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A Survey of the use of projected visual aids in the public schools of Montana

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A SURVEY OF THE USE OF PROJECTED VISUAL AIDS IN THE PUBLIC SCHOOLS OF MONTANA

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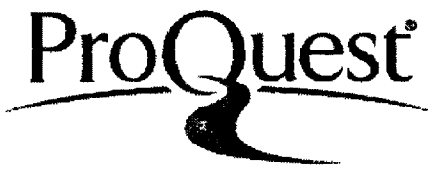

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CHAPTER I

THE PROBLEM

The value of projected visual material in education has been firmly established by the use made of these aids in the Armed Forces during World War II. School men today are asking themselves, "If the Armed Forces attained such good results, how can we use the same aids and achieve the same results scholastically?" They logically look to the State Department of Public Instruction and the teacher-training institutions for assistance. In order to facilitate such assistance, it seems desirable that definite information be secured concerning current practices and beliefs in Montana in regard to (1) projected visual equipment and materials suitable for public schools, (2) the purposes for which these projected visual aids may most effectively be used, and (3) the techniques involved in their use. To the best of the writer's knowledge, no material is available in published form regarding the use of projected visual aids in the public schools of Montana.

Statement of the Problem

Briefly stated, it was the purpose of this study (1) to determine current practices and beliefs regarding the use

of projected visual aids in the public schools of Montana, (2) to evaluate these practices and beliefs in terms of a set of standards based on the results of research and recommendations of experts in the field, and, (3) in the light of this analysis, to present suggestions for improvements in the use of projected visual material in the classroom.

Importance of the Study

The achievements of various schools in the use of projected visual aids, advertisements on the subject, the literature published in the field, and talks with teachers and superintendents have convinced the writer that there has been substantial increase in the use of projected visual aids within the last ten years.

Use, however, does not necessarily mean effective use. Perhaps the crucial question is not how much equipment to have, but how that equipment is being used.

A few enthusiasts have been thinking of the use of projected visual aids in the classroom as an entirely new way of teaching. Some have even expressed the opinion that the day will come when teachers will no longer be necessary. According to this small group, teachers will not be teachers as we know them today, but rather, operators of machines.

The whole field of education, according to them, will be taken over by projectors.

In the face of the tremendous increase in the use of projected visual aids and the various points of view that have been expressed by certain enthusiasts, the typical classroom teacher, who has not had much formal training in this field, may well be perplexed. She has reasonable grounds for wondering how the use of projected visual material fits in with the conventional teaching procedures.

Does any projected visual material teach by itself, or is it merely another aid in teaching? Is it possible to use a projected visual aid as a supplement to our regular class work, as an integral part of our lesson, or is it possible to use it as a lesson wholly by itself? A good teacher may, during the course of three or four weeks, lecture, ask questions, discuss, have the students give reports, show a moving picture, have a panel discussion, organize a field trip, or arrange a demonstration. The lecture seems to have its purpose, as does the discussion and the questioning. Each method of presentation appears to have its value at a particular time. A method must be a part of an over-all plan whereby the class can reach a certain objective. Are projected visual aids a part of

that plan, or are they the plan itself? Should projected aids correlate with the regular classroom work? Answers to those questions constitute a major part of the basic philosophy of the use of projected visual aids in the teaching process and seem to be fundamental from the point of view of the classroom teacher.

With those considerations in mind and at the risk of some repetition, the more specific reasons for undertaking this survey may be stated as follows:

1. to enable the writer to become familiar with the present philosophy of Montana educators in regard to the use of projected visual aids in the public schools of the state,
2. to discover how current practices in Montana schools compare with Montana educators' beliefs in regard to the use of projected visual aids and with the practices recommended by experts in the field, and
3. to make the information gained through the study available to others such as school administrators and teachers, members of the State Department of Public Instruction, and to those in charge of the teacher-training institutions.

By having the results available, school administrators and teachers may evaluate their own practices from a wider point of view, comparing or contrasting their practices with those carried on throughout the state. In addition, it is hoped that greater familiarity with the policies of the State Film Library may lead to more effective use. It is anticipated further, that a reasonably clear-cut picture of current beliefs and practices in this field will be of use to those responsible for statewide leadership of the public schools, not only in stimulating better use in improvement of the curriculum, but in encouragement of improved instructional practices, and in training of teachers so that the latter will make better use of visual aids.

Definitions of Terms Used

Projector. A projector is an optical device which is used to project a magnified image on a screen.

Motion picture projector. There are two kinds of motion picture projectors, the sound machine and the silent machine. The public schools usually use the 16 mm. projectors, while the public theaters usually are equipped with 35 mm. projectors. The sound motion picture machine can be

used for either sound or silent films, whereas the silent machine can be used only with silent films.

Projector for 3¼ x 4" slides. This machine usually is known as the standard lantern slide projector. On this machine the light passes through a large area. This means that less darkness is required in the room because the light on the screen is more brilliant. According to McKown and Roberts[1] the chief advantages of the 3¼ x 4" slide projector are:

1. The machine can be used in a semi-darkened room. This makes it easier to darken the room, and the students are able to take notes.
2. It is easy to move from room to room.
3. It has an adjustable base which enables placing it on almost any table.
4. It is simple to set up.
5. It is easy to operate.

The main disadvantages of this type of projector, according to these authors[2], are:

1. The slides are made of glass and are breakable.
2. The slides are large and require considerable space for storage.
3. Glass slides are heavy, and transportation charges may exceed rental on them, and
4. The cost of slides is often prohibitive--the prices ranging from $ .40 to $1.50.

There are five attachments to the lantern-slide

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[1] McKown and Roberts, Audio-Visual Aids to Instruction, McGraw-Hill Book Company, Inc., 1940, New York and London, pp. 124-25.

[2] Loc. cit.

projector: the 35 mm. strip-film attachment, the micro-attachment, the flashmeter, the automatic slide changer, and the stillfilm attachment for the 75 mm. film strip.

Opaque projector. This is a device for projecting the image of opaque material, such as still pictures, pages of books or magazines, coins, graphs, and any other flat material. The material to be shown may remain in a book or magazine while being projected on the screen. The later model opaque projectors do not burn or scorch the pages. The machine is rather large and requires a very dark room for best results. This prohibits note taking. The chief advantage is to be found in the variety and quantity of the material that is available for this machine. Many of these machines are equipped to project 3¼ x 4" glass slides.

Projector for 2 x 2" slides. This machine works on the same principle as the standard, or 3¼ x 4" slide projector, as mentioned above. The chief advantage of the 2 x 2" slides is the possibility of photographing one's own material for classroom use.

Filmslide projector. This machine projects a 35 mm. film on the screen. The film is also known as slidefilm, stripfilm, or filmstrip. Many filmslide projectors are adapted for showing 2 x 2" slides.

"The outstanding advantages[3] of this machine are: (1) the machine is very light and may be easily moved from room to room; (2) the filmstrips are light; (3) the filmstrips require very little space for storage; (4) the projector is inexpensive, the cost ranging from $12 to $60; (5) the filmstrips are inexpensive--from 10 to 25 cents per frame in color and (6) filmstrips are easily obtainable." The projector can be used in any classroom, but the room must be relatively dark due to the little light that reaches the screen.

Microprojector. This is a machine used in physics or chemistry to project microscopy for purposes of reading or examination.

Flashmeter or tachistoscope. This is a device which can be clamped over the ends of the lens barrel of a lantern slide projector. It works on the same principle as a camera shutter and may be set to allow the image to remain on the screen any amount of time desired, from very short to longer periods. This machine was designed for use in reading whereby children are taught to read the whole sentence at a flash, instead of stumbling through a sentence word by word.

Shadow box. This is a device with which projected material can be shown in a semi-darkened room. It is a black rectangular box with no bottom or top, with about the same dimensions as the screen. The box must be fastened

[3] Ibid., p. 129-30.

to a stand so that all front edges of the screen are surrounded by black. The screen must be placed behind the box. In this way, the light from the projector can rest on the screen. The black sides of the box reflect a comparatively clear picture in a semi-darkened room.

Projected visual aids. This includes all material that either is being projected upon a screen, or is being used to project material upon a screen.

Organization of the Thesis

The thesis is divided into three sections. The first part, Chapters I-III, states the problem, reviews related materials, indicates the procedure followed in the study and develops criteria for judging the practices of a local school system. The second part, Chapters IV-VIII, presents the results of the questionnaire survey and describes the work of the Montana State Film Library. The last part, Chapter IX, contains a summary in which a comparison is made of the present practices of the use of projected visual aids in Montana with the criteria that has been developed in Chapter II. This section includes recommendations for improvements of the present program in Montana.

CHAPTER II

RELATED RESEARCH AND THEORETICAL CONSIDERATIONS

Review of Related Studies

A review of related studies reveals that at least three nation-wide surveys of audio-visual aids and several state surveys have been made during the last twelve years. Only the most recent of the nation-wide surveys have covered all classes of schools. The state surveys have been widely scattered throughout the United States, and have not followed any uniform pattern.

A survey[1] of all schools and colleges was made by the United States Office of Education and the American Council on Education in 1936, to see what part audio-visual aids played in our public schools. This survey included not only projected visual aids, but all audio-visual aids. The principal conclusion of the survey was that the majority of schools in the United States were making regular use of some types of audio-visual aids in teaching, while a few were using too many of one type and very few of any other types. Many had a fairly balanced program wherein they

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[1] Ellsworth C. Dent, The Audio Visual Handbook, Society for Visual Education, Inc., 1937, Chicago, pp. 11-13.

used photographs, slides, filmstrips, motion pictures, radio programs, field trips, demonstrations, and so forth. While these are not very startling conclusions, and in no way delve into the use made of projected visual aids, this whole area has been one of such recent development, that prior to 1936, even these simple facts had not been clearly demonstrated.

In 1940, the United States Department of Commerce made a survey[2] of facilities for showing educational and industrial films among schools in the individual states. This survey was conducted in cooperation with the United States Office of Education and the American Council on Education. The most valuable contribution of this survey was to show the extent of the availability of non-theatrical equipment in more than 25,000 elementary schools in the country.

By far the most intensive research was made in 1946, when the Research Division of the National Education Association[3] made a survey of "Audio-Visual Education in City-School Systems." In addition to verifying some of the information

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[2] Ibid., pp. 13-15.

[3] "Audio-Visual Education in City-School Systems," Volume XXIV, National Education Association Research Bulletin, (December, 1946). p. 165.

reported by previous studies, the study analyzed the major barriers to the wider and more effective use of audio-visual materials in city school systems. The major barriers, in order of their importance, were listed as follows:

1. Teachers not interested--not prepared to make effective use of audio-visual aids.
2. No specially trained director.
3. Essential equipment not yet purchased.
4. Buildings need extensive remodeling to adapt them to audio-visual education.
5. Funds not available.
6. Lack of a central audio-visual agency.
7. No convenient source for renting or borrowing audio-visual materials.
8. Indifference of the board of education.
9. Administrative opposition or indifference.

Studies were made in Illinois,[4] Arizona,[5] Georgia,[6] Texas,[7] Washington,[8] and several other states. In spite of

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[4] Alvin Roberts, "Status of Visual Instruction by Projection in Illinois," Education Screen, XVII, (June, 1938), 197-9.

[5] Walter D. Smith, "Status of Audio-Visual Aids in Arizona Schools," The Arizona Teacher Parent, XXX, (January, 1942), 13.

[5] Carl A. Pearson, "Picture Projection in Arizona Schools," Minnesota Journal of Education, XX, (April, 1940), 317.

[6] J. C. Wardlaw, "A Questionnaire Survey in Georgia," Education Screen, XVIII, (October, 1939), 282-3.

[7] Jack W. Mears, "The Present Status of Visual Education in Texas," (unpublished Master of Arts Thesis, University of Texas, Austin, Texas, 1940).

[8] William Henry Durr, "Survey into the Use of Projected Visual Aids in Washington Schools," (unpublished Master of Arts Thesis, Stanford, 1942).

the fact that the state surveys followed no uniform procedure, Durr[9] has formulated a number of conclusions which in his judgment seem to be justified in the light of these studies. His findings are summarized in the following statements:

1. Visual instruction is getting wide-spread attention. There is a rapid increase in the numbers of film libraries, state departments of visual instruction, visual courses offered by colleges and universities, projection equipment owned by schools, and publications in the field.
2. Sound films are used more than silent.
3. There are very few official directors of visual instruction.
4. Motion pictures are used more than any other types of projected aids, as filmstrips, slides, and opaque projectors.
5. Teachers do not understand methods of use of visual aids. This is the most serious obstacle to the program.
6. No funds, difficulties of getting films from distributing centers, and physical limitations of school buildings are handicaps to expansion.

