

Building Change Into New Buildings

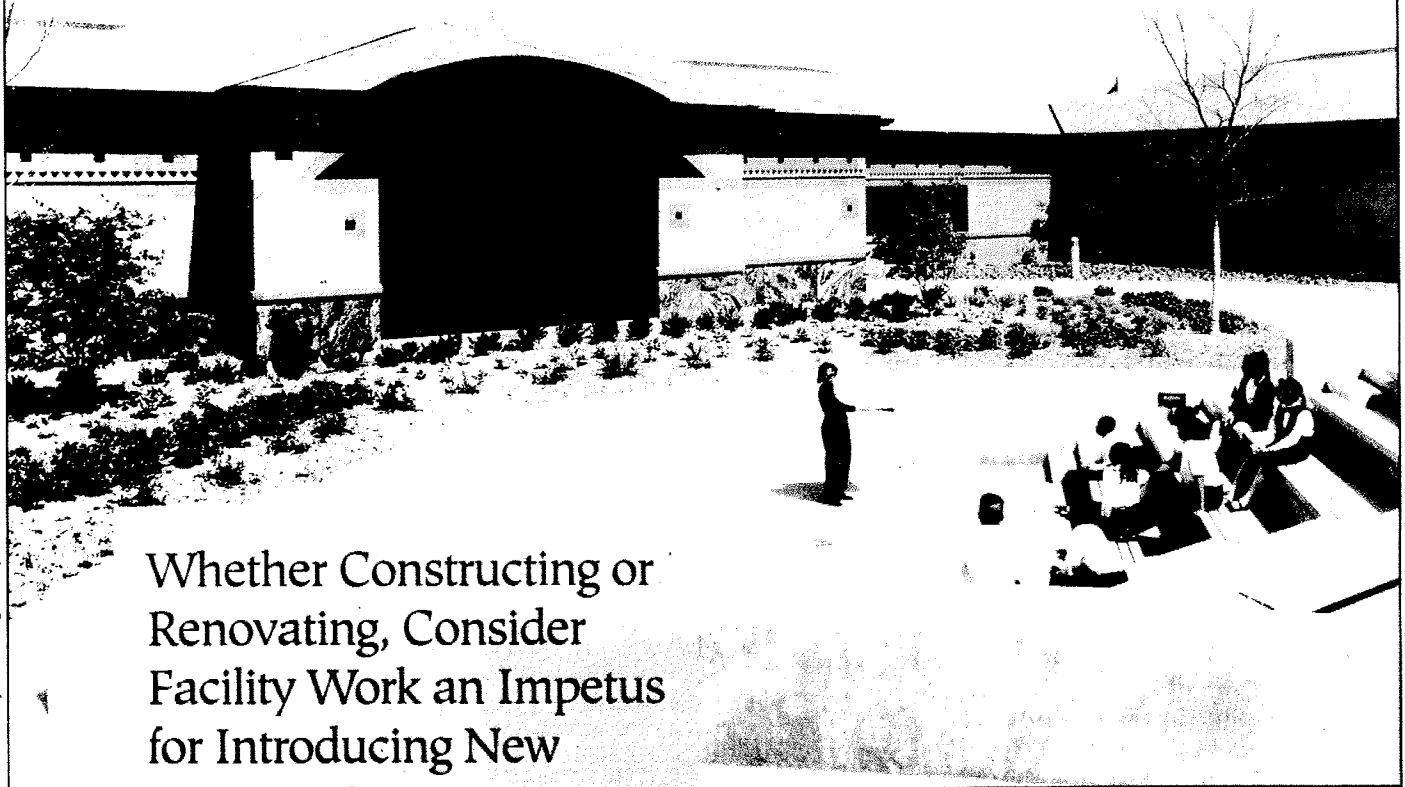


Photo courtesy of Fanning/Howey Associates

Whether Constructing or Renovating, Consider Facility Work an Impetus for Introducing New Learning Structures

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Imagine these two scenarios. In the first, your school district's buildings are aging, their mechanical systems are failing, their roofs are leaking, and their infra-

structures are inadequate to supply electricity for computers, much less the cabling required for networking and Internet access.

In the second scenario, your district's schools are taxed by a burgeoning student population that shows no signs of abating.

