

Some Basics of School Library Design

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Pull functional requirements together and put them in print BEFORE building planning begins

- In addition to the various items listed below, you will need to indicate numerical quantities for furnishings, shelving units, student computer workstations, staff workstations (in library and in offices), etc.
- Before architects are hired, prepare a “program,” a written document explaining in detail what you need and the space it will require. You will probably require help with this.
- Programming your library is a job for librarians, not the school architect. It’s much better if the person doing the programming is not an employee of the architect, so you can get a second opinion.

Despite your preparation, you may have trouble getting people to pay attention

- Schools can have many departments, and each one will want to be listened to.
- Administrators can be extremely busy, and as a result they may just turn the job over to the architects.
- Architects can wildly overestimate their understanding of library functions and needs. They frequently contend that the points in this handout simply aren’t true. They are wrong, but it can be difficult to be heard.
- Some popular design gimmicks cause trouble in libraries. Among these are skylights, windows without blinds (except those facing north), downlights, most soffits, architecturally-mounted task lighting, non-rectangular spaces, multiple rooms that are difficult to oversee, etc.
- Have someone inspect proposed plans for dysfunctional ideas.

Location in the school

- Avoid noisy neighbors like gymnasiums or band practice rooms.
- If noisy neighbors are forced on you, insist on a row of offices or storerooms separating the two functions. (Make the coaches occupy the offices.)
- Be sure proper acoustic separations are created between the two functions. (See “acoustics.”)
- Ideally, the library will be set up for use after school hours, in case the millennium arrives and budgets increase. This means an outside entrance by the library (but not directly into the library) and access to restrooms.

Structural requirements

- Libraries have unique space needs. The technical requirements for classrooms, computer rooms, etc., cannot be used for libraries.
- Minimum requirements include:
 - Large open, spaces
 - Bright but low-glare lighting
 - Strong floors
 - Good acoustics
 - Large numbers of electrical outlets and data conduit
 - Furniture and shelving designed for library purposes
 - Extreme flexibility of space use
 - Rectangular spaces
- Minimum live load rating of 150 pounds per square foot.
- Stronger floors are required for movable shelving, but movable shelving is unsuited for school libraries.
- Minimum ceiling height 10 feet (to permit reflected uplights). Eleven or 12 feet is better.

Long-term flexibility

- Avoid built-in furniture whenever possible. (A service desk is furniture, not a kitchen counter). Counters with sinks need to be permanent, but almost everything else can be movable.
- Avoid architecturally mounted task lighting
- Provide electric outlets everywhere, including in particular floors. (If you are pouring a new floor, it should have a network of 110-volt outlets, because you can't afford to add them later.)
- Avoid soffits over desks.
- All shelving and seating in a single room.
- Fight all efforts to decide up front exactly how the library will be arranged for the next 50 years.

Oversight and control

- Pay close attention to sight lines, but avoid shelving that is not in straight, parallel rows.
- Windows between offices and the public area of the library help staff keep an eye on things.
- Put Internet workstations close to the service desk, with screens facing the desk.
- Put equipment with which students will require the most help close to the service desk.
- Avoid balconies.

Security

- Consider providing (or roughing in) a theft control system.
- Orient book aisles so you can see down them (but never have diagonal or radial aisles.)
- Never have dead-end stack aisles.
- Make sure than windows cannot be opened by students (especially in remote corners).

Exit control

- *Never* more than one entrance.
- Equip all emergency exits with alarms and delayed egress equipment.

Artificial light

- Reflected fluorescent uplight. (Never accept HID lighting or incandescent lighting. Straight tubes are more efficient and effective than other forms of lighting.)
- LED lighting looks like the wave of the future, but know how you'll replace burnt-out LEDs. (Vague answers aren't good enough.)
- White ceilings everywhere.
- No recessed downlights.
- Watch out for dim perimeter lighting.
 - If rows of fixtures are six feet apart in the center of the room, the space between the last row and the wall should be three feet.
 - Perimeter soffits cause problems. If you need an attractive joint between the ceiling and the wall, use crown moldings.
- Minimum of 50 footcandles illumination. (This can be difficult to maintain with restrictions on wattage per square foot that have been introduced in some states. Get in touch with me if this becomes a problem when your library is being planned.)
- Lamp standards (however, your school's standard practices may prevail) ("Lamp" is the standard term for light bulb.)
 - For fluorescent lamps, T-8 lamps with electronic ballasts.
 - Minimum CRI (color rendering index) 86
 - Color temperature 3500K

Natural light

- Absolutely no skylights.
- All windows except north windows equipped with blinds.
- Ornamental windows without blinds can cause serious trouble if they don't face north.

