

Kingsland leads the way on Project Lead The Way

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Josiah Roth works on a scale model of the IDS Center building in Civil Engineering class at Kingsland High School.

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Kingsland leads the way on Project Lead The Way [Matthew Stolle, mstolle@postbulletin.com](#)

SPRING VALLEY — Within the last year, Josiah Roth has discovered a fascination with city planning and the building blocks — the highways, bridges and buildings — that make up cities.

The [Kingsland High School](#) sophomore has found this vein of enthusiasm, thanks to courses developed by [Project Lead the Way](#), a project-based approach to teaching STEM (science, technology, engineering and math) courses that has been gaining ground across the nation.

And as the name suggests, Project Lead the Way curriculum emphasizes problem-solving through projects that involve teamwork and computer-based learning.

As a result, rarely do you hear students giving voice to the age-old whine, "oh why are we learning this," or "this is stupid," teachers and students say. Kingsland students here understand why.

"It's the interaction with students and being able to build things like this," said Roth, as he worked on a scale model of the [IDS Center](#) in Minneapolis. "It's not like, 'oh, it's so boring.' It's actually something fun to come and do."

Schoolwide program

Roth stands out in another way. He was one of 15 Kingsland freshmen who last year received college credit through an end-of-course exam certified by PLTW. While it's not unusual for juniors and seniors to earn college credit through PSEO classes, college credit for freshmen is rare.

It's news like that that excites educators like Kingsland Superintendent John McDonald, who sees his 609-student district on the cutting-edge of STEM education. Unlike most districts, which are certified or trained to teach one or two PLTW courses, Kingsland is certified in all three: engineering, biomedical science and Gateway, which is programming for middle-school level students.

"We've stepped forward in that regard," McDonald said. "We have a program that goes from the elementary level through high school to seniors."

Broader training

For McDonald, though, the value of PLTW courses goes beyond the particular STEM course being taught. Because of its emphasis on critical thinking and problem solving, Kingsland students are getting training that they can apply broadly.

"It's critical thinking, problem-solving, and working in teams," he said. "If you can do those things at a high level, you can have a lot of success in a lot of different areas."

But bringing a STEM focus to Kingsland hasn't been cheap in either time or money. To teach the courses, each teacher took a two-week training course that cost \$5,000. Kingsland has spent about \$40,000 on such training, paid for by a \$65,000 grant that McDonald wrote.

For Kingsland science teacher Jen Orth, the curriculum has required an adjustment in how she teaches her class. Orth finds herself as much a trouble-shooter as an in-front-of-the-

class instructor as she moves from one group of students to another as they work on projects.

"It's a whole different style of teaching. It's all inquiry," Orth said.

Not that there aren't lessons taught and learned in a more traditional manner. Orth still teaches units on, say, electricity in a lecture setting, but once they learn how to solve a circuit and calculate voltage, "you kind of set them free" on their own projects.

"Every group is coming to their own revelations and discovering things on their own," she said. "Instead of presenting once and hitting everybody with the same concept, you're learning individually. It's cooler for them when they figure it out on their own."