Networking Micro-Communities of New Science and Math Teachers Using the NSDL to Advance Instructional Excellence in High Need Schools (DUE 0735011)

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Virtual Courseware

With support from the NSF Instructional Materials Development Program, the Virtual Courseware Project (VirtualCourseware.merlot.org) develops web-based activities for secondary school teachers and learners. The software employs a "virtual laboratory" paradigm where students can conduct open-ended experiments that emphasize inquiry, critical-thinking, problem solving, and communication (see below). The VCP is developing an online workshop on using Virtual Courseware that will become part of the Noyce Scholars Teaching Commons. Already a part of many NSDL collections, the CSU-developed VCP will be an important resource for teachers in high-needs schools who do not have ready access to laboratories or field research.

Noyce Scholar Programs in the CSU

The centerpiece of the Noyce-NSDL Project is creation of a linked series of websites associated with individual Noyce projects (building locally) that function as virtual communities for Noyce scholars, and connect the scholars both to Noyce programs throughout California and the nation, and to the resources and tools provided by the NSDL (link globally). These websites, termed "teaching commons" are fora within which a community of faculty and students exchange ideas, exemplary practices, discuss policy changes, and promote pedagogical innovations for their students. The Noyce community members will enhance the scholarship of teaching and learning through public presentation, creation of educational modules that can be housed in the NSDL, and educational resource review processes. We are working on a prototype of the Noyce Scholars Teaching Commons (http://teachingcommons.cdli.edu/noyce/index.html), modeled after an existing Teaching Commons for Science Education in California (http://teachingcommons.cdli.edu/sec/).

Project Activities

In 2008-2009, the Noyce NSDL project will engage more than 100 Noyce Scholars and university math and science faculty in three main activities: (1) creation of a special Noyce Scholars ITC (2) combined on-line and direct delivery professional development for Noyce Scholars and university faculty to build their knowledge and usage of teaching enhancements such as the Virtual Courseware series, and, (3) creating personalized ePortfolios for participating science and math teachers that document teachers' professional development and performance.

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Interested?

If you are interested in being part of this exciting program, please contact Dr. David Andrews, davidan@csufresno.edu.

Summary

The partnerships and activities developed through the Noyce-NSDL project will create electronic communities of mathematics and science teachers dedicated to inquiry-driven education in high needs schools, and provide much needed digital learning modules and enhancements to schools often lacking basic support for laboratories and equipment. In addition, the project will provide substantial benefits to new teachers entering the classroom, through creation of ePortfolios that provide a personalized record and archive of teaching approaches, and documentation of teaching effectiveness.