



Designing School Buildings for Today and Tomorrow

By Jody Andres, AIA, LEED AP

Designing pedagogy and school buildings to promote the best educational outcomes.

As we think about what education will be like post-pandemic, our goal should not be to return to “normal.” The lessons learned from this difficult season, the anticipated needs for the future, the progress that has been made, and the data and research gathered during these troubled times should all be considered as we contemplate how to support student success going forward.

Considering a continuum with 100% virtual learning on one end and 100% traditional classroom education on the other, where do the majority of your students fall right now? Neither extreme fosters the best results for most students. How, then, do we design our pedagogy and our

school buildings to promote the best educational outcomes?

Prakash Nair, educational futurist and author of *Blueprint for Tomorrow*, says, “Schools should offer a richer, multifaceted curriculum that students would not be able to access sitting passively in classrooms or in front of a computer screen at home.” Only students who favor visual and logical learning styles are likely to thrive in a remote learning environment. Even then, remote learning limits those students’ ability to consistently engage with other students.

It is unrealistic to expect teachers to create the tactile and social element of learning in a virtual-only environment. Just because we are teaching digital natives does not

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Virtual reality technology enables district stakeholders to explore the inside of their new or renovated school during design. Using this technology, they can offer suggestions to enhance the design of the space before it is finalized and construction begins.



The Clintonville Public School District in Wisconsin is strengthening its relationship with the community by enhancing the recreation center and pool housed within its high school. Community taxpayers supported this effort (along with other facility projects) by passing a \$37 million referendum in November 2020.

mean digital lessons are the best way for all of them to learn.

Collaborating for Success

Designers and architects are increasingly called on to create unique, diverse, and rich environments to meet the needs of students and teachers regardless of where they are on the virtual instruction–traditional instruction continuum. These design professionals strive to create buildings that can inspire and that promote communication, collaboration, critical thinking, and creativity.

No single school design fits all needs. Facility planning, design, and construction professionals must collaborate with teachers, administrators, government leaders, and industry professionals to provide educational experiences that meet the needs of students and teachers in the current COVID-19 environment, as well as post-pandemic.

This collaborative team should consider all available data and engage stakeholders in the design process using technology. Virtual models can illustrate how technology is used to design and construct buildings and also simulate how those buildings will function.

Using virtual reality, stakeholders can “travel” through the imagined design and get a sense of the lighting, volume of space, and materials. Furniture can be placed in this virtual space, along with representations of students and teachers, to demonstrate line of sight, natural flow patterns, and more. Augmented reality through high-tech goggles allows stakeholders to experience the facility as though they were within its confines.

Stakeholders and design professionals can make adjustments easily before designs are finalized or materials are purchased. That ability reduces or eliminates waste and frustration.

Unique Educational Facilities

Wittenberg-Biramwood (Wisconsin) High School’s new agricultural education building is a great example. The building was designed and constructed specifically for the students to pursue training and careers in the agricultural science industry. Students have opportunities for hands-on experiences in areas such as animal science, aquaculture, and aquaponics.

In addition to constructing the 7,200-square-foot agricultural

education building on the high school campus, the district included several other career-enhancing features in this facilities project, which was completed in September 2020: improvements to the technology education area to address career training, STEM (science, technology, engineering, and math) education, and interdisciplinary project collaboration, along with renovations to the library that enhanced collaboration spaces.

Another example of collaboration between school district and local industry can be found in Clintonville, Wisconsin, where the school district is working with local manufacturing companies to form partnerships and apprenticeships in the companies’ facilities to train students for careers right out of high school.

Beyond Educational Needs

Clintonville Public School District is also addressing its community’s needs by housing the community recreation center and pool within its high school building and offering shared high school and community space to promote the schools’ sports and arts programs, which provide significant entertainment in the region and build an esprit de corps.



The new, 7,200-square-foot agricultural education building at Wittenberg-Biramwood High School in Wisconsin provides students with real-life experiences in animal science, aquaculture, and aquaponics.

Schools are being used for so much more than education. In addition to housing sports and arts facilities for community use, many hold adult education programs, such as English as a second language, technology courses, and driver's education.

Many schools also partner with local food banks and other nonprofits to provide food and essentials for students and safe spaces to address mental health issues.

Architecture and Design Pave the Way

Changes in our society require education decision makers to consider how their facilities can and should be created and used. A huge responsibility lies with design and planning professionals to facilitate rich discussions not only among educational professionals, but also with key stakeholders.

When we all come together with solid data, open minds, and good intent, we will achieve the best building solutions for students, families, taxpayers, and the communities in which we serve.

Jody Andres is a senior project architect and the K-12 market leader at Hoffman Planning, Design & Construction Inc.
Email: jandres@hoffman.net

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