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Designing Library Spaces That Work
Preparing a Building Program for Your Library

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About Building Programs

- A library building program contains a functional description of the spaces in the library-to-be. It enumerates all the areas of the library, listing and describing all of the major items located in each area, and providing a space estimate for each area.
- It is to your advantage to get things into print before someone decides to design a new library for you, particularly in those unfortunate situations where designers or administrators don't ask you what you want.
- A "program" is not a "plan." A program consists of a listing of everything that needs to be in your library. A "plan" is a drawing. Using the right technical term can prevent confusion.
- Doing your own building program is not as good as finding an experience programmer to help you, but if you have no budget for programming, you may have to do it yourself. It's a straightforward procedure.
- Programs need to contain square footages for each area of your library and explain how you arrived at those numbers.
- Avoid excess use of "square feet." Note that in each column of numbers in this sample program, the words "square feet" appear only once. A common abbreviation is "sf."
- If the program is longer than ten pages or so, provide an "executive summary" with a list of features and space estimates for readers who need to skim it quickly.
- "Circulation space" is the space required to move between furnishings. Some of the standard sources for space estimating don't include this space, but without it your library will feel crowded. A good estimate for circulation space is to add 10 percent to the square footage of each area. If your library will serve as a passageway to another part of the school, you will have to add additional circulation space to provide room for groups of students to walk through the library.
- There is also "unassignable" space for hallways, restrooms, staircases, elevators, furnace rooms, etc., but unless your library is in a separate building you will probably not need to worry about this.
- Comments in square brackets [] should not be included in the written program.
- Writing a program is one thing, and getting people to pay attention to it is another. Always ask the architect for a schematic design of your library indicating furniture placement, then check the furnishings against the program. You can also compare square footages. ("Schematic design" is the first step in the architectural process. It

provides floor plans (including furniture placement), elevations (drawings of buildings seen from the side), and preliminary cost estimates.)

The program in this example includes many of the spaces a school library might need. We assume that you will pick and choose from among items listed. If you need something that's not there, call us and ask for ways to estimate required spaces.

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A Building Program for the Pontisbright School Library

Service Desk

250 square feet

Functions:

Service to users, including checking books in and out.

Supervision of the library, with the best possible sight lines to all areas of the library. The desk will be close to the entrance to the library.

The service desk will have three workstations, two at the desk and one at the work counter behind the desk. *[Or whatever number you want.]*

The service desk will have a flat top, with no raised partitions. The top will be made of a highly abrasion-resistant material, such as solid-core laminate or plastic countertop material like Corian. The front will have a toe kick. The desk will be 30 inches high, with knee space for the staff members seated there. The desk will have space for a computer and phone at each workstation, with suitable grommets and wire management. The desk will not have cutouts for card tubs.

The service desk will be made of modular sections that can be moved or rearranged.

A workspace for library staff to use during slow moments will be provided at a counter behind the desk. The counter will not be against a wall, but will provide space for staff to sit at the counter while facing the library. The counter will have space for a computer and phone, with suitable grommets and wire management.

The service desk and work counter will have exits on both ends, to prevent anyone from being trapped behind the counter.

Both the desk and the counter will be rectangular rather than curved.

The desk will have section 40 inches high with a book return slot leading to a receiving bin under the desk.

Space estimates include floor space necessary for students to stand while speaking with library staff.

Placement:

By the entrance to the library. Students entering the library will be able to return books to the book return slot as soon as they enter the door.

The desk will not have a soffit or recessed downlights located above it.

Estimate of required space:

Service desk (2 staff @ 75 sf)	150
Work counter behind the desk	<u>60</u>
Subtotal	210
Circulation space	<u>40</u>
Total.....	250 square feet

[Note: Actual space required for service desks depends a lot on individual decisions on the layout of the library and the specific design of the desk.]

User Seating

1,800 square feet

Functions:

Seating for a class of up to 32 students at eight four-person tables. *[You may have different class sizes or need enough seating for two classes, which will change the calculations accordingly.]* Each table will have electrical outlets in the center. Tables will be without aprons or beams connecting the legs. Tables will be three by five feet, with two chairs on each of the long sides and will have sufficient clearance to meet accessibility requirements.

Seating for a primary school class of up to 32 students at eight four-person, primary-sized tables. Tables will be two by four feet, with two chairs on each of the long side. *[You'll need to verify the size requirement with the furniture you select. Remember that the actual table is only a very small fraction of the required space; most of the space is for students seated at chairs and for the room to walk between occupied tables.]*

Seating for 32 students on a rug for storytelling.

Estimate of space required:

8 tables @ 100 sf	800
8 primary-sized tables @ 80 sf	640
32 students on the floor @ 6 sf.....	<u>192</u>
Subtotal.....	1,632
Circulation space.....	<u>168</u>
Total.....	1,800 square feet

[The seating described here is very traditional. Other seating may be available to create flexible learning environments.]

Computers

350 square feet

Functions:

Computers for use by students who do not have tablets or laptops. Computer seating will be large enough for two students to work together at each computer.

Two OPACs (Online Public Access Computers), one at standing height and one at seating height.

Estimate of required space:

2 OPACs @ 20 sf.....	40
8 computers @ 35 sf.....	<u>280</u>
Subtotal.....	320
Circulation space.....	<u>30</u>
Total.....	350 square feet

[The main reason for separate OPACs and multi-function computers is that OAPC use is quick, and you don't want students to find they can't do a quick hunt for a book when all of the computers are in use by long-term users.]

[For single-user computers, try 30 square feet per computer.]

Shelving

1,300 square feet

Functions:

[All sorts of heights and mixtures are possible, depending on your library. This section give examples of shelving from pre-K through high school.]

