

Space Matters: Designing a High School Library for Learning

By Bryce Nelson and Lorne McConachie

Visually grand, beautiful and inspiring, the library indicates to adolescents that their own academic learning is highly valued, a special place was built for that purpose and they are welcome to use it.

A high school library must be designed primarily to attract students, and secondarily to store materials. If defined, designed and used for academic learning then the library has an abundance of computer screens, more content in digital than paper format, and a librarian who teaches students how to find, evaluate and use information in order to produce knowledge.

Design Elements in New Library Spaces

There are five design elements derived from changes in education and technology that guide the design of new and renewed high school library space.

Design Element One

Space for teaching, learning and production of knowledge is more important than space for storing materials.

The design of a high school library must begin with teaching and learning goals rather than solutions for storing materials. These goals drive the criteria for evaluating space devoted to books, media, technology, networked content, offices, and formal and informal teaching areas. High school students need a place other than gener-

ic classrooms to read, view, write, talk and produce evidence of their learning. A centralized library is an ideal work space.

Design Element Two

The library must support multiple ways of teaching and learning.

There will rarely be consistency from teacher-to-teacher about the best ways to teach, and from student-to-student in how to learn, or from year-to-year in curricular programs. The goal is to make spaces within the library where students can work alone, in different-sized groups, quietly or collaboratively, with or without networked resources, and with or without librarian instruction and help.

Flexible and adaptable library spaces support varying teaching and learning styles. Flexible library spaces can be quickly rearranged in order to accommodate different uses from hour-to-hour, and day-to-day. In flexible spaces the furniture is easily movable, the casework modular and lighting is zoned. Adaptable library spaces can be economically remodeled and altered to respond to changes in computing, networking, and information formats.

Design Element Three

Collection development policy influences library space needs.

A fundamental document for library space planning is each library's Collection Development Policy. This defines the subjects represented in the collection, and the formats for content in each subject area. The relative priorities between books and networked resources help determine the number and location of bookcases and computers. The goal of having books on a wide variety of subjects is not as necessary or desirable as it was prior to ubiquitous web-based content.

Wall space suitable for shelving will determine the size of the book collection. The library's interior is valuable student learning space, so shelving should be located on the perimeter walls. A high school library serving 1,000 to 2,000 students can have an effective book collection of 10,000 volumes if the book collection is aligned with the curriculum and student reading levels, kept at that level through deletions, and stipulates that the librarian shifts spending toward electronic resources.

Design Element Four

Content and services increasingly reside at the network level.

Intellectual content and some library services will increasingly be delivered through a library's networked infrastructure rather than as physical media stored within the library. The quality of the library's electronic infrastructure (AC, data, wireless) is of highest priority. With the right licenses to electronic content, the school library provides access to far more content than the library could previously obtain and store. When content and services come from the network level, the librarian will do less selection and handling of individual physical objects, and more managing of licenses. This shift has design implications for the library's administrative, learning and storage spaces.

Design Element Five

The library must be grand, beautiful and inspiring.

Characteristics of a grand, inspiring, beautiful and dignified library begin with ample unencumbered floor area, generous spatial volume, and abundant natural light. The library's location, size, technology infrastructure and aesthetic quality attract students to the school's signature academic space. All adolescents—regardless of class, gender or ethnicity—deserve school library space which is out-of-the-ordinary. There is no other place like the library for bringing together technology, information and people. An inspiring library space elevates the importance of academic work.

Application of Design Elements

How can the design of a high school library accommodate the five design elements outlined above when there are so many competing needs in the overall design of a school? To build a large enough library space means that there will likely be concessions in the amount of classrooms, athletic, performing

arts, office or other common spaces. However, a compelling new library model can indeed be designed based on recent changes in education and technology.

Many existing libraries were designed for the elective curriculum of large, comprehensive high schools. The format of content was predictable and building-based. The librarian selected and bought a book, video or magazine and then cataloged and stored it in spaces designed for that purpose. Today the librarian's task is to license and manage networked content, teach students how to find, evaluate and use such content, and create conditions for students to work alone or in groups in order to produce evidence of that learning.

Practical Applications of the Five Design Elements

▪ **Focus on Students**

Re-thinking the nature of the school library is a subset of re-shaping secondary education to address the needs of all adolescents. If students see that they are respected and valued members of their school, then they are much more likely to engage their interest, focus, and commitment on behalf of their education.

First impressions of a space are critical. A student initially encountering the library must feel welcomed by the space. A well-designed library must reveal a complex order that is both embracing in its transparency and mysterious in its promise of yet-to-be-discovered knowledge. Some students will seek refuge in the library—a place of quiet protection. Others will seek prospect—a perch to observe what's going on.

