechanical forms for the requisitioning, distributing, and maintenance of equipment.

2 Ibid., p. 1.
5. Distributing visual education supplements to course of study in current use.

The mechanical services may be increased by:

1. Building a library of models, exhibits, and photographic prints.
2. Purchasing a 16 mm. movie camera and accessories.
3. Establishing contact with a local shop for quick repair work.
4. Inaugurating a daily delivery system.
5. Constructing cases for the transportation of materials.
6. Appointing a visual education coordinator in each school.
7. Organizing a student operator's club.
8. Setting up a school library of visual aids references in each school building.
9. Having a central administration for the entire visual aids program.
Hazlett\(^3\) conducted a survey of the twelve largest cities of the United States to determine the nature of organization, administration, and supervision of departments of audio-visual education and to establish specific criteria for such a department based on current preferred practices. On investigation it was discovered that four of the cities did not maintain organized departments, thereby reducing the scope of the problem.

The permanent equipment of school buildings is not considered in this study; that is, bulletin boards, blackboards, sand tables, maps, and globes. Since these items are not the stock of the central department distributed to the teachers the author chose to eliminate them.

In collecting the data essential to this work personal interviews were held with the directors of four of the cities. To insure the validity of each interview a check list was employed that contained all the points of interest in the study.

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This same list was rewritten in questionnaire form and mailed to the remaining communities.

Describing the material content of his investigation Hazlett gives this summary:

"The study shows (a) the present practices and procedures used by educators in organizing and administering, and supervising the visual-sensory programs; (b) a philosophy of the place of a department in education according to expert opinion and research; and (c) the presentation of a department of visual-sensory aids based upon preferred practices." 4

In the conclusion of his study 5, the investigator presents a total of sixty-one finds and recommendations based on an analysis of accumulated data. Those pertinent to this present work have been extracted and summarized in the succeeding paragraphs.

The interest in visual-sensory aids has been exhibited by educators in establishing departments at all levels of instruction, by the vast number of researches conducted in the field, the financial assistance rendered to these investigations, and the presentation of courses in this subject in fifty-one universities on the demand of teachers.

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5 Ibid., pp. 141-151.
The importance of these aids has been evidenced by the recognition given to them by the N.E.A., the Bureau of Education, and the American Council on Education, as well as the fact that forty-six universities have initiated distributing centers.

The desire of teachers to do a creditable job in the classroom by employing visual-sensory aids has resulted in the establishment of some sixty-three percent of the department's.

"All departments of visual-sensory aids have the same status in the school system as health or music, or art." 6

The functions of the department, although administered by the director, are broken down into sub-classifications and delegated to numerous assistants. The duties of its members are as follows:

"The activities of directors of departments of visual-sensory aids are (1) to know the source of materials, (2) to be available for interviews with teachers and principals, (3) to furnish a catalog of available materials, (4) to administer the routine work of the department, (5) to make rules and regulations, and (6) to prepare reports for his superior officers."

6 Ibid., p. 143.
The activities of the engineers and mechanics are (1) to repair projectors, (2) to operate projectors, (3) to repair materials, (4) to train teachers in the mechanics of projection, and (5) to repair radios and sound equipment.

The receiver checks materials and notes anything that is broken or missing.

The packer prepares materials to be shipped to the schools, makes the proper entry in the shipping file, and labels the materials.

The booker reserves the materials for the teachers, makes the proper entry in the distribution file, and notifies the packer.

The activities of the photographer, clerks, and truck drivers are connoted in their names. 7

The selection and classification is divided among the director, a committee of teachers, or a group of principals.

The majority of groups use the course of study as the criterion for selection and a number employ a score card for evaluating material.

The results of the work accomplished by these departments are an improvement of teaching

7 Ibid., p.144.
methods, the enrichment of the curriculum, and a rise in student activity plus an increase in the number and calibre of materials used, a marked emphasis on sensory instruction and a realization of the program by school officials and the community.

Maple\textsuperscript{3} made a survey of the Visual Aids Exchange in an attempt to measure the contribution being made by this department to the betterment of instruction in the schools of Cincinnati. The data were drawn from the reports returned to the exchange by teachers making use of equipment and materials available. From this compilation of information it was hoped to determine the grades and subjects in which these aids were most frequently used, the percentage of the staff making use of services rendered, their reactions to the aids, and the current trend in the system as to the future of the program. The normative survey technique was employed in this investigation.

It was discovered that visual aids were most extensively employed in the elementary school. Some explanation of this fact difference might be the impersonal nature of secondary departmental-\ziz{ziz}ization, the mechanical changing of classes, and the changed attitudes and increased disciplinary problems due to adolescence. Again the difference in school enrollment, and the fact that a number of aids employed on the high school level could not be tabulated because of the difficulty of classification, would tend to present a distorted picture.

Silent films were used more in the fourth and fifth grades, sound films in grades one and six, and lantern slides and film strips in grades four through six. From attendance records it was indicated that classes often combine at showings. This does not produce the best instructional results. An overview of the program revealed a gradual increase in the use of all teaching aids.

Twenty-four percent of the city's teaching staff used at least one of the four aids available in the system. This group represented approximately eighty-five percent of Cincinnati's eighty-nine schools.
An evaluation of materials used in the program showed that nine-two percent were rated as good, six percent as medium, and two percent as poor. These ratings were unusually high and of little significance in actually rating films.

The survey indicated a sharp increase in the use of visual aids over the period covered by the study. In January 1940, the average daily attendance was two and one-half times that of September 1939. The number of teachers using teaching aids doubled during this same period.

In the final analysis it was learned that silent films were used more than sound films and lantern slides combined, and that all the visual aids were found by practice to be adaptable for use in classes for mentally deficient, the deaf, and the physically handicapped.

Posey\(^9\) presented a plan for the administration and use of visual aids in a city school system. The plan was based on a survey of the

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principles and methods developed from the results of scientific research and classroom utilization of audio-visual devices. Supplementing this plan of procedure, the writer presented a number of classroom lessons as demonstrations of units generally found at the secondary school level.

On investigation it was discovered that both theory and practice in the field favor the appointment of one official charged with the responsibility of administering the central department and the task of coordinating the program with other administrators and teachers. More effective teaching is the goal of audio-visual instruction. A preliminary survey of available materials and equipment, their condition and source, electrical outlets, and means of darkening classrooms was considered the initial duty of the head of this department.

At the termination of her study, the writer stated the following in the list of conclusions:

"Central organization for the administration of a department of visual instruction in a city school system."

"Services of the department determined by the size of the school system and the funds available for the department." 10

10 Ibid., p. 105
"No one method of using visual aids has been found most effective. The type of aid employed, the teaching objective, and the mental development of the learner have conditioned the selection of instructional methodology." 11

"The analysis and evaluation of films for the use of teachers and students has proved effectual in visual instruction."

"The organization of a central library of literature and materials in the field has provided assistance for teachers interested in fitting these aids in the instructional process."

"The literature and the practices indicated that the pre-service or in-service teachers require training if these supplementary devices in teaching are to be used proficiently." 12

Rumbo13 made a study of the most important audio-visual aids together with the department organized for their utilization. He sums up the aim of his investigation in the following words:

11 Ibid., p. 106.
12 Ibid., p. 107.
"The purpose of this thesis was to recognize, evaluate, and suggest administrative phases of visual aids. A comparison between visual aids as they have been used and as they could be improved was offered. Age levels of children and their effect upon the method of presenting teaching aids were suggested. Emphasis was placed upon the abundance of still pictures and their value. Economic advantages were compared to advantages offered by teaching aids other than still pictures." 14

The study was the result of the writer's own experience in a visual education department combined with intensive research. A wide examination of all the available magazines, books, newspapers, and pamphlets in an attempt to establish a sound basis for the development of the department was made.

The results of this research are wide in scope. Those conclusions applicable to the present problem have been extracted and are listed below, not in order of relative importance, but in the sequence they appeared in the original manuscript.

1. "Teachers play a large part in the success of the department by adequately preparing themselves to understand and use visual aids." 15

14 Ibid., p. 1.
15 Ibid., p. 63.
2. "-- the expense and lack of adequate knowledge in the mechanical skill needed to operate the machines has resulted in a loss of prestige which would otherwise be credited to the new machines." 16

3. Discussing the wide variety of machines and materials used in audio-visual instruction Rumbo comments, "They demand that some separate department and director be set aside for the purpose of managing and using the aids." 17

4. "Teachers should be able to evaluate the different types of aids and how they may be adequately operated to gain the greatest results." 18

5. As regards the mechanical needs of the program the author makes this suggestion:

"A method of setting up a visual aid library where the material can be recorded and catalogued; where they may be secured on short notice; and where the operation of machinery may be carried out without the excess amount of classroom interference must be worked out between the director and the teachers." 19

16 Ibid., pp. 63-64.
17 Ibid., p. 64.
18 Ibid., p. 64.
19 Ibid., pp. 64-65.
6. In attaining the long range goals of education, teaching aids have a distinct role and make a definite contribution. Rumbo, aware of their value, makes this assertion:

"The child can learn efficiently and as a result will be better prepared for adult life if his experiences are broad and varied. Rich environment through visual-teaching aids is the best method used in child development."

20 Mulligan, after a study of audio-visual aids in the Revere Public School Department, proposed a plan for the promotion and expansion of the use of these teaching aids by the classroom teachers in the system. His work is an attempt to seek a solution for the major problems that confront a director of audio-visual instruction initiating a department in this field.

The investigation was broken down into three phases; first, a survey of the school system to determine equipment on hand, building facilities available, and alterations necessary to make projection

20 Ibid., p. 65.

possible in each school building; second, establishing a central location for the procuring and storage of materials and equipment, to act as a center for distribution, and to be the core of activity; and third, the presentation of a plan incorporating in-service training for teachers and projectionists, the selection, evaluation, and integration of films into the curriculum, the financial aspects of the department, and lastly the promotion of the department in and out of the school department.

After careful study of the plan presented the following general conclusions can be drawn:

1. In creating a Department of Audio-Visual Education, the initial step should be the appointment of a full-time director.

2. A survey should be conducted personally by the director to determine the current status of the system as regards audio-visual instruction.

3. Recommendations for changes should be held to the minimum essentials. This will insure their approval by the superintendent, and speedy accomplishment.
4. A central office should be established for the procuring and storage of equipment, the preview and evaluation of materials, and as a convenient meeting place for group meetings.

5. The purchase of films at the preliminary stages of the program is discouraged because of their high cost. Nearby film libraries can ordinarily supply the average system's film needs.

6. Film strips being comparatively inexpensive and mechanically employed with little difficulty have great possibilities in the teaching aids program.

