ComPADRE 2007 Pathways Update
August 2007

Making Connections

Many of the ComPADRE efforts this year have focused on building new and strengthening old connections with other physics and astronomy education projects. Some of the highlights:

- ComPADRE has partnered with the Astrophysics Data System (ADS) to provide access to their extensive database of education-related articles and materials. The ADS is an online indexing service that is the standard for accessing literature and data in astronomy and astrophysics. They recently started an education-specific database that adds thousands of resources now available through ComPADRE. Where available, this provides added information such as number of citations of articles to ComPADRE resources while, ComPADRE provides ADS with a friendlier interface.

- ComPADRE provided the web interface and tools for the "Adopt-a-Physicist" program that connects physicists with high school classrooms, teachers, and students through online profiles and discussions. The first adoption program resulted in about 3500 discussion board posts in a two week period. The development is being completed for next year's event.

- ComPADRE is working with several NSF-funded curriculum development projects. ComPADRE and the NSDL held a workshop to help members of the American Modeling Teacher's Association find ways to develop and deliver their content through the web. Using a wiki, digital library tools, and strand maps, the modelers will take existing resources and expand them through community collaborations. ComPADRE is working with other curriculum development projects including Open Source Physics, the Paradigms project, and the PhET. ComPADRE is working with SERC to provide learning activities for our users. This will provide teaching activities connected to both resources available in the library and effective approaches to teaching.

- ComPADRE has presented several workshops and talks this year including a web seminar on electrostatics with the NSTA and NSDL. Four workshops and talks at the January AAPT/AAS, and workshops at local AAPT meetings in Ohio and New York. We also held two six-hour workshops on the Pre-college collection at this year's PTRA summer institute, a national meeting of physics master teachers.

- ComPADRE provided the web presence for the Physics Teachers Education Coalition Conference in March 2007, the physics and astronomy New Faculty Workshops, and a 50th year anniversary remembrance of a ground-breaking physics and physical science curriculum, the PSSC.

Content, Collection, and Technical Development:

Growth of the collections and creation of content are continuing. The technical developments are less important this year than in previous years. Content and collaboration are key.

- Four review papers on research-based curricula for the calculus-based introductory physics class are published on ComPADRE. These articles were written and edited by some of the leaders in the field of Physics Education Research. More articles on different PER topics are being collected.

- The Pre-College collection now highlights a structure of Topical Unit Elements. These Unit Elements consist of resources selected by editors and organized by topic and use. The amount of material in these units has greatly expanded over the past year.

- New collections are being developed for Introductory Undergraduate Physics, Relativity, and Advanced Laboratories. New interfaces are being completed for these collections to provide the structure and connections between resources desired by the editors.

- Highlights in the technical updates over the past year include a new user submission tool that allows the creation of detailed catalog records, community sign-on, data mining tools, and an extensive help system.

Bumps in the Road:

ComPADRE is facing three main challenges that need to be addressed in the coming years.

- The amount of content is growing, but this requires greater effort on the part of the librarians. This problem is being eased somewhat by the improved submission interface and the greater control by editors for processing their resources.

- The goal of the library is to grow through the addition of topical collections. This provides users with a focused selection of resources. Finding editors for these collections has been difficult.

- The evaluation effort has shown a continual increase (about 80% per year) in the number of users coming to the collections, but more information is needed to understand what these users are doing and how to better meet their needs. Web metrics is not enough. The next steps in evaluation, including virtual (and real) focus groups and longitudinal tracking of the use and impact of the library on teachers, are beginning.