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ELEMENTS OF AN EFFECTIVE AUDIOVISUAL PROGRAM, A HANDBOOK FOR WISCONSIN EDUCATORS.

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WISCONSIN STATE DEPT. OF PUB. INSTR., MADISON

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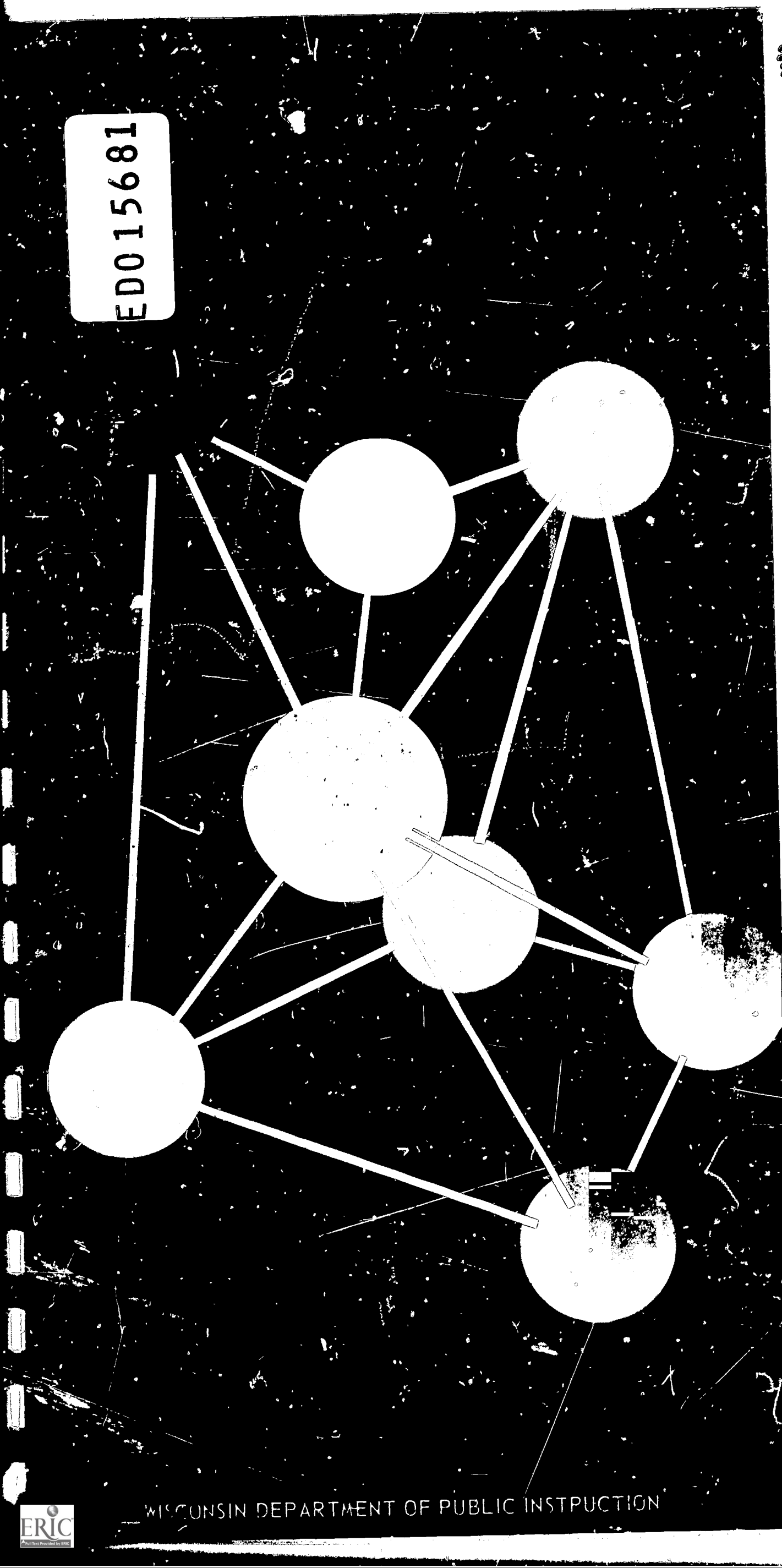
THIS HANDBOOK CONTAINS ILLUSTRATED DESCRIPTIONS OF SEVEN ELEMENTS FOR AN EDUCATIONAL AUDIOVISUAL PROGRAM--(1) COMMITMENT, (2) FACILITIES, (3) STAFF, (4) BUDGET, (5) INSERVICE TRAINING, (6) MATERIALS AND EQUIPMENT, AND (7) EVALUATION. (MS)

Elements of an Effective Audiovisual Program



A Handbook for Wisconsin Educators

WISCONSIN DEPARTMENT OF PUBLIC INSTRUCTION

Elements of an Effective Audiovisual Program

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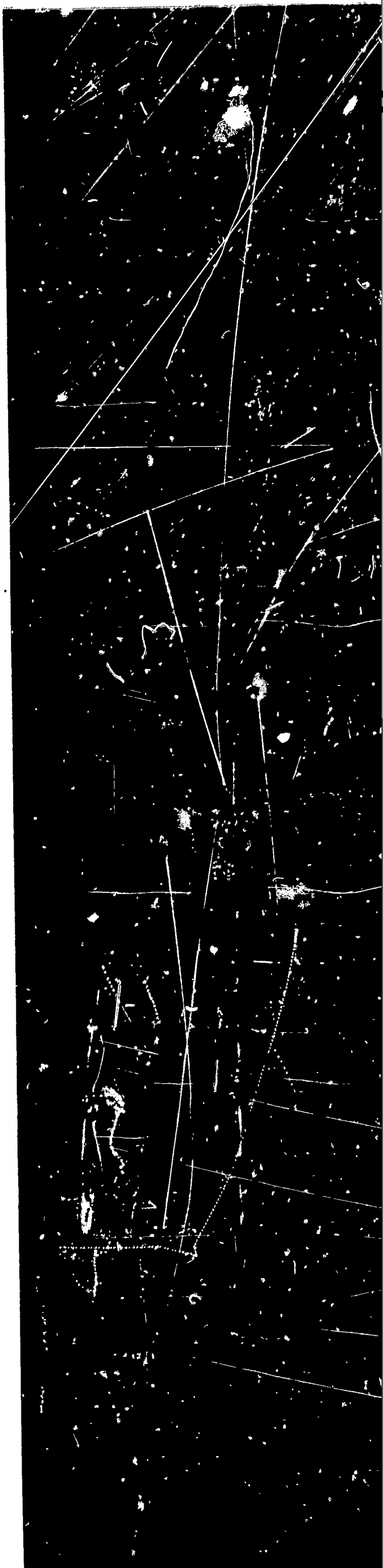
1966



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Foreword

This handbook is intended to make learning literally come alive in many classrooms. Surely the time has passed when it was necessary to convince teachers and school administrators that audiovisual materials are essential to a complete learning program. There is a difference, however, in the quality of various kinds of audiovisual materials and the way that they are presented. We believe that Wisconsin teachers should have the best available.

This handbook can be of great assistance to all teachers — those who have had formal courses in audiovisual instruction and those who have not. Five of Wisconsin's best specialists in the field, in cooperation with Mr. R. C. Wheeler, our state consultant, have prepared this publication just for you.

It is the hope of our department that the publication will be used extensively, for we sincerely believe that it will enhance effective teaching in Wisconsin's schools.

William C. Kahl
State Superintendent of
Public Instruction

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Introduction

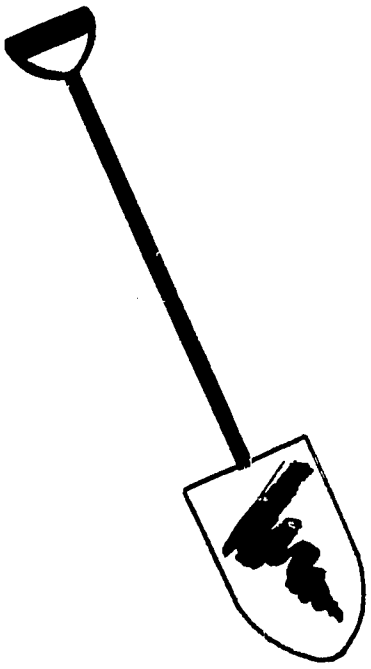
Philosophy

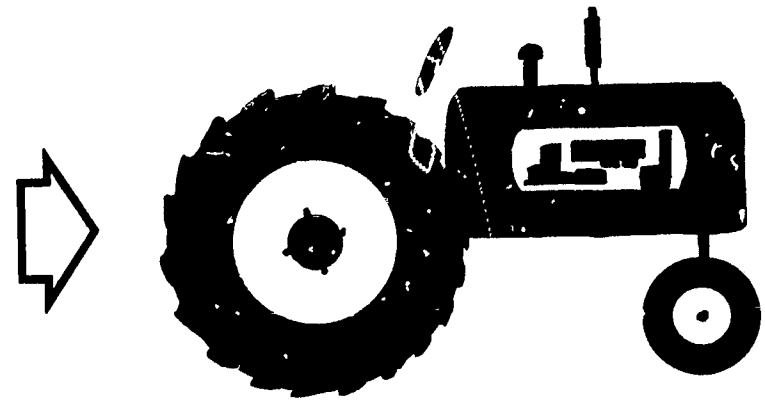
When one has clearly stated and accepted both the very general and the very specific objectives of education, he would not argue against helping all students to reach those objectives as quickly and as completely as possible. Teachers should use any and all of the capabilities of modern technology which will produce the desired results to the greatest degree. Educators have the responsibility of seeing that schools function in such a way as to produce the greatest amount of the desired learning in the shortest possible time and at the lowest possible cost, both in terms of dollars and human effort.

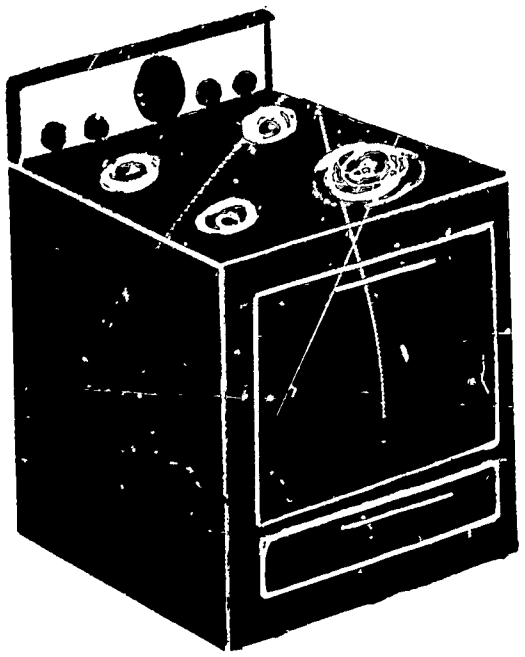
Research shows that good use of educational communications media will produce the best possible learning environment.

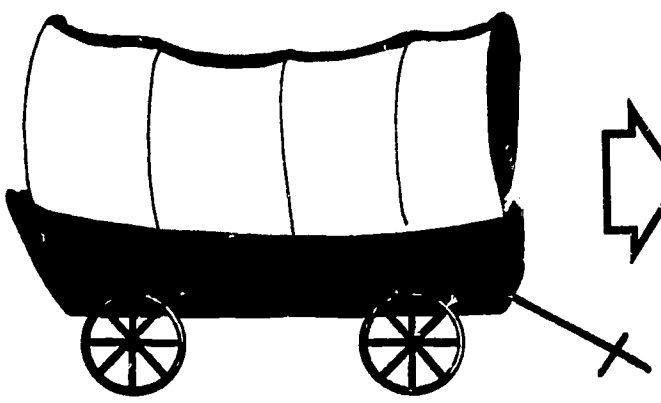
Every school district and every school building should have, as a basic part of its educational plan, all the elements of a media program.

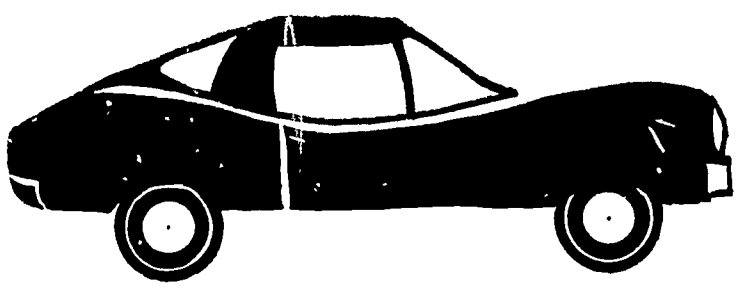
Options of the Past



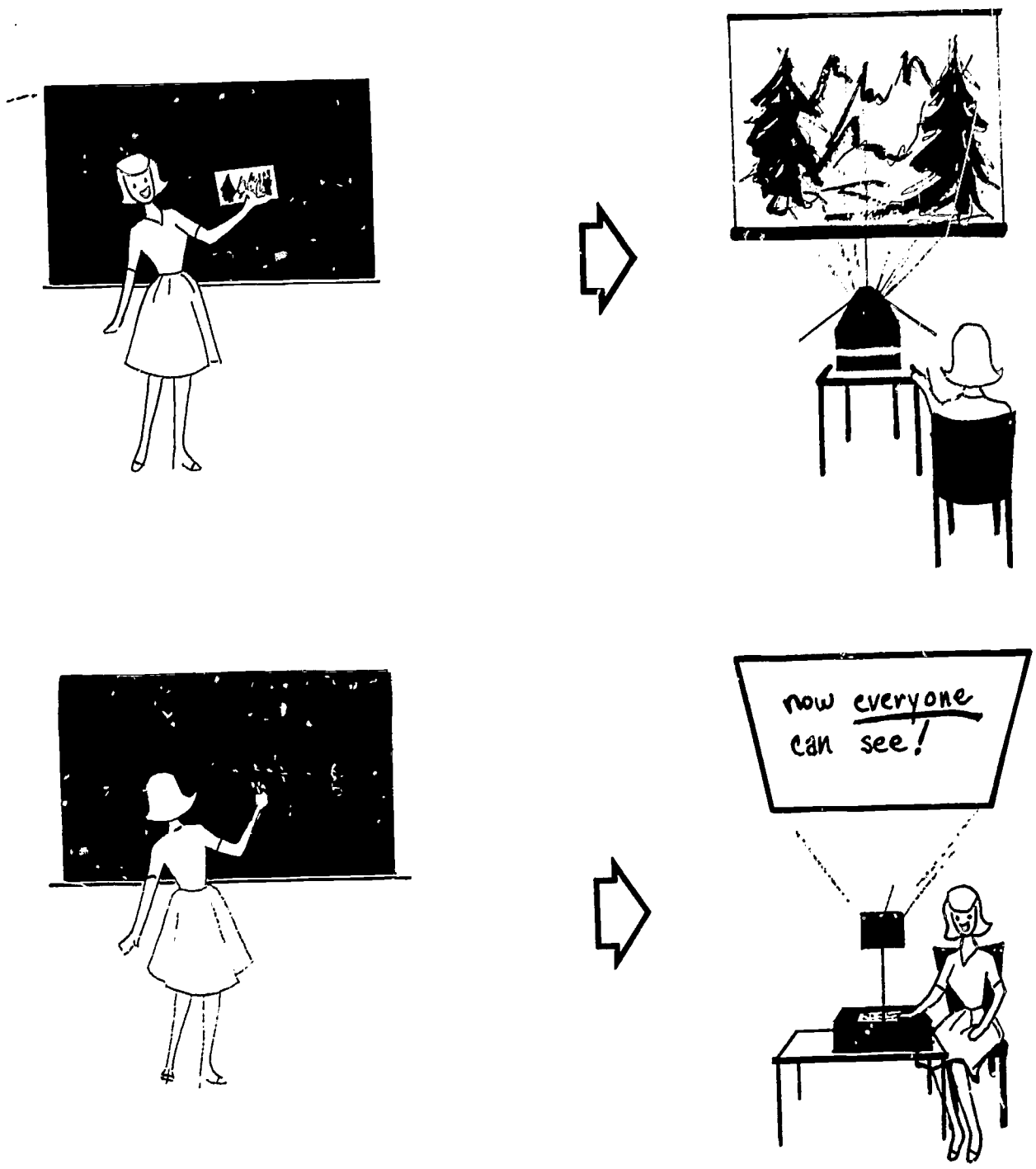


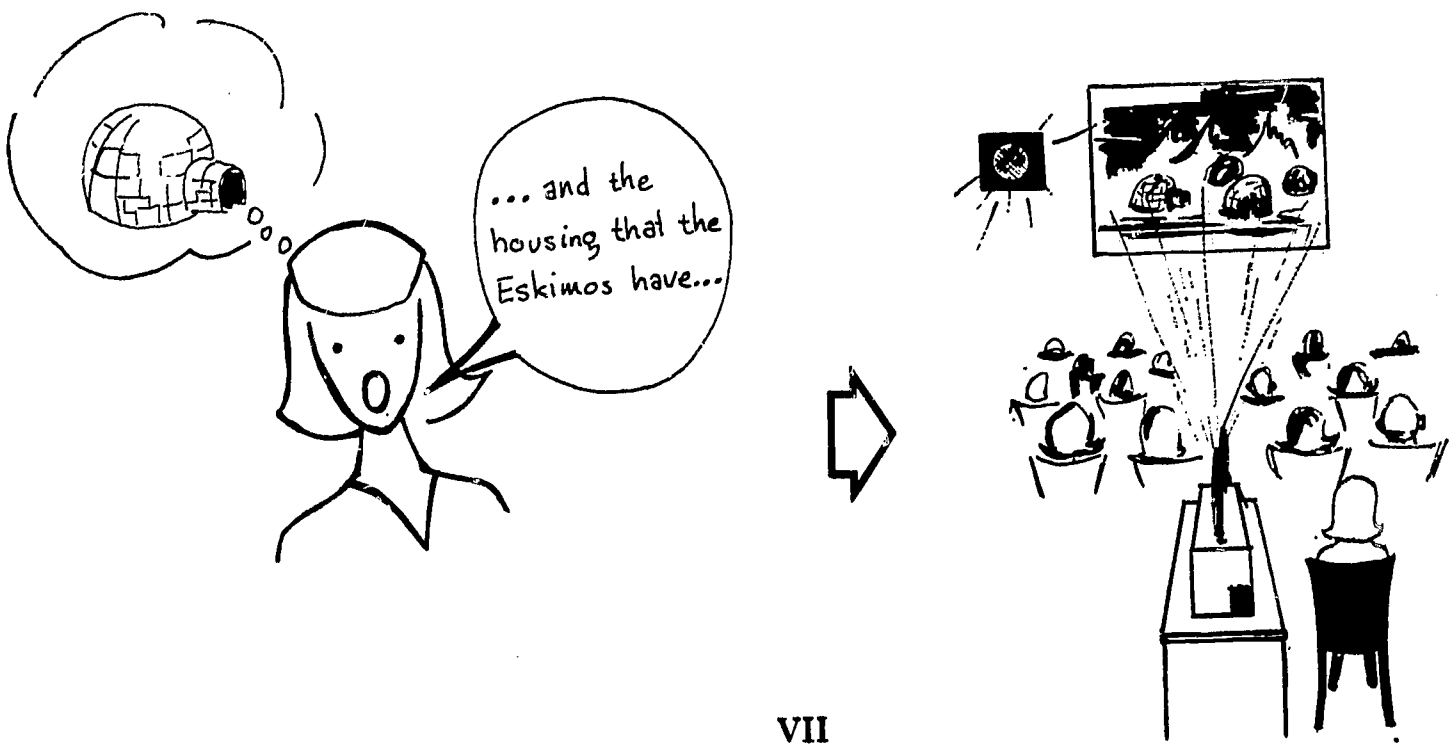






Options of the Past

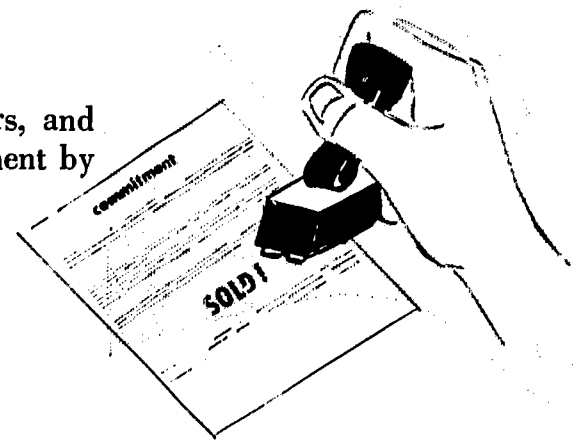




Elements of a Good Program

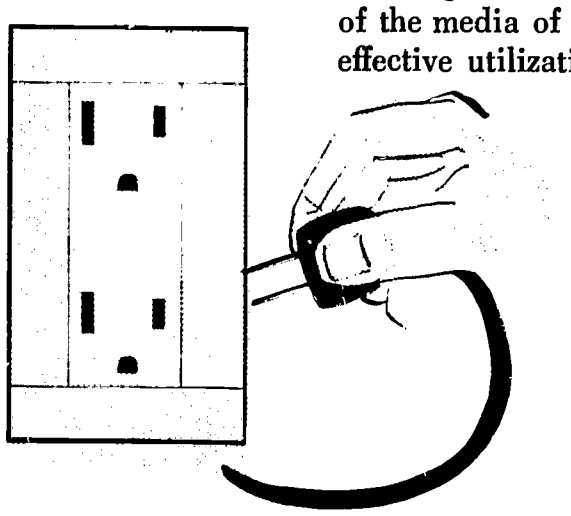
COMMITMENT

Commitment is a deep-seated promise by policy makers, school administrators, and the entire teaching staff to achieve the best possible teaching-learning environment by providing and properly using modern educational media.



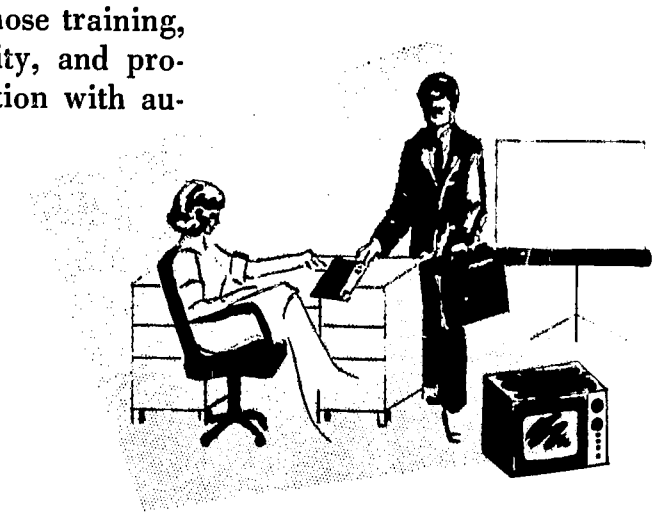
FACILITIES

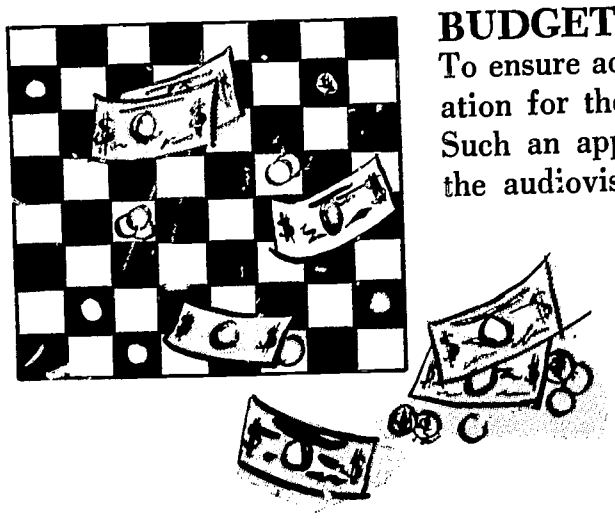
Buildings and classroom facilities must encourage and expedite effective utilization of the media of instruction. An emerging concept which further facilitates and fosters effective utilization is that of an instructional materials center.