The facility needs of both districts are urgent. The challenges of both

districts offer incredible opportunities for addressing student learning needs of the next century.

Building and renovating school facilities means more than adding classrooms or replacing roofs. It means redefining the scope of education in the district. Facilities can become the impetus for change and the affirmation of this new vision.

Forward Thinking

One of the oldest principles in facility planning is that form follows function. As our society moves into the 21st century and school districts continue to renovate and build facilities for student learning, we must ask ourselves, "What is the function of education in the 21st century?" Only after that has been answered can we determine the form of new or renovated schools.

Constructing and renovating facilities requires school districts to develop a new vision about the future or to reaffirm the old vision. Too often, school system leaders, architects, and even planners assume that educational paradigms of the past will support education of the future—sometimes with unintended and unwelcome results.

Several years ago, our firm was involved in a new high school project. Everyone working on the project assumed that the way in which they had been teaching and organizing instruction over the last 30 years, (i.e., by department), would continue in the new school. Appropriately, the educational specifications and construction plans reflected this assumption. When construction was partially completed, teachers and staff started discussing the possibility of team teaching, interdisciplinary learning, and block scheduling.

Reviewing the building's design to determine if such approaches could be accommodated, everyone involved was disappointed to learn that, without major and costly modifications, the building could not support alternative delivery strategies. Although the building has many fine features and won numerous awards, it is locked into departmental teaching. The district's discussion of team teaching and interdisciplinary learning was about \$35 million too late.

Various Issues

Whether renovating or constructing a building, serious thought needs to be given to a number of issues:

- *How might a building accommodate different instructional approaches?*

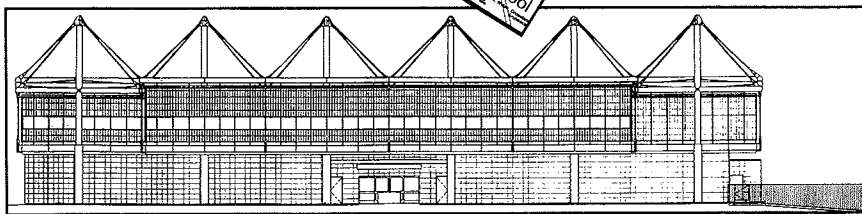
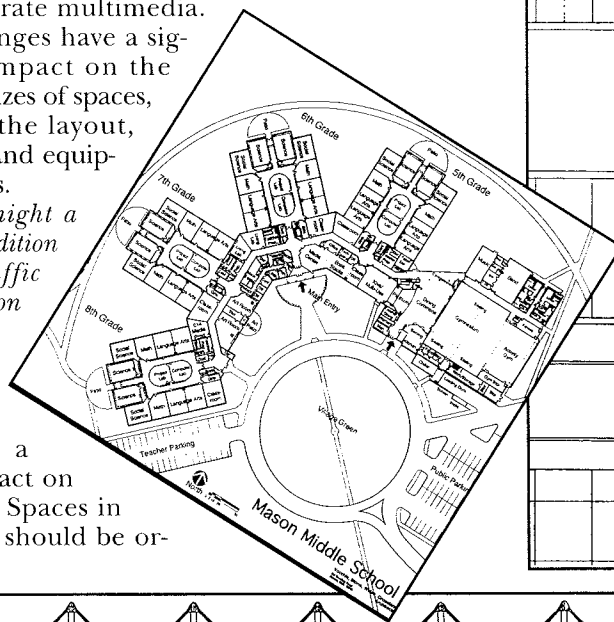
Educators today rely on a wide array of individual, small-group, and large-group instructional ap-

proaches. Yet most, if not all, of our older schools have focused on the traditional approach of 25 students in a classroom with little or no consideration given to the needs of special education, gifted, or at-risk students, all of whom require an intense amount of small-group resource space. This is not to say the traditional classroom is not needed, but to suggest that classroom space be viewed differently.

Teaching and learning is becoming more active as it moves from the customary lecture method. Students are more involved in cooperative learning, engaged in projects that require them to apply knowledge and to incorporate multimedia. These changes have a significant impact on the types and sizes of spaces, as well as the layout, furniture, and equipment needs.

