New class helps grad students communicate with the public

There’s a lot of giggling outside Room 304 at Mullen-Hall Elementary School in Falmouth, Mass., as 24 fourth-graders wait for their classroom to be transformed into the deep ocean. They have been warned not to peek inside, where two graduate students at Woods Hole Oceanographic Institution (WHOI) are pulling down shades, turning off lights, and tapping red fish to the walls.

“No talking,” teacher Karen Dawson reminds a whispering pair as they enter the room. “Remember, you deep-sea divers are supposed to have snorkels in your mouths.”

Dawson is supervising, but the class is temporarily in the hands of Regina Campbell-Malone and Benjamin Walther, who teamed up to teach a lesson on how brightly colored fish exploit colors and lack of light to hide from predators in the depths. Twice a month this spring, students in the MIT/WHOI graduate program in oceanography have taught fourth-graders as part of a new course called “Communicating Ocean Sciences.”

WHOI biologist Lauren Mullineaux decided to offer the course for the first time this winter, recognizing graduate students’ interest in becoming more effective at conveying their oceanographic world. She learned about a curriculum developed by the California Center for Ocean Sciences Education Excellence (COSEE) and participated in a three-day workshop on it at the University of California, Berkeley.

Young scientists seem more interested than scientists from her generation in making their research understandable to non-scientific audiences, Mullineaux said, and research grant proposals today often require scientists to explain how the research may benefit society. She was also impressed to learn that many of the students taking her class, independently and without pay, have sought out opportunities to teach science to young people.

For example, biology student Ari Shapiro and chemistry student Desiree Plata found grants to volunteer-teach in a third-grade classroom in Cambridge, Mass. Kate Buckman, a biology student, started a reef ecology course in Belize before beginning her graduate program.

Anna Michel, a student in the WHOI Applied Ocean Physics and Engineering Department, teaches seminars nationwide that encourage young women to consider science and engineering careers. (See page 17.)

As Abby Fusaro, one biology student taking the course, put it: Scientists should be able to convey a clear picture of what we are doing and why it is important.

Beyond readings, written assignments, and classroom discussions, the MIT/WHOI graduate students learned how to prepare lesson plans, including many they designed themselves. Buckman and Kristen Whalen crafted a homemade, kid-sized fish costume for an anatomy lesson, complete with white teeth, sparkly silver fins, and an inflated pink balloon for a swim bladder. Fusaro and Stacy DeRuiter had their fourth-graders examine dead, frozen fish, then discussed habitats and natural history. Campbell-Malone and Walther brought live zebra fish and had the students observe fish behavior.

Mullineaux hopes to offer the class again in 2008 and involve other faculty at WHOI in the instruction.

—Amy E. Nevala