7. Study guides, written by the director or teachers in the system, for both motion pictures and film strips are a great help in cases where there is no opportunity to preview films.

8. Spare parts should be kept in stock for making minor on-the-spot repairs.

9. Contacts should be made with commercial firms to secure free advertising material applicable to the curriculum.
10. To insure the safety of equipment it should be stored in a fire-proof vault. If funds are available the machines should be insured against fire and theft.

11. Delivery of materials may be accomplished by the same party responsible for the distribution of school supplies.

12. Constant changes in the field warrant the production of a monthly news bulletin to keep teachers informed of new materials and methods.

13. The department's budget should be appropriated by the school board just as expenditures are authorized for texts or other school supplies. The amount requested should be set by the director and approved by the superintendent.

14. New departments in any field must be sold to the public to be successful. The director of visual aids is charged with proving the educational worth of his work to other administrators, teachers, and to the entire community.
15. In-service training of teachers emphasizing methods of use rather than the mechanical aspects of the program should be undertaken by the department head.

Authors in the field are apt to stress the visionary rather than the practical operation of a teaching aids department. Most plans found in the literature are of such high cost as to put them beyond the financial range of most school systems. When inaugurating a department the director, who hopes for fast acceptance of his plan, should be able to defend his requirements on a logical and sound financial basis for it is on this level that school boards and superintendents are obliged to judge.

Restatement of the problem. In the light of previous research the problem is still to formulate a plan for the organization and administration of a department of audio-visual education in the Town of Cumberland, R. I.
CHAPTER III

The Need For Audio-Visual Aids

Education - Past and Present

The transition from the agricultural dominated economy of the early eighteenth century to the present period of extensive industrial development has brought about significant changes in our social and economic life. Emphasis has shifted from the home to the factory, from individual effort to mass production. Populations moved from rural areas and formed large cities in the vicinity of rising factories. With this tremendous change came new and varied problems. The need of a type of education to keep pace with these developments became apparent.

In an editorial introduction to Caswell's recent text, George D. Strayer indicates the concern of our nation at this period.

"From the beginning of our history, the education of all people has been recognized as fundamental to the maintenance and improvement of our democracy. The earlier concept of universal education was based upon recognition of the necessity for literacy. It was argued, and properly, that men and women responsible for their own government must be able to read to consider intelligently the problems which confronted them."  

This idea is sustained by Roy O. Billett who concludes:

"the ideal of democracy can become functional and practical only if people (1) are capable of intelligent behavior, (2) think as much of their fellow men as they do of themselves, and (3) are usually disposed towards somewhat the same line of action when fully informed concerning the facts and circumstances of a specific situation."  

During this early phase of our national growth the concern of the school was the basic skills of reading, writing and arithmetic. The ensuing years have brought with them great changes,

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2 Ibid., p. v.

and education has felt their weight. This idea is neatly phrased by Alexander J. Stoddard in the preface of Brunstetter's text.

He makes this assertion:

"Education is no longer the relatively simple and leisurely process of a century ago. The amount of human knowledge has increased beyond the learning capacity of any one person. No individual lifetime can span more than a small part of the accumulated wisdom of the world. To complicate the situation further, our funded knowledge is almost unlimited in its ramifications and implications and no one human mind has the necessary versatility to comprehend it all."

The problems of the average individual in his normal daily pursuits demand a foundation in a variety of subject areas and the development of them to a high degree.

The Present Aims of Education

The aim of present day educators is the preparation of each individual for a full share in the

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4 E.K. Brunstetter, How To Use The Educational Sound Film (Chicago: The University of Chicago Press, 1937), 174 pp.

5 Ibid., p. v.
pleasures and responsibilities of a democratic society.

"Knowledge is no longer considered the aim and end of education. The greatest possible self-realization, the development of worthy human relationships, the achievement of economic efficiency, and the willingness and ability to accept civic responsibility, are today acknowledged as the primary purposes of education." 6

For men and women to assume a responsible role in the affairs of the community, they must understand the nature of the problems confronting them together with the best method to employ in their solution. Upon the American school falls the task of preparing these people for their place as future citizens.

Our Task As Teachers

Teachers aware of this problem and eager to assist in its solution must, in the writer's estimation, attack it from three sides; first, they must draw from the mass of accumulated learning

6 Caswell, op. cit., p. vi.
those skills, and concepts, those ideals and appreciations necessary in the realization of our goal; second, they must present the material selected in the most efficient and effective manner possible; and third, they must evaluate their efforts in the light of the pupils' ability to apply the learning products in life situations.

This study concerns itself with the second side of this academic triangle, the efficient and effective presentation of material, increasing the calibre of classroom instruction.

Audio-Visual Aids in Education

"Ever since the dawn of civilization man has been attempting to discover or devise more effective means and methods of acquiring and transmitting knowledge and skills." 7 Anxious to raise his intellectual standing, he has given of his time and money to the cause of education. During the last five years renewed emphasis has been placed upon

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7 Brunstetter, op. cit., p.vi.
equipment and materials developed in this quest. The Armed Forces, in their haste to raise troops to defend the country, employed to the widest possible degree audio-visual aids to instruction. And what are these so-called audio-visual aids to instruction? According to McKown and Roberts, these devices are

... "part of a teaching method designed to aid in the presentation of materials - knowledge, concepts, and ideas - in literature, mathematics, science, shopwork, and other fields, both curricular and extracurricular, so that they are more easily and clearly understood and appreciated. Audio-visual aids do not exist separately; they are, in reality, only aids to instruction."

They are not something entirely new to education; good teachers have recognized their value for centuries. Maps, charts, pictures and objects proved to be indispensable aids in the earliest classrooms. An ancient proverb compares the value of one picture to ten thousand words.

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8 Cf. ante, p. 2.

Today we have available a wide number of teaching aids. Industrial and scientific progress has made a great contribution by increasing their quality and quantity as well as decreasing their cost. A few aids, other than the traditional ones presented in the preceding paragraph, are the radio, phonograph, lantern slide, film slide, and the sound motion picture. It is this last device that has received so much consideration since its presentation to the public in 1926. All however, make their own distinct contribution as audio-visual aids to instruction.

An excellent summary of these contributions is given by Billett\(^\text{10}\) who comments:

"To the improvement of teaching and learning situations in the secondary school, [and we assume the elementary and junior high schools as well] auditory and visual aids make two major contributions. First, they increase immensely the range and diversity of the experiences of all pupils in the classroom + laboratory. They can make not only the world, but a sizable part of the universe, part of the pupils' classroom + laboratory environment. Second, certain auditory and visual aids can increase immensely the educative growth

10 Billett, op. cit., pp. 592-593."
achievable by pupils of less-than-average general intelligence or academic aptitude. These pupils have more-than-average difficulty with symbolism, the difficulty increasing with decrease in academic aptitude and with increase in the degree of abstractness of the symbolism. Many forms of auditory and visual aids provide vicarious experience with a minimum of abstractness. Through the wise use of such aids, pupils of less-than-average academic aptitude will be able to develop concepts and resultant ideals, attitudes, and appreciations of kind and degree otherwise impossible within the limits set by time, classroom environment, and native aptitude."

Outstanding Studies In The Field

The use of these devices in the teaching-learning situation is advocated on more than personal opinion. Outstanding research studies conducted by authorities in this area definitely prove their worth.

Weber\textsuperscript{11}, a pioneer in audio-visual education, measured the effectiveness of a variety of methods of instruction at the seventh grade level. Of the four methods employed the investigator found after

the administration of objective tests that the group instructed by a combination film and lecture ranked first.

Freeman\textsuperscript{12} directed the efforts of a group of researchers in thirteen different studies relative to the comparative value of various types of aids when compared to the motion picture. The findings are of such length as to prevent their inclusion in this brief summary, however, the conclusions reached fully justify the planned, intelligent use of teaching aids to increase the calibre of instruction.

Knowlton and Tilton\textsuperscript{13} attempted to measure the contribution of ten historical motion pictures in the teaching of American history. On the basis of objective tests given at the beginning and end of the investigation they concluded that the movies


\textsuperscript{13} Daniel C. Knowlton and J. Warren Tilton, \textit{Motion Pictures in History Teaching} (New Haven, Conn.: Yale University Press, 1929), 182 pp.
increased the learning of the groups by as much as twenty percent. Interest was aroused, retention extended, and participation in classroom discussion increased.

Wood and Freeman[^14] made a similar study under the sponsorship of the Eastman Kodak Co., to determine the contribution made by a number of teaching films to classroom instruction. Statistical results revealed the movie group progressed more rapidly and more easily than those pupils taught in the traditional manner.

Charters[^15], through a grant received from the Payne Fund, investigated the influence of motion pictures on the nation's youth. Emphasis was placed on the effect of the movie upon sleep, the information retained, and the content of currently popular films. It was evident that the movie is a strong unlicensed teacher, and the content of most films is unfavorable for children.


Rulon made an attempt to evaluate statistically the educational effectiveness of sound motion picture in the teaching of general science. Two methods were employed in the presentation of material to the pupils; the traditional textbook method and a combination of textbook and film. From the results of objective tests, especially prepared for this experiment, the author concluded that effectiveness of presentation was increased twenty percent by the use of the film.

Numberous other studies less extensive, though equally worthwhile, could be cited which have demonstrated the effectiveness of audio-visual aids in classroom instruction. 17

These few have been included in this study because they are outstanding and indicate the wide interest in the field and the justification for a separate department for the efficient and effective use of teaching aids.


Factors For The Successful Use
Of Audio-Visual Aids

In the preceding studies success did not result from the devices themselves but rather from the use to which these aids were put. Alone, audio-visual aids are powerless; as part of a prepared program they can produce results comparable to the experiments just reviewed.

Certain basic factors are essential for the success of their utilization:

1. Organization of a department to administer and supervise the program.
2. Integration of the aids into the curriculum.
3. Teacher training in the use and selection of materials.
4. Adequate physical facilities for their optimal use.
5. Efficient distribution.

In the initial phases of developing a department, organization is of prime importance. It merits
immediate and serious consideration.

Devereux\textsuperscript{18} supports this assumption with the statement:

"The essential fact about these services is that they must be recognized before the need appears and provision made in advance for their management."

Brunstetter\textsuperscript{19} adopts a similar view and says:

"... the use of films and other instructional materials should be developed as a program, with all the implications for planning and coordination that such a term involves."

The Initial Step In Establishing A Department.