Limitations of Related Studies

The 1935 survey, although it had some value at the time, does not give a picture of the present situation because of the rapid increase in the use of audio-visual aids. The 1946 nation-wide study is a definite contribution to the research on the use of projected visual aids, but the data from this are so general as to be of limited value to educators in Montana.

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[9] Durr, loc. cit.

As the writer reviewed the research in this field, it appeared to him that there was pronounced lack of consideration of the following points:

1. The value of stillfilms as a basis for socialized recitation,
2. the use of the handbook, and
3. the role of projected visual aids in the process of teaching.

Theoretical Considerations

The writer was particularly impressed with the small amount of attention given to the role that projected material plays in the process of teaching. Hoban, Hoban, and Ziman[10], in regard to this question. According to them:

"The values of visual instruction, the relative effectiveness of the various visual aids, and of the techniques of their classroom use have been too commonly discussed and investigated without regard for their relationships to other and more fundamental problems. They are discussed and studied, as it were, in abstraction. Such discussion of learning and such experimental evaluation of methods of instruction must necessarily be sterile and may become wholly misleading. The problems of visual instruction can be adequately appraised and validly investigated only when seen in proper perspective; both with respect to mental growth and learning on the one hand, and with respect to the objectives of education on the other."[11]

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[10] Hoban, Hoban, and Ziman, Visualizing the Curriculum, (New York: The Dryden Press, Inc., 1937), p. 10.

[11] Loc. Cit.

In this study, we are concerned with the use of projected visual aids "with respect to the objectives of education." One objective of our schools today is the development of meaningful generalizations. The generalization is many times meaningless because the student has no foundation by which he can fill the gap between what he already knows and what he is expected to learn. The effectiveness of projected visual aids is determined largely by the degree to which they close the gap that lies between the experience of the student and the outcomes which a particular experience is designed to achieve. We do not learn by isolated sections. We learn by building onto what we already know. The unique value of projected visual aids lies, perhaps, in the fact that they are able to tie in the new learning with the experience of the student.

Visual instruction is not always desirable, no more than verbal instruction is always desirable. Verbal instruction should accompany the use of visual aids. Hoban, Hoban and Zisman[12] tell us that it is a frequent and grave mistake on the part of many teachers who make wide use of visual aids to consider that mere visual experience without any language experience is adequate. Such thinking neglects the funda-

[12] Ibid., p. 24.

mental principle that all thinking is done in terms of language.

A degree of concrete experience can be derived through projected visual aids much cheaper than the actual concrete experience. However, the experience gained by these aids may be no better than the meaning derived from them. A person who knew nothing about the Egyptian Sphinx would get about as much out of actually seeing it as a student who knows nothing about it would get by seeing a film on the subject.

"Mere concrete experience, in itself, is no guarantee of generalization; it merely supplies the situation by which this generalization becomes possible and meaningful. The actual generalization must be taught on the verbal level."[13]

If teachers will first determine what the objectives are in their teaching, then they will know the proper combination of verbal instruction and visual aids to use in gaining their objectives.

In line with the foregoing discussion, Bell, Cain, and Lemoreaux[14] give seven principles of film use:

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[13] Hoban, Hoban and Zisman, loc. cit.

[14] Reginald Bell, Leo F. Cain, Lillian A. Lemoreaux, and others, Motion Pictures in the Modern Curriculum--A Report on the Use of Films in the Santa Barbara Schools, (Series II, Motion Pictures in Education, Vol. V, No. 6, Washington, D.C., May, 1941.) p. 171.

1. There must be a definite curriculum purpose for using a motion picture.
2. The motion picture must be an integral part of the classroom work.
3. After the motion picture has been shown, there should be time for child reaction to the picture, and these reactions should constitute a check on learning.
4. The teacher is to guide the work in the developing of the recognized purpose.
5. A general procedure may be used to enter the class into a discussion situation which will encourage free and spontaneous reactions.
6. An opportunity should be given for the raising of new problems, the altering of old ones, or the setting of new purposes.
7. Provisions should be made for the satisfaction of these new problems or purposes.

These authors, in discussing the use of films in the Santa Barbara Schools, say:

> "No film was introduced in any situation without a definite purpose which was dictated by the curriculum and the childrens' needs, not by the availability of a film. At all times, the motion picture showing was an integral part of the classroom work; the unit, not the picture was the focalizing center. In all cases, the teacher gave the children the opportunity to do something about what they had seen--discuss, write, construct, do research--and used the childrens' reactions as a check on the films usefulness as a teaching-learning tool."[15]

The teacher should retain control of the situation at all times, guiding the activities of the children in the direction of the purposes agreed upon by the class. Knowing the pupil and the curriculum possibilities, the teacher, not the film, organizes the learning activities. Again, the film

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[15] Bell, Cain, and Lamoreaux, loc. cit.

is used as an aid in reaching a certain goal. It cannot stand alone on its own merits. It should be correlated with the subject matter.

Standards for a Projected Visual Aids Program

In order to have a basis from which to evaluate current practices in the use of projected visual aids, it appears desirable to develop a set of standards to be used as criteria. The following standards represent the writer's opinion of what is essential to a good projected visual program.

1. The projected visual aids program should be made up of a variety of aids. No single aid can advantageously monopolize the field since each particular aid has a special role to play in the program.
2. The personnel concerned with the use of projected visual aids must have a firm belief that projected visual aids can be of real value in a school program.
3. The personnel should have good reason for using projected visual aids. The real purpose for using those aids is for instruction rather than for entertainment.

4. Teachers and administrators should know the value of projected visual aids in the various fields. They should realize the possibility of using projected aids in all fields in which suitable material is available. The use of projected visual aids is not limited to any certain courses.
5. The projected visual aids material must be readily available for the teacher.
6. The projected visual aids program must have an able director in charge. Whether this be a full-time director, a part-time teacher, or another duty for a superintendent, may not be so important. However, the writer feels that if the size of the school prohibits a full time director, an interested teacher should have the responsibility of directing the program. If the teacher is responsible, the chances are much better that the aids will be used as an integral part of classroom work rather than auditorium showings. Of course, in many cases where the superintendent also teaches, this theory would not apply.
7. All films should be previewed or a handbook on the use of the film should be thoroughly studied

before the film is shown to the class.

8. All projected visual aids, possibly excluding two or three per year, should have a direct bearing on the work done in class. The teacher should not only present the material, but teach with it in harmony with the rest of the methods used in class work.

9. The teacher should do some kind of follow-up work.

10. The person who operates the projector, whether it be the student, the teacher, the janitor, or the administrator, must be efficient.

11. Teachers in service should be given instruction in the use of projected visual aids when the need arises.

12. Film showings should, perhaps, vary from fifteen minutes in the lower grades to not more than thirty minutes in the senior highschool. There are exceptions, however, when a film may run longer.

13. The students to whom any projected material is shown should at all times be grouped homogeneously with respect to the nature of the film to be shown.

14. Films are best shown in the classroom, provided the room is properly equipped.

15. For best results, the classroom should be darkened with black shades or dark drapes.

16. Projected visual aids should at all times be used as a part of the process of teaching, rather than as a substitute for the regular classroom work.

It is the belief of the writer that with the above standards in mind, the current beliefs and practices of Montana educators can be more easily analyzed and better understood. It can be said that in judging any projected visual program, if most of the previously mentioned standards are followed, even then, the program is not necessarily a valuable asset to the school. If most of these standards are not followed, the program cannot be very valuable. The quality of the use that is gained by following the above standards varies according to the personnel doing the work. Teaching with projected visual aids is far more than merely going through motions set up by certain rules.

CHAPTER III

PROCEDURE

This study is primarily a questionnaire survey of present conditions. Recognizing the limitations of the questionnaire method, particularly when a hastily constructed questionnaire is broadcast and the results are tabulated mechanically, the writer has taken special pains to eliminate ambiguities in the questionnaire and to construct it in such a way as to reveal the thinking which lies behind the use of projected visual aids in Montana.

Sources of Information

There are three main sources of information from which the writer has drawn in conducting the present study. These sources are:

1. questionnaire survey results,
2. talks with teachers and superintendents, and
3. opinions of authorities in the field.

The statistical data in this study are based on the questionnaire results. The theoretical considerations regarding the use of projected visual aids and their place in the classroom are based partially on the views of authorities in the field and partially on the opinions of teachers and

superintendents to have been interviewed by the writer. Some library research was necessary in order to enable the writer to know what was significant in the field of projected visual aids and in order to make it possible for him to interpret his findings in the light of the opinions of others who have had a great deal more experience and who have done a creditable amount of research.

Method of Procedure

The questionnaire which was used in gathering the information necessary for the study was prepared over a period of eight months, under the supervision of Dean J. W. Maucker, of the School of Education, in Missoula. It was developed as an integral part of a total plan of procedure which began with the aims and ended with the thesis outline itself. The immediate aim was to do the work necessary to complete the questionnaire before April 1, since that was the date that had been set for the mailing of the inquiry blank. While working on the questionnaire, the writer found that the results would probably be much clearer if the questionnaire was divided into six sections:

1. equipment,
2. use of equipment,

3. personnel using equipment,
4. techniques of film use,
5. audio-visual agencies, and
6. future of projected visual aids.

The aim of the writer was to state the questions in the six sections of the inquiry blank in such a way as to bring this theme to the foreground: How is the equipment that is owned by the schools being used, and what is the thinking that determines the particular ways in which it is being used? The writer operated on the assumption that the use of the 16 mm. sound projector predominated in the field of projected visual aids in Montana. On the basis of this assumption, there were two major questions to investigate:

1. Why is the 16 mm. sound projector being used to the near exclusion of all other projected visual aids?
2. What practice is being followed in using the 16 mm. projector to fulfill the objectives of a good school program?

As the writer saw it, there were two alternatives to the first question:

1. The superintendents firmly believe in the practicability of using the 16 mm. projector

almost entirely, or

2. they do not believe in monopolizing the field with the 16 mm. projector, but under present conditions, there are certain reasons which make it more practicable. Perhaps there are certain obstacles which limit use of the various types of visual aids.

With the above thoughts in mind, the writer prepared an initial questionnaire and revised it successively on the basis of criticism by such men as M. C. Gallagher, Superintendent of Schools, Billings, Montana; Charles Doan, Assistant Superintendent of Schools, in charge of Elementary Education, Billings; Richard Mitchell, Audio-Visual Aids Director at the Eastern Montana State Normal School; Noel Rigby, Vice-Principal at the Billings Junior High School; Dan Beck, Principal at the Billings Junior High School; Bob Hamilton, Director of Visual Aids in the Billings School System; Boyd Baldwin, Superintendent of Schools, Frenchtown, and Summer Session Audio-Visual Aids Instructor at Montana State University; Harry Norton, Director of the Montana State Film Library at Helena, and several nationally known authorities who are interested in this field, such men as B. A. Aughinbaugh[1]

[1] B. A. Aughinbaugh is Director of the Slide and Film Exchange in Columbus, Ohio.

and Edgar Dale[2]. Each man was asked to give his opinion, criticism, and make any revision, omission, or addition that he felt would make it a better piece of work. Edgar Dale made the following comment in a letter of March 11, 1947, after having made some criticism: ". . . on the whole, the questionnaire is a good one and the results will be valuable."

The general nature of the changes made was:

1. The inquiry blank was made more objective, thereby using less of the recipient's time in answering the questionnaire and making it much easier to tabulate the returns.
2. Greater emphasis was given to the opinions of superintendents in regard to the value of projected visual aids and the reasons underlying current practice.

The effect of the criticism was not merely a change in wording but a basic change which affected the entire structure of the questionnaire.

The inquiry blank was a finished product on April 1,

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[2] Edgar Dale is Professor of Education and Head of the Curriculum Division, Bureau of Educational Research, The Ohio State University. He was Chairman of Visual Education, National Congress of Parents and Teachers, and President of the Visual Instruction Department of The National Education Association. He is the author of TEACHING WITH MOTION PICTURES, HOW TO READ A NEWSPAPER, MOTION PICTURES IN EDUCATION, VISUAL METHODS IN THE CLASSROOM, and other books.

and at the time, a letter[3] and a post card[4] were mailed to all school superintendents in Montana by Dean J. W. Maucker. The letter stated the purpose and value of the survey and asked whether the recipient would be able to find time to fill out the questionnaire. The enclosed post card addressed to the writer had been mimeographed so that the recipient of the letter had only to check, stating whether he would fill out the questionnaire, or whether he was too busy to do so.

Questionnaire Returns

For addresses of the various school superintendents, the school directory issued by the State Department was used. According to this directory, there were two hundred and eleven school systems in the state, including first, second, and third class, and county high schools. Out of these two hundred and eleven school systems which received the opening letter and post card, one hundred and twenty-three superintendents returned the cards. One hundred of the administrators checked the post card saying that they would be glad to help in the survey by filling in the questionnaire.

