Students Get Up-Close Look at Science

UI grad student joins forces with Genesee teacher to share love of science with children

by Jodi Walker, Lewiston Tribune, March 5, 2007, Page 5A

GENESEE -- With flashlights in hand, four students trekked down the hall, through an empty classroom and into a storage closet. Closing the door behind them, they carefully raised a box on the table.

What they found was a bean plant struggling to survive despite no water or light.

"It's going to die," Macey Kane-Seibert repeated matter-of-factly as the group took measurements and observed the plant.

The plant is part of the hands-on science experiment brought to Tauna Johnson's fifth-grade class by a University of Idaho graduate student.

Brandy Eastman, a graduate student in chemistry, said she jumped at the chance to take her love of science to the classroom.

"I had taught 101 and 111 labs," she said of science classes at the university. "Then I spent a semester as a research assistant and I felt so unfulfilled."

The National Science Foundation's STEPS (Scientists and Teachers Educating and Preparing Students) program is offered in several schools in the region with graduate students working directly with fourth- through sixth-grade students.

Most UI partnerships focus on natural sciences. Programs through other universities across the nation also include medicine, life and earth sciences and elementary through high school students.

"The kids understand life science," Johnson said. "They understand earth science. I thought it would be great to get the natural sciences in here."

It is difficult to understand cells or atoms, things that can't be seen, Eastman said.

Sophia Draznin-Nagy, 10, said the approach has worked. She easily remembered lessons from earlier in the year, listing names of rocks as she showed one of the rock kits purchased through the National Science Foundation grant.

On a shelf across the room, Sam Moser, 11, pointed to rocks brought back from the Fossil Bowl at Clarkia that contain fossils.

"I found a fish but it got broke. All I have left is a little bitty piece."

It wasn't until Draznin-Nagy recalled some of the science experiments that Tyler Young, 10, remembered what the class had done.

"Oh, yeah," he said. "There were a lot of them that were fun."

Cloth rodents stuffed with rocks, paper and cotton hang from the science room ceiling. The moles are each labeled as an element and have the same molar mass as the actual element. The moles are arranged across the ceiling by weight, just like the periodic table.

"If you stand back you can see it looks just like the periodic table," Eastman said, going on to explain the pun of stuffed moles and molar mass.

A favorite for Tia Valles, 10, was freezing a balloon and then dipping it in several liquids, including vinegar and salt water to see how fast the ice would melt.

The students have scraped the inside of their cheeks and looked at the cells under microscopes provided by Eastman. At Halloween they did a lesson on carbon dioxide by using dry ice.

"We put a candle in the bowl with the dry ice and it went out," said Raechel Osterberg, 10.

Eastman and Johnson will travel to Washington, D.C., this week to represent UI at the Science Foundation's annual conference.

"I was told we were selected because we truly do team teach," Johnson said.

Eastman teaches the science while Johnson said she handles the classroom management and makes sure the kids understand the words Eastman is using.

"It is hard when these are words I use every day and they look at me blankly," Eastman said.

She has also learned that elementary students don't work as fast as she thought they did. She started the year with an entire semester of lesson plans.

"She was so organized," Johnson said. "Then reality set in."

Eastman said a project she thought would take one day took three. But she has adapted.

The students have only stumped her once. While she has had to research several questions, the only one she wasn't able to answer was why Daylight Savings Time starts and ends on the days it does.

"I found lots of information on why we do it but nothing that told why those dates were chosen."

But studying the length of days doesn't require an answer to that question. A large chart on the wall shows an ongoing project where sunrise and sunsets are recorded for a half-dozen places around the world, including Antarctica, the Arctic and a place with similar longitude and latitude as Genesee, but in the Southern Hemisphere.

"They are using technology with the data collection," Johnson said. They have employed Microsoft Excel to do bar graphs, used the Internet to obtain information and learned to use lab equipment.

The partnership will continue through the end of the school year. The UI recently awarded another grant for next school year.

The partnerships are great for the graduate students, Eastman said.

"Having some people skills, I wanted to put them to use. You get bored sitting in a lab all by yourself reviewing data."

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NOTE:
Photo below of Brandy Eastman and Genessee students, provided by University of Idaho NSF GK12 Program, was not part of the original *Lewiston Tribune* news story.

UI graduate student Brandy Eastman, center, helps Genesee 5th grade students use microscopes to view their own cheek cells.

Photo provided by University of Idaho NSF GK12 Program