In making long range plans it is obvious that the present position and status of the school system, as regards audio-visual instruction, must be determined before any steps can be taken in the development of a functional program. This information can be secured in numerous ways. Knowledge of the system in which this study is being made decided that a

\textsuperscript{18} Frederick L. Devereux, \textit{The Educational Talking Picture} (Chicago: The University of Chicago Press, 1953), pp. 116-117.

\textsuperscript{19} Brunstetter, \textit{op. cit.}, p. 73.
personal survey would be the best means of collecting the data upon which to base the administrative framework for a department of audio-visual instruction.

The survey planned is threefold in nature. It includes a study of the present use of audio-visual aids, an inventory of the quantity, condition, and location of certain items of equipment, and a thorough analysis of the physical facilities available for the utilization of these devices. The knowledge garnered in this study, presented in the following chapter, will be the basis of the plan for the organization and administration of audio-visual education developed in Chapter Five.
Chapter IV
The Survey

The Town of Cumberland provides free public education to all legal residents of the township beginning in grade one of the elementary school and terminating in grade twelve of the high school. All the instruction is given in schools located in the town.

The source of authority is, of course, the people, but their voice in educational matters is exercised by a school committee elected by popular vote. This group consists of a chairman, a clerk, and five committee members. Their function is largely legislative in nature.

The exercise of the powers of the school committee is secured by the transfer of authority to the superintendent of schools, the central official of the school system. Upon him rests the general direction of the school system. The building program, curriculum revision, supervision, and public relation, are all part of his broad task.

The administration of the individual schools is accomplished in the high school by a supervising principal and in the ten elementary schools by teaching principals.
The departments of music and art are headed by supervisors who work in all schools under the direct supervision of the superintendent of schools.

Principals, supervisors, and teachers combine to make a staff of sixty people. There are two high school teachers and one elementary school teacher on leave of absence.

Eleven schools scattered throughout the town serve the educational needs of 1402 pupils. At present the high school enrolls 411, while the elementary schools enrolls the remaining 991. The buildings vary widely in age. The oldest building was constructed in 1850, the newest school in 1930.

The size of the town together with the unusual distribution of population caused the construction of a large number of schools in the various villages. This decentralization makes a schoolwide program extremely difficult because of the distances involved and the necessary duplication of equipment and materials. The combined grades, too, demand specific plans rather than an overall pattern for the system.
The Present Use of Audio-Visual Aids

The High School

During the past school year, the high school staff has employed to a limited degree the greater majority of available teaching aids. The amount of use varies in the numerous departments indicating to some extent that different subjects lend themselves more readily to audio-visual instruction. However, it is not the purpose of this chapter to attempt to make such a distinction.

Blackboards, because of their availability, the simplicity of their use, their adaptiveness to any and all subjects, rank first as to use in daily classroom activities.

Flat pictures, including photographs, prints, and postcards, posters, clippings used in conjunction with the bulletin board together with maps, charts and graphs make up the group of aids most often employed.

At this point the difference in the amount of use of audio-visual aids is very slight but in the opinion of the writer they fall in the order of the following paragraphs as to the extent of their use.
Models, objects and specimens, excellent teaching devices, are presently confined to the science classes, the home making department, the manual training department and art department. The greatest use is made of these aids in the science field mostly because of the availability of the necessary materials and equipment.

Projection equipment is primarily used by the science department because of the interest of the instructors and the variety of films available. The majority of films shown were confined to physics, chemistry, biology, and general science with a sprinkling of use in the business subjects, economic geography, homemaking and the social studies. Lantern slides have been forgotten during the past year although the equipment and materials for making slides was available. These two items comprise the projection equipment available:

The phonograph has been utilized almost exclusively by the music department in its music appreciation courses and to a degree in its instructional work.

The radio makes an appearance in the classroom only on such occasions of national importance as V-E Day and the set is provided by the interested teachers.
since there is no radio available in the school building.

The stereoscope, on investigation, has its only opportunity to exhibit its unique function in the solid geometry class where it served in teaching the difficult concepts peculiar to this subject. After this, it is relegated to oblivion for the remainder of the term.

The only record of an educational trip taken during the school year indicates that a group in the homemaking department under supervision ate in one of the better restaurants to study the methods employed in the commercial serving of food.

No trace could be found of the use of dramatization in daily classroom teaching. However, the method employed in securing this information limits the strength of the conclusions that can be drawn.
The Elementary Schools

The use of audio-visual aids in the elementary schools closely paralleled their utilization at the secondary school level. Greater emphasis was found in the use of the blackboard. Flat pictures were employed extensively at all grade levels and teachers made personal files of pictures garnered from the pages of popular periodicals. Mounted and properly captioned they serve a worthwhile purpose in classroom teaching.

Projection equipment can be discounted entirely. The source is beyond the easy reach of the schools and for that reason no use was made of what few pieces of equipment are available.

A few schools have employed the radio and phonograph but not to any degree to warrant mention in this study.

Dramatization has been employed at the elementary school level in a small way. Again the cases have been scattered and more the exception than the rule.

No educational field trips have been made during the past year.
(Text content continues...)
Conclusion

The wide variance in the use of audio-visual aids in the high school and elementary schools is due to the following factors:

1. The location of the high school allows easy delivery of materials.
2. The variety of equipments available allows a more extensive program.
3. Materials are more adaptable to high school classes.
4. Interest on the part of the principal stimulates their use.
5. Projectionists can be found among the students.

Equal opportunities given to the elementary schools and proper supervision of audio-visual instruction at both levels would establish a foundation for growth in this area of instruction.
An Analysis of Physical Facilities

Among the factors essential for a successful audio-visual education program, it is found that adequate classroom facilities rank high. A school might possess the finest equipment together with the most complete selection of materials but these are completely wasted unless the classroom is prepared for their utilization.

The majority of schools are lacking in conveniences for employing teaching aids. The one saving fact is that the average classroom is easily adapted for this purpose. By careful analysis of existing facilities almost any classroom can be changed to function as a center for audio-visual instruction.

The major difficulties found in most school systems are the lack of opaque shades, inadequate electric outlets, insufficient ventilation if the room is darkened, and in rare instances, faulty acoustics. This condition in our schools clearly indicates why teaching aids have not grown in classroom use.

To analyze the present situation the writer has
devised a room analysis work sheet. This instrument will tend to direct the observation of the interested party in a specific channel. On completion it will provide a comprehensive review of the investigation. The mechanics of the work sheet are such that the extraction of pertinent data is relatively simple.

The factors to be studied are developed to a limited degree in the succeeding paragraphs to present a picture of their importance and the necessity for their inclusion in this survey of physical facilities.

1. Choosing a classroom. Realizing the limitations placed on the director by a budget, it is suggested that in the initial stages of the audio-visual education program he confine himself to equipping one room in each school especially for the utilization of teaching aids. Ideally every room should be so equipped but grim reality dictates quite another policy.

In choosing this room, two basic facts should be kept in mind; first, its adaptability, and secondly, its availability. The best room
would be long and narrow thereby reducing the angle of vision to the suggested 60° degrees. It should have two doors, fixed blackboards, and be centrally located in the school building. Other factors are discussed in succeeding paragraphs.

2. Electrical facilities. All standard electrical equipment normally employed in school buildings operates on 110 volt, 60 cycle alternating current. Any other variety of electric power must be changed by the use of a suitable transformer. In any event, the services of a qualified electrician should be sought when such action is necessary.

Electrical outlets should be located in both front and rear of the classroom. Radios, phonographs and the like are used to best advantage in the front of the class. Projection equipment requires an outlet in the back of the room for convenient operation. A double outlet should satisfy the demands in front and a triple outlet in the rear.
Switches controlling the lights aid greatly to the ease of operation of films when located within easy reach of the projectionist. If possible this feature should be incorporated.

Regardless, some precaution must be taken since the average light switch is beyond the reach of the projectionist. A desk lamp or bed lamp having a 100 watt bulb serves the purpose. It affords sufficient illumination for any repairs or adjustments to the projector, keeps the class under control, and provides ready light in the event of an emergency.

3. Capacity of the classroom. Any room developed as an audio-visual instruction center should seat a minimum of thirty pupils. The cost to develop such facilities, slight though it may be, demands such a group be easily absorbed.

Much can be said, pro and con, about the numerous types of furniture found in our schools but each has been proven to have its
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4. Acoustics. Until sound devices are employed there is no concern with acoustical problems. Maps, charts, models and the like present no such difficulty. Before determining a classroom suitable for auditory aids, the room should be tested. Playing a radio in the spot where your amplifier will be located will aid in the detection of any such trouble. In the event the effect is unsatisfactory a sound engineer or another classroom are the possible solutions to your problem.

5. Ventilation. Until projection equipment is employed a constant and uninterrupted flow of fresh air can easily be provided. Measures taken to exclude light often reduce the air supply. This matter warrants immediate attention. Where mechanical means are used there is no problem but where the raised window is our only means of ventilation some method must be devised to insure the health and comfort of the audience.
Although classrooms vary a great deal in this regard the following directions are applicable to all:

(a). Air the room thoroughly between classes.

(b). Use a portable exhaust fan so mounted as to fit between the window sill and the raised window.

6. Heating. In regard to the heating equipment there are but two essential requirements:

(a). Sufficient output to insure comfort.

(b). No interference in the use of audio-visual aids by reason of the mechanical features of the heating system.

7. Storage and working space. It is advisable to have an area set apart for the storage of materials and equipment when not in use. This protects the items from improper handling and misuse by people unskilled in their operation. In addition, it leaves the classroom free from any objects that might hinder normal operation.
Storage space will vary in every school but listed below are a few essential features that warrant attention:

(a). Locker or closet space within easy reach of the audio-visual aids center for all projection equipment.

(b). Drawer space for the safe keeping of specimens, models, etc.

(c). Filing cabinets for the keeping of flat pictures.

(d). Suitable cabinets for the protection of lantern slides and 2 x 2 slides.

(e). A working area of sufficient size and convenient location to facilitate the maintenance and construction of materials and equipment.

In the course of developing these classrooms throughout the school system other problems are apt to arise. The use of good common sense combined with an understanding of what others in the field are doing, should see most problems through to a successful solution. Assistance can, if desired, be obtained from commercial firms selling audio-visual aids, and
from the material found in the pages of excellent periodicals in the field.
Room Analysis Work Sheet

Name of school: Cumberland High School

Date of construction: 1890. New wing added in 1931.

Name of principal: Gabrielle M. Roy

Number of teachers: 18  Number of pupils: 411

Old Building

Classrooms: The original high school building houses six classrooms plus an electrical shop, a library, and music rooms, instrumental and vocal.

Room number 5 has been selected for development as an audio-visual instruction center on the basis of availability and adaptiveness to the purpose.