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[3] Appendix A, Letter of Introduction.

[4] Appendix B, Post Card.

Twenty-three of the superintendents stated that they were either too busy, had no projected visual aids program or had no electricity by which they could operate the machines. Questionnaires were mailed during the third week of April to the one hundred superintendents who had requested them. Of the one hundred inquiry blanks sent out, seventy-three had been returned by May twenty-nine, at which time a beginning was made on the tabulation of the returns. Of all the questionnaires that were sent out, seventy-three percent were returned. However, taking into consideration all schools in the state which were asked whether they were willing to answer questionnaires if they were sent to them, 34.6 percent made returns.

Out of seven first class schools, four returns (57.1%) were received. Out of seventy-three second class districts, twenty-seven (34.0%) were received. Out of one hundred twelve third class districts, thirty-two (28.6%) made returns and out of nineteen county high schools, ten (52.6%) made returns. This was an average of 43.8 percent. It is noticeable from the figures in Table I that the larger schools made a better percentage of returns. The third class districts had the lowest percent. This can be attributed to several reasons:

1. The visual aids program may not be recognizable

TABLE I

NUMBER OF SCHOOLS RETURNING QUESTIONNAIRES

	1st Class Schools	2nd Class Schools	3rd Class Schools	County High Schools	Totals	Percentage	Percentage
Number of schools in the state	7	73	112	19	211		
Number of schools that made reports	4	27	32	10	73		
Per cent of returns according to class of schools	57.1	37.0	28.6	52.6			
Average per cent of returns according to class of school						43.8	
Per cent of returns of total number of schools							34.6

as a program in the smaller schools because of the complete lack of use of projected visual aids or because of the very small amount of use.

2. School superintendents in the smaller schools were exceedingly busy during 1946-47, particularly because of the shortage of personnel and the acute financial problem.

3. Some school superintendents in the smaller systems thought that the questionnaire was not meant for them, that it was a large school questionnaire. The questionnaire was intended to apply to schools of any size.

Adequacy of Sampling

At first glance, the percentage of returns, 44.7, would seem small; the sample should be judged, however, in terms of its representativeness. Geographically, the returns were fairly equally distributed. They were reasonably representative as far as size of school. The writer believes that certain phases of the survey would have yielded approximately the same outcomes even though there had been a return of one hundred per cent. For example, it appears unlikely that, had the sample been larger, that the returns on the opinions

of the superintendents as to the value of projected visual aids and the use that can be made of them would have varied significantly. An analysis of results by size of schools showed no significant difference. There are a number of items in the questionnaire, however, for which the sample may not be representative. The number of projectors in the schools and the cost of the projected visual aids during the current school year might have been greatly changed if the percentage of returns had been larger. Since this survey does not deal to a great extent with the numbers of projectors, but more with the philosophy that lies behind their use, the study may be reasonably valuable even though the percentage of returns is not as high as would have been desirable.

CHAPTER IV

ADMINISTRATORS' EVALUATION OF PROJECTED VISUAL AIDS

In this chapter, the replies of administrators are analyzed to determine, first, whether there is any value, according to the superintendents, in using projected visual aids, second, what their reasons are for using these aids, third, what their opinions are in regard to the effectiveness of projected visual aids in the various fields, and finally, what their opinions are in regard to the quality of projected visual aids in the various fields.

Value of Projected Visual Aids

The item regarding the usefulness of projected visual aids in a school program offered three possible responses from which the administrators were to choose:

1. necessary for a good school program,
2. occasionally useful,
3. primarily a waste of time.

Out of seventy-nine indications, fifty-five administrators marked number one, or "necessary for a good school program", twenty-four checked number two, or "occasionally useful", and no administrator checked the third, stating

that it was primarily a waste of time.

At first glance at Table II, it appears that the administrators have what most authorities at present assume is the right "spirit" in regard to the use of visual aids. However, there are at least two possible interpretations of this subject, one of them being that no administrator would say that using projected visual aids was a waste of time because he knows that at the present time it is a "fad" to be a visual enthusiast, while the other interpretation is that administrators were not catering to anyone when they answered the questionnaire, and gave their exact beliefs. The writer is inclined to sympathize with the second interpretation. There would appear to be little point in trying to "polish the apple" as far as answers to this particular questionnaire are concerned.

Since all of the superintendents regard the projected visual aids program as either necessary or occasionally useful in administering a good school, it may be of interest to know what reasons they give for using projected visual aids.

Reasons for Using Projected Visual Aids

There were five possible answers that could be checked as to the purpose for which projected visual aids were used.

TABLE II

OPINIONS REGARDING THE USEFULNESS OF PROJECTED VISUAL AIDS IN A SCHOOL PROGRAM

Number of times reported		
No.	%	
55	69.6	Necessary for good school program
24	30.4	Occasionally useful
6	00.0	Primarily a waste of time
79	100.0	Total

1. to get ideas across to children,
2. to inspire,
3. to entertain,
4. to instruct adults, and
5. to enable teachers to carry a heavy load by cutting down on the amount of preparation they must make.

These responses could be checked as "used a great deal", "used some", or "used relatively little".

Table III is self-explanatory. It clearly indicates that projected aids are used a great deal "to get ideas across to children" and "to inspire children"; that they are used some to "entertain children" and used relatively little to "instruct adults" or "to enable teachers to carry a heavy load by cutting down on the amount of preparation they must make". Several superintendents made comments to the effect that using projected visual aids could not possibly enable a teacher to carry a heavier load by cutting down on the amount of preparation, because the amount of preparation necessary for a good projected visual aids presentation is greater than an amount necessary for ordinary classroom work. This is in agreement with the ideas of most visual aids enthusiasts.

From the table, it would appear that superintendents

TABLE III

REASONS GIVEN BY 73 SUPERINTENDENTS IN MONTANA PUBLIC SCHOOLS AS TO WHY PROJECTED VISUAL AIDS ARE BEING USED

Used a great deal		Used Some		Used relatively little		
No.	%	No.	%	No.	%	
56	62	18	13	0		To get ideas across to children.
19	21	37	36	6	7	To inspire children.
11	12	29	28	29	32	To entertain children.
3	3	19	18	26	29	To instruct adults.
2	2	0		30	33	To enable teachers to carry a heavy load by cutting down on the amount of preparation they must make.

have the right ideas in using projected visual aids. Again it may be objected that the questionnaire replies were not representative of the administrators' real opinions. Again the writer believes otherwise. Regardless of whether or not they use projected aids for the same reasons that they check, the evidence indicates that they know why such aids should be used.

Effectiveness of Projected Visual Aids in Various Fields

The evidence that we have interpreted would seem to indicate that superintendents are aware of the value of projected visual aids in a good school system. We also know their reasons for using these aids. We are now prepared to take into consideration the thinking of the superintendents regarding the relative effectiveness of these aids in various subject fields. By "effectiveness" is meant that suitability of these aids as a means of facilitating the instructional process.

From Table IV, one can see that most superintendents believe that in nearly all subject fields, projected visual aids are either very effective or have some value. The fields indicated as those in which projected visual aids are the most effective as a teaching device are science and social

TABLE IV

OPINIONS OF 73 SUPERINTENDENTS REGARDING EFFECTIVENESS OF PROJECTED VISUAL AIDS IN VARIOUS SUBJECT FIELDS

Name of Subject	Degree of Effectiveness			
	very effective	some value	little value	no basis for opinion
Science	61	14	1	1
Social studies	54	20	0	2
Home economics	25	19	1	14
Physical education	20	29	6	5
Music	13	34	3	11
Art	15	16	7	21
Commercial	11	29	7	16
English	10	37	10	16
Mathematics	4	24	9	22
Totals	213	222	44	108

studies. Superintendents appear to believe that these aids are fairly valuable in the teaching of home economics, physical education and music, but are less valuable in art, commercial work, English and mathematics.

Quality of Projected Visual Aids in Various Fields

By quality, the writer means the degree of excellence of the film, its technical adequacy. The word "quality" is used as a word of respect to the picture itself, while "effectiveness" is used in regard to the use of the film. The reason for comparing the quality of the projected visual aids in the various fields with the effectiveness of these aids in the same fields, was to see whether Montana superintendents believe that projected aids are of benefit in certain subjects only, or in all school subjects. It is conceivable, for example, that in music or arithmetic there may be excellent films on the market, that is, much time and money has been put into their production, but they are not well adapted to instruction in the classroom. It is likewise possible that the effectiveness of projected visual aids in the various fields may vary directly with the quality of the aids in the same fields. If this is so, we can say that, in order to increase effectiveness, we must demand better quality. It was primarily to explore these possib-

ilities that this portion of the questionnaire was included.

Table V bears out approximately the same results as Table IV. Superintendents believe there is good quality available in science and social science, and more quality available in physical education, home economics and music. According to this table, administrators believe there is little quality available in art, English, commercial work, and mathematics. These returns agree fairly well with the opinions of authorities in the field of visual aids. Thus it would appear that the effectiveness of projected visual aids in various subject fields varies almost directly with the degree of quality of the materials available.

If effectiveness varies directly as the quality, then we must demand quality. Edgar Dale[1] says that the chief purpose of making motion pictures must not be the making of profits. The people who make the pictures and who write them must be educated persons. They must make pictures for the lovers of good literature, of scientific discovery, and of social policy. And, he adds, addressing himself to the teacher, "the demand (for the pictures) must be first created, however, and you are the logical person to do it."

The preceding paragraph applies not only to motion

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[1] Edgar Dale, How To Appreciate Motion Pictures, The Macmillan Co., 1938, New York, pp. 229-231.

TABLE V

OPINIONS ON THE DEGREE OF QUALITY OF PROJECTED VISUAL MATERIALS IN THE FOLLOWING FIELDS

Name of Subject	Degrees of quality			
	Good quality	fair	poor	Very little material is available
Science	61	9	0	0
Social studies	47	25	1	0
Physical education	31	30	1	2
Home economics	26	18	2	9
Music	22	26	4	6
Art	13	17	4	9
English	12	27	15	7
Commercial	7	24	5	15
Mathematics	6	25	6	20

pictures, but to any kind of projection material. The demand for the better material must be created. As long as producers sell their products, they are satisfied. If educators demand a better product, their demand will sooner or later be satisfied.

A few comments on the material used, its good points or limitations, will help the film agency or the seller to know what the educators want. The selling agencies want to satisfy the demand, but they must know what the demand is. "You are the logical persons to do it."

Summary

Any survey is only as good as the use that may be derived from it by the men on the job. Therefore, this study was based on an analysis of the beliefs of the superintendents in the public schools of Montana.

In this particular report, it was found that all the superintendents who returned the questionnaire categorized projected visual aids as "necessary" or "occasionally useful"; none apparently considered them "primarily a waste of time."

The chief reasons for using projected visual aids, as given by the superintendents, are "to get ideas across to children", or "to inspire children."

According to tabulated returns, superintendents believe that the effectiveness of projected visual aids in various fields varies directly as the quality of the projected visual aids in the various fields. The fields in which, in their opinion, the best quality is to be found and in which the aids are the most effective are social studies, science, home economics, and physical education.

CHAPTER V

Equipment

The present chapter deals with the amount and type of equipment that the schools are using to meet their present needs and raises questions as to the types of projectors which seem to be best suited for schools in Montana. The quality of use that is being made of the equipment is a different problem; it will be discussed in a subsequent chapter.

Amount of Equipment

Table VI shows that the number of 16 mm. sound motion picture machines in Montana is more than double that of any other type of projector.

Frequency of Use

Table VII, shows that the 16 mm. sound picture projector is being used more frequently than any other type of machine. Table VIII confirms the tabulations in Table VII. According to this table, the 16 mm. projector is the machine that is checked the least times as the projector that was used least frequently.

