P1.42 EARTH2CLASS—EXPANDING OPPORTUNITIES TO LINK CLASSROOM TEACHERS AND RESEARCH SCIENTISTS

Michael J. Passow
White Plains Middle School, White Plains, NY, and Lamont-Doherty Earth Observatory of Columbia University, Palisades, NY

Gerardo J. Iturrino
Lamont-Doherty Earth Observatory of Columbia University, Palisades, NY

I. Introduction

The "Earth2Class Workshops for Teachers" at the Lamont-Doherty Earth Observatory of Columbia University (E2C) continue to serve as a valuable resource for teacher content enhancement and a format for distribution of AMS Educational Programs resources. During the past year, E2C has received support from National Science Foundation Geoscience Education Grant 331232, allowing us to expand opportunities to link classroom teachers with research scientists. Our poster provides information about the past, present, and future of this innovative project.

Various aspects of the Earth2Class program have been described at previous Symposia on Education. In the past year with NSF support, we have been able to expand the program to include more attract additional teachers from New York City, Yonkers, and other districts in the region. We have also enhanced our web site, including more video materials from scientist presentations. We have offered greater opportunities for curriculum development, including lessons that build in online and printed AMS Educational Program materials.

II. E2C—AMS Education Connections

Many of the themes for the research scientists' presentations match topics in the DataStreme Atmosphere, DataStreme Ocean, and Water in the Earth System programs.

Corresponding author: Michael J. Passow, White Plains Middle School, 128 Grandview Ave., White Plains, NY 10605; michael@earth2class.org

Earth2Class web site: www.earth2class.org

Selected examples of E2C themes presented during the 2003 – 2004 series that relate directly with topics in the AMS Education programs include:

- "Studying Climate Change Using the LDEO Deep Sea Sample Repository" – Gerard Bond & Rusty Lotti
- "What Can Ocean Temperatures Tell Us about Climate in the Southern Hemisphere?"—Martin Visbeck
- "Uncovering the Secrets of Lake Vostok" – Michael Studinger
- "Learning from Tree Rings" – Nicole Davi:
- "Structure and Composition of the Oceanic Crust"— Gerardo Iturrino
- "Marsh Archives of the Hudson Estuary"— Dorothy Peteet
- "Exploring the Southern Oceans with Ships and Satellites" – Christopher Small

AMS teacher-training materials and the Internet-based resources have been widely incorporated into the E2C presentations. These provide teachers with examples of instructional materials they can use with their students.

A growing number of the E2C classroom teachers have also participated in AMS Education programs. As a result, E2C has been an effective mechanism for both recruiting future participants, and for providing ways for past participants to share what they have learning through their studies in the DataStreme programs. The enthusiasm about their knowledge, examples of how they have used AMS resources and information with students, and sense of confidence they exude provides positive additions to the Workshops, and serves as some of our best advertisement.

III. E2C Workshop Format

The monthly Workshop schedule involves:

- 9:00 – 9:30 General announcements, technology set-up
- 9:30 – 10:15 Background Information
- 10:30 – 12:15 Guest Scientist(s) Presentation(s)
- 12:00 – 1:00 Working Lunch
- 1:00 – 3:30 Classroom/Educational Technology Applications

Support for the NSF Geoscience Education grant has enabled us to provide the lunch and afternoon time for curriculum development. Examples of curriculum materials created by participants and project leaders will be included in the poster, as well as displays representative of the scientific content.

IV. www.earth2class.org

During the past year, with support through the NSF grant and more extensive feedback and evaluations from participants, we have also been able to revise our web site extensively.

We have developed more effective formats for supporting the Workshop presentations, as well as providing archived versions available for later teacher, student, and scientist use. Each Workshop home page contains sections providing: "Introduction to This Workshop," "Cutting-Edge Research," "Classroom Resources," "Technology Integration," "Resources," "Evaluation," "Multimedia," and "Register for This Workshop." We are in the process of converting all of our earlier series into this format.

We have greatly expanded our "Educational Resources" to include sections devoted "For Teachers" and "For Students." Some of these refer them to applicable AMS programs. There are also sections providing "Educational Technology Resources," "E2C Courses and Other Professional Development," "E2C Virtual Courses," and other resources, including links to national and state science education standards.

Through both the "Partners" and "Links" pull-down menu tabs, teachers and students can connect directly with the AMS Education projects.

V. Future Opportunities to Link Teachers and Research Scientists

Based on the Earth2Class model, we have begun a series of meetings to bring past participants in AMS programs together twice a year at Lamont-Doherty to share their experiences of utilizing what they have gained through such programs. Some results from the first of these are presented in the accompanying poster in this Symposium, P1.43 AMS@LDEO: Follow-Up Opportunities for AMS Education Program Participants.

The NSF Geoscience Education Grant has also enabled Earth2Class to expand our efforts to serve teachers in New York City and other districts in the area, many with large numbers of students and teachers from groups underrepresented in the atmospheric and geosciences. Several have now begun to enroll in the AMS Education courses, now that they have become aware of them. We anticipate that we will continue to reach more educators, and provide them with the content knowledge and enhanced attitudes that come from interacting with research scientists and colleagues.

We also anticipate that we will identify which aspects of the Earth2Class program provide research scientists and teachers with more effective strategies for their efforts through an expanded evaluation process. These findings will enable us to produce publications and future conference presentations that may serve as models for other institutions and school districts to establish similar programs.

For more information and details about the content and resources of these Workshops, go to www.earth2class.org.