Educational pioneer BioEYES goes Down Under

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The innovative, educational, outreach program BioEYES has now been adopted by the University of Melbourne and the Australian Regenerative Medicine Institute. The down-under partnership program debuts this August. BioEYES is designed to foster an interest in and a love for science in elementary, middle, and high school students. Over the course of one week, students watch the transparent zebrafish, Danio rerio, grow from a single-celled zygote to a larval fish complete with a beating heart. Since its inception in 2002, BioEYES has served nearly 35,000 students in Philadelphia, Baltimore, and South Bend, Indiana. The Australian partnership is the program's first foray abroad.

BioEYES is a grassroots effort and the brainchild of molecular biologist Dr. Steven Farber at the Carnegie Institution's Department of Embryology. It is a K-12 science education program, which provides classroom-based learning through the use of live zebrafish. It incorporates teacher empowerment and provides professional development seminars and a co-teaching experience with trained university science consultants. Educators not only value the university-community partnership, they are excited to learn from expert science outreach educators. In addition, they are eager for the BioEYES team to bring cutting-edge science into their classrooms and inspire students to further pursue science education and careers.

Named for their zebra-like stripes, zebrafish are minnow-sized, inexpensive and easy to raise. They share about 80% of their genes with humans, a plus for scientists such as Farber, who studies the effects of

genes on development of the digestive system. A few years ago he discovered that the same qualities that make the fish useful for his research make them ideal for introducing children to the thrill of hands-on science.

"The fish develop from a single cell to a swimming larva within a few days," remarked Farber. "And during that period their bodies are optically transparent. You can watch their organs develop without harming the fish." Farber started Project BioEYES in Philadelphia in 2002, where he was a professor at Thomas Jefferson University before coming to the Carnegie Institution in 2004. He was inspired by a visit to his son's elementary school, carrying along his fish, microscope, and other scientific gadgets to show the kids.

The partnership with Australia demonstrates that BioEYES has earned global recognition for excellence as a leader in science education. The new partnership comes on the heels of the Society for Developmental Biology's board of directors decision to continue to support the program for 2010 and 2011.

When asked about the importance of this new international initiative, Farber said, "Science has become increasingly collaborative. Scientists the world over are eager to not only share knowledge with their peers, but also to advance science education beyond traditional university settings." BioEYES provides a dynamic vehicle to bridge the gap between the scientific community and K-12 education.

Provided by Carnegie Institution