TABLE VI

NUMBER OF VARIOUS TYPES OF PROJECTORS IN 73 MONTANA SCHOOL SYSTEMS

Type of Projector	Number of Machines
16 mm. sound motion picture projector	89
Combination filmslide and 2 x 2" slide projector	41
Filmslide projector	20
Projector for 3¼ x 4" slide	19
Opaque projector	9
Projector for 2 x 2" slide projection	9
Combination projector for slides and opaque projection	8
16 mm. silent motion picture projector	7
Microprojector	7
35 mm. silent motion picture projector	2
Flashmeter or tachistoscope	2
Total	213

TABLE VII

NUMBER OF TIMES VARIOUS TYPES OF PROJECTORS WERE CHECKED AS "BEING USED MOST FREQUENTLY" IN 73 MONTANA SCHOOL SYSTEMS

Type of Projector	No. of times checked
16 mm. sound motion picture projector	62
Filmslide projector	5
16 mm. silent motion picture projector	4
Combination projector for slides and opaque projection	2
Combination filmslide and 2 x 2" slide projector	2
Projector for 2 x 2" slide projection	1
Total	76

TABLE VIII

NUMBER OF TIMES VARIOUS TYPES OF PROJECTORS WERE CHECKED AS "BEING USED LEAST FREQUENTLY" IN 73 MONTANA SCHOOL SYSTEMS

Type of Projector	No. of times Checked
Combination filmslide and 2 x 2" slide projector	14
Filmslide projector	10
Opaque projector	6
Projector for 3¼ x 4" slides	5
16 mm. silent motion picture projector	4
Combination projector for slides and opaque projection	3
Microprojector	3
Projector for 2 x 2" slide projection	2
35 mm. silent motion picture projector	1
16 mm. sound motion picture projector	1
Total	49

In addition to knowing what the absolute frequency of the various projectors is, it may be significant to know the relative frequency of use of those same projectors. The tabulations on Table IX show that there are sixty-six school systems with 16 mm. projectors, and that the 16 mm. sound projector was checked sixty-two times as being one of the machines that was used most frequently. These figures signify that of all the school systems which owned a motion picture projector, 93.9 percent of the superintendents checked it as being the machine used most frequently in the projected visual aids program.

According to these returns, the motion picture projector is used more than any other type of projector, even when compared with the number of projectors owned.

In view of the foregoing data, we may ask, "Why are there so many motion picture projectors in our schools?", and "Why are these projectors used so much more frequently than any other type of projected aid?" No attempt was made to answer the first question specifically, but the answer may be attributed to, first, the fact that the publicity given the motion picture by our public theaters has played a large part in the development of the use of the motion picture projector in the schools, second, salesmen of our

TABLE IX

RELATIVE FREQUENCY OF USE OF VARIOUS TYPES OF PROJECTORS AS REPORTED BY 73 MONTANA PUBLIC SCHOOL SUPERINTENDENTS

	Number of times machine was reported as being in a school system.	Number of times machine was reported as one of those used most frequently.	Relative frequency in percentage.
16 mm. sound motion picture projector	66	62	93.9
16 mm. silent motion picture projector	7	4	53
Filmslide projectors	20	5	25
Combination projectors for slides and opaque projection	8	2	25
Combination filmslide and 2 x 2" slide projector	39	2	5.1
Total	140	75	202.0

to have been on their toes in regard to selling this type of projector; and third, army use has confirmed the theory that motion pictures are valuable aids in teaching. The second question is more vital to this study and evidence may be found in a study of Table X.

According to this table, the two main reasons given for the frequent use of any machine are:

1. the material to be shown is more readily available, and,
2. available films, slides, etc., are of a higher quality.

These returns are verified by a study of Table XI. The main reason checked as to why some projectors were asked less frequently than others is that slides and films are not readily available.

The evidence up to this point verifies the assumption that the 16 mm. sound projector is being used to the near exclusion of all other projectors. The question now arises as to whether the present degree of emphasis upon the use of 16 mm. projectors should be encouraged or whether there is any evidence available that may lead us to conclude that more use should be made of other types of projectors. The writer has, for this purpose, narrowed the field to the role of the

TABLE X

FREQUENCY OF RESPONSE TO REASONS WHY SOME MACHINES ARE USED MORE FREQUENTLY THAN OTHERS

	Frequency of Response
Availability of slides, films, and other projected materials	43
Higher quality of available films, slides, etc.	23
Materials shown appeal to children's interests	20
Adaptability to teaching procedure	19
Economy of time	9
Ability of teachers to use it due to fewer mechanical problems	6
Machine's ability to use homemade projections	1
Combines more responses in learning	2
Filmslides are new to us	1
Inadequate teacher training	1
Machine and filmstrip costly	1
Inexpensive after initial cost	1
Superintendent assumes responsibility of showing films	1
Total	133

REASONS WHY SOME PROJECTORS ARE USED LESS FREQUENTLY THAN OTHERS

	Number of Answers
Slides, films, etc., are not readily available	25
Materials shown do not appeal to children	12
Awkwardness of handling	10
Inability of teachers to use it	7
Consumes too much class time	5
Lack of teacher interest	3
Homemade materials cannot be used	2
Cost is too great	2
Machine is too clumsy to move	2
Lack of planning	2
Inadequate teacher training	2
Not in good repair	2
No correlation due to old material	2
Darkened room unavailable	2
Total	78

motion picture and the stillfilm in the process of teaching; this procedure omits from consideration such projected visual aids as glass slides, materials for opaque projection and others, but the writer feels that the stillfilm can be looked upon as fairly representative of the various other types.

Advantages and Limitations of the Motion Picture and the Stillfilm

There are certain permanent characteristics in any type of visual aids equipment which may add to its usefulness, such usefulness varying according to the peculiarities of the particular situation in question.

McKown and Roberts[1] say that any picture provides an opportunity for obtaining the basic imagery essential to thinking and living. Pictures represent the raw material through which a student can become familiar with his surroundings, whether in his own locality or in other communities and with other people.

These authors[2] point out that the still picture can be used to advantage at times because, it is inexpensive, it is

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[1] McKown and Roberts, Audio-Visual Aids to Instruction, McGraw-Hill Book Company, Inc., 1940, New York, p. 104.

[2] Loc. cit.

reasonably real and vivid, it is easily available, it is convenient to use, and it can be used repeatedly. It appears, from the present survey, that in Montana certain types of still pictures are not always available, but possibly this situation can be remedied.

The motion picture can also be used to advantage at times. In their[3] opinion, it makes the situation natural and lifelike, the students remember motion picture material for a longer period of time, and the students of lower mental capacity are aided greatly, in addition to which, the instructors are able to present a great deal of material in a short time. The chief function of the motion picture is to depict motion, and motion implies continuity. However, the limitations of the motion picture are very apparent, and the motion picture should therefore be used only when the amount of return by its use is worth the cost.

Motion picture film is the most expensive of all visual materials. McKown and Roberts[4] tell us that this is true whether the film is rented or owned by the school, because even with the best of care, no film lasts longer than a few years. Comparing the expense with other instruc-

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[3] McKown and Roberts, loc. cit.

[4] Ibid., pp. 152-153.

tional materials in the school, the cost may not be too high, but comparing it with still pictures, such as the material available for opaque and stillfilm projection, the cost is relatively high.

The Function of the Stillfilm and the Motion Picture in the Teaching Process

Both stillfilms and motion pictures are valuable aids in teaching. Each has certain characteristics which enable it to qualify in different situations. It is not a question of whether one should use motion pictures or stillfilms in a school, rather, it is a question of when to use either one or both. "What is accomplished by the use of any visual aid depends almost entirely upon its suitability to the teaching purpose, and upon how it is employed."[5]

The 16 mm. projector is not an all purpose teaching device; neither is the 35 mm. filmslide projector, nor the opaque projector. Each one of these machines has its own peculiarities and functions best only under certain conditions. "In planning to use any visual aid, it is advisable to ask oneself, 'Is this the best available means of presenting this particular group with such material, in order to secure the

[5] Ella Callista Clark, The Use of Projected Visual Aids in Teaching, State Teachers College, Winona, Minnesota, 1938, p. 22.

desirable objectives?'[6] The person who says he prefers to use filmslides, perhaps should say that he finds more need for filmslides. He who says he prefers to use motion pictures to other projected aids, perhaps should say that he finds more need for motion pictures. Motion pictures are favorable in his particular situation.

A motion picture may be a good device, for example, to use in introducing a social studies unit on the Near East. Perhaps it is a good device for summarizing the material after the unit has been completed. At such times, the motion picture can be very useful for several reasons. It demands attention. The motion picture screen is carefully watched by the pupils. It may be because of the light focused on the screen rather than a desire on the part of the pupils to learn, but, the point is, they do watch the screen. The motion picture attracts and holds attention. Most films introducing a unit arouse some interest in the fact that they are attractive to nearly all the children in the class. After the picture has been seen, and some follow-up work has been carried out--discussion, an oral quiz, etc.--the class is prepared to learn more about the Near East. They now have an introduction to some of the material they will

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[6] Clark, loc. cit.

cover. This introduction is only a general over-view that will arouse interest. However, "interest is not a goal, but a means to an end. In order to be legitimate, interest must stimulate desirable growth and development."[7] The film does more than arouse interest. As the text is being studied and the traditions of the people are being discussed, the motion picture gives more meaning, new life and better understanding to the problems of the peoples of Turkey, Palestine, Iraq, or Iran. By the time the children read about the customs and traditions in these far away lands, they have already seen them on the screen. When a teacher asks a question it is not rare to hear an answer such as this, "Oh, I know that. That was in the 'show' we had."

After a class has worked on a unit for two or three weeks, the interest may begin to lag. A need now appears for a revival of interest, common in most classes. The question arises as to whether another motion picture should be shown or can a 35 mm. stripfilm serve the purpose? It depends upon the material's suitability to the teaching process. Which one is the best means of presenting this material at this particular time to this particular group?

By this time, the children are somewhat familiar with

[7] Ibid., p. 5.

the Near East. The subject has already been studied. A still film may be suitable in this case because the children will at this stage benefit most from a socialized recitation. When the children see a picture on the screen, they want to ask questions, to tell something about the picture, to compare it with other pictures or with material they have seen or read. While seeing a motion picture, this cannot be done. The teacher cannot call attention to certain points that may need further explanation until after the film is finished, and then much of the enthusiasm may have been lost.

A socialized recitation has definite contributions to make in the process of teaching. All students have an opportunity to express their opinions, to ask critical other questions, or to ask the teacher questions. After they have learned by seeing, they can learn both visually and verbally. The value of visual learning is questionable if the learning cannot be expressed verbally. Mere verbalism is worthless. Visualization and verbalization should be inseparable in the process of teaching. A good teacher is very happy to have a group that will express themselves and, in that way, learn from each other as well as from the teacher. Many students will take advantage of the opportunity that socialized recitation offers, and thereby make valuable gains in the forming of a well rounded personality.

A Factor Peculiar to Montana

As can be seen from Table XII, many of the superintendents are showing films to large groups. For best results, one should show films only to a homogeneous group. Showing films to an entire student body is a far cry from the procedure outlined by experienced visual educators. It is hardly possible to have every child prepared to see a film if the whole school sees the same picture. The fundamental purpose for using a film is violated when the film is shown in such a manner. The aid is not being used as an integral part of class work; it is not being used as a supplement to regular class work; it is not a part of the teaching process, it is merely a means that enables the superintendent to feel that he has a visual aids program.

If the practice of showing projected visual aids to heterogeneous groups is to be condemned, we must have a more valuable substitute. Therefore, what plan can be presented to take the place of the present practice?

The writer interviewed a superintendent on the above subject, and asked him specifically what lay behind the present practice, a practice that he knew to be contrary to the procedure that is known to bring the best results. Here is his statement, "We would gladly rent motion picture films and

TABLE XII

TO WHOM PROJECTED MATERIAL IS UCUALLY SHOWN

	No. of times checked	% of No. of times checked
Children taking the same subjects	49	26
Children in the same grade	38	20
The whole high school	34	18
Children in the same department	29	15
The whole grade school	19	10
The whole school system	17	9
Adults	1	.5
P.T.A.	1	.5
Total	188	99

show them only to single classes that will benefit most by them, but we probably wouldn't live to tell about it," meaning, of course, that the children and the parents in the community would consider it a very poor policy. Many other superintendents share his opinion.

If the question of when to show motion pictures in a small school is a difficult one and the question of grouping the students when the pictures are being shown is difficult to answer, the possibility of using the motion picture less and using a film that can be shown to a homogeneous group without anyone resenting it looms into the foreground. The stripfilm, however, should not replace the motion picture but merely play the role in the process of teaching for which it is best suited.

In conclusion, what do a majority of the superintendents who filled in the questionnaire have to say in regard to the need of stillfilms? Here are a few of their comments:

"The thing we have against the state program is that no stripfilm is available." "We should have a strip film library." "As we use the 16 mm. projector most of the time, we find that it isn't practical for putting ideas across as conveniently as slide-film would be." "More strip film should be where we can get hold of it." "As the

State Film Library grows, we will be able to get more films--but it doesn't have any slides or slide-films." "The State Library should supply different types of projected teacher aids." "We want to get more strip film." "We need additional equipment--especially a film strip projector and a microprojector. (This) would make possible greater correlation with class-work." "Have a visual aids department instead of just a film library." "We need a good strip-film machine and a shadow box to show films in a light room." "We need to stop using moving pictures and to use stripfilm for the sciences and mathematics classes." "The State Library should stock filmstrips. They are as good or better teaching aids as sound films." "We need other types of projectors." "We need more projectors." "Slides should be added, perhaps even slide-film to our state department." "A color slide library for loan might be a very valuable thing, if good sets of slides were available."