STAFF

The staff consists of individuals (directors, c. rdinators, technicians) whose training, assigned responsibilities, time allocations, leadership abilities, personality, and professional status are devoted to implementing the teaching-learning situation with audiovisual philosophy, materials, and techniques.



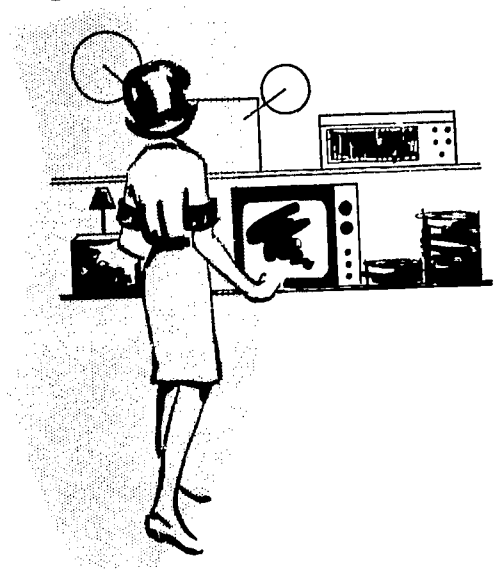


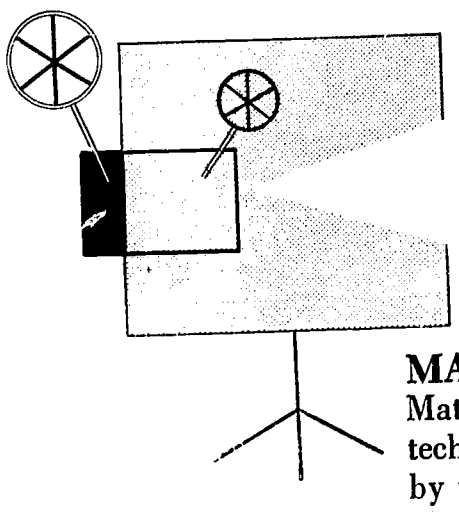
BUDGET

To ensure adequate financial support for the audiovisual program, a regular appropriation for the program in the annual school budget has proved to be most desirable. Such an appropriation implies a regular, planned budget prepared cooperatively by the audiovisual specialists and administrators.

INSERVICE TRAINING

Systematic, continuous opportunities must be provided whereby teachers can develop a desire and ability to improve teaching-learning situations through the use of appropriate sensory materials and techniques. This involves the encouragement of an alertness to all sources of materials, procedures, and techniques, an upgrading of skills in the use of equipment, and a pervading spirit of innovation.



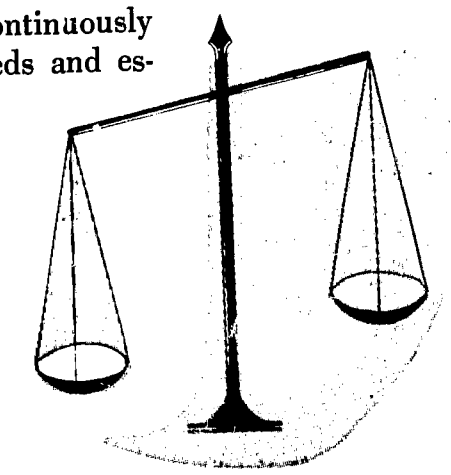


MATERIALS AND EQUIPMENT

Materials and equipment are the tools by which the teacher makes use of modern technology in improving the teaching-learning process. These tools must be provided by the school administration in sufficient quantity, quality, and at the right time and place so that teachers can teach efficiently.

EVALUATION

Policy makers, school administrators, and the entire teaching staff must continuously examine the extent to which the ongoing media program meets local needs and established and accepted standards.



Commitment

Commitment is a deep-seated promise by policy makers, school administrators, and the entire teaching staff to achieve the best possible teaching-learning environment by providing and properly using modern educational media.

Commitment must be manifested by both the school administration and the teachers. Past experience has shown that if these two groups differ widely in their level of commitment, the program is affected adversely. Ideally, the commitment on behalf of both groups should develop and increase at about the same pace.

This commitment of policy makers and administrators is evidenced by the provisions for:

- Adequate financing
- Qualified leadership
- Modern facilities
- Materials and equipment
- Inservice training
- Media centers
- Personal encouragement
- Continuous evaluation.

On the part of the teaching staff, it is evidenced by:

- Efficient utilization
- Use of resources of media centers
- Sharing of ideas and techniques.

REASON AND RESEARCH SUPPORT A COMMITMENT TO THE MEDIA

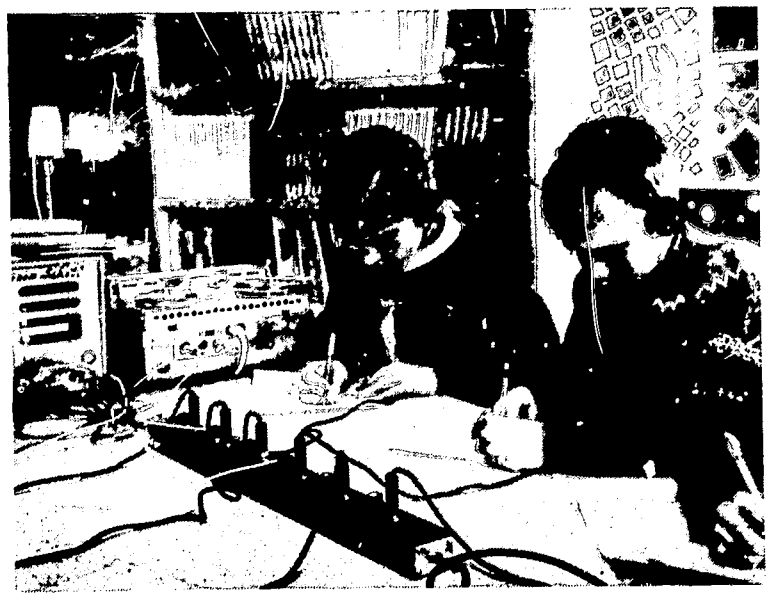
(A rationale for helping others develop a commitment)

Reason

When one considers the nature of students and the nature of the learning process, certain rational considerations emerge which also support a commitment to the use of instructional media. Today, more and more teachers are realizing that instructional media play an effective role in the teaching process. These teachers gain a firm commitment to the media as they begin to understand that education is based on communication and as they recognize the need to constantly improve the communication process between teacher and learner.

STUDENTS, TODAY, GROW UP IN A VISUAL WORLD

The student of today is bombarded with visual media of communication. Pictorial magazines, such as *Life* and *Look*, motion pictures, advertising, and television are constantly demanding that he learn through his eyes. In addition, his experiences arrive in glorious color.

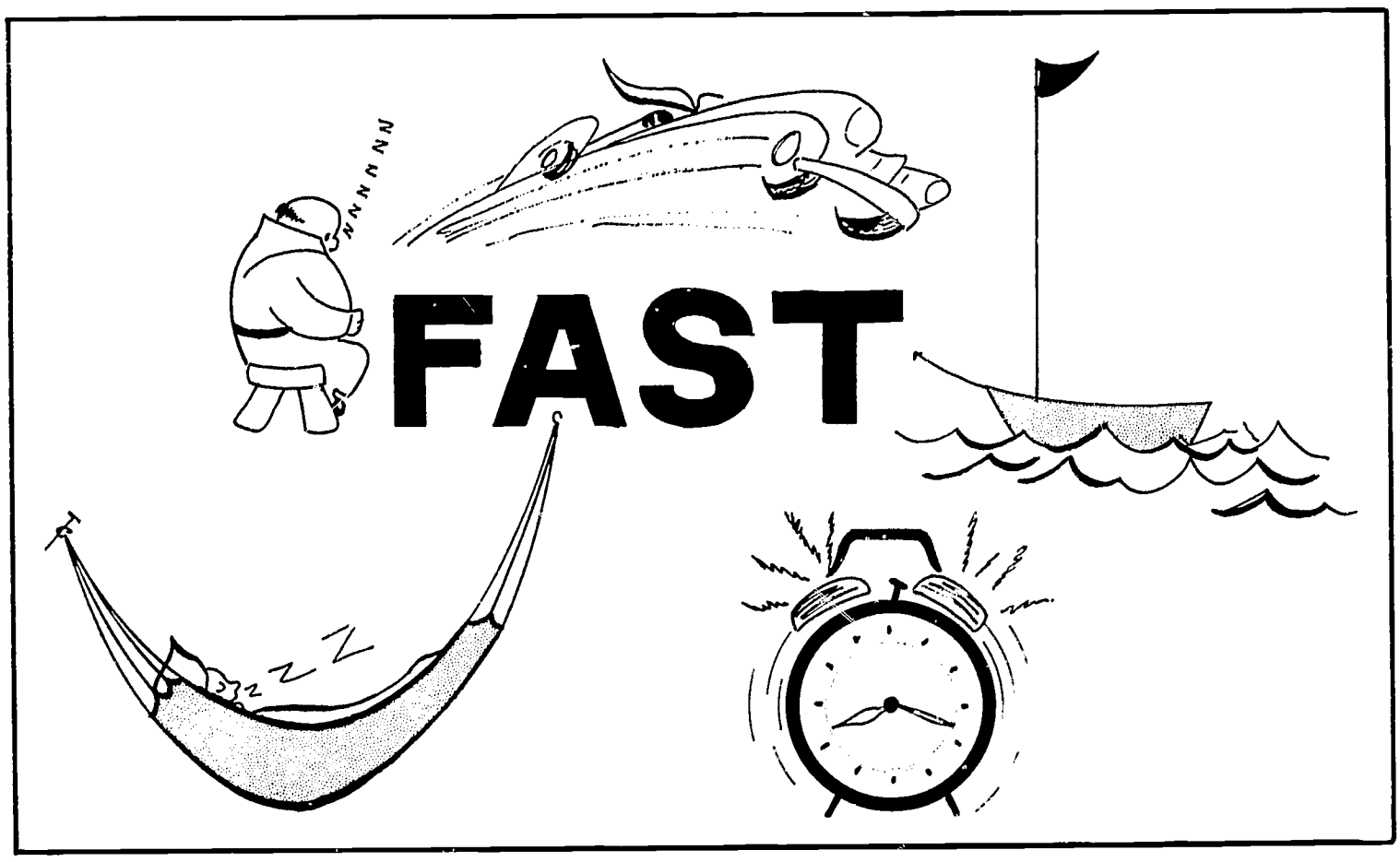


Boys and Girls Live in a World of Technological Influences

Students should not expect to be entertained in school, but they can expect teachers to make use of modern means of communication. They are not attuned to learning through their ears alone.

WORDS DO NOT INHERENTLY CONTAIN MEANING

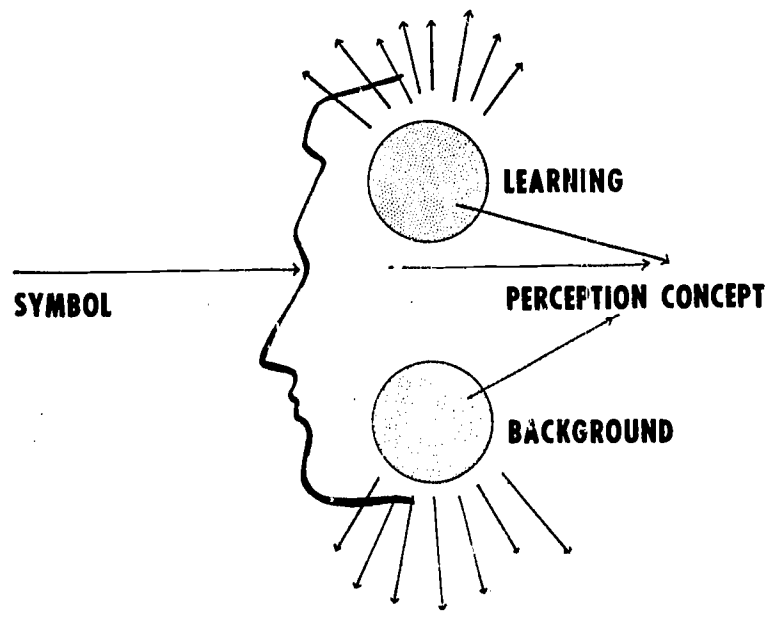
Semanticists know that many words have several different meanings. Sometimes they involve subtle differences and sometimes very discreet differences. Word meanings are learned as a result of experiences and exposures which, when combined, form concepts. If two people have had different experiences in building word meanings, confusion results until they both attach the same meaning to the word. Have you ever thought about the numerous, different meanings for the word *run?* Example: Below are several meanings for the word *FAST*. If I say, "I tied the boat fast," a person who has never been around boats may think that I meant that I tied the boat quickly rather than I tied the boat securely. I can avoid this confusion by using a simple visual which will key the meaning I wish to make.



STUDENTS NEED ACCURATE PERCEPTS

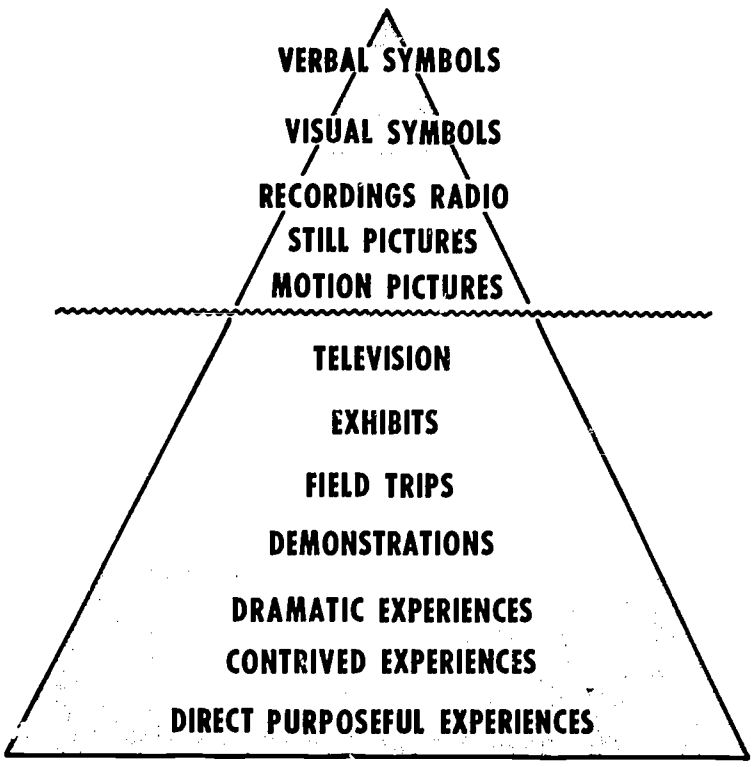
From perception to learning is a complex process. This process involves taking a percept, combining it with previous experience to form a concept. This concept, when retained, becomes learning. This learning, in turn, becomes the background experience for future percept-concept development. Once the percept has gone inside the learner, the teacher no longer has control of the process. Therefore, it is of the utmost importance that the presentation of percepts be done as accurately as possible. Here again, visualization of the desired meaning of the word *fast* is a substantial step toward providing an accurate percept.

If the symbol is unclear, the percept is distorted.



THE STUDENT'S NEED FOR CONCRETE EXPERIENCE MUST BE CONSIDERED

When a student is first exposed to completely new or abstract ideas, he needs concrete experiences. If a person has worked with a subject or a group of concepts for some time, he can operate in that context at a more abstract level. Edgar Dale's Cone of Experience[1] as shown here indicates one arrangement of learning experiences from the very concrete to the very abstract.



Symbolization The lower the level in the cone, the more concrete the experiences.

Observation Learners experience difficulty operating at the top level if they have

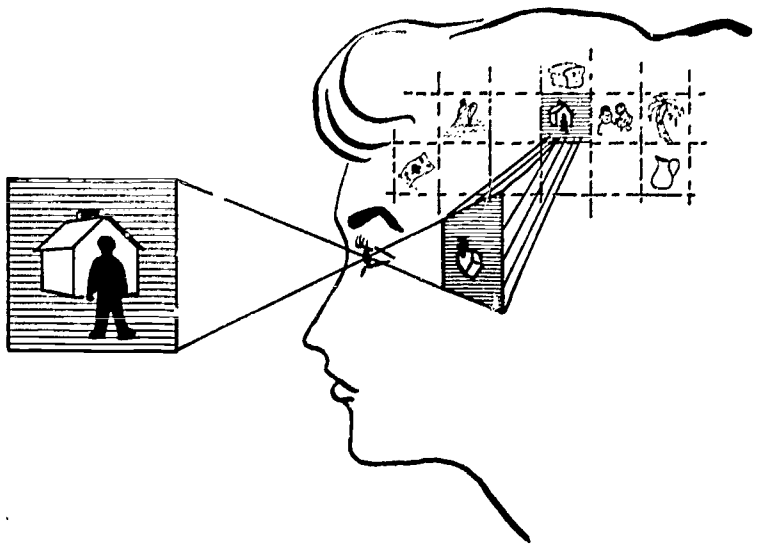
Participation never had more concrete experiences at the lower levels.

The three levels indicated are participation, observation, and symbolization. Teachers who truly desire to improve their teaching will determine carefully the level at which student experiences need to be structured. Certainly, when learning about another country, another culture, a technical development, etc., words alone are not enough. After concrete experience has occurred, discussion and consideration of these matters at a symbolic level can be accomplished meaningfully.

[1]Edgar Dale, *Audio-Visual Methods in Teaching*, revised edition, New York: Holt, Rinehart and Winston, 1962.

STUDENTS ORGANIZE AND CLASSIFY CONCEPTS BETTER WHEN GIVEN A VISUAL FRAMEWORK

Learners remember and organize concepts better when given a visual framework which enables them to organize and relate these concepts. For instance, the instructor who presents his lecture in connection with a flow-chart or diagram helps the learner to know exactly where he is in the development of a presentation and in addition, helps the learner to know when he departs to bring in illustrations and to know when he returns to the development.



TEACHING IS COMMUNICATION

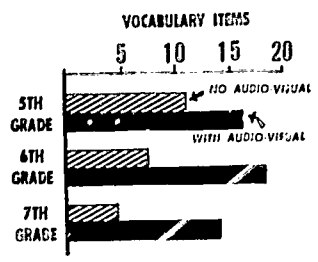
Modern-day communication theory highlights the importance of overcoming interference in the communication process. Aural communication is more susceptible to interference and distortion than the visual media. The teacher who wishes to communicate effectively will use a combination of communication media to combat such interferences as distraction, low motivation, lack of background experience, variance of environment, etc. *Instructional media are an integral part of the teaching and learning process.*

Research

Research provides a basis for having a commitment to audiovisual materials. More than 2,000 research studies indicate the values of audiovisual materials. The following are a few of them:

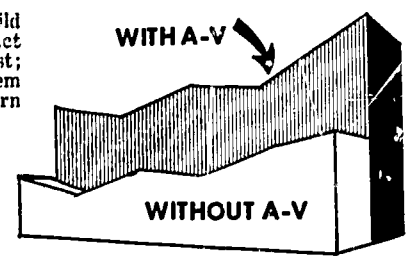
SPEED LANGUAGE LEARNING

Vocabulary is increased and learning time shortened with audio-visuals. In foreign-language teaching, audio-visuals are especially effective.

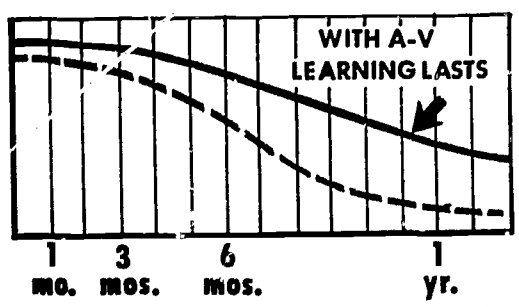


MAKE PEOPLE WANT TO LEARN

Audio-visuals build attention, attract and hold interest; learners like them and like to learn with them.



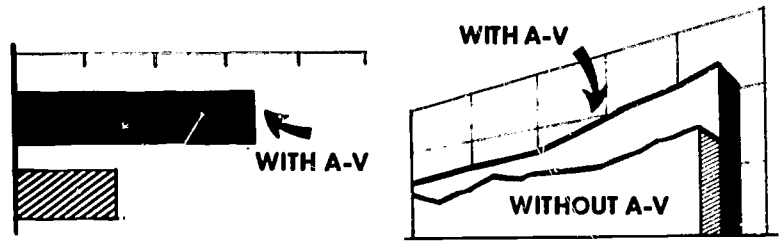
IMPROVE REMEMBERING



22% more knowledge retained after three months.
—KNOWLTON AND TILTON, YALE

48% net gain after three months.
—RULON, HARVARD

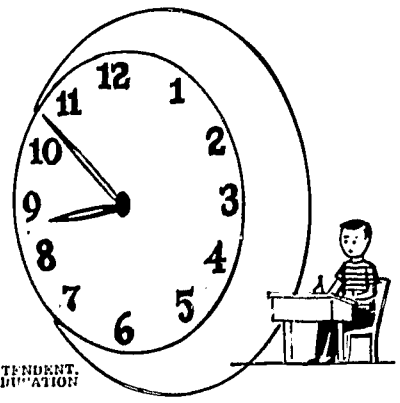
BUILD READING SPEED AND COMPREHENSION



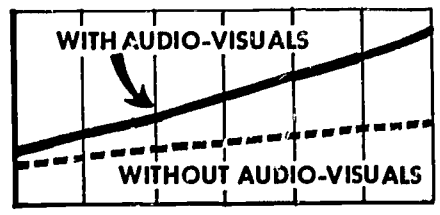
Studies show that audio-visuals generally stimulate learners to read more and understand better.

"AUDIO-VISUALS CAN SAVE AT LEAST ONE HOUR PER DAY OF LEARNING TIME"

—BRUCE FINDLAY, ASSOCIATE SUPERINTENDENT, LOS ANGELES CITY BOARD OF EDUCATION

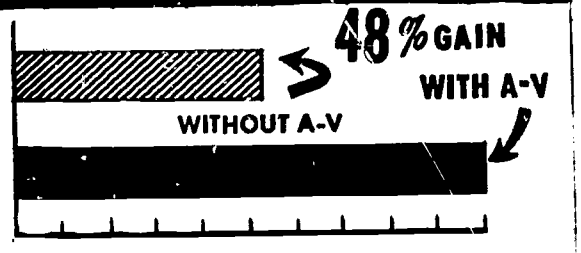


STEP UP SKILL-LEARNING



Many studies show reductions in learning time, increases in quality, and more information retained.

MORE LEARNING IN LESS TIME



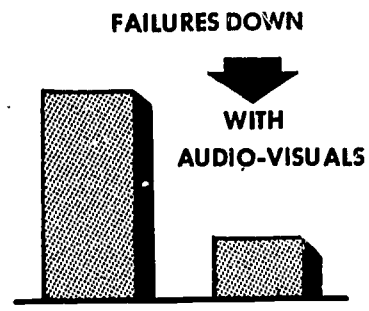
48% gains in elementary grades, up to 85% in specific subjects.
—WITTICH AND FOWLKES, WISCONSIN

courtesy of A.V.C.O.P.I.

REDUCE FAILURES

Failures dropped from 60% to 18%.
—WOOD, COLUMBIA, AND FREEMAN, UNIVERSITY OF CHICAGO

Poor students kept pace with others.
—WITTICH, WISCONSIN



FOR FURTHER INFORMATION

Commitment

BOOKS AND MAGAZINES

Dale, Edgar, *Audio-Visual Methods in Teaching*, revised edition, New York: Dryden Press, 1954, pp. 3-71.

Hyer, Anna L., "Administration," *Nation's Schools*, 67: 90-91 and 104; February 1960.

Kinder, James S., *Audiovisual Materials and Techniques*, American Book Company, 1959, pp. 1-49.

