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The Marysville test: Stunning school, not-so-stunning results

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Visitors to the \$59 million, state-of-the-art Marysville High School have plenty to marvel at.

Completed in 2010, the imposing glass and steel, 270,000 square-foot structure is widely regarded as the jewel of the city on the St. Clair River.

The building features fully-outfitted science labs and computer labs, natatorium, television broadcasting studio, a community auditorium with artist grand piano, and a media center usually found in glossy education catalogs, the kind where library books are discretely tucked away in favor of abundant technology and flexible student seating areas.

With its vaulted ceilings allowing daylight to pour in on the cloudiest of days and innovative acoustic design that works to control noise levels in the most crowded spaces, the high school showcases what those in the education industry call 21st Century learning spaces – those that are well-lit, open and flexible.

Those settings and accommodations are touted by school districts as ways to improve learning, often when requesting taxpayers to approve millions in borrowing.

Marysville school district voters passed a 3.87 mill tax increase in 2007 to pay for a \$74.6 million bond issue to build it.

But whether and how such educational spaces translate to improved academic performance is nearly impossible to quantify, education administrators, architects, and analysts say.

Marysville High School saw a decline in state performance measures used to represent learning since the new high school was completed.

Marysville High School's ranking among all Michigan schools dropped from the 89th percentile in 2011-12 to the 81st percentile in 2012-13. By the 2013-14 school year it had fallen to the 78th percentile, according to Michigan Department of Education Top-to-Bottom data. The rankings are based on student performance in math, reading, writing, science and social studies, and graduation rate data for high schools.

Port Huron Schools Superintendent James Cain said it's not at all clear that the decline in ranking at Marysville High School disproves claims of better academic outcomes in 21st Century

schools. Cain inherited the newly constructed high school in Marysville in January 2011 before leaving that district for Port Huron in June 2014.

He said Marysville's Top-to-Bottom ranking record in recent years rather is reflective of changes made to cut scores in levels of proficiency on state assessments. Many other districts including Port Huron and East China saw similar declines in their respective high school rankings, and officials there say all of those buildings are in need of facilities upgrades.

"If you just take that state achievement data at face value, it may appear in some cases that student achievement decreased when in reality kids may have actually done better from one year to the next when the bar for what was considered proficient has changed," Cain said. "I think to be fair to that example, schools that have new facilities, I don't think you can paint a direct correlation that achievement was negatively impacted by new facilities or new environments."

Current Marysville Public Schools Superintendent Shawn Wightman said students there have been very successful academically prior to the new building, but attributed that success to the people there working with students.

"It's not the physical building itself. It's nice, no doubt about it, but it's the difference in their abilities and their achievement," Wightman said. "It's one of those things where you can paint a wall, but it's still a wall."

While Wightman acknowledged that, in terms of achievement in the state, "we've been declining for over a decade now," he said reasons for that have less to do with the school environment than with changes to accountability measures at the state level.

"We're up against a lot of odds," he said.

Learning benefits hard to measure

On a gray, snowy Monday afternoon while classes were in session, Port Huron High School Principal Mike Palmer stood in one of the hallways and pointed out the window to the enclosed courtyard.

A row of rectangle-shaped 1950s style classroom windows line its perimeter. Above each window is inexpensive white paneling that reaches up to the ceiling where there used to be glass.

The paneling, installed during the 1970-80s energy crunch cuts heating bills but also restricts the amount of natural light coming into classrooms.

Dale Jerome of Rochester-based French Associates, the principal architect for the Marysville High School project, said lighting is something they consider.

"There are definitely studies that correlate daylight and levels of outside light with student achievement. We can put that glass back and bring back original levels of daylight and actually take it back to something having a positive influence on student outcomes," he said.

While allowing that physical variables such as air quality, lighting, temperature and acoustics do have some bearing on learning, Jerome said there are "thousands of other variables" including

the educator and the student that make it difficult to pin student learning to the schoolhouse itself.

Jerome cautioned against claims directly linking 21st Century learning spaces with improved test scores, even though evidence of that would certainly benefit his line of work. He said he tried to make that correlation in his own initial doctoral research in education.

"It would be compelling to be able to make that claim and use that as a rationale of bond proposals," he said.

Jerome also advised not discounting the benefits of improved air circulation and lighting on student well-being, including learning.

Different measures for different kinds of learning

While educators acknowledged the kinds of learning students acquire in 21st Century learning spaces don't necessarily translate to better test scores, they also said test scores may no longer be the best measure of the learning that takes place there.

Chris Arrington, K-12 curriculum director for Port Huron Schools, said traditional school settings that place desks in rows get in the way of new ways of learning.

