

Electronic School



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From Phosphate to Steam

A Tennessee district helps its community rebound through arts and tech

ACROSS THE U.S., SMALL communities that once were the backbone of America’s manufacturing sector have struggled to find ways to keep their economies afloat as jobs and industry have moved elsewhere.

Take Mount Pleasant, Tennessee, for example. Once dubbed “The Phosphate Capital of the World,” this small community southwest of Nashville saw its economy dry up when the salt compound could no longer be mined. But the community is on the rebound, thanks to economic development efforts and a conscious effort to use STEAM in its schools.

In my last column, I noted how STEAM is becoming increasingly

popular in districts that are adding the arts to a curriculum that focuses on science, technology, engineering, and math. But the schools in Mount Pleasant are going one step further by taking a holistic, K-12 approach to STEAM education.

“It really is reinvigorating the community,” says Chris Marzak, superintendent of Maury County Public Schools, whose district includes the three schools in Mount Pleasant. “It’s the injection of energy our schools have needed.”

SUPPORT FOR THE ARTS

Marzak, who has been superintendent since August 2015

and was named to NSBA’s “20 to Watch” this year for his leadership of technology efforts in the schools, is pushing a “rapid, district-wide digital and instructional transformation” in Maury County. The district, which has 22 schools, serves inner-city, suburban, and rural populations, so his approach to each area has been different while working to meet each community’s specific needs.

“We had no systematic processes in place, and our county is diverse, so the first step was asking the community what they wanted to see our students accomplish in the future,” Marzak says of the process, in which 46 groups were interviewed and 9,300 statements were taken. “We took all of those opinions and whittled them down to seven.”

The first two goals, which involve the elementary school, are for every student to be reading at grade level by the end of third grade and to be at the same point in math by the end of fourth grade. Goal three emphasizes performing at grade level in reading and math by the end of sixth grade, while goal four focuses on being algebra proficient in eighth grade.

Goals five to seven look at helping students to meet four college writing benchmarks before graduation, with an emphasis on financial literacy and on more Advanced Placement and dual enrollment opportunities. The district also is working to provide more work-based opportunities for high school students.

During the community meetings, Marzak saw the support for the arts in Mount Pleasant. The town, like many communities, is attempting to rebuild its once vibrant downtown area with an emphasis on restaurants, the performing arts, and local-

ly owned businesses. Thanks to Jim Barrier, chief executive officer of the town's largest employer (Smelter Service Corp.), the grades five to eight middle school already had a wing that accommodates drama, dance, music, and art classes.

"It was somewhat isolated," Marzak says. "You had this support for the arts at the middle grades level, but nothing formally in place at the elementary school or the high school. Our goal was to do something that would provide a wraparound service to the entire community, and we knew we needed something that merged the arts with our STEM focus."

STEAM IN FLORIDA

Meanwhile, on a much larger scale, Florida's Santa Rosa County Schools also are taking a comprehensive approach to STEAM. In 2015, the 27,000-student district teamed up with Discovery Education Communication to develop an initiative that focuses on using the four Cs of STEAM — communication, collaboration, creativity and critical thinking — plus curiosity, confidence, and commitment.

Initially, federal programs director Karen Barber says the program was expected to focus on the elementary and middle grades, and continue with career academies at the high school level. But as the program has progressed, she says support for a districtwide, pre-k through 12 STEAM effort has grown rapidly.

"It's been a humbling, amazing journey," Barber says. "We started on a five-year project in the elementary schools, and now our goal is to transform all schools into complete STEAM teaching and learning environments by the end of next year, which is year three."

Working with Discovery Education, Santa Rosa County has trained its staff in new ways to approach teaching and learning so it can "create interesting, highly engaging and motivating content for our students." In her district, the "A" in STEAM is viewed "as a means of communication," whether it is through visual, graphic, performance or fine arts.

What makes this work, Barber says, are teachers who have become "facilitators for learning," and have a "wonderful sense of camaraderie" with their students.

"When you walk into a STEAM classroom, the students are just effervescent," she says. "They want to tell you what they are working on and learning. They learn that is OK to fail because they are experimenting, and experimentation is the way they will grow. Our teachers are on fire, because they see the students really responding to this, and those who have been discouraged by all of the accountability are now reinvigorated because they feel like they are learning as well."

REBUILD THE COMMUNITY

Last year, when the high school principal in Mount Pleasant left, Marzak saw his chance to make significant changes. He hired Ryan Jackson, an administrator from nearby Nashville, and made him the lead principal over the elementary, middle, and high school. Other positions, including an arts specialist, a STEM specialist, and two instructional coaches that work pre-k through 12, were created.

"It was a prime opportunity to do something like this," Marzak says. "The three schools are separated by one street, and we have someone in

place who is able to take on this lead principal role."

Marzak sought out Barrier, the Smelter Service CEO, and the two agreed that the emphasis on the arts, along with technology, was key to revitalizing Mount Pleasant's economy. Barrier has agreed to work with other businesses to help with financial and service commitments to the district.

After a year with an integrated STEAM curriculum, Marzak is encouraged by the results he has already seen. Students are now engaged in coding. High school and middle school students have made and sold a miniature house. Metatronics lab students have built an escape house that "people pay 30 bucks to use."

"There is a level of excitement in Mount Pleasant that you haven't seen there in some time," Marzak says. "It helps that Dr. Jackson is a big community guy, and he realizes that success is not about the school, but about the community. He's beating the pavement, urging people to partner with us, saying this is what we need to be doing, but we need your help. If the schools can help in leading the charge, then we know we can rebuild this community."



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