Dimensions: Length 36' Width 26' Height 12 1/2'

Windows: 0 1 2 3 4 5 6 (7) 8 9 10

Size: All windows 3 1/4' x 9'

Shades: 0 1 2 3 4 5 6 (7) 8 9 10

Type: Opaque, capable of darkening classroom for projection.

Condition: Excellent

Heating: Accomplished by combination of steam pipes and radiators. No obstacle to use of equipment or materials.
Lights: 0 1 2 3 4 5 (6) 7 8 9 10
Switches: 0 (1) 2 3 4 5 6 7 8 9 10
Outlets: 0 (1) 2 3 4 5 6 7 8 9 10
Location of fuse box: In music room, basement
Type of current: 110 volt 60 cycle alternating current
Acoustics: Satisfactory x Unsatisfactory ___
Ventilation: Mechanical ventilation with ducts in wall of classroom.
Furniture: Movable _ Fixed x Both ___
Arrangement: Six rows, eight seats per row
Seating capacity: 48
Distance from
Front desks to wall 9 1/2'
Right row to wall 3'
Left row to wall 3'
Rear desks to wall 2 1/2'
Angle of vision from extreme front seats to center of classroom approximately 50 degrees.
Bulletin boards:
One board 4' x 3'. Insufficient for normal needs. At least another of the same size should be provided.
Blackboards: Adequate for usual needs
Storage space: Closet off classroom, 3' x 2' x 9'

Working area: None available

Remarks: The following steps should be accomplished to make the present facilities adequate for the use of audio-visual aids:

1. Remove the desk platform from the front of the classroom.

2. Improve the artificial lighting.

3. Install another bulletin board, 4' x 3'.

4. Remove the light suspended directly over the teacher's desk.
New Wing

Classrooms: In the new wing of the high school we have an additional six classrooms, a cafeteria, a home economics center, a printing shop, and a combination auditorium-gymnasium.

Room number 203 has been selected for development in the new wing as an audio-visual instruction center on the basis of availability and adaptiveness to the purpose.

Dimensions: Length 40' Width 22' Height 12'

Windows: 1 2 3 (4) 5 6 7 8 9 10
Size: 8 2/3' x 5' Double window
Shades: 1 2 3 (4) 5 6 7 8 9 10
Type: Combination opaque-translucent blinds.
Condition: Excellent for darkening classroom.
Heating: Radiators, combination heating-ventilating unit. No obstacle to utilization of teaching aids.
Lights: 0 1 2 3 4 5 6 7 (8) 9 10
Switches: 0 (1) 2 3 4 5 6 7 8 9 10
Outlets: 0 1 2 3 4 (5) 6 7 8 9 10
Location of fuse box: Second floor, directly across from the classroom.
Type of current: 110 volt 60 cycle alternating current.
Acoustics: Satisfactory _x_  Unsatisfactory ___

Ventilation: Mechanical ventilation with separate control.

Furniture: Movable ___ Fixed ____ Both _x_

Arrangement: Chairs can be placed as desired.
Lab tables in fixed position.

Seating capacity: 40

Distance from

Front desks to wall ___ 7'___
Right row to wall ___ 4 1/2'___
Left row to wall ___ 4 1/2'___
Rear seats to wall ___ 3 1/2'___

Angle of vision from extreme front seats to center of classroom approximately 45 degrees but can be changed to meet requirements.

Bulletin boards:
Sufficient to meet all normal demands. A total of six: two 4' x 4', four 2" x 4', plus a 10" cork board above all blackboards.

Blackboards: Adequate for needs.

Storage space: Closets in room off rear of classroom, 6' x 2' x 2 1/2'

Working space: Room off rear of classroom, 8' x 20' x 10'
Remarks: The present facilities in this classroom are sufficient for the successful employment of all teaching aids. No major changes are necessary.

The Auditorium-Gymnasium

A combination auditorium-gymnasium is available and has been used for showing films to large groups during the weekly assembly period. Folding chairs are used and are sufficient in quantity to seat the entire student body.

The facilities are not entirely satisfactory but adequate at the present stage of the audio-visual education program. At a future time however, the curtains should be replaced so the auditorium can be darkened to the degree required for the best projection possible. Until the classrooms are brought up to minimum standards it is felt no major changes should be undertaken in the auditorium.
Room Analysis Work Sheet

Name of school: Ashton Elementary School

Date of construction: 1850

Name of principal: Elizabeth M. Sullivan

Number of teachers: 3 Number of pupils 111

Classrooms: Grades one through eight housed in four rooms. Combinations, 1-2, 3-4, 5-6, and 7-8.

Room number 4 has been selected for development as an audio visual instruction center on the basis of availability and adaptiveness to the purpose.

Dimensions: Length 28 1/2' Width 30' Height 12'

Windows: 0 1 2 3 4 (5) 6 7 8 9 10

Size: All windows 3' x 7'

Shades: 0 1 2 3 4 (5) 6 7 8 9 10

Type: Both opaque and translucent

Condition: Excellent

Heating: Steam pipes along wall. No interference.

Lights: 0 1 2 3 4 (5) 6 7 8 9 10

Switches: 0 (1) 2 3 4 5 6 7 8 9 10

Outlets: (0) 1 2 3 4 5 6 7 8 9 10

Location of fuse box: Basement, boiler room.

Type of current: 110 volt 60 cycle alternating current.
Acoustics: Satisfactory  x  Unsatisfactory  

Ventilation: By opening windows.

Furniture:  Movable  ____  Fixed  ____  Both  ____

Arrangement: Seven rows, seven seats each row.

Seating capacity:  49

Distance from

- Front desks to wall  6'
- Right row to wall  3'
- Left row to wall  5 1/2'
- Rear seats to wall  2 1/2'

Angle of vision from extreme front seats to center of classroom approximately 40 degrees.

Bulletin boards:

One board  3' x 3 1/3'.  Inadequate.

Blackboards:  Sufficient for normal needs.

Storage space: Bookcase and cupboards in front of classroom, 10' x 1 1/2' x 8'

Working area:  None available.

Remarks:  To fully utilize this classroom in the audio-visual program:

1.  Install an electrical outlet in the rear of classroom.
2.  Improve the artificial lighting.
3.  Furnish a bulletin board, 4' x 3'.
Room Analysis Work Sheet

Name of school: Berkeley Elementary School
Date of construction: 1872
Name of principal: Katherine Simonds
Number of teachers: 4 Number of pupils 113
Classrooms: A total of six classrooms accommodating grades one through eight. Combined as follows: 1, 2-3, 3-4, 5-6, and 7-8. The sixth room is vacant.
Room number 6 has been selected for development as an audio-visual aid center on the basis of availability and adaptiveness to the purpose.

Dimensions: Length 25' Width 28 1/2' Height 12'

Windows: 0 1 2 3 4 5 (6) 7 8 9 10
Size: All windows 3 1/3' x 7'.

Shades: 0 1 2 3 4 5 (6) 7 8 9 10
Type: Translucent, unsuitable for projection purposes.

Condition: Fair

Heating: Steam pipes along side and rear walls. No interference.
Lights:  0  1  2  3  4 (5)  6  7  8  9  10
Switches:  0  (1)  2  3  4  5  6  7  8  9  10
Outlets:  (0)  1  2  3  4  5  6  7  8  9  10

Location of fuse box:  Basement, boiler room.

Type of current:  110 volt 60 cycle alternating current.

Acoustics:  Satisfactory  x  Unsatisfactory  ___

Ventilation:  By opening windows.

Furniture:  Movable  ___  Fixed  x  Both  ___

Arrangement:  Seven rows, seven seats per row.

Seating capacity:  49

Distance from

Front seats to wall  7'
Right row to wall  2 1/2'
Left row to wall  2 1/2'
Rear seats to wall  2 1/2'

Angle of vision from extreme front seats to center of classroom approximately 40 degrees.

Bulletin boards:

None available.

Blackboards:  Adequate for normal needs.

Storage space:  Cloakroom, 4 1/2' x 6' x 12'; Closet, front of class room, 2 1/3' x 3 1/2' x 12'

Working space:  None available.
Remarks: To effectively use this room for audio-visual instruction the following must be accomplished:

1. Equip classroom with opaque shades.
2. Install at least one electrical outlet at the rear of the classroom.
3. Provide two 4' x 3' bulletin boards.
4. Improve the artificial lighting.
Room Analysis Work Sheet

Name of school: Blackstone Elementary School
Date of construction: 1867
Name of principal: Mary E. McCormick
Number of teachers: 2 Number of pupils 80

Classrooms: Four classrooms in all. At present one vacant. Grades one through four in the following combinations: 1, 2-3, 3-4.

Room number 4 has been selected for development as an audio-visual instruction center on the basis of availability and adaptiveness to the purpose.

Dimensions: Length 24' Width 34' Height 12'

Windows: 0 1 2 3 (4) 5 6 7 8 9 10
Size: 3' x 7'

Shades: 0 1 2 3 (4) 5 6 7 8 9 10
Type: Translucent, incapable of darkening classroom sufficiently for projection

Condition: Fair.
Heating: Steam pipes along walls. No obstacle to the use of equipment or materials.
Lights: 0 1 2 3 4 (5) 6 7 8 9 10
Switches: 0 (1) 2 3 4 5 6 7 8 9 10
Outlets: 0 (1) 2 3 4 5 6 7 8 9 10
Location of fuse box: Basement. In boiler room.
Type of current: 110 volt 60 cycle alternating current.
Acoustics: Satisfactory _x_ Unsatisfactory __
Ventilation: Mechanical ventilators; air ducts in wall of classroom.
Furniture: Movable ___ Fixed _x_ Both ___
Arrangement: Six rows, seven seats per row.
Seating capacity: 42
Distance from
   Front desks to wall _7'_
   Right row to wall _7'_
   Left row to wall _9'_
   Rear seats to wall _3'_
Angle of vision from extreme front seats to center of classroom approximately _40 degrees_.
Bulletin boards:
   Two in number. Size 3' x 3'. Adequate.
Blackboards: Sufficient board space available.
Storage space: Cloakrooms, 3' x 34' x 12'.
Working area: Left side of classroom, 9' x 24'.

Remarks: To employ this classroom for audio-visual instruction the following must be accomplished:

1. Improve the artificial lighting.
2. Equip the room with opaque shades.
Room Analysis Work Sheet

Name of school: Central Grammar Elementary School
Date of construction: 1925
Name of principal: Margaret C. McGirr
Number of teachers: 5
Number of pupils: 155

Classrooms: An eight room building housing grades six through eight. Two grades at each level and two classrooms vacant.