PAMPHLETS

Wendt, Paul R., *What Research Says to the Teacher: Audio-Visual Materials*, Washington, D. C.: Department of Classroom Teachers, NEA, 1957. 32 pp.

FILMS

Accent on Learning, 30 min., 16mm film, sound, black and white. Ohio State University, 1949.

New Tools for Learning, 19 min., black and white. Encyclopedia Britannica Films, 1952.

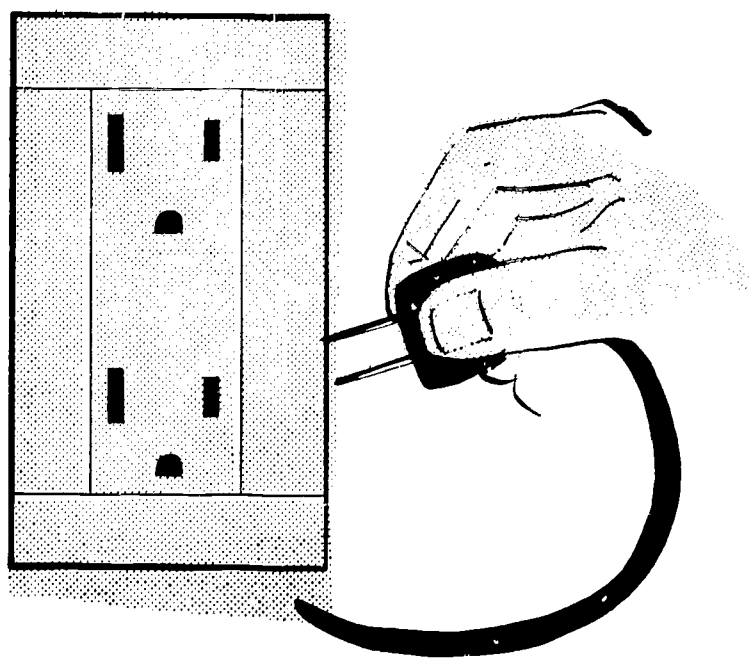
FILMSTRIPS AND SLIDES

Case of the Curious Citizen, 36 slides and record, color. Audio-Visual Commission on Public Information.

Effectiveness of Audio-Visual Materials, 45 frames, color. Basic Skills Films, 1957.

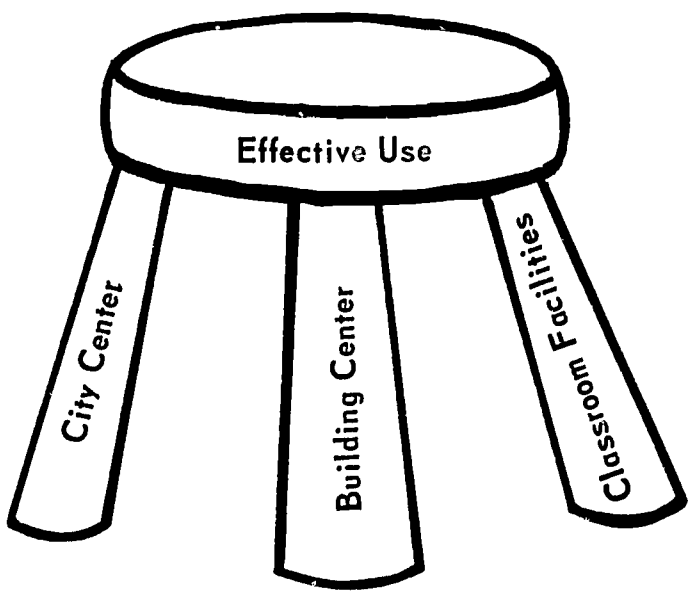
See your local film rental source for these films.

Facilities



Buildings and classroom facilities must encourage and expedite effective utilization of the media of instruction. An emerging concept which further facilitates and fosters effective utilization is that of an instructional materials center.

Effective use of instructional media is dependent in part upon adequate facilities at several levels. Teachers and learners must be able to use the media in properly equipped facilities which, in turn, must be supported by instructional materials centers. Effective use can be envisioned as a three-legged stool in which the supporting members are an adequate city center, an adequate building center, and adequate classroom facilities.



This chapter will describe the nature of a facility entitled "The Instructional Materials Center" and will also set forth the needs to be considered in providing adequate classroom facilities.

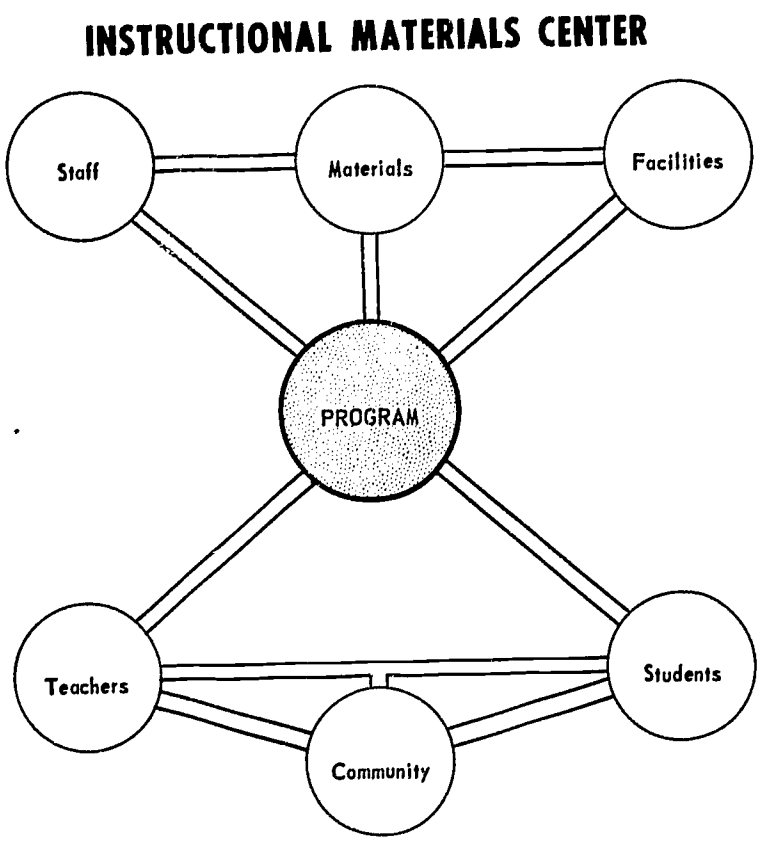
LEVELS OF INSTRUCTIONAL MATERIALS CENTERS

Building Centers: Instructional materials centers at the building level in small school districts often serve independently without any outside support. In a large school district, these building centers exist as a part of a district-wide program. The services of building centers are described in considerable detail in this chapter.

School District Centers: District instructional materials centers function as servicing units for the building centers. These school district-wide centers provide service and talent that building centers cannot afford. District centers usually evolve in response to the nature of the program and the needs of the building centers. These centers will provide such services as a central film library, full-time graphic artists, full-time technicians, professional audio recording services, an FM radio station, preview and evaluation of materials, and other services that cannot be efficiently decentralized.

INSTRUCTIONAL MATERIALS CENTERS (Building Level)

The overall objectives of an instructional materials center are to serve the learning and instructional process with the broadest possible range of learning resources — including instructional materials and equipment. This must be done within the context of the local school's philosophy of education, its objectives, and the needs and interests of the community.



Some general objectives of instructional materials centers, elementary and secondary, are:[1]

To provide in a central area appropriate and well-balanced collections of instructional materials in all media of communication.

To stimulate and guide students and teachers through formal and informal instruction to become skillful and discriminating users of all kinds of instructional materials and resources.

To stimulate and extend the interests of students in reading, listening, and viewing experiences which contribute to their growth in appreciation and critical judgment of varied media and materials.

To encourage and to assist teachers in the selection, evaluation, production, and wide utilization of instructional materials.

To contribute to the inservice education of teachers for professional and cultural growth.

To cooperate with community leaders and with public librarians in promoting the use of community resources.

The Instructional Materials Center Provides Equipment for Producing Learning Aids

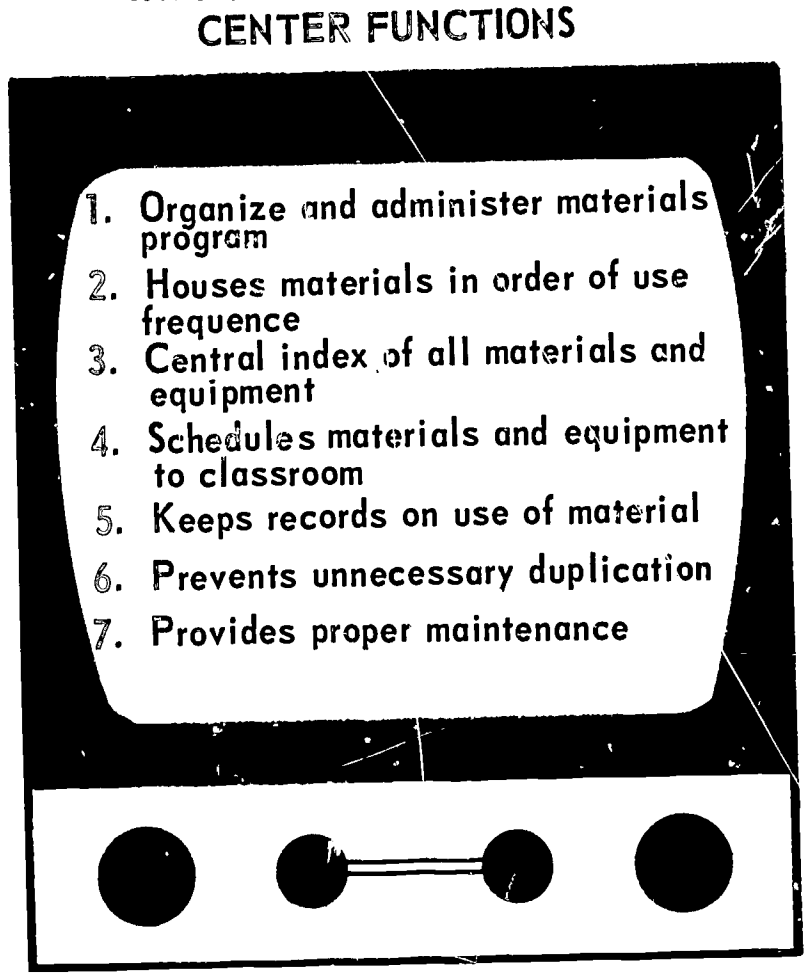
Relationship of the Materials Center to the Library Program

Ideally, the library (print media) and instructional materials (non-print media) programs should be unified, philosophically and physically. However, each emphasis *must be staffed with properly trained personnel.*

A library-trained person cannot provide adequate non-print media services nor can a media specialist provide adequate print media service. They must function as a team.

State audiovisual supervisor, Robert Wheeler said: "It is a physical impossibility for a full-time librarian in a sizable school (over 300), regardless of how well-prepared he or she is, to serve competently as the Director of Audiovisual Instruction as well as the librarian."[2]

The two emphases must be staffed by at least two people.



[1]Illinois Department of Public Instruction, *Instructional Materials,* Curriculum Program Bulletin A-3, Springfield, Illinois: the Department, 1961, p. 97.

[2]Robert C. Wheeler, Supervisor, Audiovisual Instruction, Wisconsin Department of Public Instruction, in an unpublished manuscript, 1966.

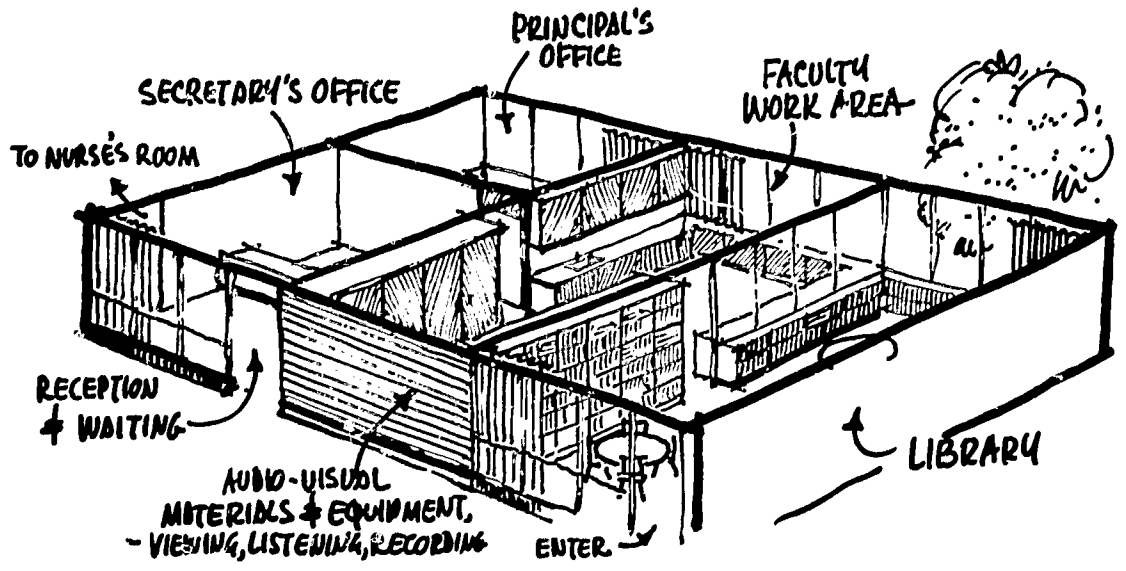
Three Aspects of Concern to the School Administrator

Materials: They should be of good quality and suitable for local curriculum applications.

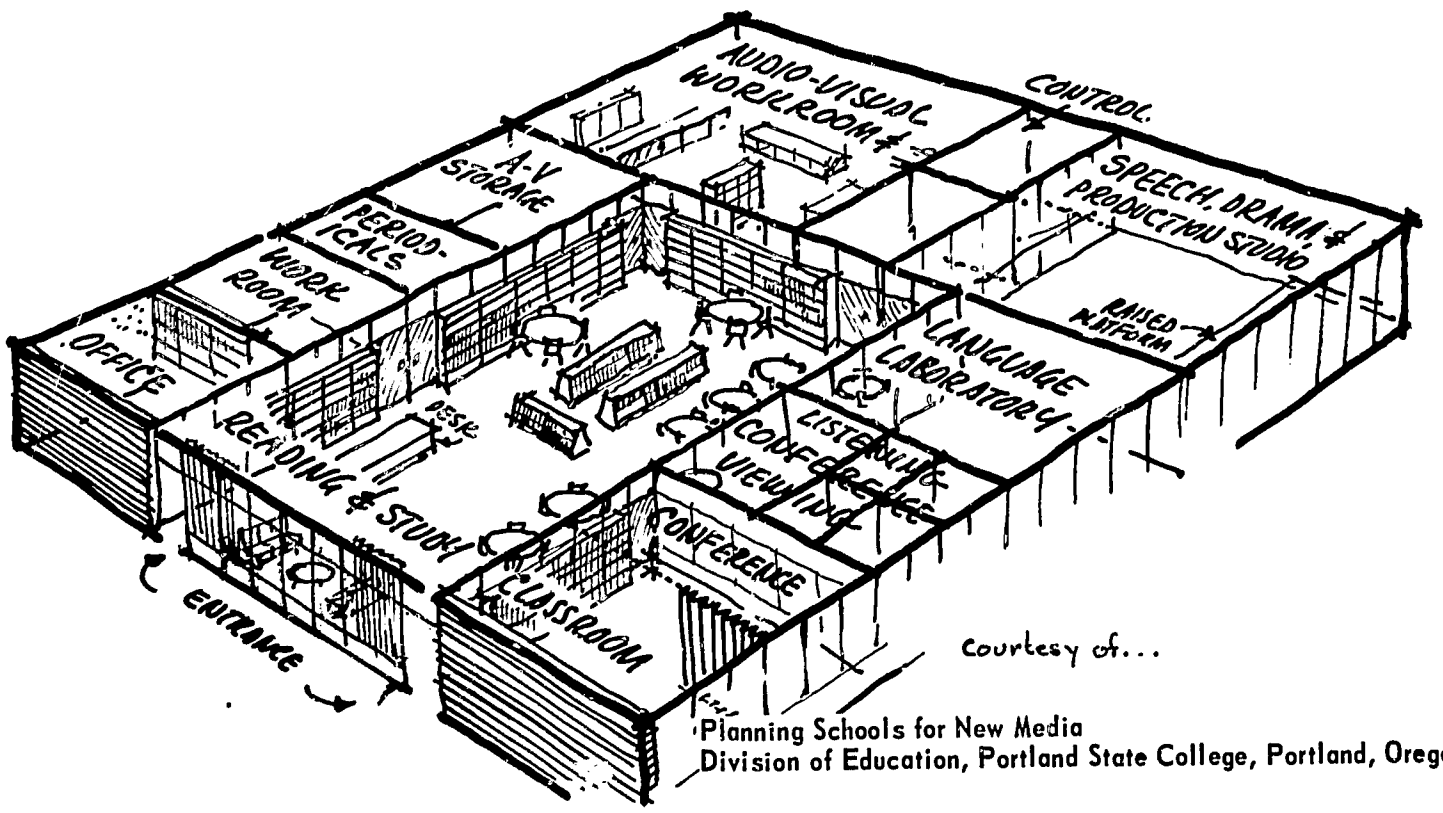
Availability: Materials and equipment must be readily and easily available to students and teachers..

Utilization: Materials and equipment must be used effectively and efficiently in the learning process.

IMC FOR 200 TO 400 STUDENTS



IMC FOR 400 TO 800 STUDENTS



[3]Michigan Department of Education, *The Instructional Materials Center*, Bulletin #369, Lansing, Michigan: the Department, 1965.

Dimensions of the Instructional Materials Center

Dimensions listed here are some that are in existence and operation. From these, the individual school can choose the resources and services which meet its own needs.

The Program of an Instructional Materials Center

Materials:

Projected Materials:	Films (owned and rented)
	Filmstrips
	Slides
	Transparencies
Audio Materials:	Disk recordings
	Magnetic tapes
Graphic Materials:	Charts, graphs
	Maps and globes
	Flat pictures
	Bulletin board materials
	Flannel board materials
Real Things:	Models
	Objects
	Specimens
Printed Materials:	Books and pamphlets
	Professional magazines
	Curriculum guides
	Courses of study
	Resource lists
	Materials lists
	Programed books
	Teaching machines
Community Resources:	Card file
	Field trip guides (field trips, authorities, people with special talents, or presentations)

Curriculum Services:

Film Service (ordering, scheduling, projecting)

Audio Recording Service:	Tapes
	Duplicating, editing
	Splicing, erasing
Equipment:	Purchase consultation and buying guides
	Projectors (wide variety)
	Audio equipment (phonographs, tape recorders)
	Television equipment
	Expendables — supplies for equipment
Samples and Exhibits:	Materials
	Books
	Devices
Previewing of Materials on Approval	
Production Services:	Overhead transparencies
	Slides
	Photographs
	Electronic stencil scanner

A Well Stocked Instructional Materials Center Makes Learning Resources Readily Available

Graphics:	Lettering devices and prepared letters
	Bulletin board materials
	Dry mounting
	Feltboard materials
	Models
	Displays
Inservice Growth:	(See Chapter VI on in-service growth.)
Newsletter:	New services, materials, techniques, previews
Materials Lists and Correlations:	Departmental listings
	Cross media listings
	Special interest lists

Staff Needed:

Media Specialists:	(See Chapter IV on specialists.)
Clerical Assistants	

Facilities:

Study Area:	May include individual study spaces or carrels
	Large and small group conference areas
Circulation Area:	Card catalog
	Shelves for materials
	Filing cabinets
	Display area
	Mobile trucks
Previewing and Preauditioning Facilities:	Carrels
	Headphones

Repair Area:	Maintenance of equipment
	Counter space with tool storage
Production Area:	Adjacent darkroom
	Counter space with adequate power outlets
Equipment Storage:	Projectors
	Television, etc.
Office Space:	Specialist
	Clerk

Continuously emerging developments in the audiovisual field suggest a high degree of flexibility in the physical setup of instructional materials centers.

CLASSROOM FACILITIES

Today, some schools are departing from the traditional concept of the classroom. Team teaching, modular scheduling, continuous progress learning, and other new concepts involve educational media in new and creative ways. These ideas demand facilities which provide for easy and flexible use of these media. Easy, flexible, and integrated use of these media frequently cannot be realized when they depend upon the use of facilities other than the regular learning space Classrooms, auditoriums, and other instructional spaces must be properly planned and equipped for the efficient use of instructional media.

The use of media is also increasing within the concept of the more traditional classroom and school organization. If the use of these media is to have maximum effectiveness, older buildings need to be modified and properly equipped, and new buildings need to be planned, from the ground up, to facilitate these developments. Acoustics, darkening, seating patterns, and other factors must be considered in light of media oriented instruction and sound educational practice.

Physical Facilities Must Expedite the Use of All Sorts of Learning Aids

The following list is intended to provide a guide in planning facilities. It is not intended to answer all questions. Extensive references are provided at the end of the chapter for this purpose.

Classrooms

Light Control — For some media, even small slits or spots of light present undesirable conditions.

Methods of controlling natural light:
- Sliding panels (Curtis Strange School, Kenosha, Wisconsin)
- Venetian blinds (full closure type)
- Drapes (plastic)
- Roller blinds
- Windowless classrooms

One New Approach to Light-Control Is the Sliding Window-Closure

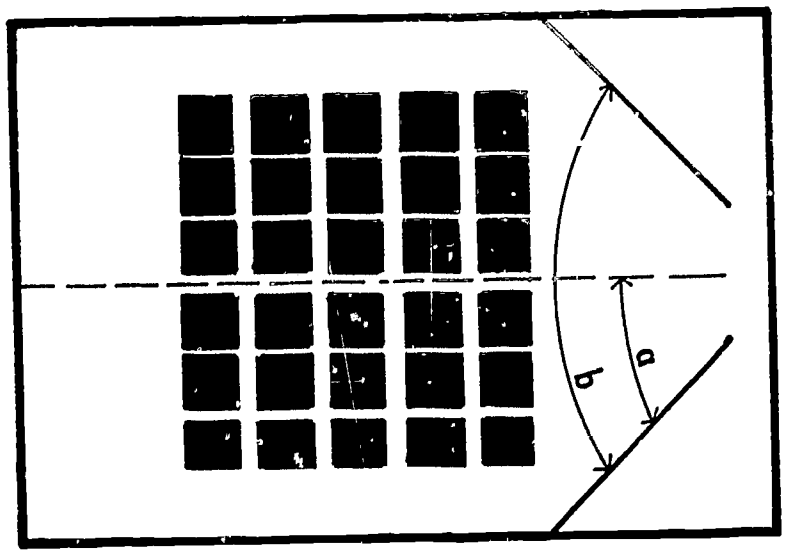
Methods of controlling artificial light:
- Continuous dimming with range from 1/10 foot candle to 30 foot candle

Acoustics — The acceptable noise level for a classroom is 35-40 decibels. Maintaining this level requires acoustical treatment.

Methods of absorbing and controlling sound:
- Acoustical tile-walls and/or ceilings
- Baffling-walls and/or ceilings
- Carpeting
- Draperies — helpful in older construction

Display
- Chalkboards — Light color (green recommended); steel backed for use as a magnet board.
- Bulletin board — Never too much bulletin board and display space in a classroom.

Seating — It should be flexible and should take into account optimum viewing angle of the screen surface.
- Beaded: 60°
- Matte: 90°
- Lenticular: 100°



	a	b
BEADED	30	60
MATTE	45	90
LENTICULAR	50	100

Screen surface:
Rectangular room: beaded surface
Square room: matte or lenticular surface

Corner mounting of a rigid screen is ideal for overhead projection.

MATTE

BEADED

LENTICULAR

Other considerations — Thresholds interfere with easy movement of rolling equipment. Sills should be flush with the floor.

Storage — There should be adequate storage space for materials, equipment and supplies.

