

UTILIZATION AND FUNCTION OF AUDIO-VISUAL AIDS
IN SMALL HIGH SCHOOLS OF NORTH DAKOTA

BY

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CHAPTER I

INTRODUCTION

The purpose of teaching is basically to arouse the pupil and direct his behavior into channels which are desirable, such as the development of proper skills, useful habits, conceptual understandings, accepted attitudes, personal appreciations, and critical-mindedness.

The philosophy of audio-visual education accepts this tenet and holds that audio-visual materials validates this principle.¹

At the present time there is a wealth of audio-visual education materials at hand for use by teachers if they will avail themselves of the opportunities to use it. Scanning the material and samples at teacher's conventions and reading advertisements in teacher's magazines one will find supplies unlimited. A common complaint at the school where the author previously taught, was that teachers made little use of audio-visual materials. In some instances, the superintendent in the school felt that there was not enough use of audio-visual materials to justify their purchase.

Hearing, seeing, looking and listening are the primary means of human learning. What we hear and see markedly influences how we behave. Because teaching at its best is the stimulation and direction of learning, what learners look at and listen to are major factors in the effectiveness of learning.

It is shocking to realize how recently learning materials,

¹Kinder, James S., Audio-Visual Materials and Techniques, American Book Co., New York, N. Y., pp. 9-10.

conceived and produced by man, has been made available to the public. The printing press did not appear until the middle of the fifteenth century. The radio became common in the late 1920's. Television appeared in the early 1950's.

These and numerous other communication devices make it possible for the teacher to stimulate and direct learning in a fashion heretofore unknown. It seems clear that teachers of today, whether in elementary or secondary schools, undergraduate or graduate institutions, must become intimately familiar with visual aids in order to approach complete effectiveness.

Statement of the Problem

Because in a few brief decades teaching has changed from almost complete dependence on face-to-face verbal instruction, today it requires knowledge of how to select and use appropriate visual aids in order to better explain the space age and the changes that are rapidly taking place.

According to the author's survey, many teachers do not make full use of the many visual aids that we have in schools today and a few teachers abuse the use of such teaching devices. Because of the importance of audio-visual aids the author felt that a study should be made to determine the extent of use and the value of such materials to the classroom teachers, and also, determine what is being done generally in audio-visual education in North Dakota small high schools. It was not his intention to criticize or praise, but rather to learn about North Dakota's progress in the newer media and to present his findings in this report.

The study was primarily concerned with the following objectives:

(1) to determine the current aims and objectives of audio-visual aids programs in the high school; (2) what types of audio-visual aids are found in the small North Dakota high schools, and their value to the teacher; (3) to determine what can be done to further the use and improvement of audio-visual aids in the North Dakota high schools; (4) the reactions of teachers to mechanical audio-visual equipment at their disposal; (5) what pieces of equipment seem to be used the most and the least; (6) whether a specific building coordinator or director handles the ordering of audio-visual equipment and materials and does this person receive added pay for his work; (7) whether in-service training courses in audio-visual techniques are being employed; (8) if key members of each staff are members of national and state audio-visual organizations; (9) which courses appear to lend themselves best to audio-visual equipment and techniques; (10) the types of specific audio-visual equipment used in the schools participating in the survey; (11) if any audio-visual equipment-buying patterns are being established in North Dakota high schools; and, (12) to examine the procedures for expanding audio-visual policies in the future.

Procedure

Method of Research. A copy of the current North Dakota Directory of Education, a publication of the Department of Public Instruction, was used for the purpose of selecting the schools to be surveyed. A questionnaire was devised and sent to 100 high school principals of assorted-sized Class B schools in the state selected at random from the directory. A map

of the state was measured and cut into as nearly equal quarters as possible to obtain a cross-section of towns. This was not difficult to do because of the naturally rectangular shape of North Dakota. Names of all the towns having high schools were copied from the directory and placed in piles representing the four quarters of the state. A disinterested person was then asked to select twenty-five names of towns from each group of face-down slips of paper. The enrollment of these schools varied according to the town's population.

A questionnaire was devised in such a manner that little writing was necessary in answering; yet ample space was provided for any comments the respondents might wish to add. A copy of the author's survey questionnaire can be found in the appendix.

The results of the questionnaire were compiled and conclusions drawn from the results and recorded on Tables. The results shown contain averages and percentages of the entire group of schools surveyed. From the conclusions, recommendations of standards for a program of audio-visual education with regard to equipment needed and teacher practices were made. The recommendations were made from the results of comparisons with programs and standards of authorities in the field of audio-visual aids and the results of the questionnaire.

Limitations

The review of literature was limited to books, pamphlets, and periodicals in the audio-visual field. The questionnaire was limited to one hundred Class B schools of the state of North Dakota because of similarity in size and enrollment. The study was limited to the state

of North Dakota because of geographical location and because it is the area of author's immediate interest. The reader, in order to understand fully the limitations of this study, should be aware of the following facts: (1) the questionnaire was sent to principals of one hundred small high schools of North Dakota, which is not quite one-half of the small high schools in the state, and out of that number 81% responded; (2) most principals, to whom the audio-visual questionnaire was directed, are teaching principals having little time to study the merits of newer and more advanced teaching aids; (3) certain audio-visual equipment and materials were left out of the questionnaire and were not considered important in this study for obvious reasons. For example, there was no mention of closed-circuit television employing the use of video tapes and live production because few North Dakota small high schools are carrying on experiments with it. For the same reason there was little mention of the use of language laboratories, individual motion picture film libraries, or teaching machines.

Definitions

The term, audio-visual aids, as used in this study, means instruction based on the use of visual materials with integral sound accompaniment; for example, sound motion pictures. The designation, assorted-sized Class B schools, indicates schools with enrollments of five hundred or less high school students.

CHAPTER II

REVIEW OF LITERATURE

HISTORICAL BACKGROUND OF AUDIO-VISUAL INSTRUCTION

The use of audio-visual aids in instruction is not as new as the term "newer media" might imply. A limited form of this type of teaching instrument has been traced to the latter part of the nineteenth century. It took the industrial revolution to give the audio-visual idea the boost it needed, for it was during that period of American history that industrial leaders realized that a great number of people who attended but did not complete school would some day seek work in unskilled and semi-skilled occupations rather than "white collar" positions. A need for practical methods of teaching skills which would reach those who rebuked book learning had to be devised to fill the educational needs of a growing faction of the nation's population that would become the "blue collar" workers.²

Perhaps, audio-visual education to a limited degree could even be traced back to the time of Jean Jacques Rousseau (1712-1778), whose writings are among the most influential of the eighteenth century. In Rousseau's Emile, a story which develops a plan of education for the normal child whereby he becomes morally and intellectually well-balanced, Rousseau would have his students work very closely with whatever they were studying. If a student were devoting his time to studies that

²McClusky, F. D., "Audio-Visual 1905-1955", Educational Screen, Vol. 34, April, 1955, pp. 100-102.

included living specimens to aid him in his research, Rousseau felt that many learning situations should employ as many true-to-life situations as could possibly be brought to bear. The lecture method of teaching, according to the reasoning of this great French and Swiss moralist, was the farthest from realism; hence it was the least acceptable tool for learning. It is easy to see that Rousseau could very well be one of the early advocates of audio-visual education.

