A Boost for Science

Grant gives science teachers an assist from WSUV grad students

By ISOLDE KAPER
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After the germ lessons in Charlene Shea's seventh-grade science class, the girls at the middle table started going through a small bottle of hand sanitizer per day. They had, after all, swabbed the surfaces of their school, including the drinking fountain, and watched colorful organisms grow.

Earlier in the year, they'd built their own biomes and dissected a host of plant organisms. Gross! Maybe a tiny bit, said Andrea Hoover and Jessica Velsh, but they would take lab exploration over textbook work any day.

Over the last year, six classrooms across Clark County have been ramping up scientific experiments in class, thanks to a five-year, $2.7 million National Science Foundation administered through Washington State University Vancouver.

Six WSU graduate students studying science are paired with six science teachers to not just help the educators beef up curriculum, but also to learn what teachers face. The scientists are stationed at Gaiser and La Center middle schools and Camas High School.

But the most obvious effect has been on the students.

"It's the best science class I've been in my whole life," said Andrea, 13.

The instigator of the hand sanitizer trend, Andrea said that at previous schools, she had classified rocks and memorized scientific terms — "not that fascinating." Now, she says,
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From Page A1

she understands how so much is interwoven.

Jessica, 13, said she’d started the year hating science. Now, it’s what she wants to do when she grows up.

“I would do what Ms. Duerr does,” she said, referring to her science teacher, Jennifer Duerr. Duerr is focusing on the toxic algae blooms in Vancouver Lake. Earlier in the year, she and her students brought in water samples from the lake, and students used sticks to push around the shells, silt and sediments.

As Jessica and Andrea chatted, two girls nearby argued about the difference between autotrophs and heterotrophs.

Overhearing their conversation, Shea remarked, “That kind of stuff wouldn’t have happened before.”

It’s important, she said, that students see scientists who are women or part of a minority group. Hers is not an honors class, and some of her students have difficulty reading or have trouble at home.

Gaiser Principal Mike Lane said district leaders are pushing teachers to motivate student learning through local issues.

“Here, they get to see that science exists outside a textbook,” Lane said. “A lot of times, they’ll ask, ‘Why do I have to do this?’”

The teacher-scientists, he says, need only point to themselves.

The scientists

Environmental science professor Gretchen Rollwagen-Bollens of Washington State University Vancouver spearheaded the effort.

“Teachers are, in my view, the focus,” Rollwagen-Bollens said. “You touch them, you touch hundreds of kids. If they have opportunities to delve more deeply into their subject matter, that’s a way K-12 education will make what happens in the classroom more like what happens in the lab or the field or the workplace.”

Meghan Graves, a sixth-grade science teacher at Gaiser, said teachers are often so busy they have little time to plan. Like Shea, she has been inspired having someone in the field working alongside her.

“I haven’t read this much research since doing my master’s,” she said.

The teachers and scientists meet about every other week to map out their lessons.

Shea said that as result, she’s revamped her curriculum and now uses the textbook only to show pictures.

Duerr said her own science education was spotty when she was in middle school.

“Now she tells the students about her own research and is impressed by how much they’ve picked up.

“I never had science come to the classroom or learn the things the kids are learning now,” Duerr said. “Some of what they’re learning now in 10th grade, I didn’t learn until (college).”