OTHER TYPES OF FACILITIES

The above considerations are common to virtually all instructional spaces. In addition, specially conceived instructional spaces suggest the following considerations.

Large Group Instructional Spaces

Provisions for remote control of all projection equipment and adequate conduit for a wide variety of projection and communication functions.

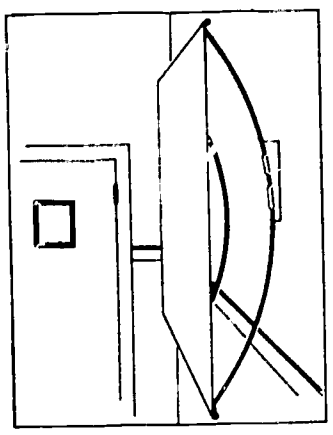
Rear screen projection is receiving considerable attention in this type of facility. (See the Eastman Kodak pamphlet, *Audiovisual Notes from Kodak*, pp. 64ff.)

Provision for a variety of projection formats

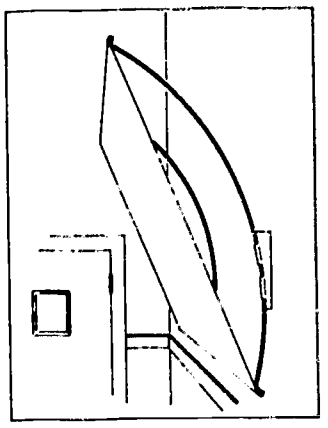
Wiring — AC power, adequate circuits, and outlets to operate projection and other equipment.
A minimum of two duplex outlets at front and back.
Light switches accessible to entrances and projection locations may require two sets of switches.
Communications — Intercom lines for audio programs, conduit and cable for television, front to back continuity lines in all rooms, a master antenna system for distribution of radio and television programs.

Ventilation and Heating — An adequate supply of clean, properly circulated air.
Individual temperature control for each room.
Temperature automatically stabilized.

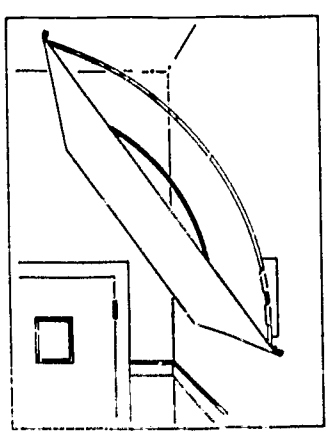
Screens — Permanently installed, wall-type roller screens.



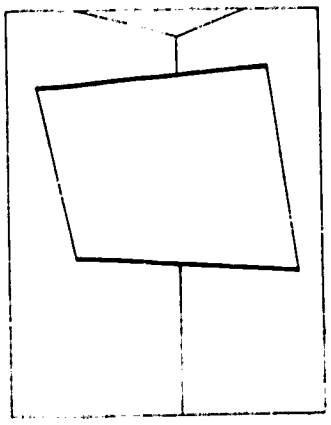
VERTICAL



MODERATE TILT



EXTREME TILT (40°)



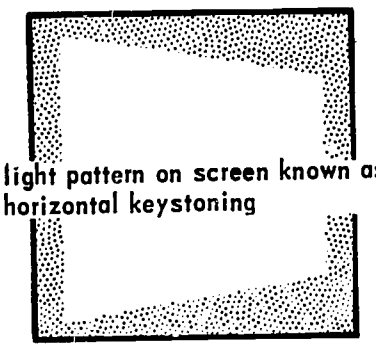
CORNER MOUNTING

The Tecnitilt screen is a unique innovation. It is light, inexpensive, and easy to install. It has one major drawback. It is presently available only in rectangular format. It is hoped that in the future this screen will be available in square format.

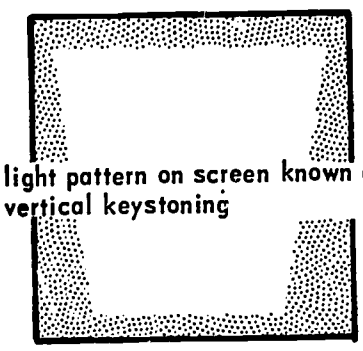
Screens should be square, not rectangular; in the past, many classrooms have been equipped with horizontal-rectangular screens. Classroom screens should be square if they are to accommodate vertical format materials, such as vertical 2″ x 2″ slides and vertical overhead transparencies. The opaque projector projects material up to 10″ x 10″. Only a square screen will permit the viewing of this format.

Adequate size: (Refer to the screen-size table, Appendix A.) 70″ x 70″ for normal classroom.
Two lighting systems: Fluorescent for general illumination.
Incandescent with continuous dimming control to permit varying light levels.
No windows
Multiple TV outlets (1 for every 15-20 seats)
"Keystone" correction is necessary.

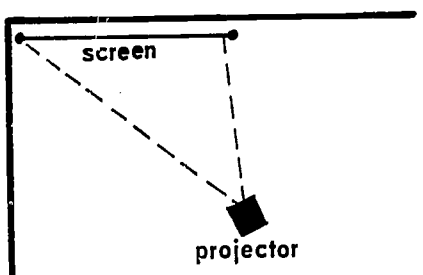
INCORRECT SCREEN ANGLES WHICH PRODUCE HORIZONTAL AND VERTICAL KEYSTONING.



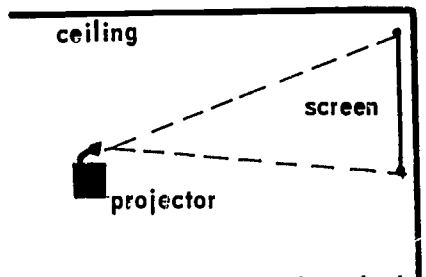
light pattern on screen known as horizontal keystoning



light pattern on screen known as vertical keystoning

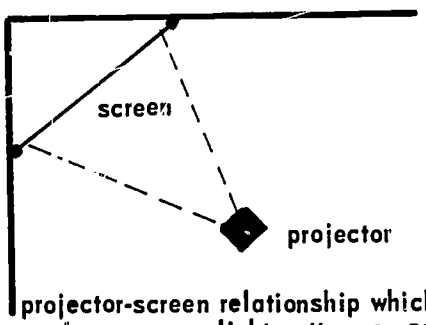


projector-screen relationship which produces horizontal keystoning

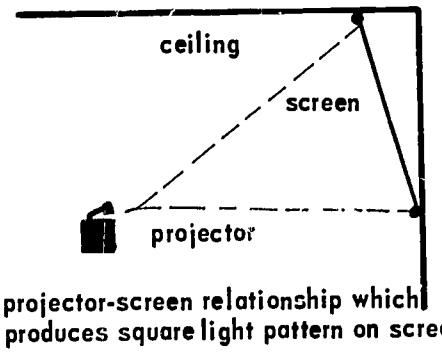


projector-screen relationship which produces vertical keystoning

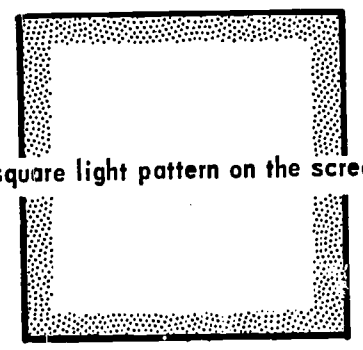
CORRECT SCREEN ANGLES WHICH PRODUCE A SQUARE LIGHT PATTERN ON THE SCREEN.



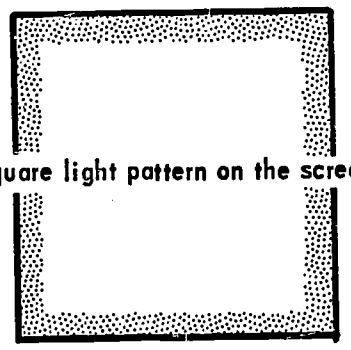
projector-screen relationship which produces square light pattern on screen



projector-screen relationship which produces square light pattern on screen



square light pattern on the screen



square light pattern on the screen

Minnesota Mining and Manufacturing Co.

Small Group and Individual Instructional Spaces (Seminar rooms and student carrels)

Audio listening facilities may be provided in small spaces such as seminar rooms and carrels. The development of high quality earphones makes it possible to do listening without sound-proof carrels.

The Postlethwaite method of teaching botany is an excellent example of the use of individual learning carrels. (See the film *A Multi-Faceted Approach to Teaching Botany.*)

Auditoriums

Screen:

$$\text{Width} = \frac{\text{Distance from screen to last row of seats}}{6}$$

Electrically controlled

Projection booth or station with remote control of screen, audio system, and house lights

No windows

Continuous dimming of lights

Multiple television outlets (1 for every 15 to 20 seats)

Remote control of all projection equipment

Extensive conduit for:
- Intercom (from booth to stage)
- Public address system
- Projection
- Remote control
- Continuity lines

Multi-channel amplifier to permit multiple microphones, playing of tapes and records, etc.

FOR FURTHER INFORMATION

Facilities

BOOKS

Brown, James W., and Norberg, Kenneth D., *Administering Educational Media,* New York: McGraw-Hill Book Company, 1965. Chapter 3, "Physical Facilities for Educational Media," pp. 34-71.

DeBernardis, Amos, and OTHERS, *Planning Schools for New Media,* Washington, D.C.: U. S. Department of Health, Education and Welfare, Office of Education, 1961, p. 72.

Erickson, Carlton W. H., *Administering Audio-Visual Services,* New York: The Macmillan Company, 1959. Chapter 5, "Facilitating the Use of Materials," pp. 181-265; Chapter 6, "The Audio-Visual Center," pp. 266-321.

Illinois Department of Public Instruction, *Instructional Materials,* Illinois Curriculum Program, Administration and Supervision Series, Bulletin A-3, Illinois: the Department, 1961, pp. 100-101.

Missouri Department of Education, *Audio-Visual Instruction: An Administrative Handbook,* Publication 21-H, Missouri: the Department, 1961. Chapter 6, "Planning Schools for Use of Audio-Visual Instructional Materials," pp. 57-69.

Schuller, Charles F., editor. *The School Administrator and His Audio-Visual Program,* Washington, D.C.: NEA Department of Audiovisual Instruction, 1954. Chapter 4, "Provision of Audio-Visual Materials, Equipment and Building Facilities," pp. 60-82.

PAMPHLETS

Eastman Kodak Company, *Audiovisual Notes from Kodak,* Rochester, New York: the Company, 1964, p. 64ff. "Front or Rear Projection?" p. 3.

Educational Facilities Laboratories, Inc., *Schools for Team Teaching,* New York: Educational Facilities Laboratories, Inc., 1961, p. 36.

Educational Facilities Laboratories, Inc., Western Regional Center, *Study Carrels: Designs for Independent Study Space,* Stanford, California: Educational Facilities Laboratories, Inc., 1963, p. 16.

Larson, L. C., *Planning School Buildings for Instructional Materials from the Viewpoint of the AV Supervisor,* Indiana and Midwest School Building Planning Conference: Proceedings. Bulletin of the School of Education, Vol. 31, No. 4. Bloomington, Indiana: Indiana University, September 1955.

National Education Association, Department of Audiovisual Instruction, *Planning Schools for Use of Audio-Visual Materials: No. 1 Classrooms,* Washington, D.C.: the Department, 1952.

National Education Association, Department of Audiovisual Instruction, *Planning Schools for Use of Audio-Visual Materials: No. 2 Auditorium,* Washington, D.C.: the Department, 1953.

New York State Education Department, *Planning Schools for Use of Audiovisual Instructional Materials,* Albany, New York: the Department, 1959, p. 28.

FILMS

To Build a Schoolhouse, 28 min., color. Educational Facilities Laboratories. Available rental free: Association Films, 561 Hillgrove Avenue, La Grange, Illinois.

Vision Strip Audio-Visual Classroom, 16 min., black and white. Bureau of Audio-Visual Instruction, University of Wisconsin, Madison, Wisconsin 53706.

Multi-Faceted Approach to Teaching Botany, 16 min., black and white. Purdue University, Lafayette, Indiana.

See your local film rental source for these films.

FOR FURTHER INFORMATION

Instructional Media Centers

BOOKS

Illinois Department of Public Instruction, *Instructional Materials*, Illinois Curriculum Program, Administration and Supervision Series, Bulletin A-3, Illinois: the Department, 1961, pp. 97-99.

Missouri Department of Education, *Audio-Visual Instruction: An Administrative Handbook*, Publication 21-H, Missouri: the Department, 1961. Chapter 5, "Instructional Materials Center," pp. 47-56.

FILMS

And Something More, 28 min., color. Knapp School Libraries Project.

Teaching Materials Center, 9 min., color. Virginia State Education Department.

Vision Strip Audio-Visual Classroom, 14 min., color. Instructional Film Bureau, 1959.

FILMSTRIPS

School Library Quarters, 98 frames, color. American Library Association, Chicago, Illinois, 1952.

PAMPHLETS

Ellsworth, Ralph E., and Wagener, Hobart D., *The School Library*, New York: Educational Facilities Laboratories, Inc., 1963.

Michigan Department of Public Instruction, *The Instructional Materials Center*, Bulletin No. 369, Lansing, Michigan: the Department, 1965.

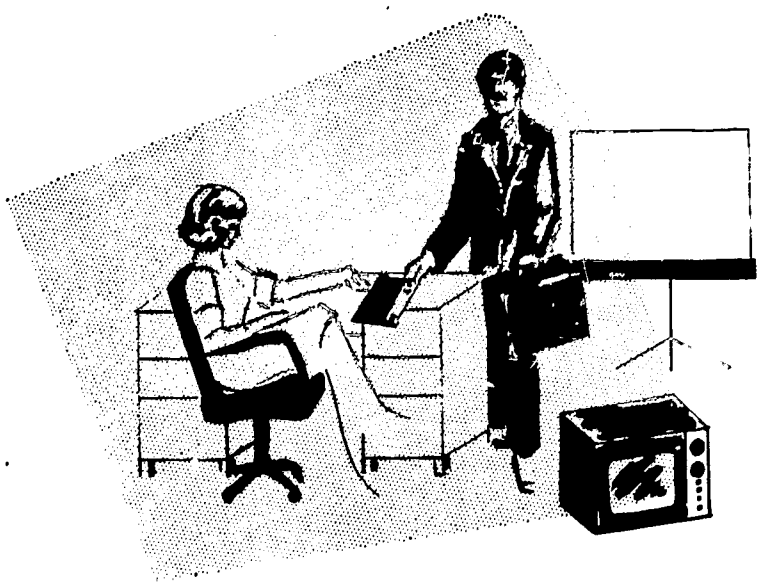
Michigan Department of Public Instruction, *Planning the Instructional Materials Center for Elementary and Secondary Schools*, Bulletin No. 422, Lansing, Michigan: the Department, 1958.

Minnesota Department of Education, "A-V Instructional Materials Centers," *Guide to School Plant Planning*, St. Paul, Minnesota: the Department.

National Education Association, Department of Audiovisual Instruction, *Planning Schools for Use of Audio-Visual Materials*, No. 3 Instructional Materials Center, Washington, D.C.: the Department, 1954.

U. S. Department of Health, Education and Welfare, Office of Education, *The School Library as a Materials Center*, Washington, D.C.: the Office, 1963. (OE-15042, Circular 708.)

Staff



The staff consists of individuals (directors, coordinators, technicians) whose training, assigned responsibilities, time allocations, leadership abilities, personality, and professional status are devoted to implementing the teaching-learning situation with audiovisual philosophy, materials, and techniques.

Commitment to an educational program utilizing audiovisual materials (See p. 1.) includes qualified leadership to assure that pupils and teachers use available resources with greater skill, interest, and purpose.

The effectiveness of a program will depend largely upon the quality of its *leadership* and the delegated *functions* it exercises, and an adequate allotment of *time* for its operation. Such leadership should have responsibilities, status, and authority at the supervisory level of the respective school(s) it serves. An adequate clerical and technical staff should also be provided to assure that the director is available to pupils and teachers when needed and that he can devote his *professional abilities* to *professional activities.*

The size of the teaching staff, the curriculum, the instructional methods used, and the services to be provided by the audiovisual center will determine the size, qualifications, and competencies of its staff.

Audiovisual leadership is defined in the Wisconsin Administrative Code of 1966 as follows:

> AUDIOVISUAL DIRECTOR — (Media Specialist)
> This classification shall apply to those who direct, administer, and/or provide those advisory, production, and distribution services which implement teaching-learning situations with media in an organized fashion within an entire school system.
>
> AUDIOVISUAL COORDINATOR — (Media Specialist)
> This classification shall apply to those who provide those advisory, production, and distribution services which implement teaching-learning situations with media in an organized fashion within a single building housing a typically organized grade unit of a school system such as an elementary school, a junior high school, or a senior high school.

Recommendations as to the staffing of audiovisual departments have been developed as follows in a study conducted under the auspices of the U. S. Office of Education, National Defense Education Act, Title VII, Part B, and adopted by the Department of Audiovisual Instruction, NEA, and the Association of Chief State School Audio-Visual Officers:[1]

PERSONNEL GUIDELINES (Elementary and Secondary Education)

In schools with 15 teachers or less — one half-time audiovisual specialist. (Specialists may serve more than 1 school.)

In schools with 16 to 30 teachers — 1 full-time audiovisual specialist.

Add one audiovisual specialist for each additional 40 teachers or major fraction thereof.

One or the equivalent, semi-professional assistant (technician, graphic artist, clerk, photographer, etc.) for each 30 teachers.

In schools where audiovisual and library responsibility is combined (the instructional materials concept), the amount of staff required will be determined by adding the above audiovisual requirements to the personnel standards for libraries set by the American Library Association. It is recommended that the first specialist hired be an instructional materials specialist with training in both audiovisual instruction and librarianship.

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[1]Gene Faris and Mendel Sherman, *Quantitative Standards for Audiovisual Personnel, Equipment and Materials*, Washington, D.C.: Department of Audiovisual Instruction, National Education Association, 1966, p. 5.

Every multiple unit school district with at least one high school and four elementary schools shall employ a district or system audiovisual specialist.

THE AUDIOVISUAL DIRECTOR

Qualifications:

A director must meet the requirements of a Director's Certificate as specified by the Wisconsin Administrative Code:

GENERAL REQUIREMENTS

Must possess a valid teaching certificate based on a four-year degree.

Should have at least three years of successful teaching experience.

EDUCATIONAL REQUIREMENTS — minimum of 15 semester hours

A course or courses in curriculum — minimum of *two* semester hours. (A person qualifying with elementary school teaching experience will meet this requirement by acquiring credit in a high school curriculum course. A person with high school teaching experience will qualify with an elementary school curriculum course.)

Courses in Audiovisual Instruction — minimum of *twelve* semester hours.

a. Methods — basic audiovisual course
b. Production of Audiovisual Materials
c. Administration (Audiovisual)
d. Electives:
   Such courses as ETV, Programed Learning, Motion Picture Production, Radio, Photography, etc.

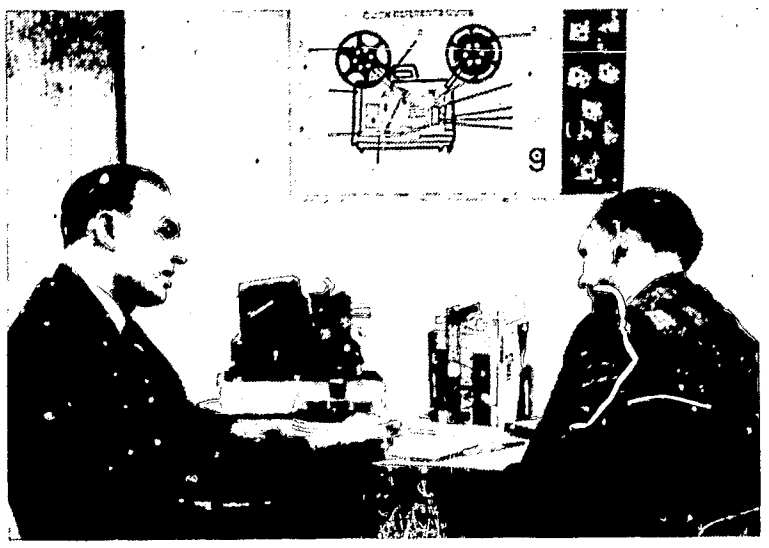
In addition to the above specific qualifications, the director should possess those qualities which will permit him "to work easily with and through others to reach the legitimate goals of his office."[2]

Functions:

CONSULTATION

Participate in the work of the curriculum committees.

Assist principals, supervisors, and coordinators in identifying the teaching-learning problems and in selecting the appropriate media and materials with which to meet those problems including television and programed learning.



An Audiovisual Director Analyzes a Teaching Problem

Observe classroom utilization procedures.

Participate in building construction/remodeling/planning programs in analyzing space needs to facilitate maximum use of instructional media.

ADMINISTRATION

Supervise the personnel and services of the A-V center.

Organize and provide for the inservice training of teachers.

Organize for the evaluation of quality and appropriateness of recommended equipment and materials.

Recommend purchases resulting from the work of preview and evaluation committees and individual teachers. Coordinate all such requests.

Disseminate information about new materials, equipment, and significant literature through periodic bulletins.

Produce a catalogue of available films, filmstrips, recordings, projection equipment, television services, production services, etc., and the procedure for obtaining same.

Develop plans for the replacement of worn out or obsolete equipment and materials and the acquisition of new items.

Supervise maintenance of equipment in optimum condition.

Maintain inventories of items assigned to the central A-V office, the building centers, and classrooms.

Organize and supervise the distribution of materials and equipment through a periodic delivery system.

Maintain and make accessible a professional library of significant books, magazines, manuals, and other literature.

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[2]James W. Brown and Kenneth Norberg, *Administering Educational Media*, New York: McGraw-Hill, 1965, p. 19.

PRODUCTION

Organize a center with ability to produce items of unique or special equipment and complex processes.

Select and supervise a staff of production specialists as needed. (Photographer, graphic artist, etc.)

Maintain an inventory of supplies for all A-V centers.

Encourage the development of materials based on curriculum needs, i.e., experimentation.

EVALUATION AND INNOVATION

Involve concerned staff in a continuous evaluation of current utilization techniques and of the effectiveness of materials and equipment in achieving teaching-learning objectives.

Engage in research relative to the effectiveness of current and proposed utilization procedures.

PROFESSIONALISM

Maintain membership in local, state, and national associations and organizations in curriculum and media.

Participate in refresher courses and advanced training.

Attend conferences.

Promote public relations.

THE AUDIOVISUAL COORDINATOR

Qualifications:

A coordinator must meet the requirements of a Coordinator's Certificate as specified by the Wisconsin Administrative Code:

GENERAL REQUIREMENTS

Possess a valid teaching certificate based on a four-year degree.

EDUCATIONAL REQUIREMENTS

Minimum of *four* semester hours. Two courses in Audiovisual Instruction, one of which shall be a basic audiovisual course in Methods.

Functions:

GENERAL

Interpret and motivate interest of all teachers in the understanding of the contributions the audiovisual program can make to the teaching-learning process.

Motivate and help the faculty to select, use, and evaluate materials appropriate to their grade level.

Aid inexperienced teachers in their efforts to incorporate audiovisual materials naturally and effectively into classroom work.

SKILL DEVELOPMENT

Aid teachers in developing skills in equipment operation and local production techniques.

Train student helpers.

ADMINISTRATION

Maintain an up-to-date file of sources of audiovisual materials within and without the building.

Produce a catalogue of available films, filmstrips, recordings, equipment, production and television services, etc., and the procedures of obtaining same. This may be in addition to the catalogue originating in the office of the director.

Keep the building principal informed at all times of activities and developments and solicit his involvement in establishing procedures.

