

DESIGN-BUILD GIVES EDUCATION SOMETHING TO THINK ABOUT

By Fred Mulligan, P.E., DBIA

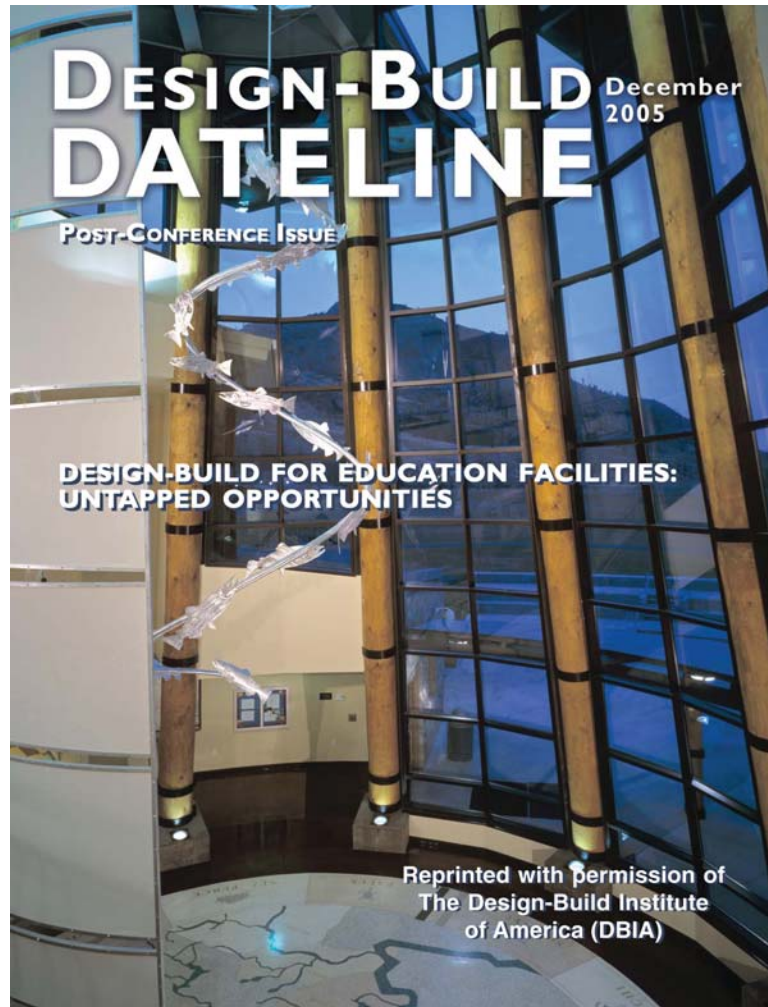
In recent years, design-build has gained widespread acceptance as a proven and effective method of delivering construction projects. It now represents a substantial and growing market segment and accounts for the majority of the work that my company, Cutler Associates, performs along the east coast.

In most of the industries in which we specialize, this owner-driven phenomenon is a welcome alternative to traditional delivery methods. However, this is less true in the education marketplace, where we see many campuses as hesitant to adopt the design-build method of project delivery. Yet, design-build has the capability of delivering just what they need.

According to a study by the Construction Industry Institute conducted at Pennsylvania State University, as well as our own experience, the benefits of this delivery method address issues that are important to educational institutions:

- It focuses on value;
- It provides reliable data early in the process for informed decision making;
- It delivers projects quickly and on time (meeting critical timeframes dictated by academic calendars);
- There is a lower incidence of change orders and disputes;
- It deals well with complex logistics;
- It addresses fixed budgets;
- It results in quality.

So why are owners and their building committees still hesitant? The objections we hear from schools and colleges generally stem from a lack of familiarity with the method. Departure from the known model can be disquieting for naturally risk-averse institutions. There are usually



multiple constituencies involved in decision making and it may be difficult to gain consensus on trying a new approach.