Much important audio-visual equipment had its infancy with and was fathered by Thomas Alva Edison. For he said, "Most of our textbooks seem to look upon the whole process of education as a job of dull and uninteresting work."³ It is interesting to note that many of Edison's electrical devices were designed with visual teaching in mind. Mr. Edison declared after successfully developing the first reel camera: "Visual education is the imparting of exact information through the motion picture camera." In speaking of the motion picture machine, a tool developed by him in 1897, he said:

The feature that appealed to me was the educational possibilities. ...I had some glowing dreams regarding what the camera could be made to do and ought to do in teaching the world things it needed to know...teaching it in a more vivid, direct way. I consider that the motion picture is destined to revolutionize our educational system.⁴

One has only to use his imagination to find effective uses for Thomas Edison's motion picture projector in high school instruction. Quite often the motion picture projector is used carelessly in our

³Crosby, O. A., "Edison Pioneered Audio-Visual Learning", National School, Vol. 67, February, 1961, pp. 92-96.

⁴Ibid, p. 95.

schools; it is used strictly for the entertainment value, but state colleges have established courses of audio-visual methods and materials and consequently, a great number of teachers are now using the newer media of instruction with varying degrees of effectiveness.

Looking back to the early American pioneer days when the pioneers were heading West, the farther the pioneer trudged the more convinced he became that he was headed in the right direction, and the harder he tried to urge his companions on. So it is with the audio-visual enthusiast. The more he is able to intertwine the newer media into the teaching in his classroom the more convinced of its worth he becomes to the point where he wants to share his teaching tools with others of his profession.

Audio-visual aids and techniques experienced their real baptism of fire at the onset and during World War II. The United States was suddenly faced with what seemed to many a nightmarish task of training over ten million people from all walks of life and with every imaginable degree of intelligence and experience to serve their country in armed forces and home industries. This task had to be done in a relatively short span of time. Instructors, with the help of filmstrips, slides, motion pictures, opaque and overhead projectors, wire and tape recorders, models, maps and globes, set out to do what was necessary for the war effort. The success of such an endeavor is history. Since the Second World War, audio-visual tools have proved their worth in areas of elementary, secondary, and higher learning, religious training, and any number of areas where thorough instruction is essential.

CURRENT TRENDS

Today we find that well over five thousand major pieces of literature have been written about the newer media and millions of dollars have been spent by commercial enterprises to create equipment and materials for audio-visual instruction. Many colleges and universities offer courses for training specialists in audio-visual techniques and in methodologies. Many of these institutions of higher learning are producing slides, tapes, recordings, filmstrips, and films for rent or sale in their surrounding areas. It has been reported that Indiana University alone receives \$450,000 annually to operate its audio-visual education department. State departments of public instruction in some states require training in audio-visual techniques before giving teaching certificates.⁵

One finds it extremely difficult to keep up with the giant production strides of the newer media. While commercial manufacturing companies are constantly improving, revising, retooling, and designing audio-visual equipment and materials to keep pace with the competitive race, publishing firms and publicity houses are doing their efficient best to display their wares in manners that will attract the attention of teachers, schools, administrators, boards of education, and purchasing boards.

Many new schools are being designed with much attention given to audio-visual aids. Standard in many new plants are room light control, built-in television facilities including rooms designed along the lines

⁵Wittich, W. A., "Is There a Future in it?" Educational Screen, Vol. 34, April, 1955, p. 170.

of commercial television studios for local production. Equipping schools with special sound-proofing in each room has become almost standard in the past several years.

Since 1958, the federal government has given a healthy boost to audio-visual education. Under the audio-visual provisions of Public Law 864 of the National Defense Education Act of 1958, thousands of schools have received matching dollars in federal funds which were spent specifically for installing and utilizing audio-visual equipment. Under "Title III" of the Law, 12 per cent of the money is earmarked for private, non-profit, elementary and secondary schools to be used by them to purchase equipment and necessary audio-visual materials. Although these monies are to be used primarily to strengthen science, mathematics and languages in schools, Public Law 864 does not specify these to be the only subjects which may benefit. Special provisions of the Law allow schools to remodel classrooms to enable them to facilitate audio-visual equipment and material usage. Seventy-five million dollars has been authorized from the beginning of the National Defense Education Act until June 30, 1962.⁶

Laurence G. Derthick, Commissioner of Education in 1959, said:

Poised on the threshold of the scientific revolution, we are faced with the long-term need for a highly trained citizenry that is individually and collectively capable of meeting problems to severe and demanding that a failure to solve them may well mean the destruction of civilization. This National Defense Education Act is a significant step toward meeting that need.⁷

⁶Audio-Visual Provisions of Public Law 864 — National Defense Education Act of 1958, Clearing House, Vol. 33, March, 1959, pp. 447-448.

⁷Derthick, L. G., "Impact of the N.D.E.A.", Nations School, Vol. 63, February, 1959, pp. 73-74.

Closed circuit television experiments in public school districts in various parts of the country are being evaluated by top minds in audio-visual education. Although there are those who appear uneasy about predicting its success or failure, many are firmly convinced that closed circuit television will be one of the most significant breakthroughs in learning ever devised. It is recorded that the public school system of Hagerstown, Maryland, installed its first closed circuit television apparatus as early as 1957. This highly publicized experiment was established as a five-year project, but after two years in operation, teachers, board members and administrators already found several significant improvements in the learning of high school and grade youngsters. Standard achievement test scores rose with the participating group. Teachers were stimulated to do better teaching jobs through in-service television courses directed to them. Tests showed that students and pupils remembered longer. It will, however, take a while to determine if the academic advancement was due, in part, to the newness and glamour of the newer media. One thing is certain -- Hagerstown is planning classes to include forty-eight schools or eighteen-thousand boys and girls. They have by this time completed a television production building and are in the process of experimenting with beaming at least six programs simultaneously to the far reaches of their school district.⁸

It would be hard for a critic of teaching by audio-visual methods

⁸Buehring, L. E., "Hagerstown Experiment -- After Two Years", Nations Schools, Vol. 63, February, 1959, pp. 83-86.

to discredit the phenomenal successes experienced by educational television throughout the United States. Midwest Programs of Airborne Television Instruction, better known as "MPATI", have been instrumental in this field of audio-visual education. This project, which bounces television signals from a plane to hundreds of schools surrounding the Chicago area, has been in operation longer than any other major educational television endeavor and plans to increase its output. "MPATI" offers its viewing schools more than five hundred courses representing over fifteen thousand individual lessons.⁹

As was mentioned elsewhere in this report, World War II was the breakthrough era for the newer media. Numerous machines have entered the market since then, and it appears that in addition to new machines there is an effort on the part of manufacturers and a demand from many educational systems to improve those already in operation. Industry has now made practical an operationally-efficient eight millimeter film projector. This smaller and less-complex machine allows school systems of moderate means to start their own eight millimeter film libraries. The conventional sixteen millimeter films are very costly. The change to eight millimeter will also allow schools to produce their own film because the cost of cameras, film, and other necessary equipment will be considerably less. In 1960, the first eight millimeter projector was equipped with sound mechanism, for it was at that time that a magnetic sound strip was developed and attached to a film. As the film projector is perhaps the

⁹Wittich, W. A., "The Case of Audio-Visual Has Been Proved: Now It's Your Move", Nations Schools, Vol. 71, May, 1963, pp. 61-64.

most often used piece of audio-visual equipment, this discovery could have wide-reaching importance. Already the smaller film is being heralded as the "paperback of the film world."¹⁰

The competent, dedicated, forward-looking teacher strongly wishes to improve the dynamic quality of his teaching and needs the appropriate tools with which to provide the best possible education for every student. Current developments reflect society's growing concern and eagerness to help improve education for all students. Among these are the various provisions for federal assistance in supplying schools with the best instructional materials and services.