Comments such as those listed above clearly demonstrate the fact that Montana educators see a need for a variety of aids.

Summary

Projected visual aids in Montana are nearly monopol-

ized by the 16 mm. sound motion picture projector both in the number of projectors in the field and in frequency of use, particularly in the latter.

The reasons for the frequency of use are (1) the material to be shown is more readily available, and (2) available films, slides, etc., are of a higher quality.

A review of expert opinion, stimulated by the overwhelming predominence of the use of the 16 mm. sound motion picture projector, revealed the belief that both the motion picture and the stillfilm should be included in a program because each has particular advantages under various instructional conditions. Their characteristics are such that they do not compete with each other. One should never be entirely replaced by the other; both should be included in a well-rounded program.

The questionnaire revealed a spontaneous demand on the part of many Montana superintendents that stillfilms be made more easily available.

Conclusion

Since the data from this point of study indicate that more stillfilms would be used if they were readily available, the solution to the one-sided use of projected visual aids apparently lies in making stillfilms more easily available for Montana educators.

CHAPTER VI

PERSONNEL

The following chapter deals with the returns on questions relating to personnel, and includes suggestions as to qualifications and standards of personnel in a projected visual aids program.

In Chapter IV, the statements were made that equipment is absolutely essential for any projection program, whether it is a good one, or a poor one, and that the amount of equipment does not foretell the quality of use obtained with the equipment. The quality of use depends to a great extent upon the personnel using the equipment. Table XIII states the various titles of the people in charge of the program but, of course, it does not indicate what caliber of people they are.

The Director

Out of sixty-nine answers as to who was in charge of the projected visual aids program, thirty-seven replies stated that the superintendent was, fifteen said the principal was, three said the physical science teacher was, two reported that nobody was in charge, and each of the following was mentioned

TABLE XIII

ANSWERS RECEIVED TO THE QUESTION ASKING FOR THE TITLE OF THE PERSON IN CHARGE OF THE PROJECTED VISUAL AIDS PROGRAM

Titles	Number
Superintendents	37
Principals	15
Physical Science Teacher	3
Director of Visual Aids	2
Nobody	1
Committee of Teachers	1
Mathematics teacher	1
Superintendent's Office Clerk	1
History Teacher	1
Janitor	1
Industrial Arts Teacher	1
English Teacher	1
Social Studies Teacher	1
Biology Teacher	1
Commercial Teacher	1
Total	68

once: a committee of teachers, a mathematics teacher, an English teacher, a social studies teacher, a biology teacher, and a commercial teacher. It is clear that the school administrator ordinarily has charge of the projected visual aids program.

The Teacher

A number of comments written into the questionnaire by the superintendents, on their own initiative, indicate a feeling on the part of a few administrators that teachers are not doing their full share. Some of those comments are: "Teachers are uninterested." "One cannot force a teacher to use projected visual aids." "Teachers say that projected visual aids are just a fad."

Somewhat as follows, the writer has listed his reaction to these comments. Some of the fault lies with the teachers, but teachers are human beings and their habits are not easily changed. Many of them have tried older methods and feel they have proved them to be satisfactory. Some teachers cannot understand why they should try something that requires more effort, is being used by the younger and less mature members of the staff, and in the minds of some, may produce doubtful results.

The actual teaching by any method is not done by the superintendent or by the director. No matter how efficient each man may be at his own job, the results of the work that is done in the classroom varies almost directly with the efficiency of the teacher. Every teacher should at all times be open for suggestions on new and better ways of teaching, but it is partially the job of the person in charge of the program to see that she gets the information necessary to interest her.

Machine Operators

The importance of the projectionist should not be under-estimated. Amo De Barnardis, in addressing the projectionists, says,

"The projectionist is an important link in the teaching and learning process. Upon you will depend how well the aid is shown. No matter how good the photography, or how valuable the aid is educationally, a good deal of its value may be lost if it is given poor handling in projection. You must know your job well if you are to show the aid efficiently. Skill in handling the equipment, and the techniques of good showmanship can only be acquired by constant study and practice. Remember, the best projection goes unnoticed, while poor projection is marked by distractions and interruptions, all of which disrupts the class. By learning your job thoroughly, you can help the instructor to use audio-visual aids more effectively."[1]

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[1] Amo De Bernardis, The Audio-Visual Projectionist's Handbook, Business Screen Magazine, 1947, p. 2.

According to Table XIV, students operate more machines than any other single group in the school. The educators in charge of the various projected visual aids should be commended for letting the students play a part in the program. In the present survey whenever the machine operators were listed as students, the word "trained" was written in.

The plan followed in the past year by several of the schools in the state seemed to work very well for the benefit of all concerned. An interested teacher or the principal formed what they call a "Projector Club." This organization was open to membership to all ninth grade and senior high-school students, provided they were passing scholastically and showed an interest in projection. The latter qualification was usually evident, but the former called for much better work than many of the students had been doing. It brought evidence of the first practical need for better grades to many students, and gave them the opportunity to perform for an audience, thereby making them feel that they had achieved something worthwhile.

The director is usually a man with formal training or experience in the field of visual aids. He should not spend his valuable time operating projectors any more than the superintendent should spend his time doing his own clerical work. The directors time is better spent in the training of

TABLE XIV

OPERATORS OF MONTANA PUBLIC SCHOOL PROJECTORS

	Number
Teachers	52
Principals	39
Students	55
Superintendents	5
Audio-Visual Aids Director	1
Janitor	2
Secretary	1
Nurse	1
Total	156

students once each year rather than in operating the machines himself. Once the students have learned how to operate the machine, each machine should have two operators. This serves two purposes: in case of a break-down they can better repair it, and they can each learn from the other.

Other ways of handling the situation have been known to be quite successful. A good janitor will enjoy showing the films in a smaller school, but the large schools probably would not care to hire several extra janitors to operate projectors.

Summary

There are only two official audio-visual directors in Montana public schools. In the majority of cases, the person in charge of the program is an administrator.

In Montana, more projectors are operated by students than by any other single group.

CHAPTER VII

TECHNIQUES OF FILM USE

Whereas previous chapters have dealt with matters of equipment and personnel, the present chapter reports practice in the actual use made of films, in the sense of the techniques employed by administrators and teachers to enhance the instructional program. A knowledge of the various techniques may serve as a clue to the quality of use made of projection equipment. However, it is understood that it is far more difficult to judge quality by questionnaire returns than it is by actual contact.

Staff Meetings

In order to get some notion of the extent to which in-service programs to improve the use of projected visual aids were being carried on, the question was asked regarding meetings called for this purpose. As seen in Table XV, about one-half of the school systems held some sort of meeting during the year in which this topic was discussed. Several places held more than one, as seen by the fact that there was a total of eighty-seven meetings. By far the largest share of those meetings were regular faculty meetings in which most

TABLE XV

PROJECTED VISUAL AID MEETINGS HELD DURING 1946-47
IN 73 MONTANA SCHOOL SYSTEMS

	Number of school systems	Number of times reported
Regular faculty meetings	26	49
Meetings called by Visual Aids Director	2	13
Meetings called by interested teacher	4	4
Meetings called by principal	3	7
Meetings called by M.E.A.	1	9
Meetings called by salesmen	1	1
Meetings called by committee	1	4
Total	38	87

of the time was devoted to the use of projected visual aids.

Following are typical answers to the question, "What took place in those meetings?" "We set up a time schedule for use of equipment." "Films on the use of audio-visual aids were shown and discussed." "We explained the procedure used in this system and showed a film on how to teach with films." "Each person was required to operate the stripfilm slide projector. Those who wished were taught to operate the moving projectors." "We witnessed a demonstration. Talked of possibilities in our school." "Study of coming films to correlate with subject matter." "Discussed using seventh and eighth grade boys as operators for lower grade teachers. Schedules seemed too involved."

From the information we have on meetings, it appears that the time spent in the meetings was devoted to worthwhile topics. However, it seems that if education in Montana were vitally interested in the use of projected visual aids, they would have held more meetings during 1946-47 for purpose of discussing the subject. A number of men recognized the deficiency as shown by the following comments:

"Meetings on using films are vitally important and we plan to have more next year." "Slipped up this year but have had them in the past and will have them in the future."

"Realize the necessity of meeting and plan to meet oftener." "If there's anything I do know, it is that we'll have more meetings next year. We need better organization."

Amount of Projected Material Used

The question asked in the inquiry blank was, "Approximately how many of each of the following types of material did you show in your school this year?" Tabulations show that there was an average of sound moving picture films, sixty-four slides, thirty-five filmstrips, and fifteen silent moving picture films shown by the schools during the school year. These figures seem extremely high. One must take into consideration the fact that only thirty-seven schools responded to this item. It may, perhaps, be assumed that the remaining schools used much less materials.

Cost

Only seven percent of the superintendents in Montana responded to the question regarding the amount of money spent on projected visual aids, not including the cost of projectors or the cost of salaries for directors. According to these returns, superintendents reported that the amount of money spent during the current year (1946-47) ranged, in first

TABLE XVI

AVERAGE NUMBER OF TIMES VARIOUS TYPES OF PROJECTED VISUAL AIDS WERE SHOWN IN EACH SCHOOL DURING 1946-47

Projector	Number
Sound moving films	116
Slides	64
Filmstrips	35
Silent motion pictures	15
Total	230

class systems, from "no money spent" to $440, and, in third class systems, from "no money spent" to $225. On the basis of the very small amount of answers (7%) received in regard to the cost of the program, no true analysis can be made of the actual money that is being spent. From the returns that were received, however, it would appear that some of the smaller schools are spending nearly as much as the larger ones, and are actually spending much more than the larger schools when figured on a per-pupil basis. The cost per pupil among the schools reporting varied from 11¢ per child in a first class school, to 97¢ per child in a third class school. It is to be clearly understood that the returns on this question are too meager to be of any real value.

Length of Film Showings

According to Table XVII, the length of film showings varies from less than fifteen minutes to more than thirty minutes. There is no clear-cut pattern laid out as to whether the length varies with the age of the pupil. However, the table does show a trend toward longer films in the senior high school than in the grade school. This would appear to be so if we take into consideration the answers we received to the

TABLE XVII

THE USUAL LENGTH OF TIME FOR WHICH FILMS ARE SHOWN AT ONE SITTING

Type of Group	Less than 15 minutes.	15 to 30 minutes.	Over 30 minutes.
Primary grades	18	33	5
Intermediate grades	7	46	7
Junior High Students	6	31	30
Senior High Students	3	29	38
Total	34	139	80

question as to whether the age of the child had anything to do with the length of the film that was shown. The following are a few of the answers which all seem to follow this principle:

"Not too much material should be shown because of concentration." "High school remains interested longer." "The lower grades cannot retain as much of the content from a long sitting as they could from shorter periods." "Younger children become too restless. Do not concentrate."

It appears that the Montana educator has pretty well summed up the situation in regard to the length of film that should be used. This can be seen by the figures in Table XII.

Class Groupings

As indicated in previous chapters, it is the opinion of those who have worked most in this field that projected visual aids should be shown to homogeneous groups. Montana educators do not always show projected materials to homogeneous groups, as can be seen by Table XII, on page 60, since eighteen percent of the visual aids material is shown to the whole high school as a single group. There are several reasons why teachers and superintendents should strive to show films

to a homogeneous group. If we follow the principles of making use of projected visual aids we would see at once that it is not good teaching procedure to show a film to a heterogeneous group. The following are some of the reasons:

1. Children get the idea of being entertained.
2. All pupils who see a film should first be properly introduced to that film. That is difficult in a heterogeneous group.
3. Aids should correlate with subject matter.
4. There should be a follow-up on the projected aid, such as an oral discussion, examination, etc.

The goal in Montana should be to show practically all material to groups that have had a correlated study previous to the presentation. This would demand groups of the same class only. Again, the size of school heretofore has made this particular method practically impossible, especially in regard to the use of films.

Place Where Projected Materials are Shown

Data regarding the place in which projected visual aids are shown throw some light on the quality of use and reveals what may be a fairly significant defficiency in the use made of films and slides.

Moving Films. Out of the one-hundred-eight checks as to where moving films are shown, forty-four checked the auditorium or assembly room, twenty-nine checked the classroom, and thirty-five checked the special darkroom.

Filmslides. Out of fifty-two answers as to where most filmslides are shown, forty checked the classroom, five checked the special darkroom, and seven checked the assembly room or auditorium. Filmslides are shown to a more homogeneous group than the motion picture since nearly all filmslides are shown either in the classroom or in the special darkroom.