This lack of experience with design-build can also lead to misconceptions about how the method works. Schools that are concerned about lowering costs may not understand that they enjoy the benefits of the competitive nature of the marketplace when they use design-build. While fast-tracking is attractive to schools with difficult project schedules, they may fear that the method will allow inadequate time for design-review or that the design will suffer under the demands of a compressed schedule.

Paradoxically, design-build may be a better fit than it first appears. Historically it is the “traditional” delivery method and was used by master builders of the middle ages. With complete control over their projects, these master builders were able to design, engineer, and construct buildings that tested and expanded the limits of their day. Because they had both design and construction expertise with which to approach problems, their solutions carried innovation that would have been difficult or impossible to arrive at from a single perspective.

Design-builders of today capitalize on collaborative problem solving to lower risks, improve quality, and ultimately increase value in a

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project. This is hardly an unfamiliar concept to schools and colleges; in fact, it is a driving principle behind the “cooperative” approach to problem-solving employed by these institutions. In the same way that a school advances its mission through the collaborative efforts of many constituencies, architects, engineers, and contractors arrive at value-driven facility solutions by sharing ideas and expertise.

Our experience with design-build delivery indicates that there are three common scenarios in which design-build is most effective:

The need for speed. When projects have a crucial early deadline — such as a college residence hall that must be available for a fall semester — design-build delivery can be an ideal and necessary solution. This was the case several years ago at Assumption College in Worcester, MA, where, through design-build delivery and effective collaboration with the owner, we were able to deliver 200-bed apartment-style building in just 10 months, from conception to completion.

Fixed-budget, flexible scope. When the definition of success includes meeting a predetermined budget, design-build may be the most beneficial approach. With early, accurate information, owners are able to make cost-sensitive decisions with confidence to optimize value within a fixed cost. This was particularly effective recently at Clark University where we were hired to renovate the historic Jonas Clark Hall. With the ability to discern

priorities and their impact on the overall project, we were able to significantly expand the scope of the project without increasing the limited budget.

“Untying the Gordian Knot.” This is my favorite type of project and a scenario we encountered when renovating and expanding Higgins Laboratories at Worcester Polytechnic Institute. Because of the extremely constricted site, age of the building, need for the facility to remain in service, and unknown utility conditions, we faced a number of circumstances that many would consider insurmountable. In the end, the design-build team was able to collaborate to adjust the design as needed to face the challenges head on.

Today, as design-build projects become more prevalent, we are seeing the method’s effective use being expanded to include the development and operations aspects of facilities. Many colleges and universities across the country are benefiting from the design-build-finance-operate (DBFO) approach for revenue-generating facilities, such as residence halls and dining facilities.

Still, there are a number of challenges to overcome before schools will begin to realize the benefits of design-build on a widespread basis. Schools need to develop a comfort level with the design-build process. Likewise, design-builders need to understand the unique needs that schools have when undertaking capital projects. For example, due to the nature of the decision-making process on many campuses, it is



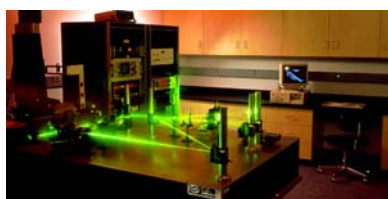
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often necessary to satisfy multiple constituencies during the project. Also, while speed can be an asset, many schools may require extended time for design review.

What can owners and practitioners do to promote the effective use of the design-build process? Building trust is the number one requirement for the design-build relationship to be effective. Owners must commit to fully understanding the design-build process and must be able to trust their design-build teams to protect their interests. At the same time, contractors need to be flexible with this approach, adjusting the process to meet the needs of the school and building trust through continuous and open communication.

Clearly, no one delivery method can meet the needs of every project. Because there are numerous factors to consider when determining the approach for a building, focusing on the definition of “value” is a good place to start. When cost, schedule, and performance are central to the value equation, the design-build approach may be the most advantageous route to achieving success. ♦

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Worcester Polytechnic Institute



Assumption College