ABSTRACT

Today's changing educational scene demands more materials of more varieties, more related services, more personnel, and more space for media centers and services. The handbook attempts to provide a clearer understanding of space planning problems and of a vocabulary for communication among the various personnel involved in design. Educational decisions and planning steps are discussed first, and a chronology and staff involvement chart are presented. Functional relationships are outlined, and space juxtapositions diagramed. Design considerations, furniture and equipment, and special installations are also discussed. A categorized bibliography is included. (SH)
Plan for Progress in the Media Center

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Preface

This handbook has been prepared by a committee composed of representatives of the American Institute of Architects, Iowa Chapter; the Iowa Association of School Administrators; the Iowa Educational Media Association, a 1972 merger of the Audiovisual Education Association of Iowa and the Iowa School Library Media Association (formerly the Iowa Association of School Librarians); and the School Plant Planning, and Educational Media Sections of the Iowa Department of Public Instruction. It is being financed jointly by the Iowa Educational Media Association and the Iowa Department of Public Instruction.

This handbook continues the Plan for Progress in the Media Center series and supplements the other volumes. It provides guidelines for planning new or remodeled media centers for Iowa schools. Since this publication could not be designed as a detailed manual for plant planning, the bibliography lists publications to provide more specific assistance.
Introduction

Today's changing educational scene demands more materials of more varieties, more related services, more personnel, more space - and more flexible space - for media centers and services.

A plan for this increased space may be part of a total new plant plan, an extensive remodeling plan, or a minor face lifting. In any case, the media staff, teachers, building and district level administrators, and school board members may be involved. Frequently architects, contractors, lay citizens, and students may be concerned with the planning. All need a clear understanding of the total problem and a similar vocabulary. This handbook attempts to forward that understanding and to provide that vocabulary. It does so by defining the kinds of questions to be answered in preparing educational specifications that will provide specific guidance for development of the physical plant. While a building or remodeling program would often require a bond issue, that problem is not considered to be within the scope of this booklet.

The term media center is used throughout this handbook to designate a centralized collection of materials, production facilities, instructional hardware, and services with a staff of professional personnel working closely with students, teachers, and administrators. It may include satellite centers controlled and staffed by the central unit, decentralized equipment storage areas, and long term loans of equipment and materials to classrooms. School systems may use other terms for media center, e.g., instructional materials center, learning resource center, library, library media center. Regardless of the terminology and scale of the proposed facility, this handbook offers guidelines to planners.
Educational Decisions

Building, expansion, or remodeling of media center facilities can involve many people and should involve much careful planning. This handbook strives to provide assistance in this planning with "particular emphasis on the preparation of educational specifications." Educational specifications can be defined as a detailed analysis of the educational activities to be pursued in a given facility, "a word description of the type and contents" of the media center that is needed.

This chart attempts to outline the steps needed in planning media centers in approximate chronological order and indicate the groups of people who would be involved at each step.

1. Recognize and discuss problem
2. Form action Committee(s)
3. Consult specialists concerning educational specifications
4. Develop, revise, and approve educational specifications
5. Select architect
6. Prepare, revise, and accept schematic designs and preliminary building specifications
7. Prepare, revise, and approve working drawings, building and equipment specifications
8. Accept building and equipment bids, together or separately
9. Build or remodel media center
10. Accept facility
11. Hold open house.
IN PLANNING

Participants

Public | Board | Professional Staff | Consultants | Architect
Planning the Media Center

General Philosophy

The Educational Decisions needed in planning a media center begin with a general philosophy based on

- A long-range program considering economic and sociological factors, population make-up and migration in and out, geography, zoning, and transportation problems
- The purposes of the school
  - What the community can, should, and will do to educate its people
- The program of the school
  - Size, age, and special needs of the student body
  - Course offerings
  - Size of staff
  - Co-curricular and extracurricular offerings
  - Methods and approaches
  - Use of facility, by non-school people and/or during non-school hours
- Funds available now and in the future

Philosophy of Media Service

The Educational Decisions needed in planning a media center require a philosophy of media service related to

