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Headquartered in Bloomfield Hills, TMP Architecture has been inspiring learners of all ages for 60 years. Since its founding in 1959, the firm has been focused on designing the finest educational buildings for academics, student life, the arts, sciences, sports and recreation, and health and wellness. TMP's passion for lifelong learning continues today, successfully serving thousands of districts, colleges, universities and communities across the country. TMP Architecture offers its design perspective on the top current and future trends in school construction.

Student Engagement

Laura Casai, IIDA, LEED AP and Danielle O'Grady, IIDA, senior educational planners with TMP Architecture, share their perspective on student engagement:

"Students are often the best indicators of what is needed in a learning environment. They are the users, after all. In an attempt to avoid pitfalls associated with relying on assumptions instead of facts, our designers often go straight to the source for meaningful feedback.

"At Port Huron Schools, an empathetic design process was employed to engage students by soliciting their input both in furnishings specifications and color and finish selections. The students were introduced to the design through a professional presentation and dialog session. They were asked to try out physical pieces of furniture that had been brought to the school. We like to call this a "Furniture Fair"! Their opinions were collected, analyzed and ultimately integrated into the decision-making process.

"From this specific example of student engagement, we learned that a small number of students expressed some hesitation over navigating among too many seating pieces in a typical classroom that provided for such 'micro movements.' Their commentary confirmed that all learners are DIFFERENT and should be accounted for in the decision-making process. This trend is two-fold, not only are we, as professionals, relying on accurate user information, but we are empowering the students to take ownership of the building and therefore their experience in it."



At Hull Prairie Intermediate School, the Student Learning Communities are divided by shared STEM labs.

Curricular Drivers

Casai and O'Grady offer their insight into the curricular drivers shaping today's learning environments:

"In shaping the overall plan for a school, gone are the days of defaulting to rows of cookie-cutter classrooms connected with a double-loaded, straight hallway. Advances in modern curriculum mean that the activities required to foster student skills can be better supported by creativity in architectural planning, too!

"One example is the planning format of Small Learning Communities. Approximately 80 to 150 students are teamed or grouped in a dedicated area of the building for most of their school hours. This cohort of students is supported by a variety of spaces depending on learning modalities and teaching methodologies. These spaces range from classroom-sized spaces and small group rooms to project studios and shared commons space.

"The building becomes a system of spaces used in harmony to deliver a more dynamic, more active, and more authentic learning experience. This model also helps to cultivate more meaningful relationships between staff and students and students and students over time.

"At Hull Prairie Intermediate School, the

Student Learning Communities are divided by shared STEM labs, spaces which also serve as meccas for meeting, making and project presentation. Traditional resources, such as the media center, are also reconsidered. Each Student Learning Community has a small "transient book area" housing relevant materials supplied through a partnership with the community's local public library. The public library symbiotically provides a more vast and updated collection, while benefitting from an increased catalog circulation. New and modern curricular drivers demand creativity, both in planning and delivery."

Safety + Security

TMP Architecture Senior Vice President Eduardo Blanc, AIA IA offers his design perspective on this compelling national discussion:

"In the midst of a national debate over security in American school buildings, a third of U.S. parents fears for their child's safety. For safer schools, empathy and security aren't either/or choices - we need both.

"While safety and security is a necessary driver of design choices for architects and designers, we cannot

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Each Student Learning Community at Hull Prairie Intermediate School has a small “transient book area” housing relevant materials supplied through a partnership with the community’s local public library.

forget that students, and their ability to learn, are the center of every school and therefore their educational needs should be at the forefront. Our focus and goals must be on creating safe spaces that support 21st century learning environments.

“Safe and secure entry designs focus on a clearly marked front entrance, vestibule, and often, a direct pathway through an administrative area to gain access to the school. The challenge arises from the need to balance security features with design choices to create an atmosphere where students feel safe, secure, and welcoming. Welcome centers with “friendly supervision” include an electronic surveillance or door monitoring system, combined with architectural features, to create the entry pathway. At Jeffers Elementary, the front of the building provides a singular entry point, clear signage, and visibility to maintain sight lines.

“Pairing the design of one main entrance with administration or guidance offices is key to monitoring all school visitors. In addition to a simple overall layout and easy sight lines, specifying proper hardware can control access into the school during school hours and after hours. There are several options for providing this first line of defense, including special keys, coded access, card readers, and even thumbprint readers. At Jeffers Elementary, the secure entry vestibule acts as the first line of defense, directing guests to enter the office before access to school building is granted. Additionally, specialty consultants evaluate and install cameras and recording equipment for surveillance throughout a school and in parking lots and along public walkways.”

