

'Mathletes' to athletes – Camdenton R-III robotics program popular with all

By Nancy Zoellner-Hogland

Dubbed “the hardest fun you’ll ever have,” FIRST (For Inspiration and Recognition of Science and Technology) was founded more than 20 years ago by inventor Dean Kamen in an effort to “transform our culture by creating a world where science and technology are celebrated and where young

people dream of becoming science and technology leaders.”

According to Sherry Comer, director of Afterschool Programs for the Camdenton R-III School District, Kamen’s program does that – and a whole lot more.

Comer applied for a grant that allowed Camdenton R-III to participate for the first time

in the 2010-2011 school year. Another grant was awarded to the district for the 2011-2012 school year that will allow the program to continue.

“The whole concept is to get kids excited about four areas – science, technology, engineering and math (STEM) – by adding competition to give it a ‘Superbowl-type’ excitement. It sounds strange but in this area, it’s especially important. Because we don’t have Boeing, General Electric or General Motors in our area, our kids don’t usually get to see the technology used in those industries. This program exposes them to the opportunities that are out there, pushes them beyond their limits, and encourages them to take the higher-level math and science classes instead of taking the path of least resistance,” Comer said, adding that the program isn’t just for math geeks.

“That’s what’s so exciting. It draws in students who are creative because that skill is needed to design logos and fliers. Students involved in fabrication are needed because some welding is involved. Other students who are really good at video games are needed to operate the robot the students build. It’s really a team effort that takes the combined talents and lets the students see how, when they work together, they can come up with something pretty amazing,” she said, adding the “gracious professionalism” aspect of FIRST is especially important,” she said.

Using that concept, students in competition with each other are encouraged to work with their competitors to solve problems. According to the FIRST site, “fierce competition and mutual gain are not separate notions. Gracious professionals learn and compete like crazy, but treat one another with respect and kindness in the process. They avoid treating anyone like losers. No chest thumping tough talk, but no sticky-sweet platitudes either. Knowledge, competition, and empathy are

comfortably blended.”

The Camdenton’s Afterschool Science, Engineering and Robotics program, which receives funding only through grants and donations from civic organizations as well as individuals, is entirely run by volunteers. High school students who participate are challenged to raise funds, design a team “brand,” hone teamwork skills and learn and use sophisticated hardware and software to build and program a robot that is able to perform prescribed tasks against a field of competitors. Comer said it’s as close to “real world” engineering that a student can get. Volunteer professional mentors lend their time and talents to guide each team – a team that last year surprised their sponsor and qualified to go on to the national competition.

“With thousands of students participating, the competition is tough – but our kids are tougher! They took second place in the Kansas City regional competition but won the St. Louis regional,” Comer said.

In fact, last year’s team ended up with a lengthy list of awards – the St. Louis Regional Champions 2010, Rookie Inspiration Award 2010, World Championship Qualifiers 2010, KC Regionals Finalist 2011, St. Louis Regional Champions 2011, Industrial Safety Award 2011, Quality Award 2011 and World Championship Qualifiers 2011.

Kyle Gulshen, a sophomore at Camdenton High School, described the program at a recent competition in Washington D.C.

“After School has allowed me a wonderful opportunity to participate in an incredible program FIRST Robotics where we design, build and compete with robots in some of the most exciting matches you could ever watch. FIRST is a truly incredible learning opportunity. I believe it’s the future of education. It takes the isolated and disjointed incidents of mathematical formulae and scientific theorems learned in school and fuses them into a more cohesive problem-solving skill that is essential for the STEM related fields of the future,” he said.

“Not only that, but throughout after school and FIRST I was paired with mentors from my community who work every day in the field of my interest. This was really helpful.

It provided me a lot of real-world experience and gave me a sense of what my career may be like in the future,” Gulshen said, adding, “Just to give you a sense of how directly applicable it is, I was actually able to learn the programming used in the Boeing 787 this year, which was really neat! You can take it right out in the field.”

Gulshen also praised the “gracious professionalism,” concept employed at competitions.

“The most important thing is the most wonderful atmosphere – gracious professionalism, as it’s called – where kids from all over the world are working together to solve real challenges. I think it’s important. First, it inspires all of us students to look beyond the walls of our classroom and to improving the communities. It prepares us not only to tackle the problems of the present but to solve the unforeseen problems of the future. Afterschool and FIRST have really helped me to look past what I cannot do, and empowered me to strive for all that I can do,” he said.

For more information on the program visit www.usfirst.org.



Students in the Camdenton R-III Afterschool Science, Engineering and Robotics program surprised their sponsors when they won several awards, including the regional competition, which allowed them to go to nationals in St. Louis. At that competition, they came in 40th in their division out of 81 teams. Photo contributed.

Drive One 4 'Their' School

Students in Camdenton’s Afterschool Science, Engineering and Robotics program aren’t just focusing their efforts on science, technology, engineering and math. They’re also dedicated to assisting fellow students. The students who travel to compete must pay their own way, which requires them to participate in multiple fundraisers throughout the year.

This August they are partnering with Ozark Ford to hold a “Drive one 4 UR School” event. However, instead of keeping the money raised, they are donating it to the Joplin High School to help rebuild the science program. That school was destroyed in May when an EF-5 tornado ravaged the town.

Dale Lear, general manager of the Camdenton auto dealers, said from 9 a.m. to 3 p.m. on Saturday, August 20, members of the community can stop by the Camdenton High School parking lot to test-drive the latest Ford and Lincoln products.

“For every valid test-drive completed, Ford Motor Company will donate \$20 to Camdenton High School up to \$6,000. We’ll have five salesmen and two managers on site so there shouldn’t be any wait,” he said, adding that drivers must be 18 and older to participate and only one per household can qualify for the \$20.

From 10 a.m. to 4 p.m. the Camdenton Optimist’s club also will be grilling burgers and hot dogs that will be sold as part of the fund-raiser.

According to the Ford Motor Company website, the Drive One 4 UR School program, which got its start in 2007, has become Ford’s most successful test-drive initiative ever. With some 1,500 events held in 49 states since its inception, the program has garnered approximately 255,000 test drives and raised more than \$5 million for before- and after-school activities across the country.



Not only were students required to build a robot, they had to build it in a way that it would perform certain designated tasks. Here, the operators of “Jenny” practice hanging a yellow tube from a hook. The robot was required to hang four different inflatable tubes without breaking them as part of the competition. Photo contributed.