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SPOTLIGHT

Ukiah School focuses on hands-on science, technology curriculum

By Jayati Ramakrishnan East Oregonian Mar 15, 2019



Senior Jenny Lee, left, and instructor Teresa Veach, right, look on as sophomore Vasco Park, center, works on solving a problem in advanced math on Wednesday at the Ukiah School.

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Staff photo by E.J. Harris

From the outside, Ukiah School looks like a relic from the last century.

The entire student body — about 40 students — is housed in one building. Students from different grade levels learn side-by-side. And on Wednesday, a student brought her Scottish blackface lamb to class because the lamb's mother had abandoned it and it needed to be bottle-fed.

But the rural school, tucked in the southeast corner of Umatilla County, is also outpacing other schools in many ways. Students are immersed in hands-on science and technology programs, and as of next year, some of them will be learning computer coding courtesy of Amazon's

Future Engineers program.

Science and technology teacher Laura Orr said about five years ago she introduced simple programming concepts to her middle school students.

“They loved it, enough that I’ve tried to find ways to do more with them,” Orr said. She applied for the Amazon program, thinking it was a long shot — but is pleasantly surprised at the support they’ve received.

“I really thought they’d say, ‘You’re not big enough to be statistically important to us, or it’s not going to expose enough kids, so you don’t play well,’” Orr said.

The grant gives the school access to computer science lessons, teacher training and live online support through Amazon for teachers and students as they go through the classes.

With the program, Orr will offer computer science classes to seven middle schoolers, and two classes at the high school — basic and advanced computer science. The goal, Orr said, is to give students a thorough understanding of data systems and networking, beyond consumer-level knowledge.

She hopes the program will be available to other small schools in the area through InterMountain Educational Service District’s online program.

IMESD Superintendent Mark Mulvihill said the Ukiah staff does a lot to bring in opportunities for their students.

“That school is really the bedrock of that community,” he said. “It’s like each student has an individual plan.”

Orr is in her 16th year teaching science and technology at Ukiah, one of five certified teachers. One handles all kindergarten through fifth grade classes, with the help of an aide. The remaining teachers handle sixth through 12th grade, with one math instructor, a social studies/P.E. teacher, and an English teacher who also serves as the school’s principal.

A native of the small town, Orr studied physics in college, and planned to go on to graduate school.

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“Life took a different track,” she said. She ended up coming back to Ukiah, starting her family, and teaching.

Orr rotates the subject area each year so that each student meets all the requirements at some point during their high school career. This year, they’re focusing on biology and chemistry. Next year, they’ll have a heavier focus on computer science and physics.

But students still have the chance to hone their interests, whether astronomy, developing apps, or tracking fish.

“I’ve largely given them the direction of, ‘Here’s your first task, and a rough breakdown of how it should work — figure it out,’” she said.

Some students have worked with NITARP, an effort by NASA and Caltech’s Infrared Processing and Analysis Center to connect high school students with working astronomers. Through the program, Orr’s students have worked on projects collecting data and presenting at conferences with NASA scientists.

“With that program we’ve done some great research,” Orr said. “Navigating databases, finding baby stars, classifying galaxies and variable stars.”

The school has a research-grade magnetometer on campus, which allows students to study space weather, and magnetic field interactions between the Earth and sun.

Orr said she tries to keep kids connected with the Forest Service, and students learn about everything from fire science to fish biology and trees. On Wednesday, students met with two fisheries biologists, who are going to lead them on an “Adopt a Fish” program, where they will learn how to tag and track fish.

“I very much tie it back into state standards, and keep track of everything,” Orr said. “But there’s far more than just meeting those check-off marks.”

Exchange students

About a quarter of Ukiah’s students come from outside the U.S. The school has had a robust exchange program for about 20 years, Orr said, with 12 students representing nine countries at the school this year. Orr said that’s largely the school’s choice, not a necessity. ■

“We do it largely because of the benefits they bring,” she said. “The exposure to the world our kids wouldn’t otherwise get. It provides a very different world view that I think really benefits them.”

Karen Quintanilla, a senior from Mexico, said her favorite subject is computer science, and she may continue to pursue it after high school.

“We’re working in App Inventor, and working from scratch,” she said. “That was interesting.”

Vasco Park and Marsel Kozhogulov, sophomore exchange students from South Korea and Kyrgyzstan, respectively, said the experience has been an adjustment, but they’ve enjoyed it.

“The robotics competition was kind of fun,” said Park.

The two have played on the soccer team, gone to field trips like a technology expo at Eastern Oregon University, and attended a play.

Remote education

The district has to work a little harder for some things that urban schools take for granted.

“To get the internet to work at a normal, modern rate, we have had to install a booster antenna, and it doesn’t always help,” said Orr. “It hasn’t been updated at the rate internet use has gone up, and we’re at the bottom of the pile, priority-wise.”

That means some students can’t do work that requires the internet at home. Many have to find time to be in town or go somewhere else to do their work. But each student is assigned a laptop and Chrome Book.

“We have lots of ways to be able to interconnect, and then some,” Orr said.

Some of the students said it can be tough going to such a small school. Alex Knudsen, a ninth-grader, has spent most of her life in the district.

“It’s the same thing every day,” she said. “But it’s easy — I’m used to everyone here.”

Knudsen said she hopes to study psychology, and has taken advantage of online resources to

learn about subjects for which the school can't offer classes.

Norma Barber, Ukiah's language arts teacher and principal, has been teaching at the school since 1976.

She said while the internet has helped them bridge many gaps, they can't deny their remote location.

"But if you are isolated, it opens you up to some other things, like having students go out and adopt 150 fish," she said. "In a small group like we are, a great majority of the kids get to have a meaningful experience."

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Reporter