UTILIZATION OF EQUIPMENT IN HIGH SCHOOLS

There are two basic objectives in the use of educational media in the schools of the nation. These are, (1) to assist teachers with the communication of ideas and, (2) to provide teachers with the necessary tools with which to improve instruction. Each teacher must develop basic skills. This includes the application of appropriate teaching methods for the desired outcomes. They must develop the skills necessary for the optimum use of educational media.

Teachers should recognize that media are not substitutes for good teaching, but are only tools in the hands of teachers who select them carefully and use them effectively.

A classroom teacher can use the school's tape recorder for testing.

¹⁰Fersdale, L. and Selby, S., "8 mm. for Local Production", Audio-Visual Instructor, December, 1961, pp. 528-531.

He or she can prepare tests and leave enough "taped silence" so students will have time to fill in the blank on their answer sheets. The use of the tape recorder allows the teacher to circulate around the room while the tape is playing. Questions may be repeated. It gives the poorer readers the same opportunities to answer the questions as the advanced readers. The tape can also be used for make-up tests for absentees. Teachers can use the tape recorder for speech instruction and in the music department.

The overhead projector can be used to great educational advantages. A science instructor, for instance, can use a transparency with five overlays to show five different body parts.

Photo copying machines have come into prominence in the past few years and are being improved as more uses are found for them. Many copying machines on the market today are able to copy original papers on transparency material for use with the overhead projector. One resourceful instructor, noting the high cost of the transparency paper, was able to obtain reclaimed x-ray sheets at a low cost and in this way cut expenses considerably in his map-making units. By using this method, shading and color could be applied after the copy was produced, adding realism to the maps.¹¹

Perhaps one of the most versatile pieces of audio-visual equipment is the dry mounting press. Classroom teachers in many areas of the United States heralded its arrival a few years ago with great enthusiasm. That

¹¹Hanna, J. E., "A Visual Look at the Language Arts", Instructor, Vol. 72, June, 1963, p. 55.

enthusiasm, for the most part, has increased. The press is electrically heated and will permanently fix a flat picture to a piece of tag board. in seconds with no signs of glue marks, bubbles or ragged corners. The dry mounting press, when used with special acetate film sheets can produce a transparency from pictures in magazines. These pictures can then be used on any overhead projector.

A recent addition to the uses of the dry mounting press involves a plastic material which can be placed over a natural specimen and permanently seal it to tag board. For an example: when leaves are treated in this manner they do not loose their color or life-like qualities.

The 16 millimeter projector can be of great value in many classes, particularly in the areas of science, social studies, and home economics. The motion picture must be used at the psychological or logical time which fits the purpose for which the film has been designed. It can readily be seen that one cannot give a specific time for showing the film because it may be used to introduce a unit of work providing background and interest for further unit study. Its purpose may be general enrichment by adding information, assisting with a skill, or development; or its purpose may be one of review following study of the unit.

The author has attempted to give only a brief summary of what some teachers are doing with a few of the many pieces of audio-visual equipment. It would be impossible in this paper to cite all of the meaningful experiments and projects that teachers are conducting every day in the field of audio-visual education.

FUTURE

It appears that audio-visual education has a bright future, According to many who are qualified to predict, it is conceivable that someday soon satellites will provide the wide reception range necessary for a national, or perhaps, international, educational television hook-up. Many predict that machines will become so easy to operate that the most unmechanically-minded teacher can carry out a full schedule of newer media lessons. Already a cartridge film has been invented which eliminates the complicated task of threading and rewinding projectors and films.

We shall, if current trends continue, undoubtedly see more teacher training institutions require courses in all phases of audio-visual education from the techniques of running machines to the philosophy behind the newer media. As of 1960, there were three-hundred colleges and universities offering courses for training specialists in audio-visual techniques and methodologies.¹² We can assume that there are many more in 1966.

"That new demands are being made on educational institutions is so obvious it hardly bears repeating. Whether it is the President of the United States speaking, or a private conversation with a neighbor, it is evident that education is one of the most significant issues in American society today."¹³

¹²Rurark, H. D., "A Report on the Year 1961", Audio-Visual Guide, Vol. 40, December, 1961, pp. 640-643.

¹³Meirerhenry, W. C., "Today's Potential of A-V", The American School Board Journal, October, 1965, Vol. 151, No. 4, pp. 29-31.

With passage of the Elementary and Secondary Act of 1965 we shall see new and better ways of reaching more elaborate and extensive educational goals. Among the newer developments which have demonstrated promise of aiding educators meeting some of the new demands is the use of educational media including the various audio-visual aids.

School administrators and boards of education must show considerable initiative in providing classrooms able to serve all of the functions for effective classroom instruction. It will be necessary to mount inservice programs to help prepare teachers to deal with the new approaches which are required and to help familiarize them with the equipment and resources which will be placed in their hands. Studies like those of Sedley D. Hall¹⁴ have shown that teachers will make use of media resources only if they are available within their building or their own classrooms. Therefore, every building must have its own instructional materials' center which makes possible the storage and distribution of audio-visuals and other instructional materials.

¹⁴Hall, Sedley D., "The Instructional Materials Center", The Elementary School Journal, January, 1964, Vol. 64, pp. 210-213.

CHAPTER III

EVALUATION

Questionnaire Results and Interpretations

The author, by means of a survey questionnaire, has attempted to obtain as much information as possible about audio-visual practices in selected small high schools of North Dakota. The questionnaire was designed so that no specific phase of audio-visual material or equipment was stressed, with the exception of the use of films and motion picture projectors. The reason for stressing film practices was that it appears to be one of the most widely used of the newer media tools. This was borne out, in part, by the statistical data presented in this paper.

The first section of the questionnaire entitled "General Information" deals with the sizes of the high schools sampled, their locations in North Dakota, and the number of teachers in each high school. The first section attempts to establish facts concerning audio-visual administrative personnel, their training and remuneration, and audio-visual policies. Comparisons are made by recording the data from each school and comparing it with the returns from all of the sampled schools.

The second section of the questionnaire includes information regarding audio-visual equipment each school has, teacher usage, items purchased with the aid of Public Law 864, building facilities, long-range purchasing plans, the sharing of equipment with other schools, and teacher training in the use of equipment.

The last section of the questionnaire concerns evaluation and asks questions of the building principals relative to utilization of

audio-visual techniques and major audio-visual problems encountered. The questionnaire also gave the respondent an opportunity to state his feelings toward the worth of the newer media relative to his own school situation.

