UMATILLA-MORROW
EDUCATION SERVICE DISTRICT

Umatilla-Morrow ESD | 2001 SW Nye | Pendleton, Oregon 97801

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Science grant in full swing in classrooms

A $3 million grant program that brings University of Oregon science fellows into schools to teach students about hands-on science is in full swing in the Hermiston School District.
The $3 million five-year University of Oregon GK-12 Science Outreach Grant from the National Science Foundation was awarded last May to the Umatilla-Morrow Education Service District (UMESD), which has partnered with the Hermiston School District to bring UO scientists to Hermiston schools.
Each teacher in the elementary schools has the opportunity to have the science fellows spend two weeks in their classrooms. Not only does the fellow teach students about electricity, balance, chemistry and physics, but the fellow also provides the teachers a professional development opportunity to support the teaching of the science kit content, said Bryn Browning, Assistant Superintendent of the Hermiston School District.
"It's all hands-on, inquiry-based learning," Browning said. "It's a true lab for the kids."
Earlier this month, UO science fellow Nate Kuwada thrilled students at Sunset Elementary School, working with kindergarteners and first graders. Kuwada – or "Mr. Nate," as the kids call him – taught students in Connie Hachquet's first grade class about balance using a cardstock cutout of a lobster. True to the hands-on nature of the program, students got to try to balance their own lobsters on their fingers.

"Students have very thrilled to do 'real' science," said Sunset Elementary Principal Shawn Worstell. "They are so eager to explore and discover things that they have really been engaged in these lessons. Every child I have spoken to has said, 'Science is amazing!' or something equally enthusiastic."

This is actually Kuwada's second round at Sunset. He came to the school in the fall of 2007 as part of a pilot program for the grant in Hermiston. Now that the grant is in full swing, Kuwada and other UO fellows have spent time at each of the elementary schools since September.
The best part of the program has been the two scientists demonstrating that elementary teachers can teach physical science, Worstell said.

"We are not scientists, so the usual science knowledge most elementary teachers have deals with life science," she added. "Physics is not a common focus of instruction for elementary students. This program has shown each teacher in the building (or will have by the end of their next visit) that physics is fun and they can teach it even if they are not a physicist. The other major benefit is to see the joy of learning on the faces of the students. This is 'wow' science and the students love it."

A new focus of this program is to get the teachers more involved in the teaching of the lessons. The science fellows teach the classes, but will slowly work themselves out as the teacher and working in the classroom teacher as offering the instruction.
“This should give some confidence to the teachers that are not trained scientists,” Worstell said. Eric Volger, Director of School Improvement Services for the UMESD, said he has received positive feedback from numerous teachers, administrators, and, most importantly, students. “Teachers who have had the opportunity to work with the graduate students report that, in addition to knowledge of their subject area, the ability of the fellows to connect with and effectively teach grade school students is very impressive,” Volger said. “Not only are they amazing as scientists, many fellows are very skilled in the art of teaching.”

Student reaction has been overwhelmingly positive. “During the two weeks the fellows are at their schools, most children eagerly anticipate ‘science time,’ Volger said. “Many have said, for the first time, that they could not wait for recess to be over – because ‘science time’ was next. Teachers have reported that, now, more than ever before, students are saying ‘when I grow up, I want to be a scientist.’ To me, this speaks volumes.”

The goal of the grant program, Browning said, is to build teacher understanding in Year One, grow the region’s commitment to the program, purchase more science kits, and then grow UMESD staffing and capability to transport and replenish the kits. Kits include all the materials teachers need to continue the program.

The District is working with the UMESD to find additional grants for the purchase of science kits and materials to continue supporting the program once the grant concludes, Browning said. The grant only funds the fellows coming to the classrooms and the professional development for the teachers.

One of the only regrets Volger said he has regarding this project is that there are not enough resources to allow every school in the UMESD service area – Umatilla and Morrow counties – to simultaneously benefit from the opportunity. “There are not enough science kits to allow every school to be involved at the same time,” he said. “Many schools are patiently waiting for the time when kits and Fellows can be made available to them.”

The GK-12 Science Program began in Lane County schools 2003, but this is the first time it has ventured into Eastern Oregon. Since 2003, the program has served 36 schools in 14 school districts. The program was originally developed nationally to meet all science content standards and is articulated in grades K-8, with the potential of also moving into the high school science classrooms.

The Graduate Teaching Fellows in K-12 Education Program (GK-12) is administered by the UO Materials Science Institute. Under the program, UO participants will adapt a variety of hands-on science-teaching kits based on materials initially developed by the Lawrence Hall of Science at the University of California at Berkeley. The inquiry-driven kits include curricula about magnets and motors, chemical changes, time measurement and electrical circuits.

The kits will be housed at the UMESD. Teachers will be able to check out the materials as needed.