

Starting Point: Geoscience Portal to Pedagogic Service

Cathryn A. Manduca, Sean Fox, Ellen Roscoe Iverson, Science Education Resource Center, Carleton College

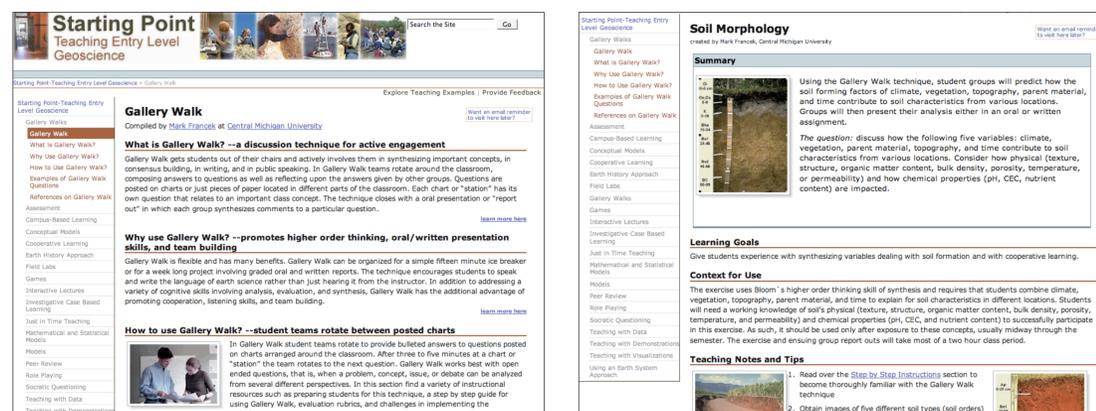


serc.carleton.edu

The Starting Point project aims to improve undergraduate teaching by helping faculty make more informed choices about their teaching methods and materials. Based on research that shows that faculty think about teaching in the context of the specific topics that they address in their courses, the Starting Point Geoscience portal provides examples of the use of different teaching methods in introductory geoscience courses. These examples are searchable by geoscience topic and are linked to materials describing the method, why and when it is useful, and tips and instructions for using the method effectively. We are now expanding beyond the geoscience community through a web service that will allow digital libraries and institutional teaching and learning centers to take advantage of the collection of pedagogic information. The service will facilitate building custom views into the pedagogic collection.

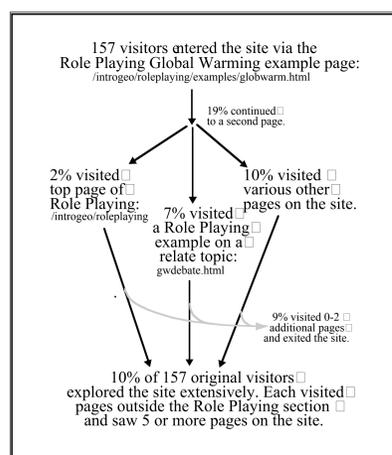
Existing Work: A Portal for Faculty Teaching Undergraduate Geosciences

Portal ties guidance on **teaching methods** to specific **geoscience learning activities** that use those methods.



Site structure explicitly designed to support faculty behavior, and it works.

- Teaching examples searchable by geoscience topic; easily discoverable in Google through likely faculty searches
- Pedagogic information, including tips for use and adaptation, is intimately linked with each example to guide faculty from what they seek to what they need to know
- Site developed by faculty colleagues and peer reviewed to increase its ability to become a *trusted source*



The typical paths of visitors moving from topical example into pedagogic content. (Data from October and November 2004.)

serc.carleton.edu/introgeo

New Project: A Service Connecting Pedagogic Information to Digital Libraries

The geoscience portal serves its audience well but the pedagogic information has much wider potential applicability.

How do we enable other communities to tap into this pedagogic information while retaining the successful model of embedding it in a context (disciplinary or institutional) that faculty identify with and are likely to discover?

A Pedagogic Service

- Make the pedagogic sections easily 'skinnable' so they can visually integrate with multiple libraries and contexts. Different libraries and groups can point to a virtual subset of the collection that *feels* like part of their site.
- These virtual pedagogic libraries will integrate context-appropriate examples drawn from a larger pool community contributed examples: e.g. the physics pedagogic library will show only physics examples.
- A simple REST-based service will allow digital libraries to point from existing records that relate to a particular teaching method to the corresponding pedagogic section in the virtual library.

Initial pilot includes several **digital libraries** as well as campus-based **learning and teaching centers**.

- comPADRE: NSDL Pathways project supporting physics and astronomy education. <<http://www.compadre.org>>
- CAUSEweb digital library: NSDL digital library project supporting statistics education. <<http://www.causeweb.org>>
- ERESE: NSDL project organizing scientific images, data and information around scientific questions with a focus on middle and high-school education <<http://earthref.org/ERESSE/>>
- MERLOT: Online learning materials for faculty and students in higher education. <<http://merlot.org>>
- Carleton College Learning and Teaching Center <<http://apps.carleton.edu/campus/ltc/>>
- Stanford Center for Teaching and Learning. <<http://ctl.stanford.edu/>>

Manduca, C., Iverson, E., Fox, S., McMartin, F., Influencing User Behavior Through Digital Library Design: An Example From the Geosciences, D-Lib May 2005. Available at <http://dlib.org/dlib/may05/fox/05fox.html>.

This work supported by the National Science Foundation: NSF-DUE-0226243, NSF-DUE-0532768