- Influence of general philosophy on media services
- Commitment to staff, facilities, budget for media services
- Size and variety of collections to be housed
- Print materials
- Non-print materials
- Equipment
• The instructional role of the media center
  Separate courses
  Integrated skills instruction
  Center as extension and laboratory for classroom

• Influence of learning and instructional strategies on media services

• Degree of centralization of materials, equipment, and services
  Presence or absence of department or satellite learning centers
  Amount of equipment to be housed in classrooms, floor level storage areas, or departments

• Location and scope of professional library

• Controls and/or security measures desired
  Probable number of items to be checked in and out in one day
  Effect on placement of storage
  Effect on number and placement of staff

• The amount of materials processing to be handled in this building

• The amount of materials production to be handled in this building
  Amount of involvement of teachers and students

• Size and responsibilities of media center staff
  Librarians, audiovisualists, and/or media specialists
  Technicians and clerks
  Student assistants
VARIABLES IN MEDIA CENTER PLANNING

In the literature available to media center planners, recommendations concerning the size of the center and the space dedicated to certain basic functions tend toward simple square footage requirements, with little consideration for the many variables which can and do affect physical requirements. The purpose of this chart is to encourage consideration of the following variables, which experts have designated as having significant implications for the size and design of a media center, so that appropriate decisions can be made during the initial planning stages.

A selected sample of Iowa media personnel was asked to respond to a questionnaire based on these variables. A colored rectangle in a vertical column indicates the combined opinion of those persons included in the sample concerning the influence of the variables on space requirements. A column without a colored rectangle indicates that there was no agreement on the influence of that variable.

The local needs assessment chart gives an opportunity for local schools to visualize their own needs.
LOCAL NEEDS ASSESSMENT

1. Media Center Management
   (Environment)
2. External Mobility Options
3. Range of Media Services
4. Classroom Configuration
5. Scheduling Patterns
6. Previous School Library Experience
7. Level
8. Ease of Access to Media Center
9. Instructional Strategies
10. Extended Hours
11. Other Available Library Facilities
12. Administrative Climate
**Functional Relationships**

**Reading/listening/viewing (RLV).** Accommodates shelving for all types of materials, including current periodicals, either in open or secured areas, a browsing area for display of new items, space for individual students to interact directly with all types of materials, listening stations for use of non-print materials. (Listening stations should be subject to direct supervision from administrative areas.)

**Conference/small group activity area.** Rooms or semi-private areas, 10' x 10' or larger. Subject to supervision (visible) from administrative areas.

**Classroom.** Room to accommodate one class, opening immediately onto RLV area.

**Office.** Administrative area, with desks for staff, storage for professional materials, closet and other appropriate storage. Glass front onto RLV area beginning 42" or less from floor.

**Circulation.** Control point for all materials. This should be near the entrance to and exit from the media center and should be in the RLV area, very close to and accessible from the administrative area (office).

**Periodical storage.** An area for the storage and retrieval of periodical back issues. This is a circulation function and should be directly adjacent to the circulation point. This area may be combined with the production/processing area (workroom).

**Reference.** Part of the RLV area, but one requiring frequent professional assistance. It should be easily accessible from the office and circulation.

**Production Processing.** An area or areas for the technical processing services performed at the building level in the same or separate quarters as an area for production or reproduction of print and nonprint materials. The latter may involve graphic, photographic and TV production. Should be easily accessible from office and RLV areas with supervision (visible) from one or both of these areas unless permanent adult staff will be assigned to the area(s).

**Professional Library.** An area for faculty library study. It is convenient for this to adjoin processing and RLV.
Space Identity & Relationship

Function influences the kind, size, and juxtaposition of spaces. This diagram attempts to name the needed spaces and point out the interrelation of the various areas. The intersections of circles with one another indicate overlapping administrative or clerical functions which should be located "adjacent to each other. The size of the various circles only APPROXIMATES actual size relationships.
SPACE REQUIREMENTS

These recommendations are based on widely accepted standards. However, there is evidence to indicate that school media centers regardless of level, given the same number of students, should be the same size.