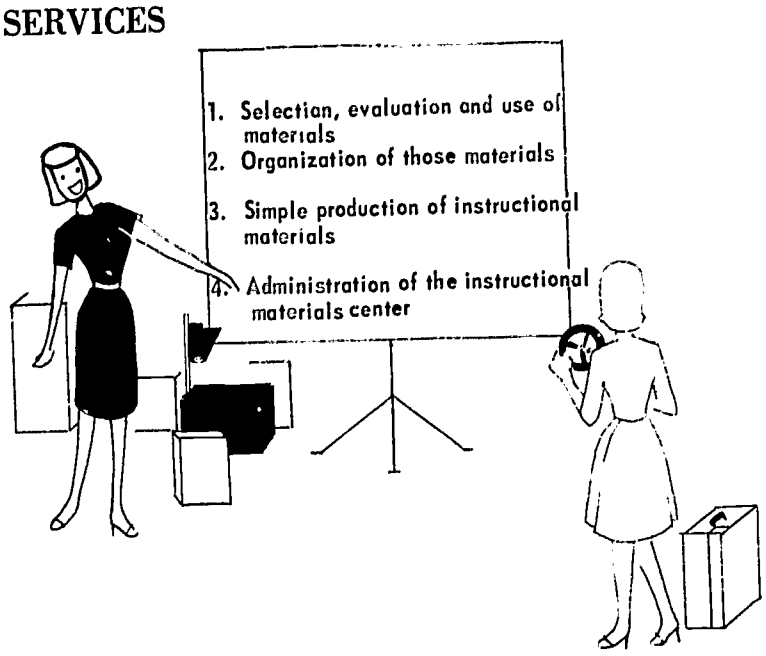
Provide teachers' guides to specific titles of films, filmstrips, and other materials.

Train student operators.

Student Operators Prepare for a Multi-Media Presentation

Receive suggestions for equipment, materials, and services from individual teachers or committees of teachers and forward to the proper authority.

SERVICES



Organize and supervise the planning for distribution of equipment and materials.

Supervise the local production center.

Assist teachers in developing materials of strictly local (building) interest.

FOR FURTHER INFORMATION

Staff

PRINTED MATERIALS

Berlo, David K., "You Are in the People Business," *Audiovisual Instruction*, 8: 372-381; June 1963.

Brown, James W., and Norberg, Kenneth, *Administering Educational Media*, New York: McGraw-Hill, 1965, Chapter 2.

Erickson, Carleton W. H., *Administering Audio-Visual Services*, New York: Macmillan, 1959, Chapter 1.

Harcleroad, Fred F., "The Education of the AV Communication Specialist," *Audiovisual Communication Review*, 8: 7-19; September-October 1960.

Kansas State Department of Public Instruction, *Personnel for a Complete Instructional Program*, Topeka, Kansas: the Department, 1964. 12 pp.

Kemp, Jerrold E., "Open Letter to an AV Practitioner," *Audiovisual Instruction*, 10: 692-694, 9; November 1965.

Michigan Department of Education, *The Instructional Materials Center*, Lansing, Michigan: the Department, 1965. 36 pp.

Stone, C. Walter, editor. *The Professional Education of Media Service Personnel*, Pittsburgh, Pennsylvania: Graduate Library School, Center for Media Studies, University of Pittsburgh, 1964. 115 pp.

Witt, Paul W. F., "Six Steps in Professionalizing the Audiovisual Specialist," *Audiovisual Instruction*, 7: 430-432; September 1962.

MOTION PICTURES

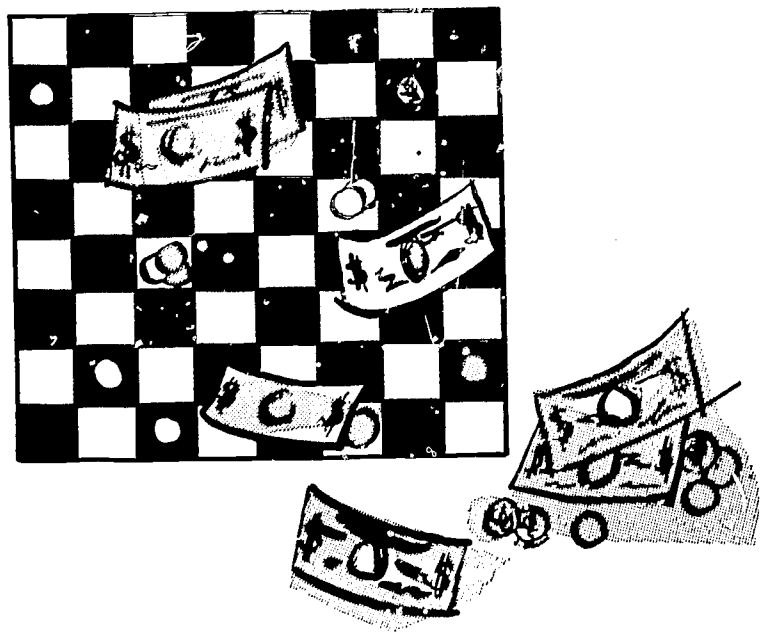
Audiovisual Supervisor, 18 minutes, color. International Film Bureau, 1959.

FILMSTRIPS

Case of the Curious Citizen, 35 frames (or slides), color, sound. Eastman.

Reason for A-V Budget

To ensure adequate financial support for the audiovisual program, a regular appropriation for the program in the annual school budget has proven to be most desirable. Such an appropriation implies a regular, planned budget prepared cooperatively by the audiovisual specialists and administrators.



An A-V Budget Includes:

EQUIPMENT (Capital Outlay)
- Purchase of new equipment
- Replacement of worn or obsolete equipment

REPAIR AND MAINTENANCE

SUPPLIES
- Lamps, cables, fuses, office supplies, travel, and postage

RENTALS

MATERIALS
- Acetates, inks, paints, photographic film, papers and chemicals, recording tape, etc.

NOTE: Salaries are not to be included in the audiovisual budget.

BUDGET

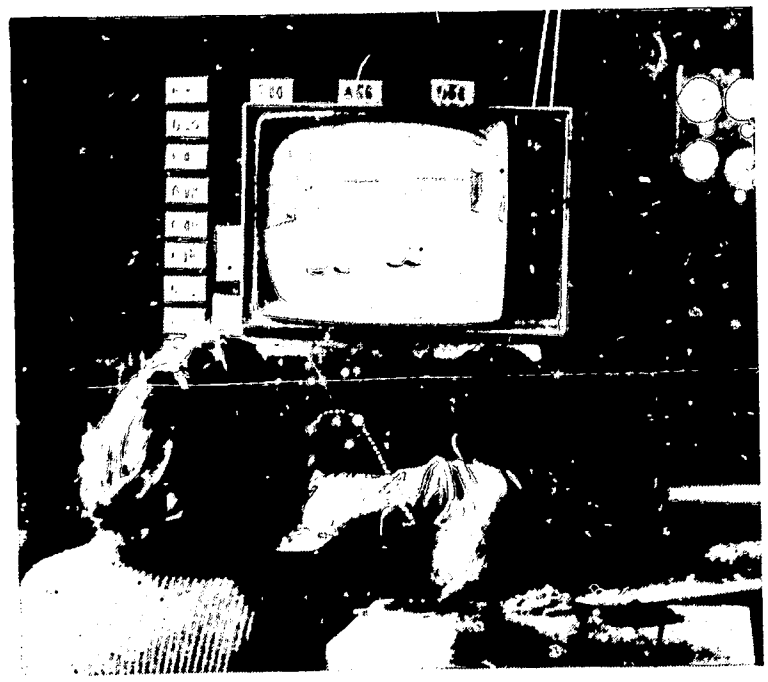
In preparing long-term development plans and in presenting information to administrative officials and the public, authoritative statements representing national thinking are useful. Local considerations of equipment needs; size, number, and location of buildings; and curriculum needs must be the final determiners of desired status.

Incidental vs. Deliberate Budgeting

Audiovisual budgeting in many school districts is practiced by using any excess of the school instructional budget to purchase or replace obsolete equipment. This type of operation might be called incidental budgeting.

Deliberate, as opposed to incidental budgeting would provide an administrative budget for the school district which included under instructional costs a specific amount of money deliberately set aside for the operation of the audiovisual program in that school district. *Budgeting of this type is highly recommended.*

With a deliberate budget for guidance, it is then the media director's responsibility to see that these funds are expended most prudently.



Quality Instruction Requires Realistic and Systematic Budgeting

Director's Responsibility

Upon the director rests the responsibility for a penetrating analysis of needs and the vigorous pursuit of adequate financial support to meet those needs. This is a complex responsibility, however, because it involves the matter of balance. Schools need many service agencies, higher salaries, and ample supplies, and into this web of local circumstances the director must direct his steps to request and obtain the needed support in optimum amount for the good of all concerned. To be sure, he

need not stand alone in making such requests, because allotments for his services are spread out over the entire instructional program. Thus school principals, teachers, and other curriculum specialists can be of real help in substantiating and formulating the requests to be submitted. Special budget preparation study groups and the director's advisory committee, if he has one, ought to make significant contributions to the formulation of sound recommendations.[1]

Budget Planning

There are three levels of budget planning:

Continuity budgeting for simple continuation of an established program at its present level,

Incremental budgeting to bring an established program up to some norm of adequacy, and

Expansion or creative budgeting to support new goals, expanded functions, more highly developed means of implementation in an existing program or a new program.

Standards such as those developed by the Department of Audiovisual Instruction of the NEA and the ALA can be helpful as guides, suggesting minimums for certain categories of equipment, materials, facilities, and staff; but they should be used carefully and selectively in this period of rapid change and technological development.[2]

Budgetary Recommendations

The Faris-Sherman study, *Audio-Visual Quantitative Standards* (See Appendix C.) recommends:

To provide for a well-rounded materials program, it is recommended that the basic complement of films, filmstrips, and recordings be considered capital equipment and be purchased with such funds. To provide for the ongoing materials program, including maintenance and replacement but not expansion, no less than 1 percent of the average per pupil cost in the school unit should be spent per year per student. The 1 percent amount would include film rentals, if no basic film collection is started, and subscription television (i.e., Midwest Program of Airborne Television Instruction), but would not include salaries, building construction or remodeling, CCTV installations, or electronic learning centers.

To provide for an advanced materials program the 1 percent figure should be increased to 1.5 percent.

Educational budgeting in the best sense is a focal point in the development of policies and plans by which a community fulfills its aspirations for the development of its youth. Departmental budgets for educational media services should be developed by those who administer them, in proper accord with the goals of the total instructional program. Clusters of media services administered as separate departmental functions should be coordinated for planning and budgetary purposes at the next higher level of administration. Generally speaking, educational media services are best conducted under a type of administrative organization in which one person has full responsibility for the program, including the development and administration of the departmental budget.

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[1]Carlton W. H. Erickson, *Administering Audio-Visual Services*, second printing, New York: The Macmillan Company, 1960, p. 340.

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[2]James W. Brown and Kenneth D. Norberg, *Administering Educational Media*, New York: McGraw-Hill Book Company, 1965, p. 160.

FOR FURTHER INFORMATION

Budget

Brown, James W., and Norberg, Kenneth D., *Administering Educational Media,* New York: McGraw-Hill Book Company, 1965, p. 139-161.

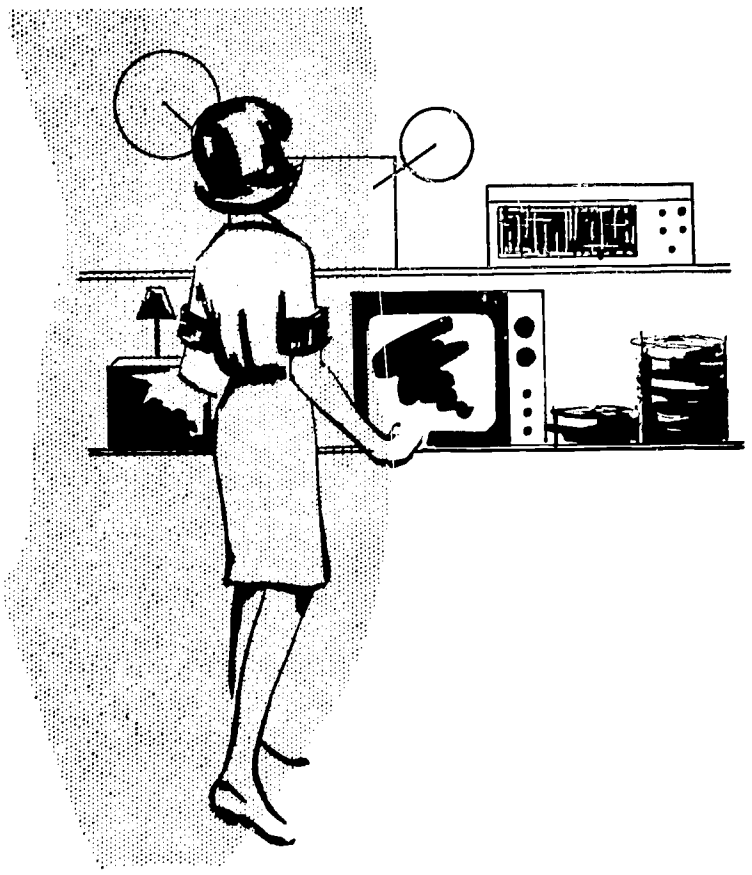
Erickson, Carlton W. H., *Administering Audio-Visual Services,* New York: The Macmillan Company, 1959, p. 322-356.

Indiana Department of Public Instruction, *The Audio-Visual Program,* Bulletin No. 218, Bloomington: the Department, 1956, p. 108-113.

National Education Association, Department of Audiovisual Instruction, *The School Administrator and His Audio-Visual Program,* Washington, D.C.: the Department, 1954, p. 230-247.

Rugg, K. C., *Improving Instruction, Budgeting Your Audio-Visual Program,* Bloomington: Indiana University, 1960.

Schuller, Charles F., "Minimum Standards for A-V Budget," *Nation's Schools,* 59: 100, 102, and 104; April 1957.



Inservice Training and Development of Teacher Competency

Systematic, continuous opportunities must be provided whereby teachers can develop a desire and ability to improve teaching-learning situations through the use of appropriate sensory materials and techniques. This involves the encouragement of an alertness to all sources of materials, procedures, and techniques, an upgrading of skills in the use of equipment, and a pervading spirit of innovation.

The NEA Research Division's 1963 Teacher Opinion Poll of a respresentative cross-section of America's million and a half teachers identified short-comings in their preservice preparation to teach. In the largest single response of the poll, 60 percent of the respondents said, "I detect a shortage in my training in the area of audiovisual instruction." In addition, a Wisconsin State Department of Public Instruction survey of teacher-training institutions indicated that in 1964 only 15.8 percent of the some 22,000 young people preparing to teach were being provided with any formally organized preparation in the media field.

The above facts indicate that a major and continuing responsibility of the audiovisual director and/or coordinator is to systematically provide an inservice program to assist teachers in selecting, using, and properly organizing the many types of materials and equipment available for effective instruction. Such a training program must start at the stage of understanding of the teachers at the time of its institution and be directed to two groups: 1) the experienced teacher within a school whose competencies in and infrequent use of media indicate such needs, and 2) the inexperienced teachers and/or those new to the staff who need to upgrade their competencies and become familiar with the philosophy of the effective use of the tools of modern communication.

Teacher Competencies Needed

An understanding of the role of modern communication media in meeting the demands of the increased and more complex requirements of an ever-broadening curriculum. An understanding of communication theory applied to learning and classroom activities.

An ability to select, use, and evaluate appropriate audio visual techniques and materials in combinations to meet specific learning needs. A knowledge of the characteristics and limitations of the entire range of media.

Adequate skills in the operation of equipment and local production techniques.

Training Sessions

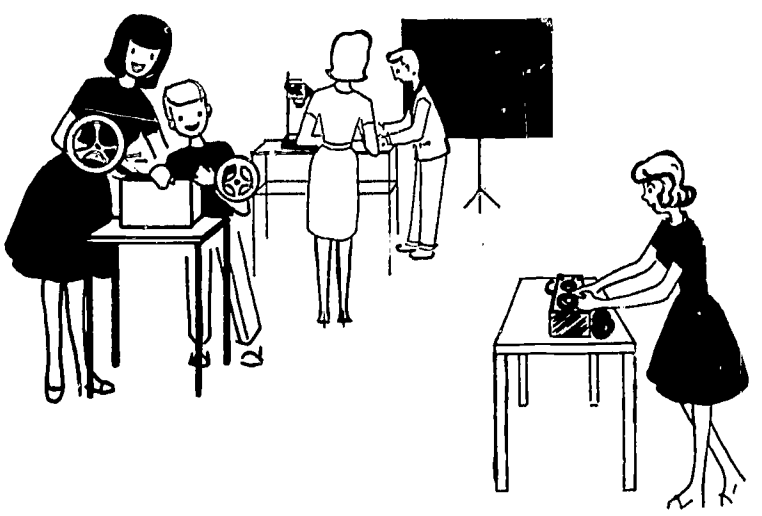
TYPES

Preschool workshops for the entire staff.

Periodic training for special needs.

Credit courses through college/university extension offerings.

Individual consultations.



OBJECTIVES

To orient teachers in the basic philosophies of audiovisual utilization.

To present the role of modern communication media in the teaching-learning process.

To encourage investigation of new and creative ways of utilization.

To involve teachers in evaluating, updating, and planning for the use of audiovisual materials in newly developing curriculums.

To help teachers become familiar with and skilled in the use of new materials, techniques, and equipment.

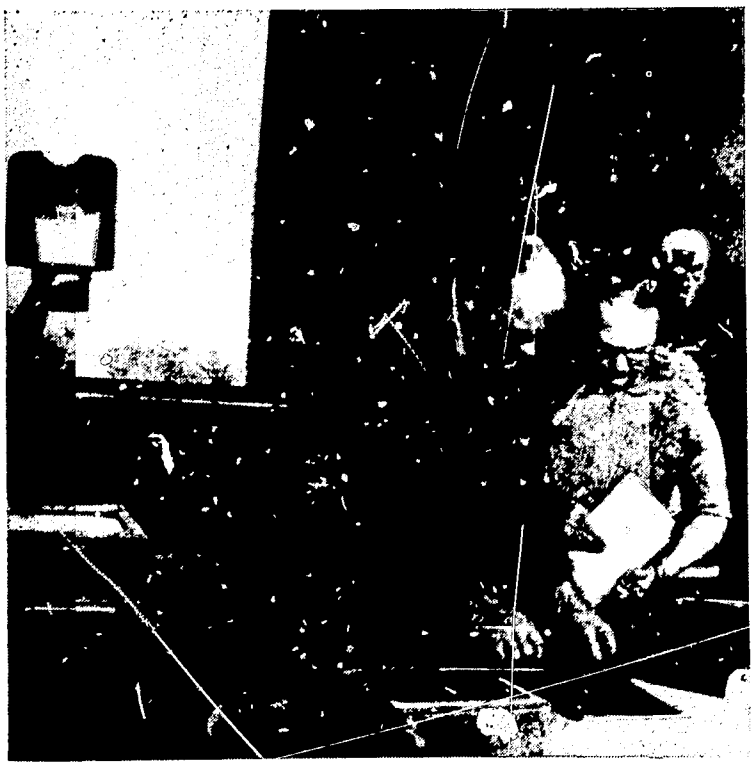
To demonstrate instructional practices.

To receive reports on research.

To motivate interest.

To help teachers become familiar with the facilities and utilization of television in its various forms in keeping with local objectives and needs.

To acquaint teachers with sources of materials.



Upgrading Teacher Competency with Newer Media Requires Continuous Inservice Effort

Using Student Aides

The wise audiovisual leader will multiply his own services to the teaching staff by enlisting the aid of a corps of interested and well-trained student assistants. For these students, assisting in their school's program of newer media becomes a meaningful learning experience in itself as well as a valuable service to teachers and fellow students.

Selected on the basis of their general reliability and some degree of interest in mechanical and electronic things, these members of the A-V Crew (or whatever name is locally appropriate) distribute and retrieve equipment and materials, set up devices for use in the various learning centers, help with the simpler maintenance procedures, check in and mail out borrowed materials, and are available for special operating duties. In general, they relieve teachers of many menial tasks, thereby adding to the time and energy available for professional duties.

Generally, these student aides perform most efficiently when their daily tasks are routinized with the aid of suitable printed forms and posted schedules provided by the building coordinator. The practice of managing all equipment and materials distribution by means of a "check-out" sheet on the office bulletin board is outmoded and inefficient.

References pertaining to useful printed forms and to the management of student aides are included in the bibliography at the end of this chapter.

FOR FURTHER INFORMATION

Inservice

PRINTED MATERIALS

ABC's of A-V and Projectionists' Manual, c/o Phillip Manino M. O. Publishers, Box 406, State College, Pennsylvania.

Allen, William H., editor. *Improving Instruction through Audio-Visual Media*, Sacramento, California: California State Department of Education, 1964.

Brown, James W., Lewis, Richard B., and Harcleroad, Fred, *A-V Instructional Materials and Methods*, 2nd edition, New York: McGraw-Hill, 1964.

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Eboch, Sidney C., *Operating Audiovisual Equipment*, San Francisco: Chandler, 1960.

Frye, Roy A., *Graphic Tools for Teachers*, Austin, Texas: E and I Printing Co., 1965.

Jones, Ellen R., "An Elementary School Principal Looks to A-V to Improve Instruction," *Audiovisual Instruction*, 10: 716-717, 9; November 1965.

Kemp, Jerrold E., *Planning and Producing Audiovisual Materials*, San Francisco: Chandler, 1963.

Lewis, Philip L., *Educational Television Guide Book*, New York: McGraw-Hill, 1961.

Meierhenry, Wesley C., editor. "Learning Theory and AV Utilization," *AV Communication Review*, Vol. 9, Supplement No. 4, September-October 1961. Entire issue.

Minor, Ed, *Simplified Techniques for Preparing Visual Instructional Materials*, New York: McGraw-Hill Book Company, 1962. 123 pp.

National Education Association, Department of Audiovisual Instruction, *Guiding Students in the School A-V Club*, Washington, D.C.: the Department.

Visual Instruction Bureau, University of Texas, *Bridges for Ideas* (11 handbooks of helpful hints in audiovisual techniques), Austin, Texas: the Bureau.

WAVY Handbook (Wisconsin Audio-Visual Youth), c/o Mr. Gerald Farley, School Administration Building, 5225 West Vliet Street, Milwaukee, Wisconsin.

Williams, Catharine M., *Learning from Pictures*, Washington, D.C.: National Education Association, 1963. 163 pp.

Williams, Catharine M., "Packaged Program for In-Service Audiovisual Education," *Audiovisual Instruction*, 10: 552-555. 7; September 1965.

Winston, Fred, and Groisser, Philip L., *Guiding Students in the School AV Club*, Washington, D.C.: National Education Association, 1962. 72 pp.

Wittich, Walter, and Schuller, Charles, *Audio-Visual Materials, Their Nature and Use*, 3rd edition, New York: Harper and Brothers, 1962.

MOTION PICTURES

ABC of Puppet Making, 11 minutes. BF, 1954.

Better Bulletin Boards, 13 minutes, color. IU, 1956.

Chalk and Chalkboards, 16 minutes, color. BF, 1959.

Dry Mounting Instructional Materials, 6 minutes. IU.

Exploring Our Community, 16 minutes. IFB, 1963.

Facts about Film, 2nd edition, 12 minutes, color. IFB, 1959.

Facts about Projection, 2nd edition, 16 minutes, color. IFB, 1959.

Film Research and Learning, 16 minutes. IFB, 1958.

Flannel Boards and How to Use Them, 15 minutes, color. BF, 1958.

Global Concept in Maps, 10 minutes, BW or color. COR, 1948.

Globes: Their Function in the Classroom, 14 minutes, color. BF, 1960.

Handmade Materials for Projection, 15 minutes, color. IU, 1955.

How to Make and Use Dioramas, 20 minutes, color. McG-H, 1956.

Lettering Instructional Materials, 20 minutes, BW or color. IU, 1955.

Making Films That Teach, 20 minutes. EBF, 1954.

