

A Project of Possible Interest to NSF

Project: To conduct a research seminar during the 2000-2001 calendar year (two terms and summer) aimed at exploring different architectures of learning environments, institutions, and enterprises for an age of knowledge. Here the intent is to set aside existing educational structures (e.g., schools and colleges) and practices and begin with a clean slate to consider how one might meet the live long educational needs of citizens in a global knowledge-driven society. For example, how would one design learning experiences, resources, and institutions that exhibit the various characteristics suggested for learning institutions in the 21st Century: learner-centered, interactive and collaborative, asynchronous and ubiquitous, intelligent and adaptive, lifelong and evolutionary, diverse, and affordable.

Of particular interest would be the redesign of the national learning infrastructure that provides technical knowledge and skills (science, math, technology) and the learning skills necessary for a knowledge-driven society. There would also be consideration given to how to design a learning architecture that narrows the digital divide, with a particular concern given to providing educational opportunities to those who have been traditional disadvantaged.

Process: Although the weekly research seminar involving scholars and graduate students would meet in the School of Information at the University of Michigan, it would involve remote participants utilizing video-conferencing and Internet technology. The research seminar would also build a web-based "knowledge environment" to track and distribute its work while facilitating broader interactions.

Participants:

Principal Investigators (and areas of interest):

Jim Duderstadt (engineering, higher education, federal policy)
Dan Atkins (IT, Kellogg Alliance for Community Technology)
John Seely Brown (Xerox PARC, IT, learning theory)

Proposed Regular UM Participants:

Eliot Solloway (IT, cognitive science, K-12 education)
Ron Marx (K-12 education)
Bill McKeachie (educational psychology)
Homer Neal (physics, higher education policy)
Don Lewis (mathematics, federal policy)
Edie Goldenberg (social sciences, higher education)
Nancy Cantor (psychology, higher education)
Marvin Peterson (postsecondary education, NCPI)
Silvia Hurtado (postsecondary education, NCPI)
Cecil Miskel (educational systems, educational policy)
John Laird (AI, gaming, cognitive science)

Doug Ross (social sciences, K-12)

Remote Participants: To be selected during startup phase, but likely to include people such as the following

John Evans (communications industry)

David Liddle (IT, cognitive sciences)

Bob Weisbuch (humanities, Woodrow Wilson Foundation)

Graduate Students

Drawn from the disciplines of science, engineering, information technology, public policy, social sciences, and education. Would participate in the research seminar on a credit-basis, exploring possible thesis topics for later research.

Goals:

1. To begin a dialog among scholars across disciplines, educational levels (K-12, UG, grad, workplace learning, etc.), and sectors (schools, colleges, industry) concerning the future needs and possible structure of educational resources for a global, knowledge-driven society.
2. To develop plans for an array of further research or demonstration projects, including recommendations for federal agencies such as the National Science Foundation and the Department of Education.
3. To develop a web-based "knowledge environment" aimed at tracking and distributing the work of the group and facilitating broader participation.

Some Unusual Resources Available for this Study

UM School of Information

UM Media Union and Millennium Project

Xerox PARC

Kellogg Foundation Alliance for Community Technology

Experience in IT-based learning (Michigan Virtual University, CyberCamp)

Funding Needed for this Planning Effort

Support for two graduate students

Modest travel and telecommunications expenses

Administrative support