Constructing a Learning Environment for Knowledge Advancement
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The purpose of this research is to introduce the use of technology to construct a learning environment for knowledge advancement through three levels of knowledge -- know-what, know-how, and know-why. Know-what is concept-based domain content which is prepackaged and generalized. Know-how translates know-what into action-oriented skills. Know-why permits one to renew know-what and know-how and thus to solve larger and more complex problems. Different levels of knowledge require different learning methods and entail different learning activities. The most efficient approach to acquiring know-what is through comprehension and feedback. The process-based know-how can be best achieved through practices in simulation and case studies. Know-why can only be built over time through personal encounters with many different problems and solutions in real-world projects. This poster session will depict the theoretical grounds of this knowledge advancement framework and show how technology is employed to construct a learning environment based on this framework.

The Use of Cooperative and Collaborative learning in a Web-based Integrated Curriculum for the First Two Years of an Engineering Program of Study
John Watret, Embry-Riddle Aeronautical University, USA; Charles Martin, Embry-Riddle Aeronautical University, USA

The authors will describe and present the results of an innovative Integrated Curriculum in Engineering (ICE) designed for the first two years of an engineering program. Entering freshmen engineering student volunteers are placed into specifically designed sections of the foundation courses required of all engineering students: the calculus sequence, the physics sequence, the humanities sequence, social science, and introductory engineering courses. What differentiates the ICE program from traditional engineering curricula is that all courses incorporate cooperative and collaborative learning and a reliance in computer and web technology. In addition, the ICE program promotes team learning, team design projects, and a well-documented series of assessment practices. Although our program was written for an engineering curriculum, the underlying philosophy is applicable to a wide spectrum of programs of study as well as the general education component of many degrees.

Distance Learning For Government Agencies / Online Academies
Joseph Wilczak, American West Enterprise, USA

Government agencies are turning to online presentation formats for computer based instruction related to distance learning. CBT lends itself well to innovative visual curriculum and realtime information sharing. The educational / training implications that combine computer technology, the internet, email, and telecommunications are enormously untapped. CD Rom, online student / instructor interaction through chat rooms, or both are utilized. Material is presented in text supported with voice overs, and graphics. While writing screen text, voice over scripts should be written simultaneously, and graphics last. Lectures can be conducted online supported by video telecommunications. A final online exam is provided at the completion of each course with follow up sessions scheduled depending on course content. Presentations are suitable for newly enrolled student course material as well as recertification or ongoing certification requirements of the particular agency.

The Management of the Telecommunications Function: The Impact on Organizational Support, Planning and Training Quality
John Willems, Eastern Illinois University, USA; Karen Ketler, Eastern Illinois University, USA

This article reports the results of a survey of marketing managers in order to obtain information from the end user about the impact of the management structure of the telecommunications function on 1) the importance of the function within the organization, 2) the formalization of planning practices and 3) the quality of training on thirty issues. While the information systems manager was the most common form of management of the telecommunications function, the organizations with a distinct telecommunications manager reported greater satisfaction with top management support and a more formalized telecommunications planning and implementation process than the other organizations. The respondents from the organizations with a telecommunications manager also indicated better telecommunications training (although still somewhat unsatisfactory) than the other respondents. This was especially true in the managerial issues with a long term focus such as the use of telecommunications to gain a competitive advantage, and managing innovation and technology.

Online Learning Communities: Vehicles for Collaboration in
Stephanie Woolley, University of Colorado at Denver, United States; Stacey Ludwig-Hardman, University of Colorado at Denver, United States

Learning communities are environments that encourage mutual exchange between community members to support their individual and collective learning. Learning communities are founded on the social negotiation of meaning. Collaboration is the key tenet of constructivism and small-group theory (Springer Springer, Stanne, & Donovan,