Multi-Faceted Approach to Teaching Botany, 16 minutes. PUR, 1964.

Poster Making: Design and Techniques, 10 minutes color. BF, 1953.

Poster Making: Printing by Silk Screen, 15 minutes, color. BF, 1953.

Preparing Projected Materials, 15 minutes, color. BF, 1964.

Selecting and Using Ready-Made Materials, 17 minutes, color. McG-H, 1963.

Self-Instruction in Audiovisual Production Techniques, 30 min., 8mm, (single-concept films illustrating basic graphic and local production techniques). CHAN.

Teaching Machines and Programmed Learning, 30 minutes. NEA, 1961.

Television in Education, 28 minutes, color. BELL, 1965.

Unique Contribution, 35 minutes, color. EBF, 1959.

FILMSTRIPS

Bulletin Boards at Work, 39 frames. WAY, 1950.

Diorama as a Teaching Aid, 39 frames, color. OSU, 1957.

Effectiveness of Audiovisual Materials, 42 frames, color. BSF, 1959.

Example of a Teaching Machine Program, 62 frames, color. BSF, 1960.

How to Keep Your Bulletin Board Alive, 33 frames, color. OSU, 1950.

How to Make a Puppet, 36 frames, color. VEC, 1952.

How to Make and Use the Feltboard, 54 frames, color. OSU, 1955.

Improving the Use of the Chalkboard, 44 frames, color. OBU, 1956.

Instructional Materials, 40 frames, color. BM, 1961.

Making Your Chalk Teach, 45 frames. WAY, 1951.

Mounting Pictures, 58 frames, color. TEX, 1956.

Opaque Projection, 46 frames, color. OSU, 1957.

Parade of Bulletin Boards, 46 frames, color. OSU, 1957.

Print Presentation (Photographic Darkroom Procedure), 49 frames, color. McG-H.

School Journey, 48 frames, color. BSF, 1958.

Selection and Use of Programmed Materials, 63 frames, color and sound. NEA, 1964.

Teaching by TV, 51 frames, color. BSF, 1957.

Teaching Machines, 62 frames, color. BSF, 1960.

Teaching with Visual Materials: McG-H, 1963
Chalkboard, Pts. I and II, 39 and 41 frames.
Exciting Bulletin Boards, Pts. I and II, 36 and 36 frames.
Flannel Board, 40 frames.
Posters for Teaching, 40 frames.

Using Audiovisual Materials: McG-H, 1964
Filmstrip and the Teacher, 45 frames.
Filmstrip Projector, 38 frames.
16mm Projector, Pts. I, II, and III, 15, 22, 42 frames.

Using Charts and Graphs in Teaching, 51 frames, color. BSF, 1958.

Sources

BELL — Bell Telephone Company (Consult local telephone company.)

BF — Bailey Films Inc., 6509 DeLongpre Avenue, Hollywood 28, California

BM — Bel-Mort Films, 619 Cascade Building, Portland, Oregon

BSF — Basic Skill Films, 1355 Inverness Drive, Pasadena 3, California

CHAN — Chandler Publishing Company, 124 Spear Street, San Francisco, California

COR — Coronet Instructional Films, 65 E. South Water Street, Chicago, Illinois

EBF — Encyclopedia Britannica Films, 425 N. Michigan Avenue, Chicago, Illinois

EF — Educational Filmstrips

IFB — International Film Bureau, Inc., 332 S. Michigan Boulevard, Chicago, Illinois

IU — Chandler Publishing Company, 124 Spear Street, San Francisco 5, California

McG-H — McGraw-Hill Book Company, Text Films Department, 330 W. 42nd Street, New York 18, New York

NEA — National Education Association, 1201 16th Street, N.W., Washington, D.C.

OSU — Ohio State University, 1988 N. College Road, Columbus 10, Ohio

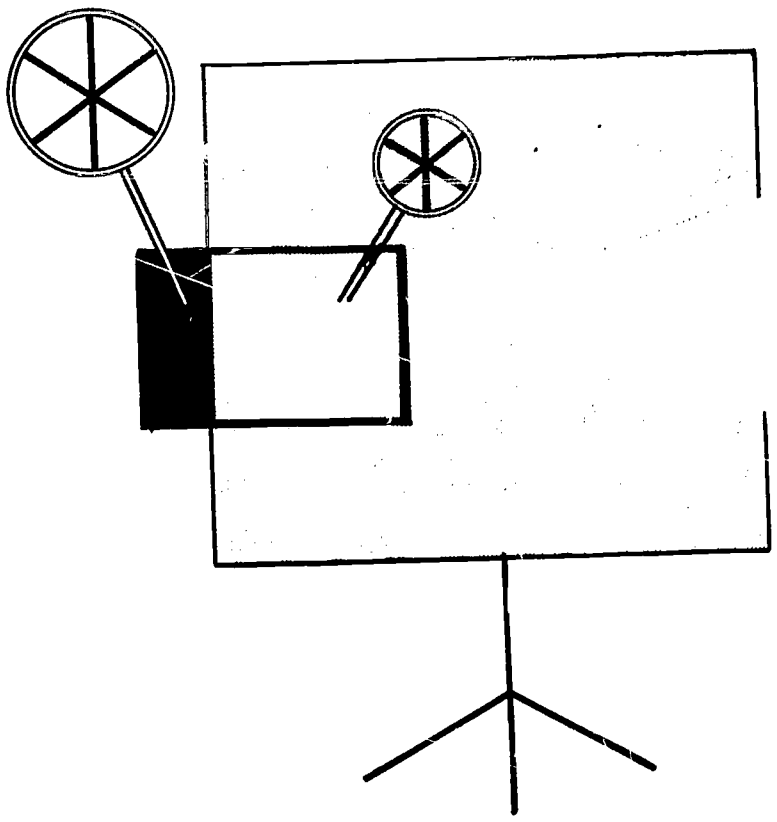
PUR — Audiovisual Center, Purdue University, Lafayette, Indiana

SVE — Society for Visual Education, Inc., 1345 Diversey Parkway, Chicago 14, Illinois

TEX — University of Texas, Visual Instruction Bureau, Austin 12, Texas

VEC — Visual Education Consultants, Box 52, Madison, Wisconsin

WAY — Wayne State University, Audiovisual Center, 438 West Ferry Street, Detroit, Michigan



Materials and Equipment

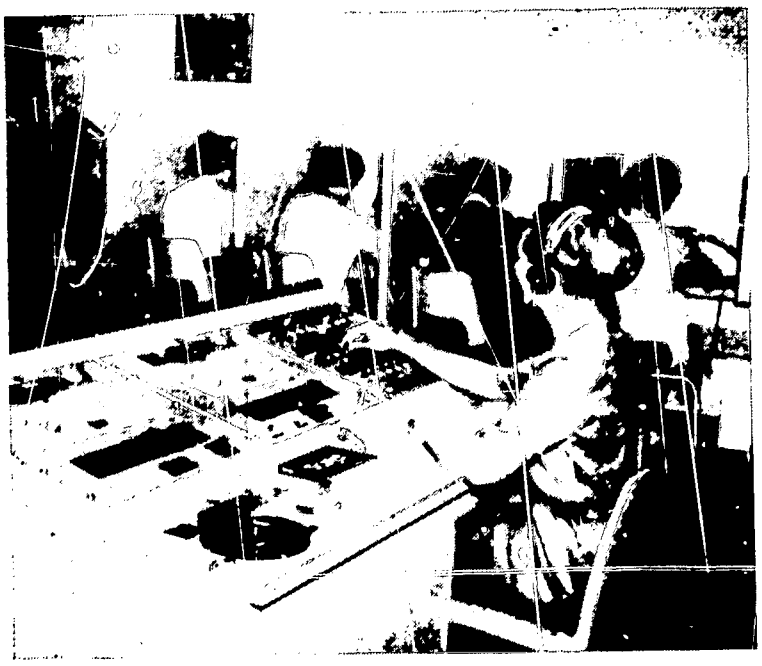
Materials and equipment are the tools by which the teacher makes use of modern technology in improving the teaching-learning process. These tools must be provided by the school administration in sufficient quantity and quality and at the right time and place so teachers can teach efficiently.

Variety and Quantity

What kinds of equipment a school should have and how much equipment are two questions school administrators and audiovisual directors are always asking and being asked. Such questions are not easy to answer because of the varying patterns of utilization. However, some distinct help has been given in this area through the publication of a set of standards which are a part of the Faris-Sherman Study* done under a USOE-NDEA grant and accepted in 1965 by both the NEA Department of Audiovisual Instruction and by the Association of Chief State School Audio-Visual Officers.

The elementary and secondary school parts of this study are given in the appendix and should be of great help in determining reasonable amounts of kinds of materials and equipment schools of various sizes should have. It is important to remember that the *basic* standards given are for a minimal program, not for an acceptable one. Even these standards may be too high if the usage in a given situation does not justify or require the items. If so, however, such a lack of usage indicates that certain aspects of a good media program are definitely lacking and need to be developed. Where an exceptionally good program exists, even the so-called *advanced* standards may not be adequate for many of the materials and pieces of equipment. If you are not familiar with these standards, you should turn to them right now!

*See Appendix A.



The Teacher's New Role Is That of Manager of Learning Resources

Selection

Since the teachers will be the ones who use equipment and materials in their classrooms, they should be the ones to make the basic decisions as to what materials and equipment will be purchased. It is the responsibility of the audiovisual director and the audiovisual coordinators, however, to acquaint teachers with the values and methods of utilization which will cause them to request these tools. It is also the responsibility of the media personnel to organize and direct the process by which decisions are made as to what will be purchased.

Selecting Equipment

Within a school building

By teachers and teacher committees, with the encouragement and help of directors and coordinators.

Within a school district

By audiovisual director working with building coordinators and/or an audiovisual committee.

Selecting Materials

By teacher preview committees whenever possible with individual teachers selecting specialized items.

A process organized and carried on by directors and coordinators, which allows for continuous, year-long acquisition and which follows a pre-determined policy taking into consideration the total program of buying and renting materials.

Needs of a Program of Acquisition

This program should be coordinated with the budget, should be based on current and future plans, and should be re-evaluated regularly.

Control of Equipment and Materials

There must be adequate control of equipment and materials, and all such control must be based on making it *as easy as possible* for teachers and students to use the media effectively.

Needed Controls

Systematic accessioning and cataloging.

Advance booking (should always be possible but not required).

Check-out and check-in procedures which assure availability.

Maintenance through carefully planned inspection. (Inspection of films and repair of damage *after every use* is a "must"!)

A tickler system for alerting teachers of use and return dates.

Supervision of controls is a professional task. Operation of the system is at the clerical and technical level. Audiovisual directors and coordinators *must* delegate clerical and technical tasks!

Sources of Equipment and Materials

Local policies may determine where most materials and equipment are obtained. Service and supply of replacement parts should always be considered in determining what to buy and where to obtain materials and equipment. Standard and well-established makes are usually the best buys in equipment. Purchases of materials should be made in view of frequency and importance of the use situations. See the list at the end of this chapter for standard source books. Consult your neighboring audiovisual professional leaders in the field at colleges and universities and the State Department of Public Instruction audiovisual specialists for specific information and their personal experiences.

Amounts and Kinds of Equipment:

See Faris-Sherman Study, Appendix C.

FOR FURTHER INFORMATION

Materials and Equipment

BOOKS

Brown, James W., and Norberg, Kenneth D., *Administering Educational Media*, New York: McGraw-Hill Book Company, 1965, p. 367.

Educational Film Library Association, Inc., *The Film Evaluation Guide*, the Association, 250 West 57th Street, New York, New York 10019, 1965. 535 pp. $30.00.

Erickson, Carlton W. H., *Administering Audio-Visual Services*, New York: The Macmillan Company, 1959, p. 479.

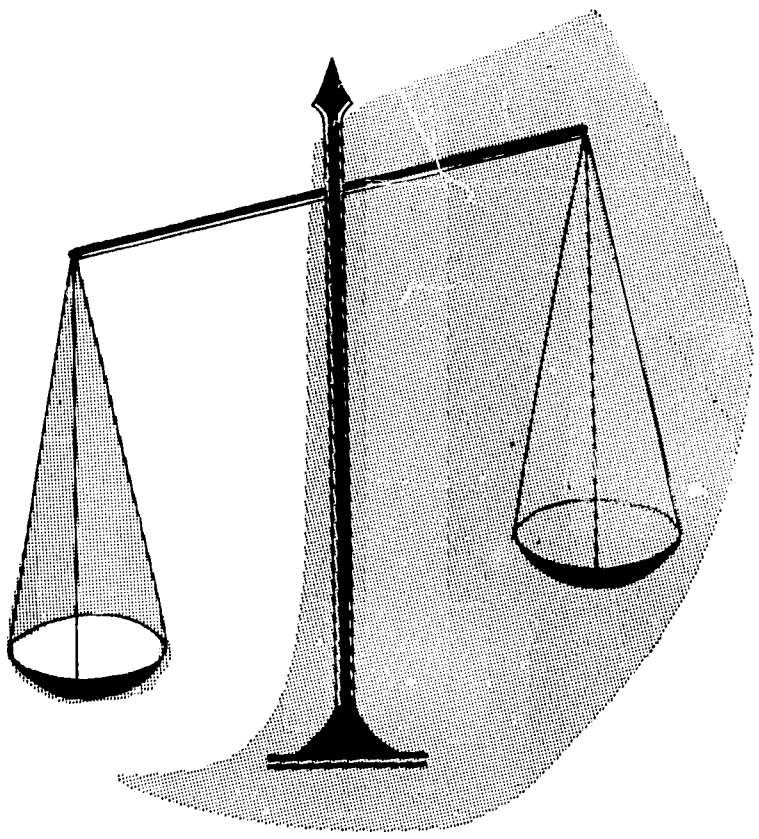
McGraw-Hill Book Company, *Educational Media Index*, New York: McGraw-Hill, 1964. 14 volumes.

National Audio-Visual Association, Inc., *The Audio-Visual Equipment Directory*, the Association, 3150 Spring Street, Fairfax, Virginia 22030. Published annually. $6.00.

PAMPHLETS

Education Film Library Association, Inc., *Sales Service Policies of Educational Film Producers*, the Association, 250 West 57th Street, New York, New York 10019, 1962. 63 pp. $1.50.

Evaluation



Policy makers, school administrators, and the entire teaching staff must continuously examine the extent to which the ongoing media program meets local needs and established and accepted standards.

Each school system should develop its own standards. Guidelines and criteria for these standards can be found in the appendices on pages 43 and 49. The principal sources of these standards are the Faris-Sherman Report and W. R. Fulton Self-Evaluating Instrument for Educational Media Programs. These instruments may be obtained by writing to the indicated sources.

The evaluation procedure should be a continuous process. The evaluation itself should stimulate an integration of media with the entire instructional program.

A highly definitive and descriptive survey of standards of audiovisual programs was developed as part of a study performed pursuant to a contract with the U. S. Office of Education, Department of Health, Education and Welfare, under the provisions of Title VII, Public Law 85-864, and supervised by W. R. Fulton, University of Oklahoma, Norman, Oklahoma.

The report in its entirety follows on the succeeding pages.

SCHOOL SYSTEM EDUCATIONAL MEDIA SERVICES

Commitment to the Media Program

A school system should have a program of media services administered through a school educational media center, and building centers, if such are needed, which provide teachers with an adequate supply of appropriate instructional materials.

The educational media center should be an independent service unit that operates at the same level as other major school system services.

A school system's educational media program should provide media and services compatible with modern-day instructional technology.

A school system's educational media program should be directed toward the improvement of instruction in a modern educational program.

The educational media program should occupy an important position in a school system's organizational plan.

A school system's educational media functions and services should be coordinated under a single supervisory unit, generally called an "educational media center."

A school system should have clearly defined policies, procedures, and plans for its educational media program, including immediate short-range and long-range goals.

A school system's administrative line and staff relationships should be such that teachers and media personnel have a sense of administrative support.

School system lines of communications and responsibilities should be clearly established to define the relationship of the director of the educational media program to other staff members and to establish channels through which he should com-

municate in order to realize the objectives of the media program.

School administrators should utilize the consultative assistance of national, state, county, or local media specialists in evaluating the media program and in planning future action.

Liaison should be maintained with state and national public institutions or agencies to make it possible for a school system to participate in cooperative projects that enrich or stimulate the local media program.

Commitment to Educational Media as an Integral Part of Curriculum and Instruction

The philosophy of an educational media program should be congruent with the philosophy and objectives of the school system in which it exists.

A school system should engage in a continuous evaluation of its educational media program as it relates to the instructional program.

A school system should provide sufficient leadership and technical assistance to insure that all faculty members have easy access to appropriate educational media for all learning situations.

Adequate channels for disseminating information about educational media and their potentialities should be maintained throughout a school system.

Teachers should be encouraged to experiment with educational media as a means of increasing instructional effectiveness.

The educational media program in a comprehensive school system should provide media and services for a wide variety of curricula in the various specialized departments, technical courses, and special education curriculums of the school.

Long-range school system goals should include the development and implementation of instructional systems involving automation approaches to the flow of information and ideas.

Commitment to Adequate Educational Media Facilities

New buildings constructed by a school system should provide for the full use of all presently owned educational media and for the installation and use of new media as such are developed and made available.

There should be a long-range, system-wide plan which provides for the adaptation of old classrooms for effective use of educational media.

An educational media center should be provided with adequate physical facilities for optimum service to a school system.

Housing should be provided for the educational media services, in which offices and work areas meet the normal standards of the school system for activities of a similar nature.

Commitment to Budgeting and Financing the Educational Media Program

A school system's educational media program should be adequately financed through an independent budget.

The budget of an educational media program should reflect the educational media requirements of the entire school system.

The manner in which an educational media budget is administered should be determined by clear-cut school system policies concerning allocations, income, and expenditures.

The budget of an educational media program should be based on both the school system's long-range goals and its immediate educational needs.

The budget of a school system's educational media program should be sufficient to support an adequate media program for optimum instructional improvement.

Commitment to Educational Media Staff

There should be a sufficient number of professional media staff members to administer the educational media program and to provide consultative services to a school system's entire faculty.

A school system should have a sufficient number of non-professional media staff members to relieve teachers and professional media staff of all routine clerical and technical tasks.

The director of a school system's educational media program should be directly responsible to the administrative officer in charge of instruction.

A school system's educational media program should be directed by a person with a good educational background who has special preparation as an educational media specialist.

EDUCATIONAL MEDIA SERVICES: CURRICULUM AND INSTRUCTION

The services and materials provided through an educational media center should be integral parts of curriculum and instruction.

The use of educational media should be encouraged when such use contributes to the improvement of instruction.

Audiovisual Services and Facilities Require Careful Budgeting

Teachers should be kept informed on new developments in materials, equipment, and the technology of instruction.

Educational media personnel should participate in curriculum planning and development, and in the implementation of curriculum improvement, particularly as it relates to the integration of educational media into the total instructional process.

The professional media staff should cooperate with teachers, supervisors, and other curriculum workers in planning and developing the parts of the instructional program that make provisions for the use of educational media.

The director of an educational media program should participate in policy making decisions relating to the use of educational media and, with the help of well trained professional and technical assistants, provide consultative services to all instructional programs that make use of media.

An educational media program should include a consultation function, with professional media staff members competent to render advice to teachers, administrators, supervisors, and other curriculum workers in the selection, acquisition, preparation, production, utilization, and evaluation of educational media.

Continuous inservice education in the use of educational media should be carried on as a means of improving instruction.

Continuous inservice education should be carried on in such areas as the selection and use of materials, experimentation with the use of new instructional devices, materials, and techniques, and the importance and value of educational media in instruction.

If the inservice education activities for teachers, librarians and media personnel include educational media workshops, institutes, and conferences, the assistance of local, regional, and state educational media specialists should be utilized in planning and conducting these activities.

Professional educational media personnel should be readily available for consultation on research projects in which educational media are used.

The administrator in charge of an educational media program should work in close cooperation with a faculty committee and/or an educational media evaluation team, in periodic evaluations of the media program.

THE EDUCATIONAL MEDIA CENTER

An educational media center should be organized around the concept of offering a wide variety of services and media to all instructional and administrative units of the school system, with leadership, consultative help, and other services provided by professional media specialists and other media center personnel.

An instructional program should be supported by an adequate supply of educational media and a system of making them accessible to teachers and students.

The quantity and variety of educational media provided for the instructional program should be based on demonstrated need, availability, and utilization patterns.

An educational media center should provide such media as projected materials, recorded materials, graphic materials, self-instruction materials, and television kinescopes or video tapes.

An educational media center should provide such media services as procurement, maintenance, and production of appropriate educational media to support the instructional program.

Services provided by the school's educational media center for building instructional units should include consultative services, acquisition of materials, storage of materials, circulation (pick-up and delivery) of materials, maintenance and inspection of materials and equipment, and dissemination of information about educational media.

In order to achieve a high level of utilization, all educational media should be made highly accessible to each teacher, either by delivery from the school educational media center to the point of use ... by the establishment of building centers where frequently used media are placed on long-term loan.

If a school system is large and complex, the school media center should be supplemented by building media centers. The services provided by the school media center should be comprehensive and its services should include all those which the building centers are not equipped to provide. Duplication of effort should be held to a minimum.

All frequently used educational media should be automatically placed in building media centers on long-term loan when such need is established.

Frequently used, low-cost media such as filmstrips, slides, and certain recorded materials should be permanently located in buildings, in departments, and, in some cases, in classrooms where they are used.

Educational media available only from the school media center should be delivered to the school buildings where used at regularly scheduled intervals.

The central classification and cataloging system should permit rapid location of media needed for specific teaching-learning situations.

An educational media center should have facilities for producing such original materials as photographs, slides, filmstrips, overhead projection ma-

terials, drawings, illustrations, cartoons, charts, maps, graphs, displays and exhibits, set and costume designs, lettering, animation, models, and motion pictures.

A production unit should have a minimum staff consisting of a director, secretary, photographer, and artist.

There should be a central photographic production service available to all building instructional units, which produces all kinds of still photographic materials.

Unique materials needed for specific teaching and learning situations should be produced in the school educational media center. Such media include magnetic tapes, graphics of all kinds, mountings and display boards, photo copies, overhead transparencies, films, filmstrips, slides, study prints, laminations, specialized photographic materials such as time-lapse sequences and microphotography, and special visual materials for use by administrative officials.

Graphic materials production facilities and services should be available in one location with sub-facilities available in buildings where needed for the production of graphs, charts, animations, art work, transparency originals, silk-screen plates, teaching models, and scientific exhibits.

If a school has need for complete recording and professional high-speed re-recording, such facilities and equipment should be made available and provisions made for duplicating tapes for radio broadcasts and for learning centers and language laboratories.

If a school has need for complete motion-picture production services, there should be facilities for the production of black-and-white or color, 16mm motion-picture films with optical sound and/or 8mm black-and-white or color films with magnetic sound; and a motion-picture laboratory should be provided for processing and printing black-and-white and color film.

There should be centralized services for maintaining all educational media owned by the school system.

Educational media should be cleaned and inspected after each use, and in no case should media go for more than a year without cleaning and inspection for evidence of damage or need for replacement.

There should be a definite plan for replacement of worn-out or obsolete equipment.

Equipment selection and procurement should be based on recommendations of teachers, consultants, and maintenance personnel.

All educational media should be examined and/or previewed before being purchased by the school.

The quantity and types of educational media necessary for effective support of an instructional program should be determined by the level of utilization of the school's faculty.

There should be a definite plan for evaluating and selecting new materials and equipment and for evaluating the effectiveness of presently owned items.

Quantity and Types of Media Vary with Local Needs

There should be definite plans for involving teachers in continuous evaluations of the effectiveness of presently owned media.

A school educational media center should maintain an up-to-date collection of catalogs, indexes, and other references for use in the selection and procurement of materials and equipment. This collection should include the *Media Index*, if this publication is not otherwise available to a school media personnel.