Room number 5 has been selected for development as an audio-visual instruction center on the basis of availability and adaptiveness to the purpose.

Dimensions: Length 28' Width 34' Height 12'

Windows: 0 1 2 3 4 5 (6) 7 8 9 10
Size: All windows 2 1/3' x 7 1/2'

Shades: 0 1 2 3 4 5 (6) 7 8 9 10
Type: Translucent. Will not darken classroom sufficiently.

Condition: Unsatisfactory; should be replaced.

Heating: Radiators under window area. No obstacle to use of equipment or materials.
Lights: 0 1 2 3 (4) 5 6 7 8 9 10
Switches: 0 (1) 2 3 4 5 6 7 8 9 10
Outlets: 0 (1) 2 3 4 5 6 7 8 9 10
Location of fuse box: Hallway, first floor.
Type of current: 110 volt 60 cycle alternating current.
Acoustics: Satisfactory x Unsatisfactory ___
Ventilation: Mechanical ventilation; air ducts in cloakroom.
Furniture: Movable x Fixed ___ Both ___
Arrangement: As desired.
Seating capacity: 42
Distance from
Front desks to wall 8'
Right row to wall 3'
Left row to wall 3'
Rear seats to wall 5'
Angle of vision from extreme front seats to center of classroom approximately 45 degrees. Can be changed as desired.
Bulletin boards:
Only one board. Size 4' x 4'. Additional one required.
Blackboards: Adequate for normal demands.
Storage space: Cloakroom, 17' x 5' x 12'
Closet, front of classroom, 7' x 2 1/2' x 12'
Working area: Can be made by rearrangement of furniture.

Remarks: To fully utilize this classroom for audio-visual instruction the following improvements must be made:

1. Equip the classroom with opaque shades.

2. Install a new bulletin board approximately 3' x 4'.
Room Analysis Work Sheet

Name of school: Clark Street Elementary School
Date of construction: 1902
Name of principal: Elizabeth L. Fanning
Number of teachers: 3  Number of pupils 88

Classrooms: Four classrooms accommodating grades one through five in the following combination: 1-2, 3-4, 5, 5.

Room number 4 has been selected for development as an audio-visual instruction center on the basis of availability and adaptiveness to the purpose.

Dimensions: Length 30' Width 28' Height 12'

Windows: 0 1 2 3 4 5 6 (7) 8 9 10
Size: Variable. 5 - 3' x 8'; 2 - 4' x 8'.

Shades: 0 1 2 3 4 5 6 (7) 8 9 10
Type: Translucent. Cannot darken classroom enough for projection.

Condition: Fair.

Heating: Radiators under window area. No interference.
Lights: 0 1 2 3 4 (5) 6 7 8 9 10
Switches: 0 (1) 2 3 4 5 6 7 8 9 10
Outlets: 0 (1) 2 3 4 5 6 7 8 9 10
Location of fuse box: In basement, boiler room.
Type of current: 110 volt 60 cycle alternating current.
Acoustics: Satisfactory x Unsatisfactory ___
Ventilation: Mechanical system. Air ducts open into classroom.
Furniture: Movable ___ Fixed x Both ___
Arrangement: Six standard rows, seven seats each row.
Seating capacity: 42
Distance from
Front desk to wall 9'
Right row to wall 3'
Left row to wall 3'
Rear seats to wall 4'
Angle of vision from extreme front seats to center of classroom approximately 40 degrees.
Bulletin boards:
Three boards of varying sizes;
10 - 5' x 3', 2 - 4 1/2' x 3', 3 - 2 1/2' x 3'
Blackboards: Adequate for normal demands.
Storage space: Closet, right wall, center

3' x 7' x 12'

Working area: None available.

Remarks: To fully utilize the classroom for audio-visual instruction the only improvement required is the installation of opaque shades.
Room Analysis Work Sheet

Name of school: Community Elementary School
Date of construction: 1924
Name of principal: Ursula V. Kay
Number of teachers: 3 Number of pupils: 124
Classrooms: A four room school housing grades one through eight in the following combination: 1-2, 3-4, 5-6, and 7-8.
Room number 4 has been selected for development as an audio-visual instruction center on the basis of availability and adaptiveness to the purpose.

Dimensions: Length 22 1/2' Width 23' Height 12'
Windows: 0 1 2 3 4 5 (6) 7 8 9 10
Size: All windows 3 1/3' x 7'.
Shades: 0 1 2 3 4 5 (6) 7 8 9 10
Type: Translucent. Unsuitable for projection purposes.
Condition: Fair.
Heating: Radiators under windows area. No interference.
Lights:  0  1  (2)  3  4  5  6  7  8  9  10
Switches:  0  (1)  2  3  4  5  6  7  8  9  10
Outlets:  0  (1)  2  3  4  5  6  7  8  9  10

Location of fuse box: Basement boiler room.

Type of current: 110 volt 60 cycle alternating current.

Acoustics: Satisfactory ___ Unsatisfactory ___

Ventilation: Mechanical ventilation. Air ducts located in cloakroom.

Furniture: Movable  ___ Fixed  ___ Both  ___

Arrangement: As desired.

Seating capacity: 42

Distance from

Front desks to wall  7'
Right row to wall  4'
Left row to wall  6'
Rear seats to wall  3'

Angle of vision from extreme front seats to center of classroom approximately 40 degrees.

Bulletin boards:

One board, 4' x 3'. Inadequate

Blackboards: Adequate for normal needs.

Storage space: Principal's office off classroom, 14' x 10' x 12'
Working area: Can be made by rearrangement of furniture.

Remarks: To employ this classroom as fully as possible in an audio-visual instruction program:

1. Equip the room with opaque shades.
2. Improve the artificial lighting.
3. Provide an additional bulletin board, 4' x 3'.
Room Analysis Work Sheet

Name of school: Cumberland Hill Elementary School

Date of construction: 1861. Additions 1902 and 1914

Name of principal: Florence E. Thomas

Number of teachers: 2  Number of pupils 90

Classrooms: A total of four rooms housing six grades in the following combination: 1-2, 3-4, and 7-8.

Room number 4 has been selected for development as an audio-visual instruction center on the basis of availability and adaptiveness to the purpose in mind.

Dimensions: Length 25'  Width 30'  Height 12'

Windows: 0 1 2 3 4 5 6 7 (8) 9 10

Size: Variable; 2 - 2 1/2' x 5 1/2',

4 - 3 1/3' x 5 1/2', and 2 - 5 1/2'x 3',

plus a 20" transom over each window.

Shades: 0 1 2 3 4 5 6 7 (8) 9 10

Type: Translucent. Unsuitable for projection purposes.

Condition: Fair

Heating: Radiators beneath window area. No interference.
Lights: 0 1 2 3 4 (5) 6 7 8 9 10
Switches: 0 (1) 2 3 4 5 6 7 8 9 10
Outlets: (0) 1 2 3 4 5 6 7 8 9 10

Location of fuse box: Basement, boiler room.

Type of current: 110 volt 60 cycle alternating current.
Acoustics: Satisfactory x Unsatisfactory ___
Ventilation: Mechanical. Air ducts in cloakroom.
Furniture: Movable ___ Fixed x Both ___

Arrangement: Seven rows, six seats each row.

Seating capacity: 42

Distance from

Front desks to wall 7'
Right row to wall 3'
Left row to wall 7'
Rear seats to wall 3'

Angle of vision from extreme front seats to center of classroom approximately 45 degrees.

Bulletin boards:

One 5' x 3' board. Inadequate.

Blackboards: Adequate for normal needs.

Storage space: Closet, center of front wall,

3 1/2' x 3 1/3' x 12'

Working area: None available.
Remarks: To employ this classroom as an audio-visual instruction center:

1. Equip the windows with opaque shades.
2. Provide a bulletin board 4' x 3'.
3. Install an electrical outlet in the rear of the classroom.
Room Analysis Work Sheet

Name of school: Edgemere Elementary School
Date of construction: 1926
Name of principal: Ethel V. Draper
Number of teachers: 1 Number of pupils 42

Classrooms: A three room school housing four grades, a combination 1-2 and 5-6. One room is not in use.

Room number 3 has been selected for development as an audio-visual instruction center on the basis of availability and adaptiveness to the purpose.

Dimensions: Length 28' Width 24' Height 12'

Windows: 0 1 2 3 4 5 (6) 7 8 9 10
Size: All windows 3' x 7'.

Shades: 0 1 2 3 4 5 (6) 7 8 9 10
Type: Translucent. Not suitable for projection purposes.

Condition: Fair.

Heating: Radiators under window area.
No interference.
Lights: 0 1 (2) 3 4 5 6 7 8 9 10
Switches: 0 (1) 2 3 4 5 6 7 8 9 10
Outlets: 0 (1) 2 3 4 5 6 7 8 9 10
Location of fuse box: In basement boiler room.
Type of current: 110 volt 60 cycle alternating current.
Acoustics: Satisfactory x Unsatisfactory ___
Ventilation: Mechanical. Air ducts located in cloakroom.
Furniture: Movable ___ Fixed x Both ___
Arrangement: Six rows of seven seats.
Seating capacity: 42
Distance from
Front seats to wall 7'
Right row to wall 3'
Left row to wall 3'
Rear seats to wall 3'
Angle of vision from extreme front seats to center of classroom approximately 40 degrees.
Bulletin boards:
Two boards, size 1 1/2' x 3' plus a 10" strip above the blackboard area.
Blackboards: Adequate for needs.
Storage space: Closet, rear of classroom-
7' x 2 1/2' x 12'.
Working area: None available.

Remarks: To employ this classroom fully as an audio-visual instruction center:

1. Equip the room with opaque shades.
2. Improve the artificial lighting.
Room Analysis Work Sheet

Name of school: Garvin Memorial Elementary School
Date of construction: 1930
Name of principal: Mabel R. Stevenson
Number of teachers: 2 Number of pupils 34

Classrooms: A total of four classrooms. One capable of division by sliding doors in middle of room. Grades one through six in the following combination, 1-2, 3-4, and 5-6.

Room number 1 has been selected for development as an audio-visual instruction center on the basis of availability and adaptiveness to the purpose.

Dimensions: Length 22 1/2' Width 26' Height 12'

<table>
<thead>
<tr>
<th>Window</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5 (6)</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size</td>
<td>All windows 3 1/2' x 7 1/2'</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Shades: 0 1 2 3 4 5 (6) 7 8 9 10
Type: Translucent. Not capable of darkening classroom sufficiently for projection.
Condition: Fair
Heating: Radiators under window area. No obstacle to the use of equipment or materials.
Lights:  0 1 2 3 (4) 5 6 7 8 9 10
Switches: 0 (1) 2 3 4 5 6 7 8 9 10
Outlets:  0 (1) 2 3 4 5 6 7 8 9 10

Location of fuse box: Boiler room in basement.