In reading the reports of various respondents, the author discovered that not all the questions had been answered. Those not responding are listed as "no comment". The author could not hope to guess what reasons some respondents had for not being specific in answering the questionnaire and therefore could only tabulate the results as they appeared on the returned sheets.

A total of 100 schools was selected to participate in this survey by a method explained on page five in this paper. Eighty-one schools returned their questionnaires. Nineteen schools apparently had reasons which prompted them to disregard the survey sheet.

A map of North Dakota showing the schools that participated in the survey and their geographical positions can be found in the appendix.

From the statistics of Table I, one might assume that the responding schools, pupil enrollment, number of teachers, and teacher load perhaps are quite average for North Dakota. The author could only assume this from his experiences talking to high school principals, visiting a few schools within the state, and looking up sizes of the towns in question. There are no recent compilations to prove or disprove this as far as can be determined.

One might note from Table I that the average number of pupils per building is 160.5. This figure can be explained when it is realized that some of the towns surveyed have incorporated with outlying rural districts. Several schools had populations of over three hundred pupils.

TABLE I. DATA CONCERNING RESPONDING SCHOOLS

Total number of teachers	885
Total number of pupils	13,002
Average number of teachers per building	10.9
Average number of pupils per teacher	14.7
Average number of pupils per building	160.5

The question, "Do you have an audio-visual coordinator in your building?" was asked of the eighty-one respondents and the results are given on Table II. The Department of Audio-Visual Instruction, a department of the National Education Association, strongly urges that a qualified audio-visual coordinator be hired for every building having twenty or more teachers.¹⁵ In a school system where there is more than one building, the same ration should prevail. The schools responding in this survey, we must remember, are the small high schools of North Dakota and most of these schools have their grade schools in connection with them. Therefore, we can determine that there are many of these schools that qualify for a full-time coordinator.

Of the eighteen schools having building audio-visual coordinators (shown on Table II) four coordinators are compensated with a lighter class load and one in connection with being the librarian. The other thirteen do not receive remuneration. It appears that all eighteen coordinators then,

¹⁵"The Function of Media in the Public Schools", Audio-Visual Instruction, Vol. 8, January, 1963, p. 14. (author-advisory)

have other responsibilities, either teaching or administrative.

TABLE II. NUMBER OF SCHOOLS HAVING AN AUDIO-VISUAL COORDINATOR

Answer	Number of Schools	Per Cent
Yes	18	22
No	63	78

Many educators interested in audio-visual education feel that the only national organization of any size and prominence which has audio-visual education as its sole concern, is the Department of Audio-Visual Instruction. Since this is a branch organization of the National Education Association it has the research assistance and experience of the parent group on which to rely. The Department has a total membership of approximately six thousand. The members from North Dakota number twenty-nine.¹⁶ The survey shows that of the 885 high school's teachers listed in the various North Dakota schools included in the survey, none are members of the National Department of Audio-Visual Instruction.

North Dakota has its own Department of Audio-Visual Education (DAVE), which is an affiliate of the North Dakota Education Association. The state group meets once a year at the North Dakota Education Association convention. It offers its members qualified speakers, discussion

¹⁶Nibeck, R. G., "The National Organization", Audio-Visual Instructor, Vol. 8, September, 1963.

periods, and demonstrations of new audio-visual techniques and equipment. Three teachers are listed in the questionnaire as being members of the state organization. State membership dues were raised in 1962 from fifty cents to one dollar per member.

Each respondent was asked to check the available equipment from a list of eighteen of what the author believed to be the most commonly used audio-visual aids. A blank was provided in case some of the schools used other equipment not listed. Table III shows a composite equipment list which was taken from the overall questionnaires. Also shown is an approximate average of the number of the audio-visual items per school building,

It should be noted here that the simple, inexpensive, and common items were left off the list. Listing globes, chalkboards, maps, charts, and some graphic materials, although they are very much a part of audio-visual programs, would have made the list on the questionnaire too lengthy and perhaps reduce the incentive for an individual to respond accurately. Table III indicates that the microscope was the most available item of equipment. It is also the only item -- with the exception of the teaching machine -- that is sometimes used by individual pupils in a class simultaneously.

The record player, according to the survey, is the second most available audio-visual tool. This tool was rated in sixth place as a most frequently used piece of equipment.

The overhead projector ranked third in availability. There were 151 machines available in the eighty-one schools that responded to the survey. This audio-visual tool was rated second in the question of most frequently used equipment.

TABLE III. EQUIPMENT FOUND IN SCHOOLS SURVEYED

Machine	Number of Machines	Average per Building
1. Filmstrip	147	1.8
2. Radio	105	1.3
3. Camera	60	less than one
4. Motion picture	112	1.4
5. Recorder	127	1.6
6. Micro-projector	31	less than one
7. Teaching machine	14	less than one
8. Flannel board	180	2.2
9. Photo-copier	59	less than one
10. Opaque projector	50	less than one
11. Overhead projector	151	1.9
12. Record player	181	2.2
13. Screen	259	3.2
14. Dry mounting press	3	less than one
15. Slide projector	103	1.3
16. Educational TV	9	less than one
17. Microscope	726	8.9
18. Taschestoscope	8	less than one

The motion picture projector was the sixth most available machine for the small high schools. A detailed survey of film ordering practices can be found in this paper on pages thirty-one and thirty-two.

One of the more recent additions to lists of practical audio-visual aids is the dry mounting press. The Review of the Literature explains the machine and how it functions. Perhaps because it has not been available until recently, only three schools in the survey said they had access to the dry mounting press.

It would appear that the flannel board, one of the earliest tools in audio-visual education, is still very much in today's North Dakota schools; but only two schools listed the flannel board as being the most frequently used equipment. Flannel boards vary greatly in price, depending on the construction and the amount of teaching materials that are included in the purchase. It is also the only item on the list that can be made at home or in the school workshop for a very modest price.

Additional items listed by the principals which were available to their schools but not included in the list were: one view-master and one view-fax.

It should be noted here that not all of the schools have out-right control of their machines. Some must share them with other buildings within their systems, such as the grade building or junior high building. It would be very difficult to determine whether the machines were easily accessible whenever the particular surveyed school needed them.

High school principals who answered the questionnaires were asked to give their opinions relative to teacher usage of the various audio-visual aids. The following is a composite evaluation.

TABLE IV. FREQUENCY WITH WHICH AUDIO-VISUAL EQUIPMENT WAS USED

Frequency used	Number of Schools	Per cent
Used frequently	55	68
Used slightly	21	26
Used rarely	5	6

Each respondent was asked which piece of available audio-visual equipment was, in his opinion, used most by his staff. The answers given varied due to the varying amounts and kinds of equipment, but one newer media tool for learning ranked high according to the survey. The motion picture projector and screen was selected as the tool most often used. The overhead projector was listed by some schools as the most frequently used tool. Microscopes, highest on availability selections, rated fifth in the most frequently used equipment. Only five schools reported the microscopes as the most used; but this might be due in part to the fact that the microscope is used almost exclusively for science classes and cannot be readily adapted to other courses of study.