Entrance Area (Circulation)
Display, check-out, card catalog, reserved materials

Reading-Viewing-Listening Room
Browsing, study, individual listening and viewing, storytelling, reference, current periodicals

Student conference area (conference/small group activity)
Seminars, small group discussions, listening, and viewing Divisible

Classroom
Instruction, group projects

Professional stations or office space

Work area (including work stations for other employees)
Periodical storage

Dark room

Stack Area
Open shelving for print and non-print materials

Professional Library

Computer Laboratory
### SQUARE FOOTAGE

<table>
<thead>
<tr>
<th>Elementary</th>
<th>Middle School or Junior High</th>
<th>High School</th>
</tr>
</thead>
<tbody>
<tr>
<td>200-300 sq. ft.</td>
<td>300-400 sq. ft.</td>
<td>300-600 sq. ft.</td>
</tr>
</tbody>
</table>

- 1600 sq. ft. or 10% of pupils at 40 sq. ft. whichever is greater
- 3000 sq. ft. or 15% of pupils at 40 sq. ft. whichever is greater
- 4800 sq. ft. or 20% of pupils at 40 sq. ft. whichever is greater

- At least 1 at 240 sq. ft.
- At least 2 at 240 sq. ft.
- At least 3 at 300 sq. ft.

<table>
<thead>
<tr>
<th>600-750 sq. ft.</th>
<th>600-750 sq. ft.</th>
<th>600-750 sq. ft.</th>
</tr>
</thead>
<tbody>
<tr>
<td>120-200 sq. ft. per station</td>
<td>120-200 sq. ft. per station</td>
<td>120-200 sq. ft. per station</td>
</tr>
</tbody>
</table>

- 180-200 sq. ft.
- 100-200 sq. ft.
- 100-200 sq. ft.

- 250-350 sq. ft.
- 350-450 sq. ft.
- 500-600 sq. ft.

- 400 sq. ft.
- 400 sq. ft.
- 400 sq. ft.

- 600-750 sq. ft.
- 600-900 sq. ft.
- 600-900 sq. ft.
Design Considerations

The design of the media centers will be influenced by the philosophy of the school or, in the case of remodeling an old building, by the available alternatives, which will dictate location, out of school access, degree of collection security, etc. Given these factors the Media Center should be:

- Located centrally or in largest accessible area
- Accessible and available for use at all times
- Away from noisy areas

- Reading-Viewing-Listening Area
  Seat minimum of 50 or 15% of student body whichever is greater (many school programs will require a much higher percentage)
  Be broken by shelves, etc., if over 100 chairs to meet minimum seating needs
  Include Entrance, circulation, catalogs, periodical index areas
  Free reading area and periodical display
  Individual carrel seating. Opinions vary concerning the number of carrels needed
  Table seating no more than 4 seats per table except at index table or picture book tables
  Space to house collection
  Print materials (e.g., books, magazines)
  Audiovisual software collections (e.g., filmstrips, tapes)
  Reference materials
  Reserved materials
  Provide a storytelling area for at least 30 pupils at the elementary level.

- Conference or seminar rooms (where users may talk, read, listen, view, discuss)
  Movable walls between multiple conference rooms
  Furnished with
  One table seating up to 8
  Chairs
  Chalkboard
  Screen
  Shelving desirable
Small group listening and viewing areas
- Equipped with appropriate seating, screens, and visual equipment
- Acoustically treated
- May overlap with conference or seminar rooms and reading-viewing-listening area.

Department suites or satellite centers (Such centers are not recommended for most schools because the need for larger staffs and collections and the overlapping of subject areas negates the advantages. Whenever space or other contingencies result in the formation of such centers, staff members should be part of the media center staff).

Some schools, especially large secondary schools, may include department suites providing for individual and group activities
- Contacts between faculty and students
- Temporary storage for materials and equipment on loan from the center
- Stations for librarians, teachers, and/or clerks or technicians
- Location preferably adjacent to the media center

Media center classroom
- Directly accessible to main reading-viewing-listening area
- Flexible space
• Work area
  Professional staff area can be
  Separate office(s)
  Part of production-processing area
  Station(s) for professionals in major reading-listening-viewing
  areas. This should be in addition to other office space
  where possible.

