

With robots and video games, Parkway and Normandy schools unite to energize STEM programs

- By Terri Waters • Feb 11, 2019

School is the last place most students want to be on a Saturday morning, but that's not the case for those involved in a joint program Parkway and Normandy school districts are offering this month.

Robots and video games are a big part of the draw, organizers say, to this program that melds science, technology, engineering and math, or STEM for short.

“We were surprised at all the interest from students,” said Jennifer Proffitt, STEM coordinator at Parkway. “We kept saying, this is a lot of Saturdays!”

Two hundred children from third through eighth grade — 100 from each of the districts — have committed to showing up all four Saturdays in February to learn how to program robots to do things like push a hockey puck or cruise around a course they've set up on the floor. Students will also create video games and get the chance to play each other's games.

The coding, math, engineering and collaboration skills they're learning come naturally while the students have fun, says Mia Carpenter, math coordinator for Normandy schools.

"If a student is willing to get up on a Saturday, we need to offer something that is engaging," Carpenter said. "We have budding engineers that need an outlet."

Using real life experiences helps the students understand coding, she said. "For example, you have to rescue a family from a forest fire. How do you get the robot from point A to point B where the family is, using the codes?"

'Idea just blew up'

Although the Saturday program is new, the partnership between Parkway and Normandy took root in 2015 when Charles Pearson was hired as superintendent for Normandy. He was facing numerous challenges, as the Missouri State Board of Education had stripped the district of its accreditation in 2014.

Pearson said he needed help to drive change at the district. Early on, he spoke up at a meeting of area superintendents. "I told them we can use some partnerships — where can we partner with you?" Pearson said.

Parkway was one of several districts to offer support. They “adopted” Normandy’s Lucas Crossing Elementary. This has meant providing support through teacher and administrator training and mentoring.

“That was targeted at getting the adults working together,” Pearson said. “Then we asked, ‘What is the next level?’”

Pearson observed STEM classes at Parkway, and curriculum specialists at both districts began meeting regularly.

Normandy had started a Saturday learning lab three years ago for math and reading. “The natural progression was to move to STEM. We realized we (Normandy and Parkway) are trying to do the same things,” Carpenter said.

“They said, ‘What would happen if our students could work together?’ The idea just blew up. Everyone was excited,” Pearson said.

STEM ‘unplugged’

Normandy added STEM activities to its Saturday classes last fall that revolved around the engineering design process — making scientific hypotheses, testing, revising and testing again.

No computers or other devices were used. Students designed and built weight-bearing bridges made of wooden sticks, built airplanes with straws, and launched a rocket using air pressure. Borrowing from the “Three Little Pigs” storyline, they constructed houses that had to withstand strong wind blowing from a fan. If a house blew down, they had to revise their plan and make it stronger.

These lessons “taught them grit and team building. You had to go back to your team and try again,” Carpenter said. “The kids loved it. Our (Saturday) attendance went up, the teachers seemed more excited. It wasn’t just teaching to meet (test) standards.”

She said the teachers have taken many of the Saturday activities back to their classrooms.

Pearson sees the program as a model for daily learning: “Teachers can weave this into their curriculum. It’s a blueprint to turn schools into what we really want them to be.”

Different backgrounds

The STEM Saturdays program this month places students from the two districts together in small groups. One teacher from Parkway and one from Normandy lead each group.

Pearson said the program is about learning how to collaborate, learning how to be critical thinkers, and how to be creative in terms of problem-solving.

The students come from different backgrounds. Parkway serves mostly middle to upper income families in west St. Louis County, while in the Normandy district, 92 percent of students live in poverty, and 99 percent are African-American.

“Normandy has a different student population than Parkway,” said Kevin Beckner, assistant superintendent at Parkway. “We want to learn from each other and grow. It’s not about ‘we’re fixing Normandy.’”

Stephanie Valli, a Parkway STEM coordinator, said the focus is on connections between students. “Kids are kids, it doesn’t matter which district they’re from. They can engage and collaborate together.”

Collaboration is a job skill that STEM employers want, says Proffitt. It’s important to have that component embedded in the classroom, with “kids working collaboratively toward a goal,” she said.

“STEM, particularly computer science and robotics, are biz buzz words now,” said Ben Schimmel, education technology coordinator at Normandy. Schools are teaching “for jobs that haven’t been created yet. We need to spark that interest to prepare them for jobs in the future.”

https://www.stltoday.com/news/local/education/with-robots-and-video-games-parkway-and-normandy-schools-unite/article_e3c01111-72d3-5740-a71b-3af8a6681777.html#1