While there are many flannel boards available in the selected sampling, these tools received few votes in the tools most frequently used category. The tape or wire recorder, micro projector, teaching

machine, opaque projector, and educational TV were not on any of the usage returns. A few principals did not care to comment on the question summarized in Table V.

The opaque projector was listed as the audio-visual tool least used according to the survey. The radio ranked second and the film-strip machine became the third least used piece of equipment with the tape and wire recorder and camera tied for fourth place. Here again many respondents did not comment on audio-visual equipment least used.

It should be remembered that in Tables V and VI the results were the opinions of building administrators and not necessarily those of the users of the equipment. It is possible that the figures would be different had teachers been the respondents rather than their principals.

TABLE V. MOST FREQUENTLY USED EQUIPMENT LISTED BY SCHOOLS

Machine	Number of Schools
Motion picture projector and screen	26
Overhead projector	14
Filmstrip machine	13
Photo-copy machine	6
Microscope	5
Record player	4
Camera	2
Slide projector	2
Radio	2
Flannel board	2
Dry mounting press	2
No comment	3

TABLE VI. LEAST USED EQUIPMENT LISTED BY SCHOOLS

Machine	Number of Schools
Opaque projector	19
Radio	15
Filmstrip machine	6
Tape and wire recorder	5
Camera	5
Record player	4
Overhead projector	4
Slide projector	4
Micro projector	4
Photo-copy machine	2
Flannel board	2
Educational TV	1
Dry mounting press	1
No comment	9

In Chapter II, page 10, of this paper, Public Law 864 of the National Defense Education Act, adopted in 1958 was explained. Since the time of its passage thousands of schools throughout the country have ordered audio-visual equipment and have received matching funds from the United States government.

One of the specifications of Public Law 864 is that participating schools use their newly acquired equipment to further the teaching of foreign languages, mathematics, or science.

In answer to the question, "Has your school district purchased audio-visual equipment under Public Law 864, (Title 3 and 7)?" the answers were as follows:

TABLE VII. USE OF PUBLIC LAW 864 FUNDS

Answer	Number of Schools	Per cent
Yes	61	75
No	20	25

Of the sixty-one schools that have used Public Law 864, the survey indicated that the majority of the schools used the federal funds to help buy audio-visual equipment in the school year 1964-1965. All other schools reporting had bought in 1962. The amounts spent varied from \$55.00 to \$10,000. Seventeen schools stated that they did not know how much was spent and matched. Several reported that their buildings' funds were part of the overall budget for their school districts and specific amounts could not be determined accurately.

Each respondent was asked whether any long-range financial plans had been formulated for buying and equipping his school with needed audio-visual materials and supplies. Forty schools said their schools had definite long-range plans while an identical number of forty schools indicated no plan as such. One school did not answer the question.

All forty schools having the long-range financial plan stated funds were set aside in their yearly budget for audio-visual equipment. Again, only one school did not answer the question. Varied amounts of money were set aside yearly for audio-visual equipment and materials. Amounts varied from one dollar to three dollars per pupil and two hundred to two thousand dollars per building. Some schools were unable to fill in the amount of funds set aside in their yearly budget for audio-visual equipment and materials.

In answer to the question, "Does your building share its facilities and equipment with others in your district?" the answers were as follows:

TABLE VIII. SCHOOLS THAT SHARE THEIR EQUIPMENT

Answer	Number of Schools	Per cent
Yes, we share	39	48
No, we do not share	42	52

One sometimes hears the complaint from teachers and administrators that their audio-visual programs are hampered because equipment has to be shared with other buildings, thus making it difficult to have equipment

available for instant use. Table VIII shows that almost half the schools answering the question do share their equipment.

The motion picture projector, as was indicated earlier, appears to be the major item used in audio-visual instruction. Several questions were asked of the respondents concerning its usage.

Tables IX and X show that the teachers do most of the film ordering and they order them whenever the films will help them in their class units. Both of these practices are as they should be according to at least one audio-visual authority.

Some experts in the field of audio-visual education cannot sanction the ordering of films in the fall. Their argument is that films have a specific place and time in a unit -- sometimes at the beginning, sometimes during, and in some cases as a terminating experience of the unit. Many feel that no teacher who orders films months in advance can hope to have them arrive at exactly the time when they will do the most good. Seven of the respondents (nine per cent) admitted to the practice of ordering films exclusively during the fall, and eighteen (22 per cent) said both fall and other ordering practices were carried on in their particular school situation.

TABLE IX. INDIVIDUAL RESPONSIBLE FOR FILM ORDERING

Who orders	Number of Schools	Per cent
Individual teachers	51	63
Superintendent	16	20
Principal	2	2
No comment	12	15

TABLE X. WHEN FILMS ARE ORDERED

When	Number of Schools	Per cent
Fall	7	9
Whenever teacher requests	56	69
Both	18	22

Many thousands of dollars are spent yearly by the federal government, large commercial concerns, and other organizations for producing informative films to further their interests. These can be secured free of charge to be shown to school students. Some of the films come highly recommended; others do not. Thirty-eight per cent of the respondents receive the majority of their films from these free sources while 35 per cent could not state that their films were received specifically from any one source.

North Dakota has, through its extension facilities, a film rental library located in Fargo. Twenty per cent of the respondents received the majority of their films from that North Dakota agency. In Table XI you will find 6 per cent of the respondents received their films from state colleges or other sources and 1 per cent made no comment.

Several concerns have published indexes in recent years that list hundreds of free filmstrips, pamphlets, flat pictures, records, charts, graphs, and samples of nearly everything conceivable. For a nominal fee a school may subscribe to this free index and receive the names and addresses of those companies that will send these items at no cost. One such index company is the Educator Index of Free Materials.* The respondents were asked if they subscribed to that particular concern or one similar; forty-eight said they do and thirty-three said they do not subscribe to such an index.

TABLE XI. SOURCE OF THE MAJORITY OF FILMS

Where	Number of Schools	Per cent
Free sources	31	38
North Dakota Film Library	16	20
State colleges	1	1
Other sources	4	5
No comment	1	1
No majority, many sources	28	35

* The Educator Index of Free Materials is a service of Educators Progress Service, Randolph, Wisconsin.

Some proponents of audio-visual education contend that the newer media tools can be effectively adapted to any course of study; but some, they say, are more readily adaptable to some courses than others. This depends heavily on the teacher's experience and training, they say.

In this survey the field of science was found to be the area in which films were used most frequently. Eighty-four per cent of the respondents reported using films in this field, with the field of social studies running a close second with 64 per cent.

Those who marked "others" were asked to explain briefly. Schools reported using films in music, business education, driver's education, and guidance. The remainder of the respondents reported that their schools' film usage practices were divided among home economics, foreign language, industrial arts, language arts, and mathematics.