  Production and/or processing area:
  Sink, water resistant countertops, work tables, work stations for
  clerks and technicians, cabinets and files designed for
  the supplies needed in that area with electrical outlets at
  all work stations and counters
  Door to corridor should have door to main
  reading-listening-viewing room or to specialist's office
  Capable of visual supervision from main room if students will be
  working there unsupervised
  May need to provide for dark room, TV production, other
  special considerations

• Storage area
  Storage for back issues of periodicals and audiovisual materials not
  shelved in the main reading room
  May provide some book-storage for large collections
  Storage for media hardware including
  Decentralized in large multistoried buildings for some equipment
  Long-term loan to classrooms for some equipment

• Access and aisle space
  30" to 36" aisles between rows of shelves
  5' aisles between a row of shelves and furniture involving seating or
  traffic (e.g., side of table at which chairs are located, card catalog)
  5' aisles between two parallel tables with back to back seating
  3' aisle between table and wall or between a row of shelves and other
  furniture that involves no seating or major traffic (e.g., end of a
  table)
TECHNICAL CONSIDERATIONS

Light

- Windows should not admit distracting light nor detract from space utilization.
- Lighting system should be designed to supply the necessary light for each particular task.
  - Illumination at working surface adequate for task.
  - Illumination in stack areas adequate to allow reading titles on lower shelves comfortably.
- Light control should permit the use of audiovisual equipment by the utilization of:
  - Dimmers
  - Down lights
  - Drapes or darkening shades.

Sound

- Floors should be carpeted as the best single method of controlling sound.
- Adequate space between various areas should be provided to aid in the elimination of sound control problems.
- Ceilings and walls should be acoustically treated.

Electrical and Electronic

- Electrical service should be flexible and accessible in all areas of the media center with a minimum of one duplex outlet for every 150 square feet, evenly distributed throughout the center.
- Special installation will be necessary for:
  - Intercom
  - Television systems
  - Computer-assisted instruction
  - Carrels
  - Dial Access
  - Radio.
Auditory Aid
Language Laboratories

Adequate provision should be made for any projected special installations.

Heating and Ventilation

Heating and ventilation systems should maintain a draft-free and a quiet comfort level during all seasons through accepted design standards and adequate controls. Research shows that a variation of only two degrees above the desired 72°F temperature results in a 20% decrease in learning rate, making a strong case for year-round air-conditioning.

Projection

- Projection screens should be of a size which is at least as wide as one sixth the greatest viewing distance.
- Screens should be placed so that no viewer is farther than 6 times the screen width, not closer than 2 times the width.
- Screens should be positioned in the space so that viewers are within the optimum viewing area of the projected image, and should be raised high enough so that the furthest viewer has an unrestricted view.
- Screens should be mounted so that they can be tilted to eliminate keystoning.

- Fixed and movable speakers should be placed close to the projection screen and at (or above) the ear level of the viewer-listener.

- TV monitors should be placed so that the viewers are no further than 12 times or closer than 4 times the diagonal measurement of the tube.

Visual Control

- Conference rooms, work areas, reading-viewing-listening area, and stack areas should be subject to easy visual control by staff.
Access and Security

- Student access to materials and equipment should be as open as possible.
- Integrity of the collection may be protected by visual control.
- Materials such as non-print items and back issues of periodicals in closed or limited access areas near the charging area.
- Exit placement with check-out stations away from stack areas.
- Reserved materials at the charging area.

Esthetic

- Interior finishes should be carefully coordinated with both the artificial and natural lighting in each area.
- Color should be used to contribute to a desirable learning environment.
- The media center should have warmth and genuine appeal.

Flexibility

- Center should be adaptable to meet the needs of a changing educational program and more sophisticated equipment.
- Center should allow for expansion.
Functional relationships and design considerations are closely interrelated with the furniture and equipment available or planned. It is separated, here for editorial convenience.

