

Building Strong Departments  
Annual Report  
August 2011

Activities:

In this project, we proposed to take strategies that have successfully supported faculty in improving their teaching and apply them to issues facing departments in designing and evaluating their departmental curricula. We proposed to enhance the design and implementation of geoscience programs and majors across the country through a series of workshops and on-line resources that foster sharing of information and resources among geoscience departments; bring education research and the experiences of other STEM disciplines into these discussions; and build skills in program design, assessment, and leadership.

In particular, we proposed to demonstrate the pathway from workshops focused on collecting examples of strategies used by departments to address common challenges to broad dissemination and adoption of these ideas. In year 1 we completed a topical workshop, a dissemination workshop, and planning for a travelling workshop program. In year 2 we implemented the travelling workshop program, provided a day of programming for the AGU Heads and Chairs workshop, and initiated a longitudinal study of the impact of workshop participation on departmental activities. In addition, we enhanced the website both to support the travelling workshop program more effectively and to assist departments who are under threat of closure, met with the advisory board, and engaged in several dissemination activities including participation in the AGI webinar series. This year, we offered a second round of travelling workshops and documented resource needs as a foundation for sustaining the program without NSF funding. We also participated in the AGU Heads and Chairs workshop at the Fall Meeting and presented information on the project at GSA, AGU, the American Evaluation Association, AAC&U, the CCLI PI meeting and as part of an invited presentation at the grand opening of the Trail of Time at the Grand Canyon. We have extended the evaluation effort to collect additional information on program impact. The development of final publications is underway.

*Travelling Workshop Program*

The travelling workshop program is designed to bring the resources and expertise developed through the previous topical workshops (and disseminated last year in the dissemination workshop) to a specific campus. This year we ran 8 visiting workshops which had in total 83 participants. Workshops were implemented at the University of the Pacific, the University of Delaware, Brooklyn College, Western Washington University, the University of Alaska-Fairbanks, Bloomsburg University, Grand Valley State University, and Clemson University. We had 22 applications for the 8 spots.

For each workshop, a team of two leaders worked with a contact person in the department (usually the chair) to customize an agenda based on our program offerings that would meet the department's needs. Our goal was to leave the department with knowledge of

strategies that have worked for other geoscience departments, information about where to find resources from other geoscience departments on the topics of interest (for example: curricula, student learning outcomes statements, program assessment instruments, recruitment strategies, etc.), and a departmental action plan for moving forward toward their goals. Each workshop combined exercises to engage department members in reflection and active discussion, presentations by the leaders incorporating concrete examples drawn from the leaders' experiences and from the collective experiences of the geoscience community, and time dedicated to action planning to scaffold the department's implementation of their plans. All workshops also incorporated information on building departmental consensus and assessing departmental efforts. Leaders: Dave Bice and Tim Bralower, Penn State University; Diane Clemens-Knott, Cal State Fullerton; Diane Doser, University of Texas, El Paso; Geoff Feiss, retired from College of William and Mary; Dallas Rhodes, Georgia Southern University; Randy Richardson, University of Arizona; Mary Savina, Carleton College.

Presentations about the project and its impact:

Iverson, E. and S. Lee (2010). Using Evaluation to Help Transform Departments in the Challenging Economic Environment of Higher Education. Evaluation 2010: American Evaluation Association Annual Meeting. San Antonio, TX.

Savina, Mary, Cherry Danielson, Deborah Gross, and Carol Ormand (2011). [Imagining the "Ideal Student": Helping Faculty Focus on What's Really Important to Assess](#): Association of American Colleges and Universities meeting on General Education and Assessment 3.0: Next-Level Practices Now. Chicago, IL.

Ormand, C.J., C.A. Manduca, R.H. Macdonald, G.P. Feiss, R.M. Richardson, S. Lee, and E. Iverson (2010). Impacts of the Building Strong Geoscience Departments Visiting Workshop Program. Geological Society of America *Abstracts with Programs*, Vol. 42, No. 5, p. 531

Ormand, C.J., H. Macdonald, and C.A. Manduca (2010), The Role of Geoscience Departments in Preparing Future Geoscience Professionals, Abstract ED13A-0597 Poster presented at 2010 Fall Meeting, AGU, San Francisco, Calif., 13-17 Dec.

Manduca, C.A. - New Directions in Geoscience Education, Invited Presentation for the Grand Opening of the Trail of Time at the Grand Canyon

Findings:

Travelling workshop program:

Of the 83 participants in this year's series of visiting workshops, 69 completed an end of workshop evaluation survey, with an overall satisfaction rating of 8.9 out of a possible 10 points. Respondents overwhelmingly agree that the goals of the workshops were met, that the workshops were well-facilitated, and that the onsite format of the workshop was useful in engaging the entire department in the workshop program. Comments focused on the value of getting the entire faculty together to hear about what works from the experts

and to discuss their specific situation in detail. The whole-department exercises (ideal student, curriculum matrix, and SWOT analysis) were seen as particularly valuable in building departmental consensus.

"Some sort of high-inertia barrier between the two sides of the department (geography and geosciences) seems to be crumbling, and we are realizing that we don't have to do things the same way they have always been done simply because of tradition."

"As a result of the workshop, we are looking at a TOTAL revamping of our curriculum...we're aiming BIG!"

"We had stalled on our assessment efforts- we put together a decent plan, but had not been able to move forward to implement the assessment process, or to use the information from assessment to inform department plans. Now, with the discussions we've had, and our action plans, I think the department faculty are ready to move forward on this. Also, the "ideal student" letter is an exercise that left a strong and positive impression on many of us."

"Our department has already been involved with identifying program outcomes and course outcomes. The workshop helped me realize that these don't have to be extensive and overwhelming."

"It has made the reformulation of our curriculum to incorporate an environmental science and sustainability component into the original geological curriculum a realistically attainable goal."

Leaders are unanimous in agreeing that the visiting workshops achieve their potential only when the entire department cancels all other commitments for the duration. Other factors affecting the effectiveness of the workshop include advance preparation and a clear sense of what the department wants and needs to accomplish. In some cases, leaders needed to adapt the pre-formed agenda on the fly to accommodate the needs of the department when they recognized that the agenda wasn't really what the department needed.

#### Building Strong Geoscience Departments Website:

Use of the website remains strong. In the past 12 months there were 25,000 visits to the site, of which 3,700 saw three or more pages. For those seeing at least three pages, the average session depth was six pages, indicating robust use of the content.