FUTURE TRENDS

Flexibility, Adaptability, Agility

Blanc shares his insight into repurposing underutilized spaces in schools into dynamic learning environments:

“Enrollment stability has been a challenge for many school districts in Michigan. After losing students over the course of the past 10 to 15 years, some buildings currently hold vacant



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educational spaces with no specific purpose. Where most see empty classrooms, unused storage areas, or outdated gymnasiums, others may see an opportunity for additional educational programs. These found spaces are great to develop into dynamic, multipurpose areas to fit 21st century educational requirements. Collaboration centers, small/large group meeting rooms, digital media studios, and enhanced technology learning studios are only the beginning. These new educational learning studios are stimulating, flexible, and adaptable for future program changes. The spaces are dedicated to the learning process, and allow teachers to facilitate students to engage their knowledge and skills through collaboration, project-based learning, and challenging activities.

"Prior to renovating an underutilized commons area and out-of-date gymnasium, Detroit Country Day saw the opportunity to turn an apparently lost space into a found space. The renovation included spaces for a digital media studio,



At Port Huron Schools, an empathetic design process was employed to engage students by soliciting their input both in furnishings specifications and color and finish selections. In what is called a "Furniture Fair," the students were asked to try out physical pieces of furniture that had been brought to the school.

jewelry, metalworking, painting, drawing and robotics studios, as well as a commons area and a new black-box theater. The common areas are strategically located in the space to support collaboration, creation and presentation, allowing the program to flourish, giving new life to the space, and enhancing the learning opportunities for the students."

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Sustainability

TMP Architecture's Senior Educational Planner Nandita Mishra, Assoc. AIA, ALEP, LEED AP sheds some light on sustainability's importance in the school environment:

"Schools are perhaps the most influential environment outside the home where young students experience rapid brain development and expansion in social skills. When looking to design learning environments that impact student success, it is important to consider the connection between student development and a sustainable environment. The economic and psychological benefits of introducing sustainable design within and around the schools include not only student well-being, productivity, and social

relationships, but also reducing stress, illness and absenteeism, and improving student learning and engagement.

"Sustainable design choices reduce negative impacts on the environment, while creating socially conscious educational facilities focused on student health, security and prosperity. Robust environments with plenty of fresh air, light and natural views keep learners active and engaged, while reducing costs and the school's carbon footprint. Incorporating certain design choices, such as creating a building with more organic forms versus geometric shapes and using natural materials like wood grain within the learning environment, increases skills, participation, and productivity.

"Hull Prairie Intermediate School takes sustainability to a new level by incorporating sustainability into the curriculum through their partnership with the Toledo Zoo on an initiative called Project PRAIRIE (PRAiries that InvigoRate Inquiry LEarning). As part of the prairie lands on the campus, the program offers students a hands-on learning experience. Purposefully positioned on the site are bioswales, comprised of native plantings and dotted with age-appropriate informational signage. Additionally, there is access to an outdoor learning studio with a solar pavilion to support additional investigative activities."

Technology

Mishra offers an overview of how technology is changing educational methods and the design of school buildings:

"Technology is evolving at a breakneck pace and influencing how we learn, live, and operate. Students' ability to continuously learn, adapt, and think critically and creatively are being tested. Schools today are adapting by introducing more student access to interactive devices, providing easy Wi-Fi access, and enhancing curriculum to include classes on coding, among many other examples. However, when looking at how this trend will influence school design and future learning environments, a one-size-fits-all approach does not produce the best outcomes. As technology evolves, the following list offers ways in which this



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trend can be adapted in the classroom:

- Social media to share thoughts and ideas to help students stay up-to-date, connect, and collaborate remotely with classmates and teachers.
- Smart interactive textbooks to document and track student comprehension and provide one-on-one tutoring when needed.
- Data analytics to help students learn at their own pace and provide teachers real-time assessment data.
- Online learning to provide flexible opportunities within the classroom and make learning available anywhere.
- Gamification to simulate real-life problems and to create engaging learning experiences.
- Virtual reality to create engaging learning experiences that promote discussion of concepts by experiencing it.
- Smart classrooms, including digitally personalized desks, multi-touch surfaces, and interactive communication.

“Just as technologies are changing the way students learn and educators teach, it is also changing how buildings are designed. In order to facilitate visioning sessions, our team at Walled Lake Schools introduced virtual reality to help the owners experience the spaces and buildings before they are built. Additionally, Walled Lake implemented safety and security upgrades district-wide as part of an effort to enhance security, but also to enhance technology in all facilities. Upgrades included network-based systems to maximize building security and smart sensors for site lighting to help reduce energy consumption. Wireless technology reinforces learning and teaching when buildings are safe, secure, and functional for all users.”

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To improve safety and security, the front of Jeffers Elementary provides a singular entry point, clear signage, and visibility to maintain sight lines.

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