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Innovation vs. Cost

Does one have to be sacrificed for the other in education design and construction?

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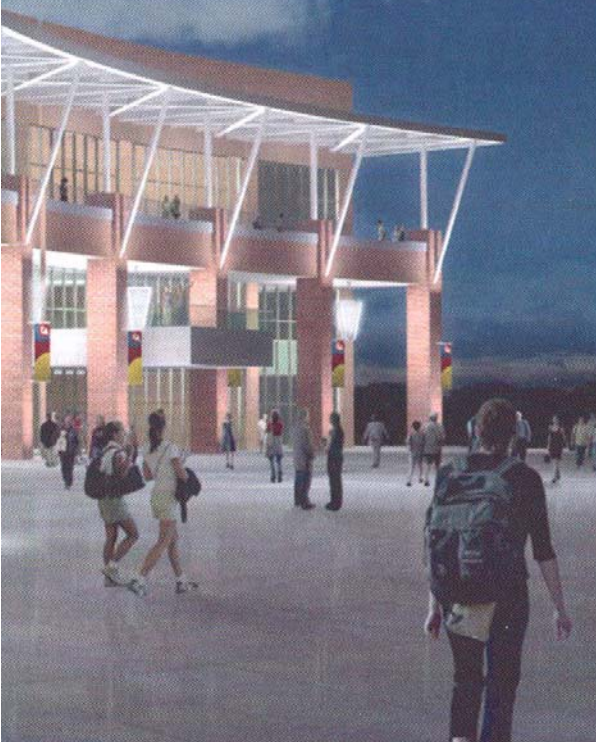
For planners, each school or university project is an exercise in balancing cost with innovation.

by Mike Kennedy

In the beginning, optimism reigns.

As planning for a new education facility gets underway, those with a stake in the process envision how the building will enhance the institution and the surrounding area. Teachers and students imagine spacious, comfortable classrooms and labs with the most up-to-date equipment and furniture. Administrators and community leaders picture an attractive edifice that will become a symbol of the pride people have in their neighborhood and their schools. Facility managers and maintenance workers see a cost-effective building with durable finishes and efficient systems that conserve energy and reduce maintenance demands.

But for most education projects, it's not too long before those idealistic ambitions collide with painful budget realities. Enthusiasm and lofty expectations give way to hard choices. To meet spending limits, planners may have to downsize classrooms, eliminate storage space, select less-durable flooring and finishes and forgo other building amenities.





The new student center at California State University, Los Angeles, will set the tone for future development on campus. (Architect of record: HMC Architects) Photo courtesy of Klyde Wilson/HMC

“There’s never enough money,” says Allan Milbradt, CEO of PBA Architects in Wichita, Kan. “You’re always squeezing the budget until they scream and yell. The No. 1 priority is to provide the best educational facility for kids.”

But designers say that schools and universities don’t have to let budget restrictions prevent them from pursuing the goal of creating educational spaces that are imaginative and aesthetically pleasing.

“It’s a real juggling act,” says Stacy Strand, a principal architect with HMC Architects in San Diego. “You have to be innovative.”

A clear map

Schools and universities that have thoroughly studied their needs and have established a clear idea of what they want out of a new facility will be better able to make wise budget decisions that preserve the most vital

elements of a design plan.

“Planning teams need to establish the priorities of the project,” says Frank Hayes, a vice president with Shawmut Design and Construction. “It depends on how well a school’s internal groups are set up.”

Not every education institution is prepared to examine the project to the extent necessary.

“Every district is different,” says Milbradt. “It depends on the leadership you’re working with.”

If the right people are brought into the planning process early enough and can come to a consensus on what the institution is trying to achieve with a new facility, the budget-related choices that inevitably have to be confronted as the project progresses will be easier to make.

“If money were no object, schools

Schools and universities don’t have to let budget restrictions prevent them from constructing educational spaces that are imaginative and aesthetically pleasing.



School leaders at the University of Hartford wanted the new Integrated Science, Engineering and Technology (ISET) Complex to symbolize the university's mission. (Architect: William Wilson Associated Architects)

Photo courtesy of Anton Grassl/Grassl Photography

would love to have an iconic design by a world-famous architect," says Hayes. "People want to get the best-looking facilities they can. But they know they can't afford everything. We try to understand what the competing priorities are."

When the wish list is bigger than the bank account, the design team looks for features that can be eliminated without detracting from the main purpose of the facility.

"If you have a \$30 million project with a \$25 million budget, you look at it and say, 'Can we get the \$5 million from the skin and look of the building?'" says Hayes.

But in some cases—when the facility is meant to serve as a focal point of a campus or a neighborhood, the aesthetics of a project may carry greater weight.