Type of current: 110 volt 60 cycle alternating current.

Acoustics: Satisfactory x Unsatisfactory __

Ventilation: Mechanical ventilation. Air ducts located in cloakroom.

Furniture: Movable x Fixed _ Both __

Arrangement: As desired

Seating capacity: 40

Distance from
Front desks to wall 10'
Right row to wall 3'
Left row to wall 4'
Rear seats to wall 6'

Angle of vision from extreme front seats to center of classroom 45 degrees. Can be changed as required.

Bulletin boards:

A total of three boards. Sizes 3 1/2' x 4', 4' x 4', and 2 1/2' x 3'. Adequate.

Blackboards: Sufficient for all normal demands.

Storage space: Teacher's room off classroom-
12 1/2' x 9' x 12'
Working area: As desired by moving furniture.

Remarks: The following must be accomplished to prepare this classroom for the use of audio-visual aids:

1. Equip room with opaque shades.
Room Analysis Work Sheet

Name of school: Valley Falls Elementary School

Date of construction: 1850

Name of principal: Ruth W. Kibbee

Number of teachers: 2  Number of pupils 56

Classroom: A total of four classrooms available, three in current use - grades one through four in the following combination, 1, 2-3, and 3-4.

Room number 4 has been selected for development of audio-visual instruction center on the basis of availability and adaptiveness to the purpose.

Dimensions: Length 36' Width 24' Height 11'

Windows: 0 1 2 3 4 5 6 (7) 8 9 10

Size: All windows 3' x 5 1/2'.

Shades: 0 1 2 3 4 5 6 (7) 8 9 10

Type: Translucent. Not capable of darkening classroom sufficiently for projection.

Condition: Fair.

Heating: Steam pipes along wall. No obstacle to the use of materials or equipment.
Lights: 0 1 2 3 4 (5) 6 7 8 9 10
Switches: 0 1 2 3 4 5 6 7 8 9 10
Outlets: (0) 1 2 3 4 5 6 7 8 9 10

Location of fuse box: Basement-in boiler room.

Type of current: 110 volt 60 cycle alternating current.

Acoustics: Satisfactory x Unsatisfactory ___

Ventilation: Only means by opening windows.

Furniture: Movable ___ Fixed x Both ___

Arrangement: Four rows, eight seats per row.

Seating capacity: 32

Distance from

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Front desk to wall</td>
<td>9'</td>
</tr>
<tr>
<td>Right row to wall</td>
<td>6'</td>
</tr>
<tr>
<td>Left row to wall</td>
<td>6'</td>
</tr>
<tr>
<td>Rear seats to wall</td>
<td>6'</td>
</tr>
</tbody>
</table>

Angle of vision from extreme front seats to center of the classroom approximately 60 degrees.

Bulletin boards:

A total of two, size 3' x 4'. Adequate.

Blackboards: Adequate for needs.

Storage space: None available.

Working area: None available.
Remarks: To utilize this classroom as an audio-visual instruction center the following must be accomplished:

1. Improve the artificial lighting.
2. Provide sufficient storage space for materials.
3. Equip the room with opaque shades.
4. Install an electrical outlet in the rear of the classroom.
Inventory of Equipment.

In conjunction with the preceding inquiries made during a survey of the entire school system, an inventory was taken to determine the quantity, location, and condition of all items of equipment provided by the school department and essential in a well balanced program of audio-visual instruction.

The devices particularly sought were:
1. Sound and silent 16 mm. movie projectors.
2. Radios.
3. Phonographs.
4. Lantern slide projectors.
5. Film slide projectors.
6. 2" x 2" slide projectors.
7. Movie screens.

It was the initial intention of the writer to devote an entire page to each school; however, the small amount of equipment uncovered would not warrant the needless expenditure of space. Each school has been listed together with whatever equipment it possesses but consolidated in the interest of brevity.
<table>
<thead>
<tr>
<th>School</th>
<th>Item Description</th>
<th>Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cumberland High School</td>
<td>Ampro 16 mm. sound projector</td>
<td>Serviceable</td>
</tr>
<tr>
<td></td>
<td>Ampro turntable attachment</td>
<td>Reparable</td>
</tr>
<tr>
<td></td>
<td>Microphone attachment</td>
<td>Serviceable</td>
</tr>
<tr>
<td></td>
<td>Movie screen, glass beaded, 6' x 4'</td>
<td>Serviceable</td>
</tr>
<tr>
<td></td>
<td>Keystone Lantern slide projector</td>
<td>Serviceable</td>
</tr>
<tr>
<td></td>
<td>Keystone stereoscope</td>
<td>Serviceable</td>
</tr>
<tr>
<td></td>
<td>Duplicating machine, -stationary</td>
<td>Serviceable</td>
</tr>
<tr>
<td>Ashton Elementary School</td>
<td>Duplicating machine, -portable</td>
<td>Serviceable</td>
</tr>
<tr>
<td>Berkeley Elementary School</td>
<td>Radio</td>
<td>Serviceable</td>
</tr>
<tr>
<td></td>
<td>Phonograph</td>
<td>Serviceable</td>
</tr>
<tr>
<td></td>
<td>Duplicating machine, -portable</td>
<td>Serviceable</td>
</tr>
<tr>
<td>Blackstone Elementary School</td>
<td>Duplicating machine, -portable</td>
<td>Serviceable</td>
</tr>
<tr>
<td>Central Grammar Elementary School</td>
<td>Phonograph</td>
<td>Reparable</td>
</tr>
<tr>
<td></td>
<td>Duplicating machine, -portable</td>
<td>Serviceable</td>
</tr>
<tr>
<td>School</td>
<td>Item</td>
<td>Condition</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>-----------------------</td>
<td>------------</td>
</tr>
<tr>
<td>Clark Street Elementary School</td>
<td>Duplicating machine, portable</td>
<td>Serviceable</td>
</tr>
<tr>
<td>Community Elementary School</td>
<td>Phonograph</td>
<td>Serviceable</td>
</tr>
<tr>
<td></td>
<td>Radio</td>
<td>Serviceable</td>
</tr>
<tr>
<td></td>
<td>Duplicating machine, portable</td>
<td>Serviceable</td>
</tr>
<tr>
<td>Cumberland Hill Elementary School</td>
<td>Duplicating machine, portable</td>
<td>Serviceable</td>
</tr>
<tr>
<td>Edgemere Elementary School</td>
<td>Duplicating machine, portable</td>
<td>Serviceable</td>
</tr>
<tr>
<td></td>
<td>Phonograph</td>
<td>Reparable</td>
</tr>
<tr>
<td>Garvin Memorial Elementary School</td>
<td>Radio</td>
<td>Serviceable</td>
</tr>
<tr>
<td></td>
<td>Duplicating machine, portable</td>
<td>Serviceable</td>
</tr>
<tr>
<td>Valley Falls Elementary School</td>
<td>Duplicating machine, portable</td>
<td>Serviceable</td>
</tr>
</tbody>
</table>
CHAPTER V

The Plan

Organizing and Administering A Department of Audio-Visual Education

The first step in establishing a Department of Audio-Visual Education is the selection and the appointment of a director. After making the decision to incorporate such a department into the school organization, the superintendent must secure the services of a teacher, preferably on a full-time basis, to administer it. The qualifications this person should possess are:

1. "... a director must be a scholar, with a broad knowledge of the fundamental principles of modern education. He must know subject matter and the technique of teaching."

2. "Extensive teaching knowledge, and if possible, actual experience in the grades and high school ..."

3. "Supervisory experience, since teachers often must be trained to use visual materials effectively ..."

4. "A reasonable amount of business ability seems necessary."
5. "A thorough knowledge of the problem of visual instruction is essential. This qualification is of paramount importance."

6. "... must have the happy faculty of knowing how to cooperate with both supervisors and teachers. . . . be extremely tactful and work slowly and humbly . . . . endeavor to inspire interest . . . . offer suggestions . . . . but never dictate."

Immediately on appointment the superintendent should outline the duties and responsibilities of the new staff member. His position should be equivalent in standing to the supervisors of art, and music. In all matters relating to audio-visual instruction he should be personally responsible to the superintendent. In the schools he should act in an advisory capacity.

Official notice should be given to the appointment of the new staff member either in writing or in a teachers' meeting early in the school year. An opportunity should also be provided for the director to explain his function to the school committee.

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Other than the clerical assistance that may be received, the entire function of the department will, in the initial stages of the program, rest upon the director. A list of the general duties to be performed are given by Dorris² and with slight modification cover the responsibilities and tasks in this system.

1. Organization and general supervision of department and office help.
2. Making and spending the budget.
3. Consulting groups of teachers, principals, and supervisors regarding types of materials needed.
4. Selecting and buying all types of materials for all subjects in all grades.
5. Organizing and classifying materials for certain subject matter or problem.
6. Selecting and buying all types of apparatus needed, such as projectors, screens, etc.

² Ibid., pp. 337-338.
7. Issuing bulletins regarding materials on hand, and their use in developing certain problems, and holding special meetings.

8. Holding teacher's meetings by grades to give general suggestions and to demonstrate how to use new apparatus and materials.


10. Compiling, with the cooperation of teachers, principals, and other administrators, a course of study or teachers' guide, which shall treat of the pedagogical use of visual materials and offer suggestions as to how materials may be used in different types of lessons in the various grades.

11. Supervising the organization and compilation of an annual catalogue.

12. Visiting schools to help teachers with special problems.
13. Giving advice and assistance to community clubs, and speaking before them.

14. Conducting special university or college course in visual instruction once or twice a week after school hours. Teachers need the opportunity to take these courses, and full college credit should be given for them.

15. Supervising the preparation of the annual report to the superintendent of schools and the board of education.

16. Occasionally previewing motion-picture films with groups of teachers, to determine suitable material.

The Audio-Visual Education Committee

The unusually long distance between schools raises the problem of adequate attention being given to all. To insure prompt service an assistant to the director chosen by a committee made up of the superintendent, the principal of the school concerned,
and the director should be selected and receive special training. The members of the committee shall familiarize themselves with the problems peculiar to their building and present them at the periodic meeting of the group. They will be responsible for the coordination of the central department with the individual schools.

The Budget

Funds for the operation of the department should be appropriated by the school committee on the recommendation of the superintendent of schools. The expenditure of this allotment should be the responsibility of the director subject to the approval of the superintendent in cases of unusually large purchases. In the interest of long range planning, funds left at the end of the year should be credited to the department for the coming term.