Each building educational media center should maintain an up-to-date file of community resources available to teachers in the building, and the school media center should maintain a master file of all community resources available to all teachers in the school system.

PHYSICAL FACILITIES FOR EDUCATIONAL MEDIA

Housing facilities for the school's educational media center should be sufficient in size and arrangement to facilitate the efficiency and effectiveness of media services to all instructional functions. The facilities should provide for such specialized activities as storage, handling, maintenance, and circulation control of media, and for office space needed for media center personnel.

Housing facilities for building educational media centers should be adequate in size and arrangement to make it possible for services needed from the building centers to be effectively provided. The facilities should provide for the storage of all media

on long-term loan to the center and for specialized activities such as handling, circulation, and production of media.

Professional educational media personnel should be provided office space with sufficient privacy for consultations and conferences.

The materials production services should be provided with space for the following work activities: 1) office, 2) conference room, 3) photographic studio, 4) at least one darkroom, and 5) graphics studio.

Adequate housing should be provided for such production activities as graphic production, sound recording, still photography, motion-picture photography, television, and radio.

A school should have facilities for the production of graphic materials, which include a studio, drawing tables, graphic and art equipment and supplies, a silk-screen production area, mechanical printing devices, and office space as required.

A school that has a need for still photographic production and processing facilities should have darkrooms, a printing and finishing room, a storage area, a copy room, and a microfilm copy room.

A school that has a need for its own film production facilities should have production stages with ceilings at least 16 feet high with lights, a shop for the production and storage of sets, sound recording rooms, an animation room, preview and conference rooms, and office space as required.

A school that has a need for its own motion-picture film processing facilities should have a processing laboratory, a printing room, a processing control room, a negative storage room with humidity control, and office space as required.

An educational media center should have preview rooms where educational media can be examined and evaluated.

An educational media specialist should be consulted about specifications relating to media when plans are made for the construction of new buildings and the remodeling of the old ones.

In order to avoid having to move classes to special rooms to make use of educational media, each classroom in all school buildings should be equipped with essential facilities for effective use of appropriate educational media, including telecasts, projected materials, recordings, and self-instruction devices.

Every classroom should be equipped with full light control, electrical outlets, forced ventilation, and educational media storage space.

Classrooms should be equipped with permanently installed bulletin boards, chalkboards, projection screens, map rails, and storage facilities needed for the particular type of instruction conducted in each room.

BUDGET AND FINANCE OF THE EDUCATIONAL MEDIA PROGRAM

An educational media program should operate from a central budget which is prepared and defended by representatives of the educational media services.

An educational media program should be financed entirely from regularly appropriated school funds.

A school system should have clear-cut policies concerning allocation, income, and charges against the educational media budget.

The budget of an educational media program should be based on both the school's long-range goals and immediate educational media needs.

Long-range budget planning should provide for improvements to be made gradually until the full media program goals are realized.

Long-range financial plans should include provisions for the expansion of media services as required by the improvement of quality and scope of the instructional program.

The budget of an educational media program should provide for increased scope of services, expansion of services to meet increased enrollments, and needs created by the addition of new structures.

There should be a definite plan for gaining administrative and community support for the media program. The plan should include evaluation of the program, determination of media needs, long- and short-range planning, and presentation of facts about media needs to administrators and governing boards.

The Audiovisual Program Reflects the Philosophy of the School System

All costs relating to procurement or production of materials, purchase of equipment, and employment of staff for use in the school's educational program should be completely subsidized through a centralized budget.

Teachers should be able to use educational media from the media center with no more restrictions than those implied on the use of the book library or similar school services.

The selection of all materials and equipment for purchase by the educational media center should be based on pre-determined specifications formulated by the media staff.

Provision should be made in the educational media budget for the systematic replacement of obsolete or worn-out media.

EDUCATIONAL MEDIA STAFF

Educational media personnel should work within the framework of job descriptions and policies relating to school media activities, and these should be clear to the media administrator, his superior officer, and the entire media staff.

The school's educational media center and building media centers should be staffed with professional, clerical, and technical personnel appropriately trained for the level of performance they are expected to render.

Professional educational media personnel should possess a high degree of sensitivity to the potential of educational media for improving instruction and an awareness of new developments, new techniques, new equipment, and new materials.

The director of the educational media program should be well grounded in general education and should have had practical experience in teaching. He should possess an advanced degree and should have had special training in such areas as the theory of educational communication, curriculum and instructional methods, production of such materials as graphics and photography, programed learning, research methods, administration, and supervision.

The functions of the director of the educational media program should include: reporting the needs of the media program to the school administration, determining budget and financial needs, and providing consultative services to teachers, administrators, supervisors, and other staff members.

In larger systems, specialists in the various media areas should be delegated supervisory responsibilities for the specialized functions of the educational media center. Such supervisors should report to the director or the assistant director, and should include specialists in television production, radio production, programed learning, media evaluation, selection and procurement, film librarians, and consultants skilled in assisting teachers in the instructional application of educational media.

Professional educational media staff members should have advanced degrees with specialization in the media area in which they work.

Professional educational media staff members should be active in professional organizations, particularly those representing the area of their specialization.

The educational media program in each building should be implemented and coordinated by an educational media specialist specifically prepared for this activity.

Large buildings should be provided with full-time services of a professional educational media coordinator.

Small buildings should share the services of a professional educational media coordinator. Each coordinator should be assigned to few enough buildings to allow him to effectively implement and coordinate the media program in each building.

The educational media coordinator should be well-grounded in general education and should have had successful experience as a classroom teacher. He should possess a master's degree or its equivalent and should have had training in such areas as theory of educational communication, curriculum and instructional methods, production of such media as graphics, photographic materials, and recorded materials, programed learning, administration, and supervision.

Coordinators assigned to buildings where educational television is used should have an understanding of educational television production and should be well-grounded in techniques of television utilization in classroom instruction.

The functions of the educational media coordinator should include: reporting the media needs of the building to the school media director, assisting teachers in the selection and procurement of materials, supervising all functions of the building media center, and providing consultative services to teachers, principals, supervisors, and other staff members assigned to the building.

The non-professional educational media staff should consist of adequate numbers of clerical personnel, maintenance technicians, television technicians, distribution clerks, and production technicians.

An educational media specialist should be able to delineate subject matter into teachable concepts, lead the faculty in cooperatively planning the curriculum, and organize a media center so that equipment and materials can be coordinated into the teaching program with dispatch. He should possess administrative ability to a high order, know and be skilled in the use of evaluation techniques, and be

able to operate as a research specialist.

An educational media specialist should have skill in the care and operation of all media devices so that he can ably train and supervise operators and maintenance personnel.

An educational media specialist should be able to evaluate emerging innovations for possible introduction into instructional programs and should be able to interpret and promote those innovations so that they can make significant contributions to teaching and learning.

In order to wisely select and supervise appropriate personnel, an educational media specialist should have a thorough understanding of such technical fields as television and radio production, photography, curriculum materials production.

An educational media specialist should demonstrate a desire to improve his professional competence by attending local, state, and national educational media conferences, conventions, and workshops.

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Appendix A

Selecting The Correct Screen Size

16 mm MOVIES – Sound and Silent

Lens Focal Length	SCREEN WIDTH												
	30"	40"	50"	60"	70"	84"	8'	9'	10'	12'	14'	16'	18'
1"	7'	9'	11'	13'	15'	18'	21'	24'	26'	32'	37'	42'	47'
1.5"	10'	13'	17'	20'	23'	28'	32'	36'	40'	48'	56'	64'	72'
2"	13'	18'	22'	26'	31'	37'	42'	47'	53'	63'	74'	84'	95'
2.5"	16'	22'	27'	33'	38'	46'	53'	59'	66'	79'	92'	105'	119'
3"	20'	26'	33'	40'	46'	55'	63'	71'	79'	95'	110'	126'	142'
3.5"	23'	31'	38'	46'	54'	64'	74'	83'	92'	110'	128'	147'	165'
4"	26'	35'	44'	53'	61'	73'	84'	95'	105'	122'	147'	169'	190'

OVERHEAD PROJECTION

Aperture Size	SQUARE SCREEN SIZE				
	50"	60"	70"	84"	8'
7"	7'	9.5'	12'	15'	17'
9"	6.5'	9'	10'	12'	15'
10"	6'	7.5'	9'	11'	12'

35 mm FILM STRIPS

SINGLE FRAME IMAGE – 17.5 mm x 23 mm (692" x 906")
MAXIMUM APERTURE 906" x 906"

Lens Focal Length	SQUARE SCREEN SIZE												
	30"	40"	50"	60"	70"	84"	8'	9'	10'	12'	14'	16'	18'
3"	8'	11'	14'	17'	19'	23'	27'	30'	33'	40'	47'	53'	60'
4"	11'	15'	19'	22'	26'	31'	36'	40'	44'	53'	62'	71'	80'
5"	14'	19'	23'	28'	32'	39'	44'	50'	56'	68'	73'	89'	100'
6"	17'	22'	28'	33'	39'	47'	53'	60'	67'	80'	93'	107'	120'
7"	19'	26'	32'	39'	45'	55'	62'	70'	78'	94'	109'	125'	140'
8"	22'	29'	37'	45'	52'	62'	71'	80'	89'	107'	125'	142'	160'

OPAQUE PROJECTION
MAXIMUM APERTURE 10" x 10"

Lens Focal Length	SQUARE SCREEN SIZE				
	50"	60"	70"	84"	8'
18"	9'	10'	12'	13'	16'
20"	10'	12'	13'	16'	17'
22"	11'	13'	15'	17'	19'
26"	13'	15'	17'	20'	23'

2" x 2" SLIDES – 35 mm

DOUBLE FRAME IMAGE – 23 mm x 34 mm (906" x 1.34")
MAXIMUM APERTURE 1.34" x 1.34"

Lens Focal Length	SQUARE SCREEN SIZE												
	30"	40"	50"	60"	70"	84"	8'	9'	10'	12'	14'	16'	18'
3"	6'	7'	9'	11'	13'	16'	18'	20'	22'	27'	31'	36'	40'
4"	7'	10'	12'	15'	17'	21'	24'	27'	30'	36'	42'	48'	54'
5"	9'	12'	16'	19'	22'	26'	30"	34'	37'	45'	52'	60'	67'
6"	11'	15'	19'	22'	26'	31'	36'	40'	45'	54'	63'	72'	80'
7"	13'	17'	22'	26'	30'	37'	42'	47'	52'	63'	73'	84'	84'
8"	15'	20'	25'	30'	35'	42'	48'	54'	60'	72'	84'	95'	107'

= projection distance

Appendix B

EVALUATIVE CHECKLIST

An Instrument for Self-Evaluating an Educational Media Program in School Systems

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This instrument is a part of a study performed pursuant to a contract with the United States Office of Education, Department of Health, Education and Welfare, under the provisions of Title VII, Public Law 85-864.

INTRODUCTION

This Evaluative Checklist is based on the assumption that there are fundamental elements of an educational media program which will facilitate the improvement of instruction. The elements around which this Checklist was developed were assumed to be common to most educational media programs. These include that: 1) administrators and teachers are committed to the proper use of educational media for instructional purposes, 2) educational media are an integral part of curriculum and instruction, 3) an educational media center is accessible to the faculty, 4) the physical facilities are conducive to proper use of educational media, 5) the media program is adequately financed, and 6) the staff is adequate and qualified to provide for educational needs of all faculty members.

The status of an educational media program is not likely to be known without periodic evaluation. The use of this Checklist should greatly facilitate such an evaluation by providing useful guidelines for making judgments on program elements.

The term "educational media" as used in this instrument means all equipment and materials traditionally called "audiovisual materials" and all of the newer media such as television, overhead projectors, and programed materials. Likewise, the terms "media" and "educational media" are used interchangeably to mean both instructional equipment and instructional materials.

Before completing the Checklist, the evaluator may want to become familiar with the inventory of educational media and pertinent physical facilities of the program being evaluated. He may also want to study the criteria relating to the elements covered in the Checklist. (See foregoing chapter.)

EVALUATIVE CHECKLIST

Directions:

Mark *one* of the spaces at the left of the statement that most nearly represents the situation in your school system. If a statement accurately describes your school, mark the *middle space* to the left of that statement. If you feel that the situation at your school is below what is described, mark the *lower numbered space;* if above, mark the *higher numbered space.* In any case mark only *one* space.

Example:

[1] [2] [3] There is no full-time director of the media program.

[4] [5] [6] There is a full-time director in charge of the media program.

[7] [8] [9] There are a full-time director and a sufficient number of clerical and technical personnel.

I. SCHOOL SYSTEM EDUCATIONAL MEDIA SERVICES

Criteria

A school system should have a program of educational media services administered through a school media center and building centers, if such are needed, which provides teachers with an adequate supply of appropriate instructional materials.

The educational media center should be a separate service unit that operates at the same level as other major school services.

A school system should have clearly defined policies, procedures, and plans for its educational media program, including short-range and long-range goals.

There should be a sufficient number of professional media staff members to administer the educational media program and to provide consultative services to teachers throughout the school system.

A. COMMITMENT TO THE MEDIA PROGRAM

[1] [2] [3] The school's educational media program consists of services from a media center managed by clerical and technical staff members. The services are not well coordinated, and no one person has been given administrative responsibility for system-wide media activities.

[4] [5] [6] The school's educational media program consists of a media center with clerical and technical staff. The program is directed by a staff person who has some educational media training but not enough to qualify him as an educational media specialist. He reports to the administrative officer in charge of instruction.

[7] [8] [9] The school has an educational media program including an educational media center and necessary building media centers directed by an educational media specialist who reports directly to the administrative officer in charge of instruction. He is provided with facilities, finances, and staff essential.

B. COMMITMENT TO EDUCATIONAL MEDIA AS AN INTEGRAL PART OF INSTRUCTION

[1] [2] [3] The school provides some educational media and services for teachers who request them, but teachers are not particularly encouraged to use the services.

[4] [5] [6] A variety of educational media and services are generally available, and some attempts are made to acquaint teachers with the services and to encourage their use.

[7] [8] [9] The school provides the quantity and variety of educational media and services needed by all buildings and encourages teachers to use media as integral parts of instruction.

C. COMMITMENT TO PROVIDING EDUCATIONAL MEDIA FACILITIES

[1] [2] [3] Although some new and remodeled facilities provide for the use of some types of educational media, the school gives little attention to media utilization at the time buildings are planned.

[4] [5] [6] The school provides most new and remodeled buildings with light control and other facilities necessary for the use of some types of educational media.

[7] [8] [9] All new buildings are equipped for the greatest possible use of educational media and are designed to permit adaptation for new developments in media. Old buildings are being modified as fast as possible to provide for effective use of media.

D. COMMITMENT TO FINANCING THE EDUCATIONAL MEDIA PROGRAM

[1] [2] [3] Finances for the educational media program are inadequate to provide the services that teachers need and are prepared to use. There are no written policies relative to allocations, income sources, and charges against the budget.

[4] [5] [6] Finances for the educational media program are sufficient to maintain the status quo, but the current media services are not sufficient to meet the instructional needs. Long-range curriculum plans do not include provisions for financing needed educational media services.

[7] [8] [9] The educational media program is financed entirely from regularly appropriated school funds. The budget reflects to some degree long-range educational media plans and includes provisions for special media for unusual curriculum problems. The budget is prepared, presented, and defended by the director of the media services in the same manner as that of any other unit.

E. COMMITMENT TO STAFFING THE EDUCATIONAL MEDIA PROGRAM

[1] [2] [3] The responsibility for educational media services is assigned to various staff members whose primary commitments are in other school jobs.

[4] [5] [6] The responsibility for educational media services is delegated to a person who has had some training in educational media. He is provided

with some clerical and technical assistance.

[7] [8] [9] Leadership and consultative services are provided by an educational media specialist and a qualified professional staff. An adequate clerical and technical staff is also provided.

II. EDUCATIONAL MEDIA SERVICES – CURRICULUM AND INSTRUCTION

Criteria

A school system should engage in a continuous evaluation of its educational media program as it relates to the instructional program.

Continuous inservice education in the use of educational media should be carried on as a means of improving instruction.

The faculty and the professional media staff should cooperate in planning and developing the parts of the instructional program that make provisions for the use of educational media.

Professional educational media personnel should be readily available for consultation on all instructional problems where media are concerned.

A. CONSULTATION SERVICES IN EDUCATIONAL MEDIA UTILIZATION

[1] [2] [3] Educational media personnel render consultative assistance in the instructional application of educational media when they are asked to do so and are free from other duties.

[4] [5] [6] Educational media personnel are usually available and are called on for consultative assistance in the use of educational media.

[7] [8] [9] Professional educational media personnel work, as a part of their regular assignments, with teachers in analyzing teaching needs and in designing, selecting, and using educational media to meet these needs.

B. INSERVICE EDUCATION IN EDUCATIONAL MEDIA UTILIZATION

[1] [2] [3] Inservice education is left entirely to building instructional units and is limited to their own capabilities and such other resources as they can find.

[4] [5] [6] Professional educational media staff members are available on request to assist teachers and supervisors in inservice education activities relative to the use of educational media.

[7] [8] [9] Professional educational media staff members are involved in planning and conducting continuous inservice education activities concerned with the selection, development, production, and use of all types of educational media.

C. FACULTY-STUDENT USE OF EDUCATIONAL MEDIA

[1] [2] [3] Only a few teachers make any use of educational media in their classrooms. Students rarely use media in class presentations.

[4] [5] [6] Quite a few teachers make occasional use of educational media in their classrooms. Students occasionally use media in class presentations.

[7] [8] [9] Most teachers use appropriate educational media in their classrooms. Students use appropriate media for individual and group study as well as for class presentations.

D. INVOLVEMENT OF THE MEDIA STAFF IN PLANNING

[1] [2] [3] The professional educational media staff is seldom involved with teachers in planning for the use of educational media.

[4] [5] [6] The professional educational media staff is occasionally involved with teachers and supervisors in planning and providing materials for use in the instructional program.

[7] [8] [9] The educational media specialist and his professional staff are usually involved with teachers, supervisors, and other curriculum workers in planning for the use of and in experimenting with educational media in the instructional program. He is also regularly involved in decision making activities relating to the integration of educational media with the curriculum and instruction.

III. THE EDUCATIONAL MEDIA CENTER

Criteria

Educational media centers should be organized around the concept of offering a wide variety of services and media to all instructional and administrative units of a school system, with leadership, consultative help, and other services provided by professional media specialists and other media center personnel.

The instructional program should be supported by an adequate supply of educational media and a system of making them accessible to the faculty and students.

The educational media center should provide such media services as procurement, maintenance, and production of appropriate educational media to support the instructional program.

A. LOCATION AND ACCESSIBILITY OF EDUCATIONAL MEDIA

[1] [2] [3] The location of the school's educational media center is such that media are not accessible to most teachers. The school's educational media center is not supplemented by building centers where media are placed on long-term loan.

[4] [5] [6] The location of the school's educational media center is such that media are not very accessible to teachers. The school's educational media center is supplemented by a few building centers that provide some media and services not available from the school media center, but merely duplicate others.

[7] [8] [9] The location of the school's educational media center and the presence of necessary building centers make media highly accessible to all instructional units. Both the school's and the buildings' educational media centers are adequately equipped to support a quality instructional program.

B. DISSEMINATION OF MEDIA INFORMATION

[1] [2] [3] Information concerning educational media is seldom disseminated to prospective users, and there are no definite plans or channels for such dissemination.

[4] [5] [6] Information concerning educational media is disseminated to teachers and staff members on an occasional basis or when requested.

[7] [8] [9] Information concerning all educational media and programs is frequently disseminated to teachers and staff members as a matter of policy.

C. AVAILABILITY OF EDUCATIONAL MEDIA

[1] [2] [3] The quantity of educational media is so limited that significant delays occur between requests for materials and their availability. Reservations must be made on a "first come, first served" basis, and the media must be picked by the user.

[4] [5] [6] The quantity of educational media and the distribution system makes it possible for media to be delivered to teachers on relatively short notice.

[7] [8] [9] There is a sufficient quantity of educational media and an adequate distribution system to insure the delivery of all media to teachers on any day during the week in which they are requested.

D. STORAGE AND RETRIEVAL OF MEDIA

[1] [2] [3] Media storage facilities are available but are inadequate for some types of educational media, and personnel have difficulty in locating and retrieving specific items.

[4] [5] [6] The school's educational media center and all building centers have enough storage shelves and drawers for currently owned instructional materials. The retrieval system is adequate most of the time.

[7] [8] [9] Adequate storage space, including space for future expansion, is provided in the school's educational media center and in all building centers, with proper humidity control where needed. The school's educational media center has a master retrieval system for immediate location of all media.

E. MAINTENANCE OF MEDIA

[1] [2] [3] Educational media are cleaned and repaired when complaints regarding their operable condition are made by users.

[4] [5] [6] Educational media are cleaned and repaired whenever the maintenance staff has time to do so.

[7] [8] [9] All educational media are inspected after usage and are cleaned and repaired on a regular basis or when inspection indicates the need.

F. PRODUCTION OF MEDIA

[1] [2] [3] Limited production facilities are available for teachers to produce their own materials.

[4] [5] [6] Educational media personnel, as well as teachers, produce some educational materials, but the media staff is limited to the extent that all demands for production cannot be met.

[7] [8] [9] Educational media personnel, as well as teachers, produce a variety of educational media not otherwise available and meet most production demands for such media as films, filmstrips, slides, graphics, and recordings.

IV. PHYSICAL FACILITIES FOR EDUCATIONAL MEDIA

Criteria

Each classroom should be designed for and provided with essential facilities for effective use of appropriate educational media of all kinds.

Each classroom should be equipped with full light control, electrical outlets, forced ventilation, and educational media storage space.

Classrooms should be equipped with permanently installed bulletin boards, chalkboards, projection screens, map rails, and storage facilities needed for the particular type of instruction conducted in each classroom.

A. PHYSICAL FACILITIES IN EXISTING CLASSROOMS

[1] [2] [3] A few classrooms have been modified for use of educational media. However, no systematic plans have been made to adapt all classrooms for the use of educational media, except that some departments have made such plans for their own classrooms.

[4] [5] [6] Some classrooms have been modified and equipped with such physical facilities as light control and electrical outlets and others are partially equipped. A plan for systematically equipping all classrooms is in operation.

[7] [8] [9] All classrooms have been modified and equipped for optimum use of all types of educational media.

B. PHYSICAL FACILITIES IN NEW CLASSROOMS

[1] [2] [3] Some new classrooms are provided with physical facilities such as light control and electrical outlets, but only in special cases are provisions made for the use of a wide variety of media.

[4] [5] [6] Most new classrooms are provided with physical facilities that make possible optimum use of educational media.

[7] [8] [9] All new classrooms are designed for and equipped with physical facilities that make possible optimum use of all types of educational media by faculty and students.

V. BUDGET AND FINANCE OF THE EDUCATIONAL MEDIA PROGRAM

Criterion

Financing the educational media program should be based on both the school system's long-range goals and immediate educational needs. The budget should reflect a recognition of long-range goals and should be sufficient to support an adequate media program for optimum instructional improvement.

A. REPORTING FINANCIAL NEEDS

[1] [2] [3] The financial needs of the educational media program are reported to the administrative officer in charge of instruction only when immediate expenditures are urgently needed.

[4] [5] [6] The financial needs of the educational media program are regularly reported to the administrative officer in charge of instruction.

[7] [8] [9] Regular reports reflecting the status and needs of the educational media program, including facts about inventory, facilities, level of utilization, and effectiveness of the media program, are made to the administrative officer in charge of instruction.

B. BASIS FOR BUDGET ALLOCATIONS

[1] [2] [3] The educational media budget is based on an arbitrary allotment of funds irrespective of need.

[4] [5] [6] The educational media budget is based almost entirely on immediate needs, though some consideration is given to long-range goals.

[7] [8] [9] The educational media budget is based on both the immediate needs and the long-range goals of the school and reflect clear-cut policies concerning allocations, income sources, and budget practices.