- *How might a building addition cause a traffic or supervision nightmare?*

A building's layout has a major impact on discipline. Spaces in a building should be or-



ganized so that they facilitate natural staff and student interaction, where students have a sense of belonging and can move through the building without bumping into other kids and banging into lockers.

We also found that a safe building may not require major security measures if its layout is appropriate. If you study school facilities, as we do, you can tell that even the location of restrooms will have a significant effect on foot traffic and supervision.

- *What impact do aesthetics have on*

teacher and student attitudes toward the building?

Students and staff are human beings. As such, light, color, furnishings, temperature, air quality, and acoustics greatly affect whether teachers and students want to be at school rather than have to be there. Motivation is critical to good teaching and learning. Dealing with aesthetics need not be expensive.

- *Should the community be encouraged to become an educational partner in the building?*



Historically, community involvement in schools has not been an important part of new facility or renovation projects. If we are serious about the community becoming an educational partner, we need at a minimum to incorporate places for parents, seniors, and business partners to park, small-group areas to tutor in, and work space to use a computer, make a phone call, or even hang a coat.

After-school use of the school by the community needs much greater thought. Often the school facility is the community center. This may have a significant impact on layout, security, storage, parking, outdoor facilities, and even how heating and cooling systems are organized.

Sparking Change

Regardless of the district's current financial situation (however dire or bright it may seem), stakeholders in the district's future must establish a vision to responsibly address facility needs. What does the district want to accomplish educationally? Who will it serve? How will children learn? What role will technology play? How will children interact with each other and with adults? How will decisions be made?

The answers to these questions need to be translated into program requirements, spatial relationships, and eventually design and construction.

Successful school districts need to remember that resting on past accolades is not enough. (Only three companies on the original Dow Jones Industrial Average are in business 100 years later.) Struggling districts need to recognize they no longer can do business as usual. Since school staffs get thrilled about receiving \$5,000 incentive grants for school improvement activities, one wonders why more thought isn't given to improving learning opportunities when a local community approves \$5 million, \$10 million, \$20 million, or even \$50 million in capital improvements? School construction is a one-time, major investment and should be the impetus for instructional improvements.

Some districts are changing educational delivery systems while upgrading their facilities. Our firm has worked with several such forward-thinking districts.

Maywood, Morton, and Edison elementary schools in the Hammond, Ind., district and Mason Middle School in Mason, Ohio, are examples of replacement schools, where the new building houses approximately the same population of students and staff that occupied an older school in the community. The difference between the old and new buildings is marked, not only aesthetically, but by the interactions between the people in the building as well.

All four report the need for disciplinary action has been reduced in their new settings. Students and staff interact more positively; student learning is taking new forms; staff morale and student attitudes have improved; attendance rates have increased; and the use of technology has been sensibly incorporated throughout the curriculum.

The Mason school board and Mason Middle School staff used their new building, which opened in 1994, to move from a traditional departmental approach to interdisciplinary teams. While industrial arts had occupied a remote corner of the old building, technology education has been integrated into the core academic program in the new. The

middle school went from having little technology available to students to a modern workplace where technology is integrated for management, instruction, and communication.

Avoiding Limitations

New schools and those undergoing a major renovation should remain viable educational facilities for 40 to 50 years. Through the use of technology and application of the latest pedagogical research, schools should accommodate various educational delivery approaches.

Most of us were educated in and inherited schools full of double-loaded corridors. A double-loaded corridor effectively supports one method of education: self-contained classrooms in elementary school and teaching by department in middle and high schools. Architects should not design, nor should districts accept, such debilitating limitations in new and renovated buildings.

Elementary schools should be able to support self-contained instruction, grade-level teams, multi-age groups, and performance-based learning. Secondary schools should be able to deliver departmentalized, team, intradisciplinary and interdisciplinary teaching, schools-within-a-school, and a variety of other approaches, possibly concurrently. All schools should be able to support large-group, small-group, and individualized instruction and should have the appropriate infrastructure to support current and evolving technology.

While the building traditionally has dictated the most appropriate form of instruction—effectively telling staff and students “Thou shalt” and “Thou shalt not”—a new generation of schools growing up nationwide accommodates and encourages change, letting the users know “Thou mayest.”

The choice is yours: build buildings or build future learning environments.

William DeJong is a past president of the Council of Educational Facility Planners International.