Bringing Research Into the Classroom

GraSUS fellows are encouraged to bring their research into the classroom. In a math classroom, students learned about the concept of randomness in the context of financial mathematics. Another fellow in an AP Biology classroom is teaching the students about research by having them work with specimens that the fellow has collected.

Examples from this year’s project include:

- Aquatic Invertebrate Lab (Fellow used samples that he collected to teach the students about water quality, invertebrate identification, and land use)
- Genetic Analysis (Fellow used samples of DNA that he prepared for the students to run out on gels and analysis)
- Fish Morphology (Fellow used fish samples that he collected and had the students learn about fish morphology and collect data for my research)

- One fellow uses her research in small ways throughout the year, influencing how she frames and introduces activities and labs. She uses what she has learned about the nature of science learning to infuse learning about the processes of science into as many lessons and discussions as possible. This includes directly addressing aspects of scientific research as well as attempting to use a structured inquiry approach to some labs.
- One fellow has used graph theory problems as bell work. The mathematics behind the problems is explained after solutions (or no solution) is found. Students in one class have been taught how to play Nim (the game the fellow studies). Over the course of the year, the game is played when there is a little extra free time at the end of class. Students have not been shown a solution yet.

Summer Workshops

Looking for ways to keep activities fresh, we held a ‘rolling summer academy meeting’ on a charter bus to attend the “Human Bodies” exhibit at a museum in South Dakota. On the bus, teacher to teacher and fellow to fellow sessions were held to discuss the ‘nuts and bolts’ of the project. On the return trip, teams presented lessons that they had developed in response to what they had observed at the museum exhibit.

Marketing

GraSUS has intensified marketing efforts. Our advisory board, including local school board members, school administrators and community professionals, has met regularly during the course of the past three years to establish a broad-based networking effort to develop support for this project beyond initial funding from the NSF. We publicize our activities through community poster sessions and coverage by local TV and newspaper. A project brochure is distributed at parent teacher conferences and other community events.

Communicating STEM

A team from a participating school has for three years invited community members to a poster session. Students present posters outlining their research on global climate change. Parents, community members and local governmental officials are invited to view the posters at a poster session held in the evening.