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STEAM and STEM educate, engage students

Photo by Deb Jacques

At the Kuka robotics demo area Dec. 5, Jame Reid, a Chippewa Valley High School junior, tries out the "trainer," which is a computer-type game that teaches computer programing techniques. Nearly 3,000 middle and high school students from Macomb, Oakland and Wayne counties attended Auto STEAM Days Dec. 5-6 at Macomb Community College's South Campus in Warren.

By: Maria Allard

WARREN — Over the course of the past few years, school officials in Michigan have turned their attention to the areas of science, technology, engineering and math, also known as STEM.

In local districts, STEM has become a special class in the same manner as art, music and gym.

During the 2017-18 school year, the Warren Woods Public Schools district began offering K-5 students at Briarwood, Pinewood and Westwood elementary schools STEM class once a week for 55 minutes.

Breean Jarvie is the STEM teacher at Pinewood and Briarwood, while Craig Schoenherr teaches the program at Westwood. District officials use the Project Lead the Way curriculum for the STEM program.

During STEM class, Jarvie and Schoenherr facilitate learning through the use of hands-on, inquiry-based challenges. The students plan, build and test new inventions to solve real-world problems. The Project Lead the Way program is designed to tap into students' exploratory nature, engage them in learning that feels like play, and encourage them to keep discovering.

"A STEM program is important for the students because it allows students to explore, experiment, plan, design and construct," Jarvie said. "Our STEM program instills the importance of collaboration and teamwork."

STEM focuses on the application of knowledge and skills, problem solving, teamwork, communication, creativity, innovation and productive failure. The instruction covers critical-thinking skills, inquiry-based classwork, technology and career options. Students work on project-based and real-world problems.

In an effort to engage with parents more about STEM, the teachers hosted the district's first-ever STEM Showcase from 6 to 7:30 p.m. Dec. 6 at Briarwood for families of all three elementary schools.

The STEM Showcase kicked off with a free pasta and salad dinner, followed by two sessions in which students and their parents built materials in different classrooms. At the end of the night, prizes were raffled off. About 300 families attended.

Briarwood fifth-grader Anya Janson enjoyed the event.

“I think it’s a really good experience, especially for the younger kids, so they can experience how to do engineering and learn more about what STEM really means,” Janson said. “I think it’s very cool that people get to know what we do. I think the technology and engineering is my favorite part. You can make robots. You can make cars. You have to code stuff and (ask) what do you do to move forward?”

Briarwood fifth-grader Shane Duvall said the showcase was “really fun. I saw everyone happy.

“What made it fun was interacting with the tools and the activities,” he said. “We used different stuff from VEX kits and made robots.”

Photo by Deb Jacques

Chippewa Valley High School sophomore Jacob Robson plays the “trainer.” Next to Robson is Tyree Williams, a junior at Chippewa Valley.

Building STEAM at MCC

Macomb Community College held its 12th annual Auto STEAM Days Dec. 5-6. The purpose of the event was to raise awareness about careers in the automotive and technology industries and also show different careers available within the industries.

According to Joe Petrosky, MCC’s dean of engineering and advanced technology, the “A” in STEAM introduces the arts and the artistic side within the design process. The event was held in the college’s Sports and Expo Center.

“People often overlook the role creativity and the artistic side play in these careers and within technology,” he stated in an email. “For our STEAM event, there is actually an emphasis on two ‘M’s,’ both math and manufacturing. Our event highlights both.”

During the two-day event, students in grades six through 12 participated in hands-on activities in manufacturing and technology, including auto design, robotics and technology, production design, clay modeling, electric and automated vehicles, virtual welding, surface traction, sketching, and traffic light simulation and programming.

They also saw a mini auto show featuring current model and concept cars from Ford, General Motors and Fiat Chrylser Automobiles. The activity pods at the event were hosted by American Axle, Comau, Continental, FCA, Ford, GM, Kuka, Magna and Siemens.