Authorities on audio-visual practices contend that much more learning by means of audio-visual tools can take place within the classroom than by taking the pupils out of their surrounding and bringing them to a central viewing room. These authorities feel that the train of thought will be interrupted by the movement and many pupils will get the sensation that they are just "going to a movie." While portable equipment was highly desirable over the central viewing room the newest trend is for the installation of more permanently mounted equipment in each classroom.¹⁷

Table XII reports that 32 per cent of the schools use a central room for some audio-visual viewing and 54 per cent use mobile equipment

¹⁷Wyman, R., "Let's Stop Calling it Portable", Audio-Visual Instructor, Vol. 7, January, 1962, p. 26.

in classrooms. Of the 9 per cent using other arrangements, most commented that the gymnasium, stage, and multi-purpose rooms were used. Four did not comment. Some of the reasons offered for not having audio-visual viewing in the classroom exclusively were lighting and other physical difficulties, space, too thin walls, and lack of portable or wall screens.

TABLE XII. VIEWING ROOM FACILITIES USED

Where Pupils View	Number of Schools	Per cent
Central room	26	32
Mobile viewing equipment	44	54
Other arrangements	7	9
No comment	4	5

All authorities stress the importance of an audio-visual background as being essential to utilizing the materials and equipment. Without a background which includes theory, methodology, and practical experience, full benefits cannot be derived by the learners.

Two questions concerning training were asked of the respondents. One dealt with in-service courses for the principals completing the questionnaire and the other was concerned with the staff's college preparation in audio-visual education.

Of the eight hundred eighty-five teachers of schools in this survey, three hundred and three had completed audio-visual courses. Approximately

77 per cent of all of the teachers, then according to their administrators, have not received formal education in the use of audio-visual equipment and materials. Thirty-three principals (41 per cent) of the total number reporting had in-service training in the use of audio-visual equipment and materials. A few explained their type of training, which varied from undergraduate courses to workshops. Although no question was asked as to what type of training the high school teachers had, some principals reported they themselves had taught them, or they had received training in undergraduate courses or through workshops.

TABLE XIII. AUDIO-VISUAL IN-SERVICE TRAINING OF PRINCIPALS

Response	Number of Schools	Per cent
Received training	33	41
Did not receive training	48	59

At the conclusion of the survey questionnaire the author asked of the respondents: "Do you think the use of audio-visual techniques can best be utilized (1) as an integral part of teaching most subject areas, (2) as supplementary and relatively infrequently used in most subject areas, (3) not at all in most subject areas." Sixty or 74 per cent answered by checking the first answer; twenty or 25 per cent answered by checking the second answer; and only one respondent did not wish to comment.

The author then asked the respondents to check the major problem encountered in their use of audio-visual materials and equipment. The

results can be found in Table XIV.

It would appear that lack of audio-visually minded teachers is the main problem encountered by principals although lack of equipment and funds and also building design are considered major. Two respondents had no comments to make.

TABLE XIV. MAJOR PROBLEM ENCOUNTERED

Major Problem	Number of Schools	Per cent
Lack of audio-visual minded teachers	29	36
Lack of equipment	18	22
Problems arising from having to share equipment	3	4
Lack of funds	14	17
Building design	13	16
Other reasons	2	2.5
No comment	2	2.5

The last section of the questionnaire gave the respondents an opportunity to state their opinions of the worth of the newer media relative to their particular school situations. Newer media listed were the video tape, educational TV, and programmed instruction. Thirteen or 16 per cent had no comment.

Because there were many seemingly varied and interesting answers to the question the author could only summarize their answers as to what the

majority considered to be the most important worth of the newer media.

A complete list of comments on the question can be found in the Appendix.

The majority of the respondents thought the newer media were very much worthwhile if used properly. Teachers would have to be interested in the newer media and also be trained to use them to the best advantage. Many principals believed the newer media would be good because they, no doubt, would increase interest and attention span of youth. They would make learning more attractive.

Some respondents were some what pessimistic toward the newer media. Such answers as not feasible, poor reception, too costly, poor buildings, and uninterested teachers were mentioned.

As a whole the majority of respondents favored forms of audio-visual teaching in their schools. Their reasons indicate a desire on the part of most to improve instruction and give their teachers the necessary tools to accomplish this whenever possible.

Although there were a few who did not respond to the question, those who did could see the value of teaching aids such as the newer media offer.

CHAPTER IV

SUMMARY AND RECOMMENDATIONS

In order that the reader might review the facts shown in the various tables of this paper, the author has compiled the following resume of the more pertinent facts:

1. The responding school populations ranged from nineteen to four hundred and eighty. The average was 160.5.
2. A total of 100 questionnaires were sent. Eighty-one were returned.
3. Twenty-two per cent of the respondents had audio-visual coordinators.
4. Sixty-eight per cent of the respondents use audio-visual equipment frequently; twenty-six per cent use it slightly; six per cent use it rarely.
5. The motion picture projector, overhead projector, and filmstrip machine are the most frequently used pieces of equipment.
6. The opaque projector and radio are the least used audio-visual tools.
7. Seventy-five per cent of the respondents have used Public Law 864 as an aid in purchasing audio-visual equipment.
8. Forty-eight per cent of the responding schools must share their equipment with another building.
9. Sixty-three per cent of the schools allow their teachers to order films.
10. Sixty-nine per cent of the schools order films whenever needed. Nine per cent order in the fall.

11. Thirty-eight per cent of the schools order the bulk of their films from free sources. Twenty per cent order from the North Dakota Film Library, Fargo. Thirty-five per cent from many sources.
12. Fifty-four per cent of the schools use mobile equipment in individual classrooms, thirty-two per cent have central viewing rooms.
13. Forty-one per cent of the principals have had in-service training courses in audio-visuals.
14. Thirty-six per cent of the respondents said that their major audio-visual problem was lack of audio-visually minded teachers; twenty-two per cent reported a lack of equipment; and seventeen per cent reported a lack of funds set aside for the purchase of audio-visual equipment.

After compiling the statistical data for this research paper, listening to audio-visually minded educators discuss the newer media, and reading many periodicals, pamphlets and magazines on the subject, some of the author's opinions have changed while others have become more firmly entrenched.

It is the author's belief that much more could be done in the field of audio-visual education in the small high schools of North Dakota. While some of the respondents appear to have functional audio-visual programs, many do not. Although smaller schools appeared to be lacking more of the essential audio-visual tools, teacher training, and building facilities, many of the larger ones with more funds available should be doing more than they are.

The high school principal could be an extremely valuable person in audio-visual education in his school. It should be his responsibility to make known to the superintendent and board of education his feeling toward the newer media and what they could do for improved learning. Not only must they be informed, they must also be convinced of the value of the principal's suggestions and importance of the problem. They must be willing to work vigorously with the principal or audio-visual coordinator in order to create the proper educational climate necessary to the acceptance of change. Each principal should submit a proposed long-range equipment purchasing plan to his superiors which could be revised periodically to keep up with the changing times. Conducting in-service training and holding audio-visual workshops should be his responsibility.

Teachers who are interested in improving their teaching techniques by using audio-visual aids should be invited to become members of professional organizations. Becoming a member could bolster North Dakota's poor membership showing as well as help each individual teacher.

It is extremely difficult for teachers in any field to be sure that they are really up-to-date. Most like to think that subscribing to professional journals, going to the library once a week, or attending annual professional meetings will do the job. But in this space age, more is required. Everywhere the teacher turns, an educational media revolution seems to be occurring. Just as the evaluative techniques in space programs have become exactly precise, the teacher is continually refining tools of measurement in specified areas of study. Each teacher must keep up with current research.