C. DEVELOPMENT OF MEDIA BUDGET

[1] [2] [3] Each building instructional unit develops its own educational media budget without consulting an educational media specialist.

[4] [5] [6] The budget of the educational media program reflects the media needs of most building instructional units. However, some buildings have their own media budget which has no relationship to the educational media program.

[7] [8] [9] The budget of the educational media program reflects the media needs of the entire school system and is developed by the professional media staff in consultation with financial officers, principals, and other school administrators.

VI. EDUCATIONAL MEDIA STAFF

Criterion

The educational media program should be directed by a well-qualified, full-time media specialist who is provided with sufficient professional, clerical, and technical staff to provide adequate media services to the entire school system.

A. SCHOOL SYSTEM MEDIA STAFF

[1] [2] [3] A staff person has been assigned to look after the media program. He performs more as a clerk and a technician than as a professional media person.

[4] [5] [6] A professional media person with some special training is in charge of the educational media program and has some professional, clerical, and technical assistance. He and his assistants are primarily oriented toward the mechanical and technical aspects of the program.

[7] [8] [9] The educational media program is directed by a well qualified media specialist who is provided with sufficient professional, clerical, and technical staff to provide adequate media services from the school media center. Professional media staff members are oriented toward curriculum and instruction.

B. BUILDING MEDIA STAFF

[1] [2] [3] Some buildings have a teacher, a clerk, or someone else assigned to help obtain materials and care for equipment, but no released time is granted from other jobs to coordinate media activities in the building.

[4] [5] [6] Most buildings have a teacher or a member of the professional staff assigned to coordinate media activities, but he has not been given sufficient released time from other school tasks, or enough clerical and technical assistance to permit him to render media services needed in the instructional program.

[7] [8] [9] A full-time, professional educational media coordinator serves each building. Buildings that do not have sufficient teachers and media utilization to warrant a full-time coordinator share his services. He is provided sufficient clerical and technical assistance to supply all media services needed in the building. He reports to the school's educational media director and works closely with the media staff, supervisors, and other curriculum workers.

PROFILE SHEET

To develop a profile image of your program, transfer your mark from each item of the Evaluative Checklist to this sheet. Connect the marked squares by straight lines. Then turn the sheet to a horizontal position. This will pictorially demonstrate the "peaks" and "valleys" of attainment for your program.

Weak ➞ Strong

SECTION I

Item									
A	1	2	3	4	5	6	7	8	9
B	1	2	3	4	5	6	7	8	9
C	1	2	3	4	5	6	7	8	9
D	1	2	3	4	5	6	7	8	9
E	1	2	3	4	5	6	7	8	9

SECTION II

Item									
A	1	2	3	4	5	6	7	8	9
B	1	2	3	4	5	6	7	8	9
C	1	2	3	4	5	6	7	8	9
D	1	2	3	4	5	6	7	8	9

SECTION III

Item									
A	1	2	3	4	5	6	7	8	9
B	1	2	3	4	5	6	7	8	9
C	1	2	3	4	5	6	7	8	9
D	1	2	3	4	5	6	7	8	9
E	1	2	3	4	5	6	7	8	9
F	1	2	3	4	5	6	7	8	9

SECTION IV

Item									
A	1	2	3	4	5	6	7	8	9
B	1	2	3	4	5	6	7	8	9

SECTION V

Item									
A	1	2	3	4	5	6	7	8	9
B	1	2	3	4	5	6	7	8	9
C	1	2	3	4	5	6	7	8	9

SECTION VI

Item									
A	1	2	3	4	5	6	7	8	9
B	1	2	3	4	5	6	7	8	9

Appendix C

QUANTITATIVE GUIDELINES FOR THE AUDIOVISUAL COMMUNICATIONS FIELD

Foreword

Administrators of audiovisual programs have long recognized that the lack of nationally established standards has been a major deterrent to an adequate supply of properly utilized materials and equipment. Numerous efforts have been made at local levels to establish standards but these have been relatively ineffective. Even while formulating their own individual school standards, audiovisual coordinators were pleading for citywide standards; the cities, for statewide standards; and, for the past decade at least, states have requested national standards.

The standards in the pages which follow represent a stage in a study to formulate *Quantitative Guidelines for the Audio-Visual Communications Field*. This study by Dr. Gene Faris and Dr. Mendel Sherman of Indiana University is in progress under the auspices of an NDEA Title VII research contract. The final research report will include a rationale for the standards in addition to visualized case studies of several schools which approximate the standards. Four main categories are included in the standards: personnel, materials, equipment, and budget.

The standards have progressed through seven stages in their preparation:

1. A tentative set of quantitative guidelines for selected materials and equipment was formulated by a national committee at the 1963 annual conference of the Department of Audiovisual Instruction.
2. Reactions to these quantitative guidelines and suggestions from audiovisual specialists in various institutions throughout the nation were gathered and consolidated by Dr. Gene Faris.

The modified guidelines were reported in the March 1965 issue of *Audiovisual Instruction.*

3. At the June 1965 meeting of the DAVI Executive Committee, the quantitative guidelines as reported in the March 1965 issue of the *Audiovisual Instruction* were adopted officially by the organization.
4. In October 1965, a nationally selected seminar of audiovisual specialists, functioning under the auspices of the NDEA Title VII Faris-Sherman research contract, modified and expanded the official DAVI 1965 quantitative guidelines. Members of the seminar included:

   TED COBUN, Director, Audiovisual Education, Niles Township Community High Schools, Skokie, Illinois

   AMO DeBERNARDIS, President, Portland Community College, Portland Public Schools, Portland, Oregon

   PAUL FLYNN, State Supervisor, Audiovisual Education, North Carolina State Department of Public Instruction, Raleigh, North Carolina

   WILLIAM FULTON, Professor of Education, University of Oklahoma, Norman, Oklahoma

   ROBERT GERLETTI, Director, Division of Audiovisual Education, Los Angeles County Schools, Los Angeles, California

   HARRY JOHNSON, Director, Audiovisual Center, Virginia State College, Petersburg, Virginia

   WILLIAM KING, State Supervisor, Audiovisual Education, State Department of Education, Trenton, New Jersey

   MARCUS KONICK, Director, Bureau of Instructional Materials, Pennsylvania Department of Public Instruction, Harrisburg, Pennsylvania

   JAMES MEAGHER, Coordinator, Audiovisual Instructional Materials, Penfield Central Schools, Penfield, New York

   LESLIE NELSON, Professor of Education, California State College, Los Angeles, California

   WILLIAM PRIGGE, Director, Audiovisual Department, Illinois State College, Normal, Illinois

   LeROY SIMONSON, Administrative Assistant, Ft. Dodge Schools, Ft. Dodge, Iowa

In three days of deliberation, members of the seminar studied earlier standards and guidelines which had been formulated by various organizations through the years. Their own vast experience and constant contact with the field, however, constituted the major resources for the final decisions which were made.

Specified quantities of materials, equipment, and budget, and statements related to personnel were placed in columns designated as "basic" and "advanced."

The "basic" specifications represent quantities needed for a functioning program in a school. Many schools are well beyond the basic stage, however, with some exceeding the "advanced" stage in their determination to achieve excellence. It is with new approaches that schools may well exceed the "advanced" stage in some categories and perhaps fall behind in others. While such flexibility is desirable, seminar participants and members of the organization who have accepted these standards emphasized the need for a balanced program where materials, equipment, and personnel each make their unique and integrated contribution to the instructional program.

5. The Board of Directors of the Department of Audiovisual Instruction, NEA, at its meeting in Washington, D.C. on October 31 accepted the quantitative guidelines formulated by the October 14-16, 1965 Seminar of the NDEA, Faris-Sherman Study.
6. On November 17, 1965, the Second Conference of the Study in the Development of Cooperative State Leadership in Educational Media, consisting of representatives of 38 state department commissioners and their audiovisual representatives, unanimously agreed to accept the *amended* Bloomington Seminar, recommended standards of the Faris-Sherman Study.
7. The quantitative guidelines were accepted as standards by the Executive Committee of the Association of Chief State School Audio-Visual Officers at their December 1965 meeting in Chicago.

The standards have been brought to the attention of accrediting associations for their use in evaluating schools. Meanwhile the study will continue with case studies and other aspects of the report until its completion in September 1966.

PERSONNEL GUIDELINES (Elementary and Secondary Education)

In schools with 15 teachers or less — 1 half-time audiovisual specialist. (Specialists may serve more than 1 school.)

In schools with 16 to 30 teachers — 1 full-time audiovisual specialist.

Add one audiovisual specialist for each additional 40 teachers or major fraction thereof.

One or the equivalent, semi-professional assistant (technician, graphic artist, clerk, photographer, etc.) for each 30 teachers.

In schools where audiovisual and library responsibility is combined (the instructional materials

concept), the amount of staff required will be determined by adding the above audiovisual requirements to the personnel standards for libraries set by the American Library Association. It is recommended that the first specialist hired be an instructional materials specialist with training in both audiovisual instruction and librarianship.

Every multiple unit school district with at least one high school and four elementary schools shall employ a district or system audiovisual specialist.

MATERIALS GUIDELINES (Elementary and Secondary)

Basic	Advanced
16mm Films	
The films are to be owned by the school system, unit, district, cooperative, etc., and are to be readily available to the schools involved.	
500 titles plus one additional film per each teaching station over 500, with duplicates as needed	1000 titles plus one additional film per each teaching station over 1000, with duplicates as needed
OR	OR
An average of 6 film rental bookings per teaching station per school year	An average of 12 film rental bookings per teaching station per school year
Filmstrips	
1 per student per ADA the preceding year	1½ per student per ADA the preceding year
Recordings	
Tapes and discs exclusive of language lab materials	
100 plus 2 per teaching station	300 plus 3 per teaching station

Due to the state of the field and the nature of certain media, it is extremely difficult, if not impossible, to develop quantitative guidelines for all types of audiovisual materials. The list below includes some of these materials. Even though quantitative guidelines are not recommended at this time for these materials, it must be recognized that they do make a unique contribution to the instructional program and must be made available for instructors' use. Each item listed must be supported with a fair share of the funds expended for media. The overall objective of the media program should be to provide a wide variety of audiovisual materials with no one item dominating the program.

8mm Films
2 x 2 Slides
3¼ x 4 Slides
Transparencies
Transparency Masters
Study Prints
Maps
Globes
Dioramas

MATERIALS BUDGET

To provide for a well-rounded materials program, it is recommended that the basic complement of films, filmstrips, and recordings be considered capital equipment and be purchased with such funds. To provide for the ongoing materials program, including maintenance and replacement but not expansion, no less than 1 percent of the average per pupil cost in the school unit should be spent per year per student. The 1 percent amount would include film rentals, if no basic film collection is started, and subscription television (i.e. MPATI), but would not include salaries, building construction or remodeling, CCTV installations, or electronic learning centers.

To provide for an advanced materials program the 1 percent figure should be increased to *1.5 percent.*

EQUIPMENT BUDGET

The capital expenditures necessary to secure the equipment recommended herein should be calculated from the price of the equipment. The figure will necessarily vary from school to school due to the range in equipment prices and the excellence of the equipment programs developed.

EQUIPMENT GUIDELINES (Elementary Education)

Basic	Advanced
16mm Sound Projector	
1 per 10 teaching stations	1 per 5 teaching stations
8mm Projector	
Should have one available for experimental purposes, but there is no specific guideline at this time. Schools will have to acquire it as the field develops and materials become available.	
2 x 2 Slide Projector	
1 automatic projector per school	1 automatic projector per 5 teaching stations
Filmstrip or Combination Filmstrip-Slide Projector	
1 per 3 teaching stations	1 per teaching station
Sound Filmstrip Projector	
Combine available filmstrip projector with existing record player or tape recorder	1 per building
3¼ x 4 Projector (Overhead)	
1 per school district	1 per school building
3¼ x 4 Projector (Auditorium)	
1 per auditorium	1 per auditorium

Filmstrip Viewer

1 per 3 teaching stations 1 per teaching station

Also a quantity of viewers (1 per 3 teaching stations) should be available from a central source within the building for special project use or for individual study (school or home).

Overhead Projector (10 x 10) Classroom Type

1 per 4 teaching stations 1 per teaching station

Overhead Projector Auditorium Type

Appropriate number for large group instruction. An auditorium model overhead merely implies that the machine utilized has sufficient light output and optical capabilities to project a satisfactory image in an auditorium type situation.

Opaque

1 per building 1 per 6 teaching stations

TV Receivers

1 per class per TV channel at the grade level having the greatest number of sections if programs are available 1 per teaching station if programs are available

Micro-Projector

1 per school 1 per 2 grade levels

Record Players

1 per teaching station K-3
1 per grade level 4-6
1 set of earphones per teaching station; where listening stations are utilized, 6-10 earphones needed

1 per teaching station plus earphones for each; where listening stations are utilized, 6-10 earphones needed

Tape Recorders

1 per 5 teaching stations 1 per 2 teaching stations with earphones as needed

Projection Carts

1 per portable piece of equipment purchased at the time the carts are purchased Permanent installation for projection purposes in each classroom

Light Control

Every classroom should have adequate light control. Adequate means that facilities to control light be available to the extent that all types of projected media can be utilized effectively.

Video-Tape Recorders

2 per school district would be desirable at present time for pilot programs. The state of this field is so dynamic that no specific recommendations can be made.

Closed-Circuit TV

All new construction should include provisions for installation at each teaching station; older buildings should be wired for closed circuit television as need develops.

Radio-Receivers

1 per school plus one battery type for emergency purposes 1 or more per building as dictated by instructional needs plus central distribution system (AM-FM)

Projection Screens

One permanently mounted screen per classroom, 70 x 70 or larger with provision for eliminating keystoning. Large screen for auditorium or large group instructional area Additional portable screen of suitable size for individual and small group use

Local Production Equipment per Building

Dry Mount Press and Tacking Iron
Paper Cutter
Transparency Production Equipment
Spirit Duplicator
Primary Typewriter
Polaroid Camera
35mm Camera and Accessories as Needed
Film Rewind
Film Splicer (8-16mm)
Tape Splicer

Add to basic list:
8mm Camera
Second Type of Transparency Maker
Mechanical Lettering
Copy Camera and Stand

EQUIPMENT GUIDELINES (Secondary Education)

Basic	Advanced
16mm Sound Projector	
1 per 10 teaching stations	1 per 5 teaching stations
8mm Projector	
1 per building	Number will necessarily have to be based on availability of film cartridges. There is a trend toward individual learning stations or independent study, and additional equipment will be needed as program develops.

Significant changes are occurring in the 8mm medium which do not at present justify quantitative guidelines. Because of the important contribution

of these films to individual and small group learning, however, conservative quantities have been suggested. As equipment and materials become more stabilized and as sources expand, schools should increase the quantities beyond the amounts suggested in these guidelines.

2 x 2 Slide Projector (Automatic)

1 per building	1 per 5 teaching stations

Filmstrip or Combination Filmstrip-Slide Projector

1 per 10 teaching stations	1 per 5 teaching stations

Sound Filmstrip Projector

Combine available filmstrip projector with existing record player or tape recorder	1 per building

3¼ x 4 Projector (Overhead)

1 per school district	1 per building

3¼ x 4 Projector (Auditorium)

1 per auditorium	1 per auditorium

Filmstrip Viewer

1 per 3 teaching stations	1 per teaching station

Also a quantity of viewers (1 per 2 teaching stations) should be available from a central source within the building for special project use or for individual study (school or home).

Overhead Projector (10 x 10) Classroom Type

1 per 4 teaching stations	1 per teaching station

Overhead Projector (10 x 10) Auditorium Type

Appropriate number for large group instruction. An auditorium model overhead merely implies that the machine utilized has sufficient light output and optical capabilities to project a satisfactory image in an auditorium type situation.

Opaque

1 per building	1 per floor

TV Receivers

1 per department where programs are available	1 per 24 viewers in a classroom where programs are available

Micro-Projector

1 per school	1 per department where applicable

Record Players

1 per 10 teaching stations	1 per 5 teaching stations

Tape Recorders

1 per 10 teaching stations	1 per 5 teaching stations

Projection Carts

1 per portable piece of equipment purchased at the time the carts are purchased	Permanent installation for projection purposes in each classroom

Light Control

Every classroom should have adequate light control. Adequate implies that facilities be available to control light to the extent that all types of projected media can be utilized effectively.

Video-Tape Recorder

2 per school district would be desirable at present time for pilot programs. The state of this field is so dynamic that no specific recommendations can be made.

Closed-Circuit TV

All new construction should include provisions for installation at each teaching station, and older buildings should be wired for closed-circuit television as needs develop.

Radio-Receiver (AM-FM)

3 per building	1 per teaching station

1 per building should be battery operated.
1 set should be all-wave for language use.

Projection Screens

One permanently mounted screen per classroom, no smaller than 70 x 70 with keystone elimination. Screen for auditorium and/or large group instructional area	One permanently mounted screen per classroom plus portable screens as needed. Permanent screen no smaller than 70 x 70 with keystone elimination. Screen for auditorium and/or large group instructional area

Local Production Equipment per Building

Dry Mount Press and Tacking Iron	Add to basic list:
Paper Cutter	Slide Reproducer
Transparency Production Equipment	Second Type of Transparency Production Equipment
16mm Camera	Mechanical Lettering
8mm Camera	
Rapid Process Camera	
Equipped Darkroom	
Spirit Duplicator	
Primary Typewriter	
Copy Camera and Stand	
Light Box	
35mm Still Camera	
Film Rewind	
Film Splicer (8mm & 16mm)	
Tape Splicer	

Appendix D

WISCONSIN ADMINISTRATIVE CODE

Audiovisual Director

MEDIA SPECIALIST

This classification shall apply to those who direct, administer, and/or provide those advisory, production, and distribution services which implement teaching-learning situations with media in an organized fashion within an entire school system. The term "media" includes all technological aids to the instructional program such as films, recorded materials, radio, television, and other modern communications devices and materials such as pictures and graphics, three dimensional materials, etc.

Persons will qualify as Audiovisual Directors (Media Specialists) who offer credits in the courses listed under "B" below.

Qualifications for a Director's Certificate:

A. General Requirements
   1. Must possess a valid teaching certificate based on a four-year degree.
   2. Should have at least three years of successful teaching experience.

B. Educational Requirements — minimum of 15 semester hours.
   1. A course or courses in curriculum — minimum of 2 semester hours. (A person with elementary school teaching experience will meet this requirement by acquiring credit in a high school curriculum course. A person with high school teaching experience will qualify with an elementary school curriculum course.)
   2. Courses in Audiovisual Instruction (Educational Media) — minimum of 12 semester hours.
      a. Methods — basic audiovisual course
      b. Production of Audiovisual Materials
      c. Administration (Audiovisual)
      d. Electives

      Such courses as ETV, Programed Learning, Motion Picture Production, Radio, Photography, etc.

A three-year Provisional Certificate may be granted to an individual without meeting the course requirements providing:

1. The applicant has served as an Audiovisual Director for a period three years prior to 1966, with one-fourth or more released time devoted to such duties. (Percentage of time is determined by actual released time from classroom or study hall duties for organized audiovisual activities. For example: If the audiovisual assignment is for two periods in a seven-period day, percentage of time is 2/7 or 28 percent.)
2. He is presently designated as an Audiovisual Director with one-fourth or more released time for such duties.

Such Provisional Certificates may be renewed in three-year periods by completing satisfactorily two or more courses from B-2 (above) within each three-year period.

Audiovisual Coordinator

MEDIA SPECIALIST

This classification shall apply to those who provide those advisory, production, and distribution services which implement teaching-learning situations with media in an organized fashion within a single building housing a typically organized grade unit of a school system, such as an elementary school, a junior high school, or a senior high school.

The term "media" includes all technological aids to the instructional program such as films, recorded materials, radio, television, and other modern communications devices and materials such as pictures and graphics, three-dimensional materials, etc.

Qualifications for a Coordinator's Certificate:

A. General Requirements
   1. Must possess a valid teaching certificate based on a four-year degree.

B. Educational Requirements — minimum of 4 semester hours.
   1. Two courses in Audiovisual Instruction, one of which shall be a basic Audiovisual Methods course.

Beginning with the school year, 1966-1967, all persons designated by their school officials as an Audiovisual Director or Audiovisual Coordinator must meet the requirements as listed above.

Appendix E

AUDIOVISUAL PROFESSIONAL LIBRARY

Every school should have a professional library of books and magazines in the audiovisual field. This list is intended as a guide in making selections.

BASIC REFERENCES

Brown, James W., Lewis, Richard B., and Harcleroad, Fred F., *Audio-Visual Instruction: Materials and Methods*, New York: McGraw-Hill Book Company, 1964. 554 pp.

Cross, A J. Foy, and Cypher, Irene F., *Audio-Visual Education*, New York: Thomas Y. Crowell Co., 1961. 415 pp.

Dale, Edgar, *Audio-Visual Methods in Teaching*, revised edition, New York: Dryden Press, 1954. 534 pp.

Erickson, Carlton W. H., *Fundamentals of Teaching with Audiovisual Technology*, New York: The Macmillan Company, 1965. 384 pp.

Kinder, James S., *Audio-Visual Materials and Techniques*, 2nd edition, New York: American Book Company, 1959. 592 pp.

Shores, Louis, *Instructional Materials: An Introduction for Teachers*, New York: The Ronald Press Co., 1960. 480 pp.

Thomas, R. Murray, and Swartout, Sherwin G., *Integrated Teaching Materials*, New York: Longmans Green, 1960.

Wittich, Walter A., and Schuller, Charles F., *Audio-Visual Materials: Their Nature and Use*, 3rd edition, New York: Harper and Brothers, 1962. 500 pp.

OTHER GENERAL REFERENCES

Allen, William H., "Audio-Visual Communication," *Encyclopedia of Educational Research*, 3rd edition, New York: Macmillan, 1960.

Brown, James W., and Norberg, Kenneth, *Administering Educational Media*, New York: McGraw-Hill, 1965. 363 pp.

DeBernardis, Amo, *The Use of Instructional Materials*, New York: Appleton-Century Crofts, Inc., 1961. 100 pp.

Erickson, Carlton W. H., *Administering Audio-Visual Services*, New York: The Macmillan Company, 1959. 496 pp.

National Education Association, Department of Audiovisual Instruction, *The School Administrator and His Audio-Visual Program*, Washington, D.C.: the Department, 1954. 367 pp.

PERIODICALS

Audio-Visual Instruction. Department of Audiovisual Instruction, National Education Association, 1201 Sixteenth Street, N.W., Washington 6, D.C. Monthly except July and August. (Free to DAVI members who pay $10.00 annual dues; $6.00 to others.)

Audio-Visual Communication Review. Department of Audiovisual Instruction, National Education Association, 1201 Sixteenth Street, N.W., Washington 6, D.C. Quarterly. (Free to DAVI members who pay $15.00 annual dues; $6.00 to others.)

Educational Screen and Audio-Visual Guide, 434 S. Wabash, Chicago, Illinois 60605. Monthly. One year, $4.00; two years, $7.00; three years, $9.00.

The NAEB Journal. National Association of Educational Broadcasters, 119 Gregory Hall, Urbana, Illinois. Bi-monthly. $6.00.

NAEB Newsletter. National Association of Educational Broadcasters, 1346 Connecticut Avenue, Washington, D.C., 20036.

NET News. National Educational Television and Radio Center, 10 Columbus Circle, New York 19, New York. Quarterly.

ASSOCIATIONS AND ORGANIZATIONS

Department of Audiovisual Instruction, National Education Association, 1201 Sixteenth Street, N.W., Washington, D.C. 20036. ($10.00 membership fee including *Audiovisual Instruction;* $15.00 including *Audio-Visual Communication Review.*)

Educational Film Library Association, Room 2230, 250 West 57th Street, New York 19, New York. (Personal membership $5.00. Constituent members $15 to $40.)

National Association of Educational Broadcasters, 119 Gregory Hall, Urbana, Illinois. (Individual membership $10.00, includes Journal.)