The unstabilized condition of the industrial scene makes the quotation of any set sum very difficult. Manufacturers are raising prices constantly. Any budget drawn up must be given certain latitude because of this condition. Generally
speaking one dollar (1.00) per pupil plus an additional one thousand dollars ($1000.00) for initial expenditures should see the department through the first year. The total sum, if approved, would provide approximately twenty-four hundred dollars ($2400.00) for necessary improvements and purchases.

Functions of the Department

The services to be rendered by the department are of two types, educational and mechanical. All are under the direct supervision of the director but are not necessarily accomplished by him personally.

The educational services to be provided are:

1. Teacher training.
2. Selection and evaluation of equipment and materials.
3. Integration of audio-visual aids into the educational program.
4. Supervision.
5. Promotion of the department.
The mechanical services to be made available are:

1. Storage, maintenance, and repair of equipment and materials.

2. Physical production of audio-visual aids.

3. Distribution of equipment and materials.


5. Development of physical facilities.

The exact functions to be performed under each of the above headings are discussed in detail in the succeeding pages. They are presented in the light of the recent survey, the experience of the writer, and current practices in the field.

Educational Services

Teacher Training

The success of any teaching aids department depends, in the last analysis, on the teachers who employ these aids in daily classroom instruction. Excellent though the available aids may be, until they are made a vital part of classroom activities the director has not succeeded in his task.
Most teachers are eager to find new means for imparting understanding to pupils. Methods and materials have found ready acceptance if instructors could be convinced of their value. One of the primary tasks of the director of audio-visual instruction then is the in-service training of the teaching staff in his locality. This is necessary duty because until quite recently teacher training institutions have failed to give any emphasis to this important phase of instruction.

Thornton states the need in these words:

"We can expect little progress until teachers have become convinced of the value of these aids, have some knowledge of the best methods for their use and have some standards by which to measure their effectiveness."

Trolancer recognizes the necessity and comments:

"We can expect no great progress in visual education until the teachers know why the aids are needed, have certain standards by which such aids are judged, and know something of the best method -- insofar as they have been determined -- for the use of aids."

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A course in this subject is obviously a must. The content should be threefold in purpose. First, it should justify the use of teaching aids by an analysis of the literature and by demonstration lessons taught by the director; second, criteria for the selection and evaluation of teaching should be determined; third, the technical and mechanical skills essential in the intelligent use of these devices should be taught.

In this plan the course will be given at the building where the teachers are at work. The content will emphasize the points mentioned in the preceding paragraph. Approximately five meetings of an hour and one-half will be required to cover the material. The course will be given after school hours and attendance will be optional. Classes will start as soon as the routine work accompanying the re-opening of school is completed.

Personal instruction will be given upon request at the central office. Hours will be posted during which time teachers can make use of this service.

A library of books and periodicals will be maintained at the central office. These references will be available to teachers on request and if
desired will be delivered along with routine materials. A list of these and texts added to this proposed group will be included in a mimeographed booklet distributed to all teachers.

The books to be included are:


The periodicals to be made available are:

The Educational Screen

See and Hear
Selection and Evaluation of Equipment and Materials

Introduction

At the present time the market is flooded with a wide variety of audio-visual aids. A number of them are as traditional as the slate blackboard, while others have been developed as a result of the recent needs of the Armed Forces. They vary in price from fraction of a cent to figures with four digits. The task of making a selection is further complicated by the large number of concerns manufacturing these items. What to buy and where to buy it?

An inventory of equipment on hand revealed few aids available to the classroom teacher. The high school is much better off in this than the elementary schools but even there additional items are required. In making a choice the overall program must be considered. It is from this point of view that the problem has been attacked.

Projection Aids

The technical nature of projection equipment
presents the problems of operation, maintenance and repair, storage and distribution, as well as high cost to the prospective buyer. Comparing the needs of the town to the anticipated budget, cost and utility must be the governing factors.

It is obvious that sound movie projectors are beyond the range of the system. Their cost would limit the quantity purchased to an amount far short of present needs. They are heavy, somewhat difficult to operate, and easily damaged. Films, though easily obtained and at a reasonable rental fee, must be booked far ahead and in a system so far flung geographically and varying so much in grade combinations it would be most difficult to employ them efficiently. The solution to the problem lies in the use of the Tri-Purpose Projector and film strips.

This device satisfies the requirements as determined in a study made by Hazlett who remarks:

"The criteria for the selection of equipment are (1) portability, (2) ease of operation, (3) simplicity of construction, (4) intensity of illumination, and (5) cost."

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Furthermore, film strips and slides can be purchased and stocked at the central office for distribution whenever teachers deem their use necessary. They are comparatively inexpensive, easily stored, and can be found in a wide variety of subjects. The transportation problem would be nil. Their size would even make mailing a possible agent for distribution.

Local facilities could be used for the production of special film strips and slides. A 35-mm. camera, film, and willing teachers and pupils are the only requirements. A small darkroom and a minimum of equipment are available. Much will be accomplished along this line.

When not in use the projector can be stored in a desk drawer. It is very compact and comes in a handy carrying case, and so simple to operate, a pupil in the lower grades could easily be taught to be a projectionist. Its cost makes it possible to have one in each school building with an extra one in the high school.

The emphasis placed on the use of film slides does not mean the elimination of sound movies from the program. In the development of the department
it is hoped that each school has a 16-mm sound motion picture machine as part of its regular building equipment. Until such time as funds are available in amounts to absorb the expense equipment must be purchased that can be used in a school-wide program.

Films will be secured for use in the high school as they have been in the past. Membership in the Boston University Film Library will place at the disposal of secondary school people films in every subject. The films will be selected by the teachers concerned. Other sources, including commercial firms, will be tapped. As the films are used they will be evaluated and permanent records maintained of their effectiveness. Under no circumstances will films be purchased.

Auditory Aids

During the first phase of the teaching aids program it will be impossible to spend any funds for the purchase of new auditory aids. The repair and maintenance of existing equipment will be the only budgetary allowance made for this type of device.
At a later date the program calls for the purchase of a combination radio-phonograph for each school building together with the establishment of a library of records and transcriptions.

Other Audio-Visual Aids

Flat pictures have unlimited possibilities in this program. They can be secured at a minimum of cost and can be prepared for use by mounting them on common construction paper. Pictures in all subject matter fields can be obtained long before they are incorporated into school texts.

Dorris⁶ realizing the importance of pictures states:

"The educative power of the picture is so universally recognized by industry, commercial, and transportation concerns, as the most effective means of advertising, that their advertising literature has come to contain the finest and most authentic pictures that can be obtained."

Periodical literature is undoubtedly the best source of these pictures. A drive throughout the school system would be the best way to obtain

⁶ Dorris, op. cit., p. 76.
sufficient copies of magazines to make a start in this project. Volunteers could mount the pictures and classify them as to subject. Later they could be filed in manila envelopes by subject and cross-referenced in a card file.

Models, objects, specimens and exhibits utilizing a combination of them, will be a part of the stock of the department. Encouragement will be given to teachers to assist in building this section by making contributions of suitable materials. Class projects offer splendid opportunities. The director will be alert for suggestions in periodical literature for the local production of these aids. Directions extracted from the article and mimeographed could then be distributed to all teachers concerned.

A list of field trips within easy access of the schools will be made. Contacts with persons charged with guest relations at these various places will be made and lists of these places distributed to those interested. All desiring to make the trip will secure transportation through the director.

Evaluation

Although the director may be capable of
evaluating equipment and materials in a general way and from a technical point of view, the opinion of teachers using the devices should be weighed before any major purchases are made. This is especially true of materials since they bear directly on the subject being taught. The most accurately drawn map that fails to illustrate the point in a geography lesson, the film strip that in spite of the excellence of its composition misses the purpose for which it was intended, and the sound motion picture that has been greatly overrated by the producer in his advertising might be employed once in the system but once they are found to be inadequate this fact should be made a matter of record.

Included in each set of materials distributed will be a form to be returned with the aids on which the user has given his opinion of them in relation to the lesson taught. The evidence collected in this fashion will be tabulated and materials not fulfilling the specific purpose will be eliminated from future use. A notation will be made in the filing system to insure that it will not be re-ordered.
Materials slated for outright purchase should be previewed by a group of teachers familiar with their content. Evaluation should be determined on the basis of subject area, grade level, and excellence of the aid. The findings should be published in the bulletin distributed by the department for the benefit of other interested instructors.

Integration of Audio-Visual Aids Into the Educational Program

The responsibility of "visualizing the curriculum" is a major educational service rendered by the department of audio-visual instruction. The successful attainment of this goal includes all the contributing phases of the program. Actually visualizing the curriculum means providing the maximum number of devices that will increase the effectiveness of teaching and the efficiency of learning. To accomplish this aim it is necessary to know what is being taught and when it is scheduled to be taught. In this way the director and the committee designated to assist

him, know approximately what is needed and when
the demand for its use will arise.

In systems where the course of study is out-
lined in terms of aims and objectives, methods and
materials, and specific content, the task is greatly
simplified. In the present situation there is no
such existing compilation of data. One of the pri-
mary tasks will be the organizing of committees on
each grade level in the elementary school and in
each subject matter field in the high school for the
purpose of determining what is being taught and
approximately when.

Reference is being made to the time factor
because the mechanics of procuring and distributing
materials demands a knowledge of dates. Decreased
emphasis will be placed on the teaching schedule
when sufficient materials are acquired to allow dis-
tribution to all whenever requested.

Once the curriculum has been visualized,
periodic supplements will be issued to include new
materials in the instructional program and to elimi-
nate those that have become outmoded and useless.

Supervision

In addition to the regulation of the mechanical
aspects of the program the director must pay a great deal of attention to the supervision of the use of teaching aids. "... one of the first jobs of the director is to survey his group and locate interests, experiences, and needs: ... to locate strengths that require only maintaining and further capitalization, and weaknesses that require strengthening. "

Extreme caution must be used in this task. Personalities are apt to clash when even helpful criticism is given. Nothing can be advised more than the continued use of good common sense. Praise should always precede criticism. The director should suggest, never dictate. Advice should be advanced when asked for and never forced upon any teacher.

Often times the director will be tempted to lose patience with his associates. A realization of the difficulties of the classroom teacher and a knowledge of the problems peculiar to the various grade levels and areas of subject matter will do much.

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[Text not legible]
to ease the most trying situation.

Promotion of the Department

The lasting success of any educational program lies in its acceptance by those directly concerned. In this case the director has to put the department across to three groups: the school staff, the pupils, and the community. The teachers because they make or break the program; the pupils because their assistance and cooperation can ease the mechanics of the work; and the community because they can, through the school committee, request additional emphasis be placed on audio-visual instruction and again they might donate equipment or materials to the schools.