In regard to lack of equipment, the involved teachers and principal could ask for help from community organizations. Groups like the local

service clubs or the PTA are often searching for worthwhile projects. Where equipment is available principals should encourage their teaching staff to use audio-visual materials more frequently. Teachers must have their lessons planned and audio-visual material and equipment ordered so that they may be used at the most desirable time. Audio-visual materials and equipment are definitely a part of the educational program, not apart from it.

Teacher training institutions in the state could further the audio-visual cause by presenting and requiring more newer media courses to their teacher candidates. Colleges could help schools even more by sending instructors to assist with area audio-visual workshops and conferences as well.

New high school buildings should be designed with audio-visual instruction in mind. It has been accepted by many architects that schools should have as many built-in audio-visual conveniences as possible. Some of these are, proper methods of darkening rooms, more electrical outlets, reostatically controlled lights, and planned audio-visual work areas. Costs could be greatly reduced if the above items could be build into a building, rather than be added later. North Dakota school boards and architects should aim at developing buildings and designs that complement or make possible the existence of creative education programs.

Public Law 864 needs to be explained more thoroughly to personnel of North Dakota. Apparently not enough schools are aware of its benefits and consequently do not make use of it.

Title I was mentioned by the principals as they gave their opinions of the newer media. Theywere referring to a new law that came into

existence as this paper was being written. Title I provides grants to local educational agencies to improve the elementary and secondary educational opportunities of educationally deprived children. Much of the effort will be in the basic skills areas, particularly remedial reading. It provides funds for books, periodicals, graphic works, recorded tapes and disks, processed slides, transparencies, films, and filmstrips. Some of the principals said they would use part of their awarded funds to purchase audio-visual equipment and materials.

Every school in North Dakota is going to receive from the State Department of Public Instruction under North Dakota Education Association, Title III, a booklet entitled AUDIOVISUAL QUANTITATIVE STANDARDS. This booklet was put out by the Department of Audiovisual Instruction, NEA at the Board of Directors Meeting in Washington, D. C. on October 30, 1965. The standards have been accepted as the official guidelines for the elementary and secondary schools of North Dakota. It is intended that these standards be used as a guide to assist administrators and audio-visual people in the effective development of media program.

Every school building in North Dakota needs a local materials production room to produce instructional materials both quickly and simply. Most of the production equipment can be purchased under Title III of National Defense Education Act.

It is the author's belief that every school in North Dakota should have at least one staff member who is a certified Audio-Visual Coordinator, or Audio-Visual Specialist. The University of North Dakota has an excellent Instructional Communications Center and the University has been granted

Media Institutes for the past two consecutive years. Schools could profitably send one or more of their staff members to such an institute and they in turn could come back and hold in-service training sessions for the rest of the teachers in their particular school.

The author feels that although there is much to be done in improving North Dakota's high school audio-visual education, some work has been accomplished, as the statistics in this paper reveal. The author recommends that schools make zealous use of Title I funds for audio-visual equipment. In the school in which the author teaches, five overhead projectors, two filmstrip projectors, and a taschestoscope have been purchased with Title I funds. These machines are used primarily in remedial reading.

It behooves each educator to select the tools of learning which will best accomplish the goal we should all have -- that of educating today's children by the best and most effective methods possible. All teachers know that they teach for a purpose -- a purpose which coincides with national, state, and local curricula based on student and community needs and interests. However, we also know student achievement doesn't just happen -- it requires careful selection of objectives and motivation through efficient use of media. The author feels that audio-visual media, if it is used properly, can help teachers to reach that goal.

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APPENDIX

White Shield School
Emmet, North Dakota
October 15, 1965

Dear High School Principal:

I am conducting a survey among the small high schools of North Dakota on the use of audio-visual aids and audio-visual equipment in your school.

The results of this survey will be used for the completion of a professional paper as part of the requirements for a Master's degree at the Montana State University, Bozeman, Montana.

I am asking your assistance by requesting that you complete the enclosed questionnaire and return it in the self-addressed envelope.

Your cooperation will be much appreciated and I am looking forward to an early reply. If you wish a copy of the final summary, I would be most happy to send you one.

Sincerely,

Leonard E. Anderson

LEA:bh

Enclosures: questionnaire
self-addressed envelope

SURVEY OF SMALL HIGH SCHOOL AUDIO-VISUAL PROGRAMS AND EQUIPMENT

The following is a list of questions concerning the audio-visual program in your school. Please follow instructions given for each category.

General Information

Name _____ School _____

City or town _____

Number of teachers in high school _____ Number of pupils in high school _____

Do you have a person who is responsible for the audio-visual program in your school? _____yes _____no

If the answer is yes, is he compensated for his work? _____yes _____no

If so, in what way? _____salary _____lighter class load _____other,

Please explain _____

If the answer is no, who does the film ordering? _____

How many members of your staff are members of the North Dakota Department of Audio-Visual Education? _____

How many members of your staff are members of the National Department of Audio-Visual Instruction? _____

Equipment

Please write in the number of units in the blank beside the equipment listed which you have at your disposal.

- | | |
|---------------------------------|--|
| _____ 1. Filmstrip | _____ 10. Opaque projector |
| _____ 2. Radio | _____ 11. Overhead projector |
| _____ 3. Camera | _____ 12. Record player |
| _____ 4. Motion picture machine | _____ 13. Movie screen |
| _____ 5. Tape or wire recorder | _____ 14. Dry mounting press |
| _____ 6. Micro projector | _____ 15. Slide projector |
| _____ 7. Teaching machines | _____ 16. Educational TV |
| _____ 8. Flannel board | _____ 17. Microscope |
| _____ 9. Photo-copy machine | _____ 18. Taschestoscope or speedioscope |

Please list others _____

To what extent do the teachers use the above-checked equipment?

_____ used frequently _____ used slightly _____ rarely used

Please list, in order, the numbers of the three most frequently used pieces of audio-visual equipment. (A) _____ (B) _____ (C) _____

Please place an "X" by the piece of equipment listed above that you have which is least often used.

Has your school district purchased audio-visual equipment under Public Law 864, (Title 3 and 7)? _____yes _____no (Public Law 864 states that money used for audio-visual equipment and remodeling -- if it is used for science, math or language -- may be matched by the Federal Government.)

If you answered yes, please give the year when the last purchase was made and the approximate amount of money received _____

Does your school have:

- ____ (A) a central room for showing movies, filmstrips, etc.?
 ____ (B) mobile viewing equipment which can be used in the classroom?
 ____ (C) other arrangements? Please explain _____

Do you have a long-range plan for equipping your school with audio-visual materials? ____ yes ____ no

Does your building, junior high or senior high, share its facilities and equipment with other buildings in your district? ____ yes ____ no

Do teachers from your building rely on teachers from other buildings for its facilities and equipment? ____ yes ____ no

Are funds set aside in your yearly budget for audio-visual equipment and materials? ____ yes ____ no

If so, approximately how much? _____

If a motion picture projector has been checked as part of your equipment, are films: ____ (A) ordered before or during September of each year

____ (B) ordered whenever teachers request them

Do you receive the majority of your films from:

- ____ (A) free sources: Explain _____
 ____ (B) North Dakota Film Library, Fargo, North Dakota
 ____ (C) North Dakota state colleges
 ____ (D) other sources: Explain _____

Do you subscribe to the Educators Index of Free Materials or a similar supplementary listing? ____ yes ____ no

For what subject areas are the audio-visual aids most often used?