Other Projection Material. Out of thirty-one checks as to where all other projected material besides the filmslides and motion pictures were shown, twenty checked the classroom, ten checked the darkroom, and only one checked the assembly or auditorium. Nearly all of this material is shown either in the classroom or in a special darkroom, presumably to a relatively homogeneous group.

This appears to be another reason why it would be easy to make more and better use of various projected aids other than moving film. We appear to be unable to show moving films to small homogeneous groups but we are showing other projected material to these groups. More use of the

TABLE XVIII

PLACES WHERE VARIOUS TYPES OF PROJECTED VISUAL MATERIALS ARE SHOWN IN 73 PUBLIC SCHOOLS IN MONTANA

Place	Moving Films		Filmslides		Other projected material	
	No.	%	No.	%	No.	%
Classroom	29	26.8	40	64.5	20	64.5
Assembly or auditorium	44	40.7	7	11.3	1	3.2
Special dark room	35	32.4	15	24.2	10	32.3
Total	108		62		31	

filmstrip, the lantern slide and the opaque projector may answer our question as to how, in a small school, we can afford to show projected material only to a homogeneous group.

Darkening the Classroom for Projection

From an instructional point of view, the ideal place to show most projected material is in the classroom. This would require that all classrooms in the building have the necessary features for showing those aids. The main feature would be dark shades on the windows or some other similar device which would make it possible to darken the classroom during the day. This process of getting dark shades for the classroom is very slow, as many superintendents and teachers know who have tried to get them. However, many new buildings now have either a special darkroom or dark shades or drapes on the classroom windows.

From a total of fifty-four answers to the question as to how the classrooms were darkened, nearly half of the administrators stated that they were using ordinary curtains while twenty-four others stated they were using black curtains.

Many teachers have learned through experience that some projected material can be shown before noon in a class-

TABLE XIX

METHODS USED IN 73 PUBLIC SCHOOLS OF MONTANA TO DARKEN THE CLASSROOM FOR PROJECTION

	Number of schools using this method
Ordinary curtains	26
Black curtains	24
Drapes	2
Shadow box*	1
Daylight screen and extra illumination bulb	1
Green venetian blinds	1
Green curtains	1
Total	56

* A shadow box and extra illumination bulb are not, strictly speaking, methods used in darkening the classroom. They are used to illuminate the screen.

with ordinary shades if the windows of the classroom face the west, and in the afternoon if the windows face the east. The outside light is then not bright enough to interfere with the screen. However, this is not the best arrangement by any means. In the writer's judgment, reliance on ordinary shades constitutes a definite handicap to the projected visual aids program.

The Handbook

The following question was asked in the inquiry blank, "Is a handbook with suitable question and answer discussion on the material to be shown helpful to good teaching with projected visual aids?" There were seventy answers and all of them were "yes". Then the question was asked, "Do you ordinarily receive handbooks with film orders?" Three answers were "yes" and sixty-nine were "no". The question, "Would you care to receive them regularly if they were available?" came next. Out of seventy-two answers, seventy-one were "yes" and one was a qualified "no". This superintendent said that he could not really answer the question unless he knew what quality of handbook he would receive.

From the tabulated returns we can see that very few,

TABLE XX

REACTION AS TO WHETHER A HANDBOOK WITH SUITABLE QUESTIONS AND ANSWER DISCUSSION ON THE MATERIAL TO BE SHOWN IS HELPFUL TO GOOD TEACHING WITH PROJECTED VISUAL AIDS.

yes	72
no	0

TABLE XXI

REACTION AS TO WHETHER HANDBOOKS ARE ORDINARILY RECEIVED WITH FILM ORDERS

yes	3
no	69

TABLE XXII

REACTION AS TO WHETHER THE MONTANA EDUCATOR WOULD CARE TO RECEIVE HANDBOOKS REGULARLY IF THEY WERE AVAILABLE

yes	71
no	1*

* Depends on the handbook.

if any, handbooks were available for use by the classroom teacher. We can also see that one-hundred percent of the superintendents who answered the question believe that they are helpful in good teaching and nearly all of them would care to receive handbooks regularly if they were available.

Before going any further into the use of the handbook, a study of the previewing of films, follow-up work, and their relationship to the handbook may be advisable.

Preview and Follow-Up Work With the Motion Picture and the Stillfilm

From Table XXXIII, one can see that the majority of superintendents believe that it is advisable for the teacher to preview films before showing them to the students. This table also shows that most teachers are following the practice of previewing films only once in a while. The presentation of a film is followed either by discussion, or an oral or written test in a majority of the cases.

There was no blank space left for comments on any of the above questions, but twenty-nine superintendents [illegible] written in "no time" for previewing. This gives [illegible] for the obvious discrepancy between belief and practice in their [illegible] of previewing.

TABLE XXIII

ANSWERS ON TECHNIQUES OF FILM USE

	In practically every case.	About half the time.	Once in a while.	Never
To what extent it is believed advisable for the teachers to preview films before showing them to students.	57	8	7	0
To what extent teachers actually follow the practice of previewing films.	7	14	45	7
To what extent students are prepared for, or introduced to, films before seeing them.	2	39	25	0
To what extent the showing of projected visual material is followed either by discussion of the material covered, or by an oral or written test.	34	25	14	1

The Relationship of the Handbook to Previewing and Follow-Up Work

The following is the story of a teacher in one of the schools in Montana: This teacher had been in the habit of previewing all films before she presented them to her class. She would come at eight o'clock in the morning, or earlier if necessary, to see the entire film, take notes on it and prepare an introduction to the film for her pupils. Ordinarily she would make out a short list of the questions that the film seemed to answer. On this particular morning she had a list of eight questions. She had them carefully copied on the board when in walked the person in charge of the projected visual aids program and handed her a handbook on the particular film she had just previewed. While reading the handbook, she found that out of the eight questions on the board, there were five nearly identical questions in the handbook. The handbook told the whole story as related in the film, gave the classroom objectives of the film, and offered suggestions as to how it should be used. It was very much the same as she had found it by previewing the film, except that the handbook was more complete.

It appeared to this teacher that a handbook could certainly be a great time-saver. If all handbooks were of the same quality as the one she had just seen, she would not

have to preview all films that she intended to show to her classes, if she did not have time. She could read what was said about the film in the handbook. She surmised that, after all, the handbook must have been written by a more expert person in that field than she herself. The ideal, she believed, was to read the handbook and then preview the film before introducing it to the class. It could also be used as a valuable aid after the film had been seen.

The handbook could take the place of some previewing if the handbook is of good quality. Too many handbooks in the field do not show the workmanship necessary in the production of a valuable tool. As a result of this, the potential value of good handbooks is often times underestimated.

Summary

Despite the fact that superintendents seem to realize the necessity of meeting to discuss the use of projected visual aids, there were only forty-six regular faculty meetings called by twenty-six superintendents, and thirty-nine meetings called by various interested parts during the current (1946-47) school year.

The returns showed that a majority of motion pictures

were shown in the auditorium while other projected visual aids were usually shown in the classroom.

It cannot be said that projected visual materials are usually shown to homogeneous groups in Montana Public Schools.

Superintendents realize the value of previewing films, but because of lack of time, the teachers are doing very little actual previewing.

Superintendents realize the value of handbooks, but have not received them during the past year.

CHAPTER VIII

MONTANA STATE FILM LIBRARY

Since much of the projected visual aids program in Montana is centered around the State Film Library, it may be desirable to present a fairly thorough analysis of the Library. One purpose in presenting this analysis is to make clear the reasons for many of the policies that have been carried out by those in charge of the Library, so that educators throughout the state will know why it operates as it does.

The single-spaced material in this chapter represents the writer's summary of personal memoranda accumulated over a period of years by Harry A. Norton, Director of the State Film Library at Helena. In these papers, Mr. Norton has recorded and explained the various steps in the development of the Library and made clear the principal factors which influenced its growth. This material does not necessarily represent the views of the writer.

History of the Library

In March, 1941, the Montana State Legislature passed House Bill No. 108, by which the Montana State Film Library was legally established. This bill set aside $6,000 which was to be used in the first year's operation of the library. Miss Elizabeth Ireland, who at that time had been elected for the third time as State Superintendent of Public Instruction

wanted to establish a film library that would reach the isolated schools. Many of the people interested in setting up the library planned to ask for $18,000 or more, but Miss Ireland, believing that they could not get this much money, decided on what appeared to be a wiser move, and asked for only $6,000.

Shortly after the bill which established the library was passed, Miss Ireland appointed Harry A. Norton as State Supervisor of Visual Education. She requested him to leave the state and to travel throughout the United States to see what thinking was being done in the field of visual education. Mr. Norton went from place to place--Michigan, Minneapolis, Washington, D.C., Denver, St. Louis--and finally to Mr. Aughinbaugh, Director of the Slide and Film Exchange in Columbus, Ohio. Mr. Norton needed information and ideas on how he could possibly possibly start a state film library on only $6,000 for the first year's operation. He was thoroughly discouraged wherever he went. When he came to Columbus, Ohio, Mr. Aughinbaugh told him that he should not be discouraged, that many men had started on much less than $6,000. Mr. Aughinbaugh told him that he should not only stay in Ohio and see the Ohio Slide and Film Exchange in operation, but also study under Mr. Aughinbaugh for some period of time. They, together, would devise a plan whereby the seemingly impossible could be accomplished.

After several months in Ohio, Mr. Norton returned to Montana with the knowledge of what was being done in various other states in regard to film libraries, with encouragement from Aughinbaugh, and with a thorough knowledge of the Ohio system. However, he still had no definite plan as to how he could set up a film library in Montana on $6,000. There were several possibilities as to what should be done. One of them was to start a State Visual Aids Center, which would include all projected visual material, and the other plan was to have only the 16 mm. motion picture library. Miss Ireland, after the establishment of the film library by the Legislature in 1941, favored filmstrip and flat pictures as the proper content of the Montana State Film Library, because with such material more schools and poorer schools could be reached. However, for two reasons, the wishes of Miss Ireland did not prevail. First, seventy-five to one-hundred schools in the state had invested $400 to $500 in sound motion picture projectors, and clamorously demanded that the State Film Library supply state film, and second, though well-meaning people clamored for visual materials for the poorer schools, the poorer

schools made no request for services.

Mr. Norton took up the matter with visual directors in other states and was advised to begin the library with sound and silent educational motion motion pictures, and to have in the library some preview material of filmstrip and slides. However, knowing Miss Ireland's wishes, Mr. Norton worked to realize them. He developed two or three plans but all failed. It was finally decided that the Library would be a motion picture library. However, Mr. Norton has one plan still in keeping, which would enable the schools to have available for their use, stripfilm and slides. Although he had been advised to start with motion pictures only, Mr. Norton acquainted himself with the filmstrip and slide material. He demonstrated the projection of filmstrip and slides and encouraged the sale of those projectors to school administrators.

Now that it had been decided to make the film library a motion picture library, a plan of procedure had to be put into action. The big problem was that House Bill No. 10, passed on almost the same day as the bill which established the library, required that all rentals and fees that the state received by deposited in the state general fund and were not to leave there without a direct appropriation of the Legislature. Since the Legislature was not to meet for another two years, this left only $6,000. That was most discouraging because of the limited amount of films that could be purchased with this sum. Finally, at the suggestion of Mr. Gray, representative of the Erpi Film Corporation, it was decided that the schools throughout Montana should buy films for the library, and the state act as a film broker. After much thought, Mr. Norton returned to Ohio and talked this plan over with Mr. Aughinbaugh. They agreed that it was the only workable solution. Mr. Norton returned and began selling his idea to the school administrators of the state. The first film, "Mountain Building," was purchased by the state in 1941, the second film, "Endocrine Glands," was purchased by the Gallatin County Highschool, the third film, "Earth in Motion," was purchased by Whitehall. In September, 1941, there were sixteen films in the library. By the first of the year, there were one-hundred and twenty-five films. On July 1, 1947, the school library was made up of approximately 1,925 films.

Financing the Library

As has been stated above, the Legislature appropriated $5,000 the first year, for establishment of the library. In 1943, the Legislature met again, and appropriated $8,000 per year for the next two years. In 1945, the Legislature appropriated $10,000 per year for the next two years, and in 1947, the Legislature gave the Library $13,500, which was the original $10,000 plus a deficiency appropriation. Up to July 1, 1947, the library had received $43,000 from the state. Although the real value of the library can only be estimated in the amount of educational benefits it makes available to Montana students, if one looks at the library as a financial investment by the state, even then it is a good investment. Taking into consideration that the Film Library is now made up of 1,925 films, and that each film costs an average of $50, the cost value of the prints would be $96,250. This is not a bad showing for the state, since it has only invested $43,000.

