

Who Uses the COOL Classroom? Community College and Middle/High School Educators, That's Who.

Janice McDonnell

Marine & Coastal Sciences, Rutgers University • New Jersey USA

Liesl Hotaling

Center for Improved Engineering & Science Education • Stevens Institute of Technology • New Jersey USA

Classroom science educators ranging from elementary schools to community colleges are increasingly turning to technology-based supplemental materials to compensate for the limitations of textbook-dominated learning. These educators seek materials that connect current scientific research to instructional activities that promote critical thinking.

Beyond the elementary school level there are few outstanding, readily available inquiry-based curricula (AAAS, 2000). The COOL Classroom, developed collaboratively by educators and scientists at the Institute of Marine & Coastal Sciences (IMCS) at Rutgers University, is a series of internet-based instructional modules that link active research investigations at the COOL Room to precollege and college students.


Most recently, the Center for Improved Science Education and Engineering (CIESE) at Stevens Institute of Technology and Rutgers Marine & Coastal Sciences have partnered with community college faculty from Maricopa, Cuyahoga, and Miami-Dade Community Colleges as well as K-12 educators from the corresponding local school districts (Phoenix, Cleveland, and Miami, respectively) to pilot the COOL Classroom. This effort is part of the National Science Foundation's (NSF) funded Mid Atlantic Center for Ocean Science Education Excellence (or MA-COSEE). Community College faculty from these three distinct regions will provide turn-key instruction for middle and high school educators in their region using the COOL Classroom and other exemplary materials developed by the COSEE partners.

The Mid Atlantic COSEE is investing in community colleges because they play a significant role in the education for our nation's P-12 teachers. A 1998 NSF report estimated that "more than 40% of teachers completed some of their science and mathematics course work at two year colleges. Indeed, many future elementary and middle school teachers are taking most, if not all, of their college-level science and mathematics courses at two-year colleges (NSF, 1998)." Nationally, it has been documented that community colleges enroll nearly half the country's undergraduates (National Commission on Mathematics and Science Teaching for the 21st Century, 2001).

Classroom projects that infuse technology, like COOL Classroom can only be effective in the



Students at the Empire CompuTech Center, K-8 school in the Cleveland Municipal School District, explore the COOL Cards on the COOL Classroom at www.coolclassroom.org.

educational arena if a "human infrastructure" exists to guide its application. Technology serves as an educational tool, and its usefulness is determined by the quality of the curriculum content and instructional strategy it helps to employ. In the coming years, the MA-COSEE will strive to foster meaningful interactions between scientists and educators that result in the development of exemplary educational tools that enhance science education for teachers, students, and families. 

References

- American Association for the Advancement of Science. 2000. Heavy books light on learning: Not one middle grades science text rated satisfactory by AAAS's Project 2061. [Online] Available: <http://www.project2061.org/research/textbook/articles/heavy.htm> (February 13, 2003).
- National Science Foundation Workshop Report (December 1998). Investing in Tomorrow's Teachers, The Integral Role of Two-Year Colleges in the Science and Mathematics Preparation of Prospective Teachers. [Online] Available: <http://www.nsf.gov/pubs/1999/nsf9949/nsf9949.htm> (February 13, 2003).
- National Commission on Mathematics and Science Teaching for the 21st Century (2001). Before It's Too Late, A Report to the Nation from the National Commission on Mathematics and Science Teaching for the 21st Century. [Online] Available: <http://www.ed.gov/americaaccounts/glenn/> (February 13, 2003).

This article has been published in *Oceanography*, Volume 16, Number 4, a quarterly journal of The Oceanography Society. Copyright 2003 by The Oceanography Society. All rights reserved. Reproduction of any portion of this article by photocopy machine, reposting, or other means without prior authorization of The Oceanography Society is strictly prohibited. Send all correspondence to: info@ios.org, or 5912 Lemay Road, Rockville, MD 20851-2326, USA.

Photo Courtesy of NOAA