

Session 1526
Establishing a Community to Develop Engineering Courseware

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Abstract

Faculty members attempting to create materials for collections of engineering education content in a digital library face several challenges. Lack of training in sound pedagogical practices, a shortage of training in the effective use of educational technology, short supply of required resources and time to produce completed and tested works, and a lack of emphasis on improved teaching in the university faculty rewards systems are the major obstacles to materials development. To remedy this situation, this project endeavors to create an active, engaged, and sustained virtual community of engineering educators who energetically contribute to and share materials from a common collection of courseware.

The virtual community is taking the form of an incubator in which faculty are trained in sound pedagogical practices e.g., developing learning goals and assessment techniques. Next, participants are being schooled in the effective use of technology in many different teaching/learning situations including: classroom presentation, self-study, distance and distributed learning, experiential learning, etc. Once trained, faculty will then develop a portion of a collection of courseware modules in their area of expertise. Guidelines will be provided so that modules can be integrated with one another from both the standpoint of technology as well as the pedagogical approach being used. Members of the virtual community of contributors subsequently become the testers of the courseware modules with each of the contributors using a subset of modules to conduct courses back at their home campuses. As soon as a baseline collection in a topic area is established we will present national workshops on how to adopt and adapt the materials in the collection. NEEDS and MERLOT will be used to catalog and make the collections available as well as provide broader peer reviews by a broader group of engineering faculty. This paper describes the first year of this research effort including the challenges encountered in this difficult enterprise.