Deposit Plan and Question of Ownership

Since the State Film Library could not accept rentals on films, the plan that Mr. Gray had suggested was put into effect. Schools were asked to buy one $50 film and deposit it with the Montana State Film Library in lieu of rental. The choice of the subject matter to be put in the library was left entirely to the patrons of the library, but they were asked to choose a film from an approved list sent out from the director of the library. This approbation was given to such films as those produced by Erpi Film Corporation, Encyclopedia Brittanica, Coronet, Young American; more recently this list has included Simmel Meservey.

The question of ownership of the films that are deposited in the library has never really been thought through. This appears to be a matter of no practical value.

The above plan, whereby the library is now operated, is the only one of such a nature in effect in the United States.

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[1] It should be taken into consideration that many of the films were given to the library by the government and by various commercial companies.

Stillfilms and the State Library

Knowing the value of all visual materials, Mr. Norton still has hope of installing the following plan:

1. The State Library would contain a previewed set of slides and filmstrip correlated with the curriculum that can be loaned to the schools.
2. The individual schools would build up a slide and filmstrip library.
3. County Superintendents would have a supplemental library.
4. The state would then buy films in quantity for long-time loan to County Superintendents.

Whether this plan be adopted or some similar plan, whereby stillfilm, slides and other projection material is made available to the schools is possibly of not as great importance as the fact that some plan be put into effect. The need for the stillfilm has been discussed in a previous chapter.

Questionnaire Results

In the questionnaire, superintendents were asked to check one of five statements which best represented their opinions regarding the Montana State Film Library. The statements were:

1. it (The Montana State Film Library) renders a film distributing service which is quite adequate to meet our needs and the needs of most Montana schools.

2. it renders a highly valuable service within its limited resources, but it is not fully adequate to meet our needs or the needs of most of the schools of the state.
3. it is of some, though very limited, use to us and most other schools.
4. it is of little practical use in our situation and throughout the state.
5. I have formed no opinion with respect to the service of the film library to our school or the schools of the state.

Of the sixty-eight superintendents who expressed an opinion in regard to the Montana State Film Library, 79.4 percent checked number two. It appears evident that the superintendents feel that the library has done well with the resources that were available but that it is in need of expanded service, as has certainly been recognized by persons in charge of the library.

The questionnaire included this question, "For what percentage of films and other projected visual aids do you find it necessary to place out-of-state orders?" Table XXV indicates that more than half of the persons who replied depend almost entirely on the State Film Library. With

TABLE XXIV

OPINIONS REGARDING MONTANA STATE FILM LIBRARY

	No.	%
It renders a highly valuable service within its limited resources, but it is not fully adequate to meet our needs or the needs of most of the schools of the state.	54	79.4
It renders a film distributing service which is quite adequate to meet our needs and the needs of most Montana schools.	9	13.2
It is of some, though very limited, use to us and most other schools.	4	5.8
It is of little practical use in our situation and throughout the state.	1	1.4
I have formed no opinion with respect to the service of the film library	3	
Total	71	

TABLE XXV

THE PER CENT OF FILMS AND OTHER PROJECTED MATERIAL FOR WHICH IT IS NECESSARY TO PLACE OUT-OF-STATE ORDERS

	Number of times checked
Five to ten per cent	27
About twenty-five per cent	16
About fifty per cent	12
No per cent	10
Total	65

respect to the other half, it is very difficul to interpret the responses since no effort was made to determine what type of material was ordered from out of the state.

CHAPTER IX

SUMMARY AND CONCLUSIONS

Summary

Purpose. It was the purpose of this study (1) to determine current practices and beliefs regarding the use of projected visual aids in the public schools of Montana, (2) to evaluate these practices and beliefs in terms of a set of standards based on the results of research and recommendations of experts in the field, and, (3) in the light of this analysis, to present suggestions for improvements in the use of projected visual material in the classroom.

Procedure. This study is primarily a questionnaire survey of the use of projected visual aids. An introductory letter was sent to two hundred and eleven public school school superintendents in Montana by Dean J. W. Maucker on April 1, 1947. Enclosed was a post card addressed to the writer which the superintendents were asked to check and return, stating whether they would have time to fill out the questionnaire. One hundred superintendents stated that they could find time to cooperate. Of these one hundred, seventy-three filled in and returned the questionnaire after it was sent to them.

Findings. The findings of this investigation may,

perhaps, best be presented by restating the theoretical standards for a projected visual aids program as set up in Chapter II, and by briefly presenting in comparison or contrast the beliefs and practices of Montana administrators and teachers regarding the use of projected visual aids.

We may first consider the extent to which well-rounded projected visual aids programs have been developed. For best results, a projected visual aids program should make use of a variety of aids. No single aid should monopolize the field, since each particular machine has a role to play in the program, and cannot be replaced wisely by another aid. However, it was found in this study that, in the seventy-three Montana school systems reporting, the projected visual aids field was almost monopolized by the use of the 16 mm. motion picture projector.

Projected visual aids should be available when they are needed. According to the survey, the main reason for using the 16 mm. projector was "availability of films" and the reason given for the infrequent use of so many other types of projectors was "slides, films, etc. are not readily available."

The personnel concerned with the use of projected visual aids should have a firm belief (however critical)

in the value that can be derived from the use of these aids. Out of seventy-nine answers received from superintendents in regard to the usefulness of a projected visual aids program, fifty-four administrators believed it to be "necessary for a good school program," and twenty-four believed it to be "occasionally useful." In other words, one-hundred per cent of the superintendents who answered this question believe that projected visual aids could be used to some advantage in a school program, rather than believing that the aids were "primarily a waste of time."

The personnel of a projected visual aids program should place primary emphasis on the instructional value of projected visual aids rather than on the entertainment value. The study shows that in the majority of cases, administrators endorsed the statements that projected visual aids should be used to "get ideas across to children", and "to inspire children", rather than "to entertain children", "to instruct adults", or "to enable teachers to carry a heavy load by cutting down on the amount of preparation they must make".

Teachers and administrators should know the value of projected visual aids in the various fields. It appears that they are very near the truth when they believe, as

Montana educators seem to, that projected visual aids can be used in all subjects provided the material is available. At present, they believe that the best quality of material is available in science and social science, while some materials of reasonably high quality are available in physical education, home economics and music. This belief appears to be fairly well backed by authorities, although none of them are very clear on the subject.

In any projected visual aids program, there should be someone in charge who has a background which will qualify him for the position. This study did not delve into the technical qualifications of the people in charge of the programs, but it did discover that in most cases the administrator is director of the projected visual aids program.

Authorities believe that all films should be previewed by the teacher before the picture is shown to the class. The writer feels careful study of a good handbook could take the place of previewing if the proper amount of time were not available for previewing. Regardless of whether this latter theory is workable, previewing or a good substitute is essential. The majority of Montana educators believe that previewing is advisable in practically every

cases, but they reported that previewing is done only "once in a while," or "about half the time." The reason given for not previewing, even though superintendents believe previewing to be valuable, is "lack of time."

All projected material that has been shown to a group should be discussed with the group, or some other type of follow-up work should be carried out. It appears that in most cases, Montana teachers follow this practice.

Projected visual aids should in nearly all cases, correlate with the classroom work. There may be exceptions to the rule that all material should be an integral part of class work in cases where films are shown on holidays, for example. This study obtained no definite figures as to what percentage of the teachers are showing films in correlation with the regular teaching plan, but it would appear that since the grouping of those who see the films is not very homogeneous much use is made of the aids with very little consideration of the correlation with the regular work. Of course, condemnation of this practice will not change the situation much. As can be seen in previous chapters, lack of available stripfilm and the expense of darkening a classroom, as well as the costliness of the motion picture, appear to be some of the reasons why pictures are so often shown in

the auditorium and to a large heterogeneous group.

Using too many aids is to be discouraged but evidently that specific danger is not imminent in Montana.

The person who operates the projector must be efficient. In Montana, students, teachers, and principals are the ones responsible for the operation of the projectors. Most operators appear to be well trained because many schools have projector clubs in which the students learn to run the school's projectors.

Teachers in service should be given instruction in the use of projected visual aids when the need arises. It seems reasonable to expect that, if adequate in-service training programs were being carried on in this area, the use of projected visual aids would be discussed in most school systems in at least one professional meeting during the year. During the current year (1946-47) there were only twenty-six superintendents who held faculty meetings on projected visual aids. These twenty-six called a total of only forty-nine meetings. A few meetings were called by interested teachers, salesmen, by local groups of the Montana Education Association, and others.

The length of film showings should vary with the age and the ability of the group to which the films are shown.

In Montana, film showings vary from fifteen minutes in the lower grades, to more than thirty minutes in the high school.

According to most standards on the use of projected visual aids, children should be grouped homogeneously when they are shown projected visual materials. This criterion is often violated in Montana. Only twenty-six percent of the projected visual material is shown to "children taking the same subjects", twenty percent to "children in the same grade", while eighteen percent is shown to the "whole high school", and nine percent is shown to "the whole school system".

Authorities agree that optimum instructional value is most likely to be obtained when films are shown in the classroom. In Montana, most motion pictures are shown in the auditorium, while most other projected visual materials are shown in the classroom.

The classroom, when used as a projection room, should be equipped with dark shades, but in Montana many classrooms in which projected material is shown are equipped with ordinary shades.

Projected visual aids should at all times be used as a <u>part</u> of the process of teaching, and not as a substitute for the regular classroom work. This study has no real

evidence as to how Montana educators use the aids, whether they correlate with the subject matter or not, but from the returns, there is evidence that teachers and superintendents believe that the aids should be an integral part of the class work.

Conclusions

Limitations of the present study. Before stating any conclusions, the writer wishes to call attention to the fact that the present study is limited in the following respects:

1. The study is based upon results from a sampling of approximately one-third of the school systems in Montana. An analysis of the sample revealed, however, that the sample is fairly representative of schools in the state in respect to geographical distribution and size of school. It is probably biased somewhat in that it represents an undue proportion of the school systems in which administrators have considerable interest in projected visual aids.
2. Any questionnaire survey is only as valid as the questionnaire method itself. While the writer put

forth considerable effort to avoid ambiguity and to make the questionnaire as clear-cut as possible, he recognizes the fact that there may have been misinterpretation in a number of instances.

3. While primary concern of the writer lay with the quality of use of projected visual aids, he obtained evidence primarily on the mechanics of projected visual aids and on the beliefs of teachers and administrators in regard to the use of these aids. Such conclusions as have been drawn in respect to the quality of projected visual aids are therefore merely inferences from such indirect evidence and involve the obvious risks inherent in such procedure. The real quality of the programs could probably have been much better judged if several weeks were spent in representative school systems in direct observation of the programs as they function from day to day.

Conclusions. Recognizing the above-mentioned limitations, the writer nevertheless believes that the following conclusions may safely be drawn from the evidence obtained in this study:

1. The majority of superintendents and teachers in

Montana appear to be reasonably well informed in regard to:

a. the value of a projected visual aids program in a public school,

b. the purpose for which projected visual aids should be used,

c. the value of stillfilm and other projection material as well as motion picture material, in a projected visual aids program,

d. the general quality and effectiveness of projected visual material available at the present time,

e. the length of films to be shown to various age levels,

f. the value of the handbook,

g. the value of previewing,

h. the value of follow-up work, and

i. the value the schools can derive from the films that are made available by the State Fil. Library.

2. Montana educators appear to be following correct practice in regard to:

a. the length of film showings,

b. follow-up work.

3. Definite improvement in practice should be made in the following respects:

a. the limited use of stillfilm and other types besides motion pictures,

b. the insufficient previewing of films,

c. the heterogeneous grouping of students

d. the lack of in-service training,

e. the inadequate darkening of the classroom,

f. the inadequate use of handbooks.

Recommendations.

1. Major.

a. A greater variety of projected visual materials should be introduced into the public schools of Montana.

b. While the writer recognizes the fact that the Montana State Film Library has developed very rapidly since its start in 1941, and is rendering an exceedingly valuable service in regard to motion pictures, he feels that the Library should be enlarged to include a variety of projected visual aids,

particularly the stillfilm.

c. Handbooks, when available, should be sent out with film orders.

2. Minor

a. Teachers in Montana should use handbooks and, if possible, preview the material to be shown before it is introduced to the class.

b. Teachers should make a greater effort to present projected visual aids to students in groups which are relatively homogeneous in regard to the material to be shown.

c. More classrooms should be equipped with some means of darkening for use in projection.

d. All school administrators throughout the state should develop more systematic in-service training programs to improve the effectiveness with which projected visual aids are used in Montana schools.

Possible future studies. To the best of the writer's knowledge, very little research has been done in the field of projected visual aids in Montana. The following topics for further research are listed in what the writer believes is the order of their importance:

1. A complete history of the Montana State Film Library, and a consideration of its future possibilities.
2. The making of classroom films, slides, filmstrips, and other projected aids in the Montana classroom.
3. A further analysis of what Montana teachers are doing in regard to the correlation of projected visual aids with the regular class program.
4. The evaluation of various methods of using films in terms of outcomes derived from the use of projected visual aids.

