

Staff Response to the National STEM Distributed Learning (NSDL) Program Committee of Visitors Recommendations Pursuant to the Committee of Visitors Meeting of December 3 & 4, 2009

The FY 2012 budget request calls for the elimination of the NSDL program as a separate funding entity. As noted in the budget request,

In 2009, a working group convened jointly by the Advisory Committees for EHR and the Office of Cyberinfrastructure advised the NSF to make investments that would launch cyberlearning as a field of study in a way analogous to its investment in nanotechnology. Several core program solicitations in EHR now call attention to the centrality of cyberlearning (e.g., DRK-12, TUES, and ITEST); and others will move in this direction (e.g., MSP). In FY 2012, preparing the next generation of teachers to be confident of a cyberlearning environment will have its own visible support as part of the TLF initiative. These core programs within EHR will fund studies of the impact of cyberlearning approaches on teacher behavior and student learning, and will also support the ongoing work of engaging teachers with cyberlearning. (FY 2012 NSF Budget Request, EHR p. 20)

and,

In FY 2012, the NSDL program will be eliminated based in part upon recent evaluation findings that point to the challenges of sustaining such a program in the face of changing technology and the ways educators now find and use classroom materials. The key research and development elements of its agenda – to assure the availability and utility of digital objects for learning – will be subsumed as part of the agenda of other programs, mainly the multi-directorate Cyberlearning Transforming Education (CTE) effort. (FY 2012 NSF Budget Request, EHR p. 20).

We summarize here points raised by the NSDL Committee of Visitors that are important to carry forward as lessons learned for both current and new programs that fund both the development and utilization of electronic materials for teaching and learning. We expect to reference the recommendations in this NSDL COV report and these summary responses, when preparing for future COVs for related programs that cover periods after these recommendations were made.

- (1) An issue that arose in several contexts can be summarized in the recommendation that the NSF assure that funded projects are grounded in relevant educational research. (See Sections A.2.1., A.3.1 and 2., C.1 under “general suggestions,” and under “integration of research and education”) In the case of the NSDL COV this recommendation was applied specifically to strategies for collecting electronic resources for learning and pointing users toward them. Since we intend these recommendation to be generally useful where relevant, we note that this recommendation is one that applies with equal force to projects creating resources, and thus to all of NSF’s cyberlearning efforts. The recommendation can be addressed at the level of the solicitation, and again in the review process, both by assuring that review teams have the appropriate mix of reviewers, and that the importance of grounding the work in relevant research is stressed as an important criterion. For the cyberlearning agenda writ large, we agree

that it is important that NSF staff emphasize the principle of mustering all the needed kinds of expertise, including education theory and research, content knowledge, information management, and technical aspects of computing, both in developing solicitations and managing review processes.

- (2) The COV also urged that NSDL (and by extension cyberlearning efforts in related programs) attend to the recommendations in “Fostering Learning in the Networked World,” the 2008 report of the NSF Task Force on Cyberlearning. It laid particular emphasis on the recommendation that NSF instill a platform perspective into its cyberlearning activities, with the corollary recommendations that all funded materials be open source and interoperable. This position is not entirely compatible with the recommendation elsewhere in the report to partner with commercial ventures. Insistence on open source may also result in excluding valuable resources for teaching and learning from the set that NSF-funded work attempts to make known by mechanisms like NSDL and its successors. It may be that while NSF programs encourage open source and interoperability, a critical role for NSF at this stage is to fund efforts that continue to explore how to maximize the availability and utility of electronic resources in an era in which multiple sources, including for profit entities, are contributing to the development of resources for learning.
- (3) In the context of urging partnering with commercial ventures, the COV notes that NSF should take care that its funded work adds value, that is, does not replicate work that is clearly ongoing in the commercial sector. Funding work that breaks new ground aligns perfectly with NSF’s mission and current strategic plan. In a very rapidly changing marketplace, meeting the objective of making resources available and useful to teachers may add value by enhancing utility, and the new ground broken may be around mechanisms that serve this end, as well as by technical or educational advances.
- (4) The COV also laid substantial stress on the issue of overall quality control of funded products, including such issues as the integrity of links and utility without added software, as well as soundness from an educational perspective. How a funding program achieves quality control of products of grant funding – as opposed to contract funding or even cooperative agreements - is an interesting issue for NSF. One approach is articulated in another of the COV recommendations, that the NSF “develop and implement criteria for educational resources that aid teachers and instructors.” It would certainly be appropriate for the NSF to fund efforts to develop consensus on what constitutes a useful electronic resource, including grounding in educational research and embedded or easily available means for measuring learning, as well as sound disciplinary content and guidance for teachers in using the resource.
- (5) In addition to those already described, several of the recommendations made by the COV appear as central elements in the solicitation for the new program titled “Cyberlearning Transforming Education” (http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=503581), namely that funded work should focus on users, and that it should connect with other NSF funded work (with respect to content and educational principles) and specifically, connect with NSF’s

robust efforts in teacher professional development. Making these connections will be part of the agenda of the other programs that have begun to incorporate support of cyberlearning as central to their portfolios.

The COV recommended specifically that NSDL shift the balance of its funding toward more large scale projects. As NSF enters an era in which funding of cyberlearning is dispersed among a number of programs, attention must be paid to review of the total portfolio for balance of support of small scale, experimental work and efforts to assure broad availability and utility of well-vetted educational resources.