Glare control

- Watch out for both direct glare (light shining in your face) and indirect glare (veiling reflectance)
- Glare is made worse by
 - Uncontrollable window light (except for north light)
 - Shiny surfaces
 - White tabletops and work surfaces
 - Very dark tabletops and work surfaces

Acoustics

- Libraries need to be relatively quiet even when they're full of students.
- Acoustic ceiling tile or (in the case of plaster ceilings) sprayed on acoustic surfaces. (Acoustic ceilings should reflect about 90 percent of the light that hits them and absorb about 90 percent of the sound.)
- Ideally, carpeted floors.
- Sound-absorbing panels are available for bad situations, but they're expensive and a much worse solution than acoustic ceilings and carpeted floors.
- Partitions between rooms must continue past the suspended ceiling to the bottom of the floor above.

Shelving

- Cantilever-style steel shelving, painted light gray or light cream
- Standard brands include Estey, Aetna, etc.
- If you want a wood look, use decorative end panels
- Lots of new school libraries have wood shelving. It's expensive, and because the shelves are supported by pins at their ends, they can fall.

Furniture

- To provide accessibility and permit multi-student use, tables should be without side skirts or beams connecting any of the legs.
- Four-person tables are the most common. Tables must have two seats on each of two sides. **Square and circular tables are absolutely unacceptable.**
- Most school libraries will need enough tables to seat the largest class that attends as a group.
- Be prepared for the possibility that all students may eventually bring laptops to your library. These require electrical outlets on all table tops, and service will be a lot better if you also have Ethernet jacks. Tabletop outlets work much better than those hidden under the edges of tables.

Service desks

- Modular (and movable) service desks.
- Long-term flexibility is essential due to changes in technology and in the ways libraries operate.
- Modular desks have the advantage of being easy to rearrange.
- Never let an architect place a matching soffit over a service desk, because it will prevent you from moving or reconfiguring a desk.
- Never have special-purpose lighting over a service desk, particularly recessed downlights.
- Standard high-pressure laminates are great for table tops but not sturdy enough for service desks. Use solid core laminates, countertop materials like Corian, etc.
- Be sure that book return slots are not where students will line up to borrow books.
- Desk components in library supply catalogs may include features you don't want. They will almost certainly have delicate top surfaces.
- Service desks need to face the entrance to the library and give staff the best possible oversight over the entire library. This always works best if students enter the library through the center of the long side of the space.

Wiring

- Extensive provision of 110-volt receptacles, including in places where they will not be needed initially.
- Outlets by all tables and separate chairs to provide power for laptop users.

Storage

- Enumerate in advance the equipment you may be required to store.
- Will you provide instructional equipment for use in school classrooms? (There's nothing more annoying than to have one wall of your library blocked by rows of carts with classroom equipment. In the past, school libraries have been taken over by equipment on carts; have back room storage available if this happens to you.)

Staff workspaces

- Review your needs carefully.
- Will you do in-house cataloging?
- Will you have student aides?

Special features to consider

- Study rooms (glass partitions are essential for staff oversight)
- Soft seating (always armchairs, never sofas)

Some REALLY BAD ideas you can count on someone to suggest

- Combining school and public libraries (many problems for both agencies, including—for schools—very serious security issues)
- Skylights
- Windows (except north windows) without shades
- Multiple entrances
- Wooden shelving
- Direct lighting

- Dark ceilings
- Soffits (particularly perimeter soffits and matching soffits over service desks, or any soffits with recessed downlights)

Questions

- Get in touch with me if you need (quick) free help.

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School library needs