The library is a studio in which students do academic work. Spatial attributes of a student-focused library include:

- An inviting entry with lots of glass

- Multiple activity zones
- Edges, corners, and nooks
- Clear sightline for the students
- Abundant natural light
- Acoustic balance
- Accessible technology
- Places to display student work

Such a library is a place that is good for the spirit and the mind. It provides momentary relief from the need elsewhere in the school to maximize efficiency. Its importance stems from the essential demand to respectfully welcome and engage all students in the process of learning.

▪ **Activities and Trends**

High school libraries need spaces for individuals, small and medium-sized groups, and sometimes very large groups. Often, an individual student wants to be left alone in order to read, write, research, compute, make productions, daydream, sleep, drink, or eat. Small groups of two to five students are likely to talk and either would like a conference room with lots of glass or an area where conversation is acceptable. Class-sized groups need a large interior space where it is acceptable to talk. Sometimes the library must be rearranged for a large group which will take over the whole library space.

Many high schools feature more personalized, collaborative and community-connected learning paths. Some of these trends need to be considered in the design of high school libraries.

- Individual and small group computing, including with ubiquitous technological devices and wireless access.
- Use patterns shifting from a whole class to more individualized focus over expanded hours of use.

- Collaboration in instruction, and the need for places in the library with the right furniture and technology so that students can work together on assignments.
- Community connections through student internships, mentoring, and relevant “real-world” learning which bring community involvement into libraries.
- The use of food and drink in a library. The flooring materials and plumbing should anticipate this “social hub” function.

▪ **Supervision**

With many user groups and activities and likely only one adult in charge, the library needs excellent sightlines. Bookcases should be on perimeter walls. The main circulation desk should be near the entry and have clear sightlines throughout the library. Conference rooms and a workroom/office need interior or glass walls.

▪ **Lighting and Acoustics**

Environmental systems play an essential role in the development of inspiring libraries. High volume space that flexes to house individual study as well as community gatherings needs daylighting and acoustic strategies. Denoting principal spaces with daylight brought in from skylights and clerestory windows is deeply embedded in our culture. Enhanced volume has the further advantage of allowing sound to disperse within the space.

Artificial lighting also plays a key role in addressing the multi-use aspects of an inspiring library. Lighting must be zoned to coordinate with differing activity areas and daylight levels. For large group use, zoned lighting control and non-traditional lighting, such as fresnel fixtures and spotlights, may be required.



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▪ **Power, Networks, Technology**

The design of new school libraries should assume content in paper and digital formats, and devices which are wired and wireless. Further, the need for more network bandwidth, speed and access points will continue to increase. Hard-wired computers currently

provide enhanced bandwidth, longer use (compared to batteries), and better presentation opportunities. While hard-wired power and data and technology-ready furniture are cost-effective, their accessibility and flexibility are limited. School libraries need an upgradable network infrastructure, from wiring



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closets to outlets, jacks and wireless access points.

- **Heating, Ventilating & Air Conditioning (HVAC)**

Heating, ventilating and air conditioning (HVAC) system design grows from user needs and regional environmental conditions. Year-around school calendars, extended hours, shared community use, and social gatherings are reshaping current use patterns. Sustainable design that addresses resource depletion, global warming and indoor environment continues to shape environmental systems. Aligning heating, ventilating, and cooling systems to operate with the above trends and the forces of nature suggests profound shifts in library design.

- **Materials**

High school facilities require durable and maintainable materials that convey a sense of respect while also resisting vandalism. Economic floor finishes such as broadloom carpets, carpet tile, linoleum, rubber and stained concrete handle daily foot traffic and resist stains. Vandal resistant gypsum wall board, wood and wood fiber wainscoting, or veneer plaster finishes offer low cost, paintable and repairable wall surfaces. A variety of acoustic tiles and panels, wood, gypsum, and veneer plaster offer broad options for character, finish, color, and acoustic attenuation.

- **Furniture and Equipment**

Choosing the right furniture and equipment is central for libraries focused on teaching and learning. The range of uses anticipated requires equipment that is standard throughout the school, and furniture that is durable, flexible, and ergonomic. While technology-ready tables and chairs are the dominant need, soft comfortable seating and coffee tables help reinforce the sense that the library is a social and academic hub.

Reconfigurable office systems furniture can provide librarian workstations, information desks, and circulation desks.

- **Conclusion**

The design of a high school library space matters. Methods of teaching, ways of learning, use of technology, curriculum, school size and organizational structure are all changing the nature of high school education. The school library must change to meet these new realities. The library contributes to teaching, learning and production of knowledge by providing work space, equipment, information and guidance. To be really effective, this library space needs to be grand, beautiful and inspiring. When that occurs, then a central library which has been defined, designed and is being used for learning can be an enormous asset to a high school's academic life. ■

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