"Learning in the past was about acquiring things, acquiring bits of knowledge. Now it's about acquiring that same set of knowledge in a different way. What can you do with that knowledge? How can you demonstrate that knowledge? That's what the real world wants from our young adults, the higher-level thinking skills of collaboration and the ability to defend a hypothesis, to collaborate in order to test your knowledge," Arrington said.

Cain said qualitative measures should receive greater emphasis in assessing how students learn today.

"I would never say that facilities in themselves make the student, but facilities play an important role in the student's ability to achieve," he said.

"I think if you're looking for quantitative data that directly correlates the learning facility to specific and measurable student growth, that is data that it's harder to get your hands around, but you can definitely look at qualitative data, and I think depending on how you view data, both are important. How students feel about what they learning, how they feel about the environment they're learning in, how our teachers perceive that, how our community perceives that and the resources available to them," Cain said.

The Cost of 21st Century Learning Spaces

Even if learning outcomes in the new educational spaces are to be measured differently, creating those spaces in schools come with hefty price tags.

Marysville Public Schools financed construction of its high school with a \$74 million bond proposal voters narrowly passed in 2007, making it the school district with the highest property tax rate in the Blue Water Area.

Marysville is in the early stages of a campaign for a May 3 non-homestead property tax renewal of 18 mills over a period of five years. Wightman said the renewal would bring in about \$3.5 million annually, a little over 10 percent of the district's operating budget, and \$17.5 million over five years.

"It just helps us with our budgeting. It allows us to make payroll over our summer months and do some other things. But if we didn't have it we would seriously have a problem, you're talking layoffs, concessions, we don't want to go there," he said.

Wightman said the district has no interest in creating new learning spaces like the ones already in place at the high school.

Revenues from the tax would go into the district's operating funds to maintain and support the district, and the renewal tax would not apply to principal residences or other properties exempt by law, according Wightman.

Port Huron Schools is in the midst of a "Building Tomorrow, Today" campaign for a \$153.3 million bond that would in part fund construction of similar 21st Century learning spaces.

East China School District will ask voters in May to approve a \$49 million bond for upgrades and improvements to technology and facilities.

Superintendent Steve Skalka said revenues raised by the bond would help to bring facilities there in line with today's learning styles with up-to-date instructional methodology, resources, and technology.

"I believe it is important to understand that both the physical school and the instructional program are components of what makes an effective learning environment," Skalka said in an email. "Neither can stand alone and that is why both are addressed in this bond proposal for as we know, students perform better in a comfortable and safe learning environment that allows them to be active participants in the instructional process."

Jason Bedrick, policy analyst with the Cato Institute's Center for Educational Freedom, gave testimony to Michigan legislators in November in which he argued that academic performance is not correlated with increased spending.

Bedrick presented national data that increased school spending does not necessarily lift test scores, and that public schooling in the U.S. is increasingly expensive and less efficient with flat or mediocre academic performance.

However, Bedrick in an email wrote that the data only show how states are performing overall.

"It's impossible to tell from that data what sort of impact 21st Century learning spaces have. For that we would need to conduct a random-assignment study," he wrote.

Marysville Public Schools parent Jon Wright, an agent for O'Connor Realty in Marysville, said many people perceive taxes as being too high there.

"Being a realtor, that's the first thing they ask. I hear it every day," Wright said. He cited the example of Marysville having unmetered water bills as a factor that helps to balance higher taxes.

"Taxes are always an issue. Through the years everyone has always said 'Marysville is too high.' I think if they really broke it down they'd actually see we're in line with everybody else, especially with what you get. I'm a resident and I pay high taxes but my kids get a good education, it's a safe town," he said.

Marysville High School seniors Justin Russell, 17, and Natalia Pronessa, 18, worked on their laptops in the media center Wednesday during their lunch hour.

While Pronessa said she thought the building is beautiful, she didn't know if it would in itself make a difference in learning. Justin, a school of choice student, said he appreciated the open layout compared to his previous school district.

"I feel like it's a lot more open for me to study how I do ... I don't know how essential it is, but I definitely feel like it's more welcoming," he said.

Kathy Heiser, media associate at Marysville High School, said students there benefit most from the technology at the media center and not as much from its geometric designs and high ceilings.

She pointed to the 700 e-books online there, in addition to print books students still use for their reports. That ready access to technology is the direction learning is headed, Heiser said.

"We've got excellent sources. We're able to get online all the time. I don't see anything as far as this big, beautiful building getting in the way. It's just there for them, and we use every inch," she said.