

PROJECT LEAD THE WAY | Pre-engineering curriculum is new this year to eight area districts

Project helps students use math, science lessons

Liberty Junior High is one of eight area schools to put pre-engineering program to the test.

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Trey Thommason (far right) demonstrated the ShopBot computerized router at Oak Park High School.

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Joe Boman Liberty Junior High teacher

Northland educators assembled Friday to talk shop, figuratively and literally.

The topic was Project Lead the Way, a pre-engineering curriculum new this year to eight metro-area school districts, including North Kansas City, Liberty and Park Hill. A dozen or so Northland teachers reflected on their first months teaching the courses.

The symposium, hosted by the North Kansas City School District, included a demonstration of the Oak Park High School ShopBot, a computerized router that dominates the shop's workroom. Each of North Kansas City's three high schools has one of the \$15,000 machines, which can cut six inches deep in materials as varied as Styrofoam, wood and aluminum. Park Hill South High School also has one.

The machine embodies the program's goal: "You take a thought and you make it a reality," said Mark Sharp, a Project Lead the Way instructor at Oak Park High School.

Sharp's students were tweaking their creations Friday, working up designs of desk organizers using 3-D imaging software. Sharp passed out prototypes of one version made earlier on the ShopBot.

The classes are being offered as electives but often carry the workload of core subjects. Each district plans to add classes every year: principles of engineering, digital electronics, computer integrated manufacturing, civil engineering and architecture, and biotechnical and aerospace engineering.

The introductory class starts with fractions and delves into Boolean algebra and calculus.

"How do you convince a kid to stay in there and keep plugging away?" asked Joe Boman, a Project Lead the Way teacher at Liberty Junior High School.

Most students didn't need convincing.

"Project Lead the Way has helped me decide my career goals," said Oak Park senior Josh Faller. "It gives you a real-world application."

Branddon McElroy, an Oak Park junior, thinks of his future as an auto mechanic.

"I can make parts that I need," said the prospective mechanical engineering major.

The boost in math and science comes as educators are seeing the need for scientists in a global economy. Project Lead the Way inspires epiphanies like McElroy's, which don't often come from plotting dots on a graph, officials contend.

"It comes to life," said Amy St. John, North Kansas City's career education coordinator. "It's the 'Now what?' part of it."

The program costs each high school roughly \$90,000, which includes the cost of teacher training, computers and software, and classroom materials. The Missouri Department of Elementary and Secondary Education provides some grants, as do others such as the Ewing Marion Kauffman Foundation, which dedicated \$1.2 million in matching funds.

Many of the pre-engineering sections throughout the Northland have at most, a handful of girls. As colleges work to recruit more female engineering students, so too will secondary schools.

"We're going to recruit," Boman said. "Send letters to family members. Talk to math and science teachers to find kids who would be a good fit."

Around 1,200 students are taking the courses this year, and officials expect 2007-2008 enrollment to double, along with the number of participating districts, said Laura Loyacono, Project Lead the Way's regional director.

"It's beyond our initial hopes and dreams," Loyacono said.