Storage for the library's collections. Shelving units will be welded frame cantilever steel with decorative end panels. End panels will have card holders to indicate the contents of each range. Shelving will be 84 inches high, with units three feet wide and two feet deep. Bottom shelves will be 11 inches (nominal 12 inches) deep. Upper shelves will be either nine inches (nominal 10 inches) deep or 11 inches (nominal 12 inches deep). Individual shelves will have sliding wire book supports that fit into the undersides of the shelves above.

The library will house 10,000 books for high school students on the equivalent of 30 double-faced 84" shelving units (assuming 24 books per shelf and seven shelves vertically).

The library will house 4,000 books for upper grades on the equivalent of 14 double-faced 60" shelving units (assuming 30 books per shelving and five shelves vertically).

The library will house 1,000 picture books for pre-K through lower grades on the equivalent of three double-faced 48" units (assuming 60 books per shelf and three shelves vertically).

The library will house 1,000 picture books for elementary school students in flip bins, allowing children to see the fronts of the books. A variety of shelving units is available. This program assumes shelving three bins high and three wide, with a total of 18 bins per unit and 20 books per bin. *[Normally you would select one form of picture book storage.] [There are a variety of flip bins out there, so don't believe the square footage listed below for flip bins.]*

Strip lighting fixtures will be perpendicular to the aisles.

Aisles will be 42 inches wide. ***There will be no dead-end aisles.***

Estimate of required space:

30 double-faced 84” units @ 23.5 sf	705
14 double-faced 60” units @ 23.5 sf	329
3 double-faced 48” units @ 23.5 sf	70
3 flip bin units at 30 sf	<u>90</u>
Subtotal	1,194
Circulation space.....	<u>106</u>
Total.....	1,300 square feet

[All of the collection numbers were just made up for this example. The square footage listed provides space for cross aisles. If you want wider 48” aisles, assume 25 square feet per unit. You don’t want aisles less than 42 inches wide. Bottom shelves less than 11” (nominal 12”) deep are available but a bad idea. To determine the number of books that will fit on a shelf, use your collection to calculate the number that will fit on 29” of shelf space, allowing 6” of open space at the end of each shelf. Common shelving heights are 84” for middle school and up, 60” for upper grades, and 48” for pre-K through about 3rd grade. You can get 42” shelving for picture books, but it has space for only two shelves vertically. Unfortunately, it’s necessary to repeat “double-faced” everywhere, or someone will convert “24 double-faced units” to “24 single-faced units, eliminating half your shelving.]

Study Room

175 square feet

Functions:

A relatively sound-proof room with space for a movable study table holding up to six students.

Except for where it may butt up against an outside wall of the library, the room will be a glass box, with windows extending from about one foot above the floor to seven feet above the floor.

For sound control, the walls of the study room will continue past the suspended ceiling to the bottom of the floor above. The room will have its own thermostat and will have separately ducted supply and return air ducts.

Electrical outlets will be located on all walls except the wall with the entry door. Where the table abuts the back wall of the room, electrical outlets will be located above tabletop height.

Space estimate:

Study room for 6 users @ 25 sf	150
Circulation space.....	<u>25</u>
Total.....	175 square feet

[Some designers will suggest replacing the glass walls with a couple of small windows. Fight this idea, for it will cause endless trouble. Codes will require that glass walls have horizontal beams that divide each wall into two sections of glass; this is easy to do and is no reason to have smaller glass areas. You want to glance at the room at any time and see what's going on. A study room for four students is about 125 square feet. Study rooms should have tables, never built-in counters, which are too inflexible. If you have more than one study room, separate them with glass walls.]

Staff Workroom

475 square feet

Functions:

Workspace for library staff and storage space for records, books being processed, staff coats and purses (which will need secure storage), computers, secure equipment (such as laptop charging racks), computers and printers, etc.

Space estimate:

Locking desk with computer L.....	75
2 visitor's chairs @ 12 sf	24
2 filing cases @ 10 sf.....	20
2 single-faced bookcases @ 10 sf.....	20
Work table	60
Printer on stand	10
Coat storage for 2 coats @ 5 sf per coat.....	10
Bulletin board.....	5
Locked storage cabinet.....	15
Laptop charger rack	75
Conference table for 4 @ 25 sf.....	100
Floor space for two book trucks @ 8 sf.....	16
Subtotal.....	430
Circulation space.....	45
Total.....	475 square feet

[This section includes lots of things as examples of what might be wanted. Some pieces of furniture—such as laptop charger racks—vary widely in size, so don't take this as authoritative. And remember it's not just the size of the item but also the space needed to walk around the item, which is typically a lot larger. In public areas, filing cases and single-faced bookcases take 15 square feet each because library users need more space to get around them. A total of 475 square feet is fairly large for a staff workroom, but this one includes examples of almost everything we could think of.]

Storage

500 square feet

Functions:

Storage for equipment, supplies, library records, etc. in one or more storerooms.

The storeroom will be used for storage only. In particular, it will not house mechanical equipment of any kind.

Features and equipment:

Storage will be on shelves and on open floor space. Old library shelving works well.

The storeroom will be wide and shallow rather than narrow and deep.

[All libraries need storage space, usually far more than designers want to provide. In the past, school libraries had carts with 16mm projectors, carts with TVs and video players, and other space consumers. Try to find out what you'll be expected to store and plan accordingly. If you suddenly get 12 huge electronic gadgets on carts you'll need a really big storeroom or they'll take over your library.]

Summary of Required Spaces

Service desk	250
User seating	1,800
Computers	350
Shelving.....	1,300
Study room	175
Staff workroom.....	475
Storage.....	500
Total.....	4,850 square feet

Questions

This material covers a very complicated subject very quickly. If you have questions, call or email Fred Schlipf or Georgeann Burch.

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