Chapter XX

From Course Management Systems to Open Frameworks and a Sustainable Ecology of Educational Systems

Vijay Kumar, Massachusetts Institute of Technology, USA

Jeff Merriman, Massachusetts Institute of Technology, USA

Abstract

We propose a trajectory for learning technology systems that represent a departure from closed, monolithic approaches, typically inherent in the design of these systems, to open, standards-based frameworks that can support diverse pedagogy and accommodate heterogeneous technology. Central to this vision is an architectural approach, illustrated by the Open Knowledge Initiative, which supports the development of sustainable educational tools and technology through enabling commoditization and community.
Introduction

*We believe that course management systems as we know them are an idea whose time has come and gone.* This statement of ours seems to fly in the face of the increasing use of course management systems (CMS) in higher education (Green, 2004). Indeed, the first years of the 21st century have seen a dramatic upsurge in the preoccupation with these “platforms” and systems for supporting course administration, class management, content posting, and communications.

But along with the data that marks the rise in the use of CMS come frequently expressed concerns about their cost and sustainability. Even more significant is the widely expressed recognition that these systems are not “educationally” useful beyond the relief from course administration drudgery that they provide. We propose a trajectory for learning technology software that represents a departure from closed, monolithic approaches to open, standards-based frameworks that can support diverse pedagogy and accommodate heterogeneous technology implementations. Central to this trajectory is an architectural approach that supports the development of sustainable educational tools by enabling commoditization and community engagement. We will draw upon the design and development aspects of the Open Knowledge Initiative in describing this architectural approach.

The Problem: A Push for a Different Perspective and Products

A look at the issues underlying the design and development of educational applications helps us understand some of the reasons for the limited educational value of these systems and their fragile viability. These issues include limited flexibility to meet changing academic needs, costly integration with the academic enterprise, and, even more importantly, reduced ability for institutions to share educational applications or to collaborate on their development. These limitations have been amply evident in CMS, a class of applications that have become commonplace in higher education. In this chapter, we use the terms CMS, learning management system (LMS), and virtual learning environment (VLE) interchangeably.