Linking Pedagogy, Resources and Community Interaction Supporting Entry Level Undergraduate Geoscience

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Focusing on Faculty

NSDL aims to foster major improvements in STEM education. This project focuses on how NSDL resources can be presented to faculty in a context that promotes improvements in their teaching. Three questions lie at the heart of the project:

1. How can digital collections and services be organized to create connections between teaching resources and pedagogy that improve instructional practice?
2. How can NSDL foster on-line communities that support faculty in their professional growth as educators?
3. How can NSDL enable faculty from a particular discipline to both draw on and contribute to the understanding of the larger science, mathematics, technology and engineering community?

Two Major Activities

Creation of a thematic collection that contains the full suite of resources needed to support faculty teaching at the entry level, including teaching resources, information on effective teaching methods, and examples of successful teaching in the geosciences.

Development of a portal designed specifically to support faculty and graduate teaching assistants teaching entry-level geoscience. The portal will present resources from the collection in thematic views that link pedagogic and content resources and place them in the context of a specific issue in teaching entry-level geoscience. Supporting a virtual community of faculty will be an integral aspect of the portal.

Portal Features

- Four Thematic Areas
- An Earth System Approach
- Inquiry Based Field and Lab Experiences
- Effective Pedagogical Approaches
- Teaching Quantitative Skill
- Search and Browse by Geoscience Topic and Teaching Issue or Method
- Index to Discussion Taking Place Within the Site
- Site Content Built on NSDL Collections
- Accessibility and Site Maintenance Enabled by Dynamic Page Generation Separating Content from Presentation and Compliant with Web Standards

Contributions to NSDL

Exploration of services supporting faculty use of NSDL. Demonstration of ways in which NSDL collections can be drawn upon to serve educational goals in a particular discipline. Technical contributions to specialized collections and services. A testbed for NSDL specialized portal tools and DLESE thematic collections services.

The most important outcome of this project will be improvements in entry-level geoscience courses. The geoscience community is enthusiastic about using an on-line resource devoted to entry-level science indicating that the project can have an immediate impact on the large number of students and future teachers in these courses.