- | | |
|-------------------------|--------------------------------------|
| ____ (A) sciences | ____ (E) foreign language |
| ____ (B) social studies | ____ (F) home economics |
| ____ (C) language arts | ____ (G) industrial arts |
| ____ (D) math | ____ (H) other, please explain _____ |

Have you as principal had in-service training in the use of audio-visual equipment and materials? ____ yes ____ no

If you answered yes, explain type of training _____

Approximately how many of your high school staff have completed audio-visual courses? _____

Summary

Do you think the use of audio-visual techniques in your school can best be utilized as:

- ☐ (A) an integral part of teaching in most subject areas
☐ (B) supplementary and relatively infrequently used in most subject areas
☐ (C) not at all in most subject areas

Please check the major problem encountered in your school's use of audio-visual materials and equipment:

- ☐ (A) lack of audio-visual minded teachers on your staff
☐ (B) lack of equipment and materials
☐ (C) problems arising from having to share equipment with other schools
☐ (D) lack of funds for a good operational audio-visual program
☐ (E) building design does not lend itself to audio-visual program
☐ (F) other: please explain _____
-

Please state your opinion of the worth of the newer media, such as: video tape, educational TV, and programmed instruction; relative to your particular school situation _____

Do you wish a copy of the final summary? ☐ yes ☐ no

Thank you for your time and cooperation.

AREA I

CROSBY WILDROSE ALAMO TRENTON ALEXANDER MAYFORD CITY KILLDEER BELFIELD RICHARDSON REGENT MOTT BOWMAN SCRANTON REEDER

COLUMBUS FLAXTON BOMBELLS KENMARE STANLEY NEW TOWN RYDER SHERWOOD WESTHOPE GLENBURN CARPIO BERTHOLD SAWYER TOWNER GRANVILLE RUGBY LEEDS GANDO EDMORE FORDVILLE PARK RIVER CAVALTER LANGDON BUNSETH GOODRICH HURDSFIELD SYKESTON CARRINGTON COOPERSTON SANDBORNE CASSELTON LEONARD GACKLE NAPOLEON ELGELEY LISBON WYNDMERE LIDGWOOD OAKES WISHEK

AREA II

AREA III

AREA IV

COMMENTS GIVEN ON THE NEWER MEDIA

"Programmed instruction will be quite useful and applicable to our teaching situation."

"Educational TV will not work in this area until our reception is improved."

"Great addition, need to use more to individualize instruction."

"Not feasible."

"Again the small school will be at a disadvantage."

"Until we get a building program so we can get additional space we will have to stay at our present level."

"I believe they are very valuable if used properly, but we have a problem of available funds and teachers that do not care to try something new."

"The average student seems uninterested -- I believe only the gifted show the greatest amount of interest."

"I keep an open mind but go very slow. Let others prove their worth."

"We feel that classroom instruction cannot be replaced."

"Very valuable in some areas, but much of cost out of line."

"I am not familiar with newer media in actual classroom use; however, it is my opinion that they would be very worth-while."

"Video tape, educational TV wouldn't fit the situation here -- not outfitted for it. Those programmed instructions evaluated by use, do not fill our needs. Teachers can and do better with instructional needs that we have."

"Definitely worthwhile if the necessary training were given so it might be used effectively."

"Our school is too small in order to carry on such programs, also, our teaching staff is overloaded at present, plus lacking financial backing to carry on such programs."

"I think the above mentioned items have great possibilities in the smaller schools such as ours as well as the larger schools."

"Could become an important part of daily programs."

"Right now the programmed instruction would be the only one available. I believe the programmed instruction is a worthwhile method of learning."

"I believe the new media is very beneficial. Educational TV is questionable due to poor TV reception."

"Excellent teaching devices. We hope to incorporate many of the items mentioned by utilizing Title I funds."

"We feel that all of these can be fine supplementary materials but they would be difficult to make an integral part of our program."

"Twentieth century education needs badly, the above."

"Educational TV would be a big asset to us."

"All three of the above mentioned media have very definite possibilities and are being considered in our planning."

"Fast becoming essential in many subjects. Teachers not properly trained are getting more inquisitive and will eventually begiven the proper usage."

"Educational TV would not be suitable since our reception is not good enough. We are considering getting some programmed instruction especially for reading."

"With the new Education Act we will find the sources to obtain these audio-visual machines and I am sure we will certainly make use of them (teachers and students)."

"With a changing teacher and administrator situation from year to year -- there is no continuity of efforts along extra work, beside regular teaching of textbook materials."

"Hope for Educational TV."

"We are not in the range of Educational TV."

"Research finds that there is no significant results in using some of the above."

"I have had very little contact with above -- we are not located properly for such media."

"Relative to our situation the newer media is almost worthless."

"We are just starting to make use of these."

"I would be very much in favor of this type of program, anytime we can enrich our program I am 100 per cent in favor."

"I am very much in favor of these newer media and hope to add those to our audio-visual program before the year is over."

"We cannot use TV in our area. Programmed learning seems to costly. We have no audio tape machine to use."

"Video tape -- very good. Educational TV -- good as supplementary. Programmed instruction -- not practicable for our school."

"We have had no experience in these media."

"We will use visual aids when we have a room available."

"This would be good if we had the money to get started with this."

"I think it would be good to use these aids in teaching."

"Cannot be used because of limited facilities and budget."

"Should be used as supplementary to school subjects."

"Educational TV has not yet reached our area."

"At this time I don't think we could effectively use this media."

"I think it is very good. I think there should be some pressure applied to getting an educational TV station in Western North Dakota, East North Dakota has one."

"Programmed instruction could be used to an advantage in our particular situation."

"Cost out-ranks its need."

"Educational TV would work nicely in our program."

"It's too early to give an accurate prediction; our audio-visual program is new and in a process of growing. I think after more positive results are gained from other experiments and after experiments in our school, a final answer can be found."

"Cost may be a factor."

"We do not have educational TV yet, but I feel that it would contribute to the total education of the students, and will be utilized when it is available."

"Our location restricts us in the first two areas listed above, We are using some programmed instruction in the elementary field."

"Does not apply to us partly because of lack of contact with any of programs in our school."

"Worth of these media is not proven to be commensurate with rather prohibitive costs."

"They need to be coordinated on a state or regional level."

"Lack of funds and building design, but they are good."

"I believe it has value but it is not being used. The superintendent questions their value."

"We have none."

"We are going to make use of some programmed instruction with Title I funds if approved. Otherwise they are out of the question because of financial situation."

"If properly used it can be effective."

"Good, but not attainable due to funds. Possibly in the future."

"We have not made use of the above so am reserving comment."

"Very good, as yet not too well equipped to handle it."

"Could be of great value."

"Very good if used properly by the staff. The students must be prepared for the program plus a follow-up is essential. The average teacher having time for this is a problem."

"I believe they are good because they increase interest and attention span of youth. They make learning more attractive."