Teachers' meetings, brief in-service courses, demonstration lessons, and a monthly information bulletin are some means of calling attention of the teachers to the work.

Pupils can be induced to participate in the development of the section by organizing the photographic club, a student projectionist club, a school paper, and similar activities. Their natural interest
in these extra-curricular pursuits will be sufficient stimulus to get their aid.

Community interest in this new department can be gained by speaking at the meetings of social clubs, rendering assistance to civic groups in similar activities, and giving timely information to the press through the superintendent's office concerning the program.

The latter phase of the promotion program is recognized as important by McKown and Roberts who make this statement:

"Because audio-visual instruction as a definite part of educational policy is new in most schools it must be developed and so presented to the community that it will merit and win wholesome support. Such support is especially needed in this program (1) because of the rather considerable financial investment in it, and (2) because of the possibility that the community will consider parts of it, such as motion pictures and radio, to be merely forms of commercialized entertainment instead of seriously planned education."

During the annual exhibition held at the high school an all out effort will be made to sell the program to the hundreds of parents who normally attend. A demonstration lesson, exhibits of

9 Ibid., p. 52
equipment and material with students nearby to ex-
plain the object of the particular device, and the
distribution of a bulletin giving the purposes of
the program in the language of the layman, to gain
community support will be presented.

Mechanical Services

Storage, Maintenance, and Repair

of Equipment and Materials

Storage

All equipment and materials designated for
use on a loan basis will be stored in the central
office of the department when not in active use.
This will protect them from possible improper
handling by unauthorized persons. It will also ease
the maintenance problem to have all the items to be
checked in one location.

Facilities for storing individual items will
be developed as the need arises. Cabinets for the
filng of collections of flat pictures and photo-
graphs, shelf space for storing models, specimens,
and exhibits, cases for the filing and protection of phonograph records, special drawers for stocking film strips and slides are all examples of provisions that will be made at the required time.

All material will be catalogued and complete records kept on its use. Further consideration has been given in the section devoted to the keeping of records. The Dewey Decimal System will be employed and all materials will be classified and catalogued under this system. Space will be provided in the file for a complete description of the material; its source, cost, grade, subject, and value. In cases where the material is adaptable to more than one subject the necessary cross-reference will be made. This information will be kept on a 3" x 5" card properly captioned for this purpose.

**Maintenance**

An ounce of prevention is worth a pound of cure. Preventive maintenance is the secret of long and dependable service of all mechanical devices. Precautions must be taken at the outset of any program employing mechanical equipment to insure the
accomplishment of routine inspections. The frequency of these periodic checks is determined by the extent of use. The greater the use the more often the need for examination.

Projection Equipment

On all items of equipment will be fastened an inspection tag. This will be a common shipping tag lined to accommodate the date of inspection and the initials of the person completing it. This check will include:

1. An examination of the exterior of the machine for any obvious defects, especially worn or frayed wires.

2. The lubricating of the machine as directed by the manufacturer in the manual accompanying the equipment.

3. An inspection of the optical system to insure the brilliancy of projection. Extreme care must be used since optical glass is easily scratched. Lens cleaning fluid and
lens tissue are the only agents safely used. Again, directions for this task are given by the company producing the device.

4. Cleaning the film channels, rollers, and sprockets of any foreign matter. A soft cloth moistened with carbon tetrachloride is helpful. Difficult places can be reached with a camel's hair brush. In no case use a metal object for this purpose.

In case the manual of directions has been lost a typewritten list of directions for accomplishing this inspection should be secured to the carrying case.

On the reverse side of the inspection tag will appear three lines; one for the projection lamp, another for the exciter lamp, and the third for the trouble light. In this space will be written the date the particular lamp was installed. When one burns out the life of the lamp can easily be determined.
In the central office a record card will be kept of each piece of equipment owned by the town. This record will indicate the name, model, and serial number of the item, the manufacturer, the date of purchase, the vendor and any other information pertinent to a complete understanding of the machine. The number of clock hours of operation will be kept on this card. This information will be extracted from evaluation reports received from the users.

Until capable inspectors are trained this work will be the task of the director. After a short time it is anticipated that student operators will accomplish the assignment.

Equipment and materials, other than these discussed, will have specific provisions made to insure its protection. Flat pictures, photographs and the like will be filed and distributed in sturdy manila containers. Models and specimens will be securely packaged for delivery and carefully shelved when not in use.

Repair

Despite the efforts of the most conscientious
department, breakdowns, both major and minor, will occur. Aware of this, plans should be made ahead of time to cope with any difficulty. Equipment tied up for even a short space of time can sabotage the entire teaching aids program.

The correction of minor difficulties is the task of the director. He should be sufficiently acquainted with the equipment to accomplish these tasks with little trouble. A supply of spare parts should be stocked at the central office. Projection and exciter lamps, trouble lights, fuses, and pulley belts should be in all movie projectors. Other projection devices should have an equivalent variety of replacement parts. The exact items to stock is something learned from experience or from others operating similar equipment. A selection of tools adaptable to these precision machines makes for speedy servicing. Again the type of tools depends on the machines on hand.

On the whole auditory devices demand greater skill in making repairs. Unless the source of trouble is positively determined the services of a skilled technician should be sought.

Other teaching aids employed such as models,
exhibits, and specimens might become unserviceable but the variety of aids in this category makes any suggestion other than the use of good common sense merely a guess.

Major repairs should receive the prompt attention of a competent repairman. A local photography shop dealing in audio-visual aids will be responsible for this phase of repairing. During the period the school's equipment is unusable the company will provide a substitute. In this way the program will be uninterrupted.

Physical Production of Audio-Visual Aids

Until the teaching aids program is well under way limited time will be given to the production of devices in the central office for distribution in the system. Encouragement will be given and materials provided for teachers interested in the making of lantern slides or building a model or exhibit. After the administrative machinery has been set in operation and has reached the routine stage, stress will be placed upon the production of photographic teachings aids. This will include taking and printing
pictures, making 2" x 2" slides (black and white and Kodachrome), and making film strips. Every attempt will be made to take all pictures in the locality in an effort to tie up the school work of the pupil with community life.

At the secondary school level the photographic club is expected to lend great assistance in both the taking and preparation of photos for exhibition.

Distribution of Equipment and Materials

The place for audio-visual equipment and materials is not on the shelves of the central offices of the department, but in daily use in the classrooms of the school system. The task of getting these aids into active instructional programs falls upon the director. Provisions must be made and facilities developed for their efficient distribution.

During the primary stages of the departments growth this will not require too much attention since there are not sufficient aids to distribute. However, in a comparatively short time this will develop into a major mechanical task.
The school buses are probably the best and speediest medium for the transportation of these teaching devices. Daily runs are made between all the outlying villages and the high school building, the location of the department. This utilization of existing facilities provides a means of distributions at no extra cost and extending excellent service. Materials requisitioned by schools in the southern end of the town will be delivered by the director or picked up at the high school by teachers desiring their use.

All flat pictures and the like will be packed in heavy manila envelopes properly marked as to content and destination. Models and exhibits will be delivered in some type of cardboard or wooden container. Fragile items, such as records, will also receive special attention.

Equipment will be shipped in the cases provided for its transportation. In the event none are available they must be constructed without delay. The cost of audio-visual devices warrants strict care in their handling.

Maintenance of Records

Even in a department of audio-visual instruction
serving a small school system the maintenance of complete and accurate records is essential if efficient operation is to be guaranteed. The variety of records will be determined by growing needs of the department. At the present stage it would appear that the following would suffice:

1. Teacher's requisition blank.

2. Equipment and material record, showing manufacturer, model, date of purchase, cost, etc.

3. Card index of all material on hand for distribution and all known sources of material. A brief description and an evaluation should be included. Items of value in more than one field should be cross-referenced.

4. Equipment inspection tag made up on a common shipping tag and fastened to each piece of equipment. Space for the name, model, serial number, and similar information should be included. Date of inspection, initials of inspector and similar information should be provided.
5. Score card for the evaluation of aids to be returned after use. Determine the appropriateness of the material for the subject and grade and the actual use made of it.

Departmental requisitions will be made on blanks usually furnished by the commercial firms dealing in teaching aids or on regular school department requisition blanks.

All record forms will be mimeographed or printed as the case warrants. This will reduce writing to a minimum and standardize the forms throughout the system.

At the termination of the school year the information recorded in this fashion will be available for ready use in preparing the department's annual report to the superintendent.

Development of Physical Facilities

Having been discussed in great length in the preceding chapter there is no need for any further amplification of the subject of physical facilities. Steps will be taken in the initial stages of the program to accomplish the changes needed to have one
classroom in each building prepared for the use of teaching aids. The necessary modifications are listed for each school in the portion of the survey devoted to the particular building. These improvements constitute a minimum construction program for this system.

Looking Ahead

Weighing the progress of audio-visual education in the past and observing its growing significance in the present causes one to speculate as to the future of this phase of instruction. Gains are bound to be made. Mere observation of current periodical literature, commercial advertising, radio, and the movie indicate the hold these everyday teaching aids have on American thought. The appeal to the public for causes good, bad, and indifferent employ one or more of these mediums to insure success. The effectiveness of audio-visual aids made military training a streamlined process. Schools are eagerly developing programs of audio-visual instruction to better the quality of teaching and increase the ease of learning. What does the future have in store?
"Crystal gazing is for the fakers, prognosticating is for the seers. We are neither. Prophe\textvisiblespace{s}ying a few years ahead about anything is hazardous... and twenty-five years is like long range weather forecasting... anybody's guess."

In spite of the risk involved the Noels\textsuperscript{10} have ventured a prediction of the status of audio-visual education in 1970.

"... we predict:

1. Good leadership in the field by audio-visual education specialists.

2. Extensive use of audio-visual materials by out of school agencies.

3. Recognition of the broad concepts of audio-visual education as applied to the educative process.

4. Great emphasis on the development of teacher competency in both its pre-service and in-service aspects.

5. Public acceptance and financial support of audio-visual education.

6. Development of better equipment and materials.


\textsuperscript{11} Ibid., p. 69.
7. Adequate physical provisions for the use of audio-visual materials in the classroom.

8. Extensive research leading to better materials and equipment, proper curriculum placement, better utilization, and the development of skills in seeing and hearing.

9. Continuous decentralization in the location of materials.

10. Widespread development of professionally staffed Audio-Visual Education Departments offering broad materials and professional services to school staffs.

11. Use of audio-visual materials by most of the nations of the world in their educational programs...
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