Carefully drawn specifications can help insure the quality and life of furniture and equipment. It can provide for interchangeability of component parts which means fewer varieties of lamps, etc., and easier expansion of storage. It can ease problems by providing appropriate size and height of storage and work areas and by providing for the preferred method of storage.

**Furniture and Equipment**

**Keys (card catalog, indexes, references)**

**Card Catalog**
- Should come from a reliable library furniture company
- Should be purchased in expandable units
- Should not be above the average user’s sight line

**Indexes and reference**
- A table of adequate size to hold the periodical indexes should be provided in all media centers
- Other reference material may be included in a reference section or in index table(s) or may be interfiled with non-reference materials

**Charging Desk**
- A 3' x 5' or 3' x 6' charging desk is usually adequate for a small library media center. It should provide for filing of 5” high by 3” wide cards
- Elementary school media centers should have sitting height charging desks
- A unit charging desk should have a card storage well for cards 5” high by 3” wide, a book return unit with depressible book truck (book truck with depressible platform); and space for handling of materials

**Seating**
- Carrels
- A shelf should be provided in carrels
- The visual barrier should be above eye level of average seated student
- Wet carrels should provide for adequate student work space
- Carrels for use with dial access, rear projection devices, etc., require special provisions and lessen flexibility. Schools should consider
Tables and chairs
Apronless tables seating no more than 100 persons should be preferred.
The most desirable rectangular table is 3' by 5'.
4' round tables are esthetically pleasing, but provide less usable
working surface.
Trapezoidal tables lend themselves to grouping.

Shelving
All shelving for materials or software should be adjustable with
"adjustable" being defined as all shelves except bottom one being
capable of being moved up or down without being unloaded. May
be wood or steel, double or single faced. Desirable to have backs
or partial backs on shelves whether double or single faced.
Depth and height of shelves should vary according to use and size or
patrons.

Periodical storage alternatives. An average of one running foot per title
per year can be assumed.
Narrowly spaced flat shelves
Pamphlet boxes on shelves
Bound volumes
Microfilm cabinets

Book shelving
Estimated capacities for 3' shelf when full:
Hardback books of average size .30“
Reference books .18
Picture books (including dividers). .60
Paperbacks
Shelves displaying front covers
Picturebooks
Deep, divided, "picturebook" shelves.
Optical storage: comparable to record storage

Audiovisual materials
Boxes, notebooks, or shelf inserts interfiling with printed
materials
Specialized storage by medium (specialized shelving or storage
Filmstrips
- Expandable cabinets with track rather than pigeonhole storage preferred
  Shelf inserts with track rather than pigeonhole storage
- Filing boxes for interfiling with books
- Sound filmstrips with cassettes, reel tapes, or discs
  Cartons on regular shelving

Slides
- Expandable cabinets
- Notebooks
- Trays

Disc recordings
- Bins
- Picturebook shelving

Tape recordings
- Cartons on shelves
- Cassettes in notebooks
- Special cabinets
- Shelf inserts

Microfilm and 8mm loop
- Cartons on shelves
- Expandable cabinets
- Shelf inserts

Art and study prints, posters
- Bins
- Vertical files
- Art print cabinets
- Map files
Audiovisual equipment storage

Cart for each major item, with extension cord. Storage area should be provided for all circulating equipment and carts not currently assigned to classrooms.

Deep (about 18") shelves capable of being adjusted when empty; or large storage cabinets. Some schools may wish to consider locked storage for such equipment.

A.V. production equipment and furniture

as listed in Plan for Progress ... in the Media Center, K-6, and Plan for Progress ... in the Media Center, 7-12.

Other furniture

Professional or clerical desks may need deep, full suspension drawer with trays for filing 5" x 3" cards.