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Letter of Introduction

To All Superintendents of Schools
in Montana

Charles Frank, a junior high school teacher at Billings, is making an analysis, under my direction, of the use of projected audio-visual aids in Montana public schools. He is making the study while on the job at Billings. Because he has done a thorough job of analyzing the problem and has shown admirable initiative in developing an inquiry blank, I am writing at this time to request your assistance.

Mr. Frank wishes to find out what use is being made of audio-visual aids in Montana and what obstacles are preventing further use. He wants to find out how often films are shown, for what purposes, in what rooms, to what groups of pupils, with what apparent success, etc. He plans to determine practice throughout the state by means of a questionnaire and to follow through with an intensive "case study" of several specific school systems.

Recognizing his obligation to make good use of the time of cooperating schoolmen, he has read widely, has obtained the advice and criticism of several leading audio-visual men in the nation - particularly Edgar Dale of Ohio State and Aughinbaugh of the Ohio State Department - and has obtained practical advice from M. C. Gallagher, Charles Dean, Jesse Ragsdale, and others in the Billings area. He has taken special pains to formulate clear cut questions and to arrange them so they may be readily answered.

In order not to bother you further if you simply cannot find time to answer his inquiry (it will probably take the better part of an hour), we are enclosing a post card by which you may indicate whether or not you wish to have him send you the inquiry blank during the last week in April. We realize the many demands on your ti e - my own desk is piled high with questionnaires right at the moment - hence we will be most appreciative of your cooperation in returning the enclosed card. If you are able to give us the "go" sign on the questionnaire, we will try to make good use of the data and will send you a brief, pointed summary of the statewide results.

Sincerely yours,

J. W. Maucker
Dean
School of Education

JWM:gw.

B

Post Card

Dear Mr. Frank: _____, 1947

☐ I will respond to your inquiry on the use of projected audio-visual aids in Montana Schools. Send it along. I understand that:

1. it will be sent late in April and I will be asked to return it by May 15,
2. it will require about an hour's time,
3. my statement will be confidential, and
4. I will receive a summary of replies by Montana superintendents.

☐ Sorry, there's just too much to do those days.

Name _____

Position _____

Location _____

C

Letter Accompanying Questionnaire

645 Custer Ave.
Billings, Mont.
April 25, 1947

You have kindly indicated your willingness to cooperate in the study of audio-visual aids which I am carrying on as explained in Dr. J. W. Maucker's letter of April 10. It was very encouraging to have you and so many other school administrators return the post cards with an affirmative reply to our initial inquiry.

I am enclosing the questionnaire. I hope that it will not appear too formidable to you. We have made every effort to make it clear-cut and to include only worthwhile items. I will appreciate your cooperation in returning it to me by May 15. If there are parts of the questionnaire which are not clear, I will be most happy to clarify any portion of it by further correspondence.

As was mentioned in Mr. Maucker's letter, we plan to distribute a summary of our findings so you will receive some tangible results by virtue of your cooperation in filling out the questionnaire. We know that it will take some time for you to do this but we sincerely appreciate your willingness to devote time to this project when there are so many other demands on your time.

Thank you.

Sincerely yours,

Chas. L. Frank

QUE[illegible] DIO-VISUAL AIDS IN THE PUBLIC SCHOOLS OF FLA.

Name _____ Date _____

Name of School System _____ Location _____

EQUIPMENT:

I. Please indicate the number of projectors you have in your school system.

1. ____ 16 mm. sound motion picture projector.
2. ____ 16 mm. silent motion picture projector.
3. ____ 35 mm. sound motion picture projector.
4. ____ 35 mm. silent motion picture projector.
5. ____ projector for 3¼ x 4" slides.
6. ____ opaque projector.
7. ____ combination projector for slides and opaque projection.
8. ____ projector for 2 x 2" slide projection.
9. ____ filmslide projector.
10. ____ combination filmslide and 2 x 2" slide projector.
11. ____ microprojector.
12. ____ flashmeter or tachistoscope.
13. ____ _____.

USE OF EQUIPMENT:

II. Of the above projectors that you have checked, which ones are used most frequently in your school? (check as many as necessary)
1.___ 2.___ 3.___ 4.___ 5.___ 6.___ 7.___ 8.___ 9.___ 10.___ 11.___ 12.___ 13.___

III. Why are these machines used more than any of the others? (check more than one if necessary)

1. ____ availability of films, slides or other projected materials.
2. ____ higher quality of available films, slides, etc.
3. ____ adaptability to teaching procedure.
4. ____ machines' ability to use homemade projections.
5. ____ the ability of teachers to use it due to fewer mechanical problems.
6. ____ economy of time.
7. ____ materials shown appeal to children's interests.
8. ____ _____. (any other reason)

IV. Of the projectors that you checked in No. I, which ones are used least frequently in your school? (check as many as necessary)
1.___ 2.___ 3.___ 4.___ 5.___ 6.___ 7.___ 8.___ 9.___ 10.___ 11.___ 12.___ 13.___

V. Why are these machines used less than any of the others? (check more than one if necessary)

1. ____ slides, films, etc. are not readily available.
2. ____ inability of teachers to use it.
3. ____ homemade materials cannot be used.
4. ____ consumes too much class time.
5. ____ materials shown do not appeal to children's interests.
6. ____ awkwardness of handling.
7. ____ _____. (any other reason)

VI. Projected audio-visual aids are usually used for one or several of the following reasons. Will you please check the degree to which they are used for each reason, within your own school? (This is a most important question. Please think it through carefully and explain your point of view.)

	used a great deal	used some	used relatively little	
1.	____	____	____	1. to get ideas across to children.
2.	____	____	____	2. to inspire children.
3.	____	____	____	3. to entertain children.
4.	____	____	____	4. to instruct adults.
5.	____	____	____	5. to enable teachers to carry a heavy load by cutting down on the amount of preparation they must make.

VII. If you wish, please explain your answer to No. VI. _____

_____

_____

VIII. Assuming reasonably good equipment and conditions for showing films, in your opinion how useful are projected audio-visual aids in a school program?

1. ____ necessary for good school program.
2. ____ occasionally useful.
3. ____ primarily a waste of time.

IX. Approximately how much money have you spent on projected audio-visual aids in your school system this year? Do not include cost of projectors. (It is understood that the answers to this and the next question are simply estimates, not exact figures. _____

X. Approximately how many of each of the following types of material did you show in your school this year?

1. ____ sound moving films.
2. ____ silent moving films.
3. ____ filmstrips.
4. ____ slides.

XI. What is the usual length of time for which you show films at one sitting?

	less than 15 min.	15 to 30 min.	over 30 min.
1. primary grades	____	____	____
2. intermediate grades	____	____	____
3. junior high school	____	____	____
4. senior high school	____	____	____

XII. If the length of the films that are shown varies significantly from grade to grade, please explain why you think this should be so. _____

_____

_____

XIII. To whom do you usually show your projected material? (Check as many as appropriate.)

1. ____ children in the same grade.
2. ____ children taking the same subjects.
3. ____ children in the same department.
4. ____ the whole grade school.
5. ____ the whole high school
6. ____ the whole school system.
7. ____ _____ (any other grouping)

XIV. How effective have you found projected audio-visual aids to be in each of the following fields? (check one for each subject.)

	very effective	some value	little value	I have no basis for an opinion.
1. mathematics	____	____	____	____
2. social science	____	____	____	____
3. art	____	____	____	____
4. English	____	____	____	____
5. music	____	____	____	____
6. phy. ed.	____	____	____	____
7. home economics	____	____	____	____
8. science	____	____	____	____
9. commercial	____	____	____	____
10. _____ (any other)	____	____	____	____

XV. In your opinion, what is the degree of quality of the projected audio-visual materials which have been produced in those fields? (Check one for each subject)

	good quality	fair	poor	As far as I know, very little material is available.
mathematics	____	____	____	____
social science	____	____	____	____
art	____	____	____	____
music	____	____	____	____
English	____	____	____	____
phy. ed.	____	____	____	____
home economics	____	____	____	____
science	____	____	____	____
commercial	____	____	____	____

XVI. Where do you usually show your moving films? (check more than one if necessary)

- ____ assembly or auditorium.
- ____ classroom.
- ____ special darkroom.
- ____ _____ (any other place)

XVII. Where do you usually show your film-slides? (check more than one if appropriate)

1. ____ assembly or auditorium.
2. ____ classroom.
3. ____ special darkroom.
4. ____ _____ (any other place)

III. Where do you usually show your other projected material, if any?

- ____ assembly or auditorium.
- ____ classroom.
- ____ special darkroom.
- ____ _____.

XIX. If any projected material is shown in the classroom, how is this made possible?

1. ____ black curtains.
2. ____ ordinary curtains.
3. ____ drapes.
4. ____ by use of a shadow box.
5. ____ _____. (any other way)

XX. Do you believe that a handbook with suitable question-and-answer discussion on the material to be shown is helpful to good teaching with audio-visual aids? yes no

XXI. Do you ordinarily receive handbooks with your film orders? yes no

XXII. Would you care to receive them regularly if they were available? yes no

XIII. Your reaction as to the learning that takes place when one sees projected material may be different from your students' or teachers' reactions. Please check the following three columns as necessary to indicate which statements you, your pupils, and your teachers would generally endorse.

	supt's reaction	pupils' reaction	teachers' reaction
1. projected a-v aids are entertainment only	____	____	____
2. are definite aids when correlated with what is being studied.	____	____	____
3. are helpful even when not being correlated with what is being studied.	____	____	____
4. are time savers.	____	____	____
5. are labor savers.	____	____	____
6. waste valuable class time.	____	____	____
7. _____. (any other ideas.)	____	____	____

XXIV. Have you or your staff performed experiments to show the effectiveness of projected audio-visual aids? ____ If so, it will be appreciated if you will explain this in detail on a separate sheet of paper. A summary of your findings will be made and for those requesting it a copy of the summary will be

SONNEL USING EQUIPMENT:

XXV. Please give faculty position of person in charge of projected audio-visual material. _____

XXVI. Who operates your machines? (check as many as necessary)

1. ____ teachers.
2. ____ principals.
3. ____ students.
4. ____ special audio-visual man.
5. ____ janitor.
6. ____ _____ (any other person)

XVII. During this school year so far to date, have you had any systematic discussion or demonstration of audio-visual aids? ____ In what sort of Meeting? (Check as many as necessary.

		Approximately how often did you meet?
1. ____	in a regular faculty meeting called by the supt.	____
2. ____	in a meeting called by the visual-aids director.	____
3. ____	in a meeting called by an interested teacher.	____
4. ____	in a meeting called by _____ (any other person).	____

VIII. If you had any such meetings as mentioned above, please explain what was done at the meetings in regard to the use of projected audio-visual aids. _____

_____

_____

CHNIQUES OF FILM USE:

		in practically every case	About half the ti e	Once in a while	Never
XXIX.	To what extent do you believe it is advisable for the teacher to preview films before they are shown to the students?	____	____	____	____
XXX.	To what extent do your teachers actually follow the practice of previewing films?	____	____	____	____
XXXI.	To what extent are your students prepared for, or introduced to, films before seeing them?	____	____	____	____
XXXII.	To what extent, is the showing of projected audio-visual material followed either by discussion of the material covered or by an oral or written test?	____	____	____	____

AUDIO-VISUAL AGENCIES:

XXIII. Please give the name and address of the agency from which you order most of your films. _____

slides. _____

additional projection material. _____

XXIV. Which of the following statements best represents your opinion regarding the Montana State film library?

1. ____ it renders a film distributing service which is quite adequate to meet our needs and the needs of most Montana schools.
2. ____ it renders a highly valuable service within its limited resources, but it is not fully adequate to meet our needs or the needs of most of the schools of the state.
3. ____ it is of some, though very limited, use to us and most other schools.
4. ____ it is of little practical use in our situation and throughout the state.
5. ____ I have formed no opinion with respect to the service of the film library to our school or the schools of the state.

XXXV. For what percentage of films and other projected audio-visual aids do you find it necessary to place out-of-state orders?

1. ____ more than half
2. ____ about one-fourth
3. ____ five to ten per cent
4. ____ none

XXVI. Please explain your answers to the previous questions, numbers XXXIV and XXXV, if you wish. _____

_____

_____

TURE OF PROJECTED AUDIO-VISUAL AIDS:

XXVII. Please mention any improvements you feel are advisable in the audio-visual aids set-up.

1. in your own locality. _____

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2. within the state. _____

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3. within the whole country. _____

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4. in the State Film Library. _____

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