"With student centers, many schools want a building that gives the campus a presence," says Hayes. "That's the draw. In those cases, a school might sacrifice some of the program inside—maybe reduce the seating from

700 to 600."

At the University of Hartford in West Hartford, Conn., school leaders wanted the new Integrated Science, Engineering and Technology Complex to become an iconic presence that symbolized the university's mission, says Hayes. Shawmut was the construction manager and William Wilson Associated Architects was the architect for the \$34 million project, which the university calls its most ambitious building project ever. The complex brings together much of the school's science departments at a central location and includes a new 37,000-square-foot building, as well as renovations and upgrades to adjacent existing facilities.

"They wanted a building that would stand out from the existing brick buildings on campus," says Hayes. "There is a lot of glass and curtainwall. They wanted it to look like a 21st-century building and function like a 21st-century building. When you look at it, you almost know it's a science building."

Setting a tone

In planning a new student center now under construction at California State University, Los Angeles, school officials envisioned that the facility would set a tone for future development on the campus, says Strand, who is HMC's project manager for the center.

The university wants the 92,000-square-foot building to serve as a hub for the campus; it will include a 24-hour fitness center, an auditorium, a theater, offices for student organizations and public meeting rooms.

"They want it to stand out from the rest of the buildings on campus," says Strand. "It has additional glass and better exteriors—materials that haven't been used in the other buildings."

At the same time, the design and construction had to abide by budget constraints and take into account the expectations that students would have for such a facility.

"We are very conscious about maintenance and energy costs," says Strand. "Students are keenly aware of environmental issues and want that reflected in the world they live in."

Strand says that by using more efficient mechanical equipment and structural systems in the student center, the university will be able to use those savings and enhance other areas of the building.

"We are able to install carpet that's of higher quality and flooring that won't wear out as fast," says Strand. "The design gives them all the square footage they asked for."

Strand says that one way to enhance the aesthetic appearance of a facility without draining the construction budget is to be selective about where certain materials are used. A facility may have higher-quality materials in the areas of the building that students, staff and visitors see and touch most often. In less-noticed parts of the facility, less-expensive materials

such as vinyl or fake wood would be acceptable.

The design team, which includes HMC as the architect of record, Tate Snyder Kimsey Architects as executive architect, and Barnhart, Inc., as general contractor, was selected for the project

through a 2005 design-build competition. Such competitions, Strand says, give designers an incentive to show they can be innovative and stick to a budget.

“It shows we can use our ingenuity to come up with a project that meets

their requirements,” he says.

Good partners

Another way some schools can contain costs without sacrificing innovation or aesthetics is by using the construction management-at-risk method of project delivery. By bringing in a construction manager early in the planning process, schools can get a better handle on costs, says Milbradt.

“It helps to have a contractor’s point of view on things,” says Milbradt. “Contractors are tied into costs on a day-to-day basis. It leads to better decisions.”

Milbradt cautions, however, that the process works well only if the architect and the construction manager have a good working relationship.

“It’s all about partnerships,” says Milbradt. “Forced partnerships don’t make good marriages.”

One example of forced partnerships that could be troublesome is a project financed to a significant degree by influential donors. At some schools and universities, what a wealthy donor wants to include in a facility that they are helping to pay for may be at odds with the institution’s educational direction and vision.

“You have to have a president that is willing to walk away from gifts that aren’t in line with what the school’s needs are,” says Hayes. “That’s really difficult, especially for schools that struggle to get cash.”

In the end, the schools and design teams that are diligent about understanding the goals of a construction project and the priorities of the institution are the ones most likely to emerge from the process with a facility that fulfills most pressing needs on campus.

“The folks that really have their act together get the building they want,” says Hayes. ■



The ISET Complex looks and functions like a 21st-century building.
Photo courtesy of Anton Grassl/Grassl Photography

Sharing costs

Innovation in education facilities applies not only to how buildings are designed, but also to where the funding comes from. An increasingly popular way for schools to acquire the modern facilities they desire without breaking the bank is to form partnerships with other local governments.

In Mason, Ohio, the school district and the city worked together to build a new high school and adjacent community center; recreational and exercise facilities are shared by the school and the community.

“Since the high school and community center are connected, students are able to access the lap pool, weightroom and indoor track, as are members of the community,” says Tracy Healy, a vice president with DeJong, an educational planning firm that worked on the project.

By sharing facilities, the city and school avoided duplicating recreational space—and having taxpayers pay for it twice. Because the site is on city land leased to the district at a minimal cost, the school system also saved on land-acquisition expenses.

“When school districts and their communities collectively agree upon their goals and decide how to reach them together, everyone benefits,” says Healy.

Want to comment on this article? Send an e-mail to Kennedy, staff writer, at mkenedy@prism2b.com.