Counter, work table with storage, and shelving to facilitate all processing and repairing, to be done in a particular building. Space for storage of materials and for work should be considered for-

Mounting book jackets
Preparing and applying pockets, date slips, classification numbers
Checking and clipping newspaper articles
Doing descriptive cataloging and classification of print and non-print materials
Assigning subject headings for pamphlets, clippings, other unclassified material
Typing and duplicating cards
Preparing bibliographies
Mending and binding materials - this activity should probably be quite limited at the building level
Receiving materials, checking against invoices
Preparing orders for materials, equipment
Special Installations

This list of special installations is not complete and is not meant to promote such installations. School officials interested in exploring the potential contributions of special installations should study appropriate references cited in the bibliography, should visit facilities with similar installations, and should confer with school officials who have used them, with sales representatives, and with media professionals with pertinent experience. Particularly important variables to consider are cost, space, sophistication of specifications, programming, rapid obsolescence, and student population. The strengths and weaknesses listed under each type of installation are meant only to be indicative, rather than definitive. In addition to the weaknesses noted, these installations tend to be impersonal.

• COMPUTER ASSISTED INSTRUCTION is usually available to the student in the form of typewritten print-out or a visual display on a tube. Often used for mathematically-oriented subjects in "drill and practice," the computer can also be used to teach language arts and the sciences. Increasing use is being made of branched programmed instruction and simulated situations.
  Strengths
  Permits instant feedback of results
  Allows branched programs to adjust, based on a student's progress
  Weaknesses
  Expense of computer and terminals
  Lack of variety in software

• AUDIOTUTORIAL LESSONS - Carried out in a study carrel, this form of instruction has many variations. Basically the heart of the system is an audio tape that talks a student through a lesson and indicates critical points to which he should give attention. Besides the tape, slides, films, worksheets, and actual objects are assembled for him to study. The format follows linear programmed instruction.
  Strengths
  Permits individuals to pace their own learning

CAI (Computer Assisted Instruction)

A-T (Audiotutorial Lessons)
DIAL ACCESS
- A series of audio tape playback decks, accessible by dialing a two or three-digit number from a study carrel, make up this system. The number of booths is almost unlimited; but the number of available programs is determined by the audio playback facilities—usually one per program. Some newer systems provide both audio and video through the use of video tape.

Strengths
- Large numbers of students can be reached

Weaknesses
- Lack of backtracking
- Latecomers must take lessons in progress
- Lack of variety of prepared programs

LANGUAGE LABORATORY
- In many ways this installation is similar to a dial access system. Carrels, each connected to a central control system, can receive a variety of audio taped programs. In a language lab, however, provision is made for the teacher to monitor student progress, and carry on dialogue with the student, diagnosing errors and offering suggestions for better language learning. An average sized system would contain 20-30 carrels.

Strengths
- Each student can be supervised as he practices speaking
- Students can progress at their own pace
- A student can hear his own voice through earphones as he speaks

Weaknesses
- Relatively high installation cost
- Reluctance of teachers to modify their habits to make full use of the lab

CLOSED CIRCUIT SYSTEMS
- These are for sound or television distribution within a school building or school system. Announcements of school activities as well as instructional programs can be fed to a number of classrooms simultaneously. Writing, directing, and producing radio or television programs gives students practice in important skills, so that indirectly the system is providing opportunity for instruction.

Strengths
- Large numbers of students can be reached
- Students incorporate a number of skills in producing programs

Weaknesses
- Relatively high cost to build

Uses a variety of media to maintain interest

Weaknesses
- Requires a variety of equipment
- Few commercial lessons are available
Bibliography

EDUCATIONAL DECISIONS


Iowa Department of Public Instruction. Plan for Progress . . . in the Media Center, K-6. Des Moines: The Department, 1969.

Iowa Department of Public Instruction. Plan for Progress . . . in the Media Center, 7-12. Des Moines. The Department, 1970.


FUNCTIONAL RELATIONSHIPS


DESIGN CONSIDERATIONS


FURNITURE AND EQUIPMENT


SPECIAL INSTALLATIONS


PERIODICALS

The following periodicals carry frequent articles related to planning, furnishing and equipping media centers.


Educational Products Information Exchange Institute. Educational Project Reports. Examines equipment, furniture, and materials. New York: The Institute, Nine issues a year.


