

## **Using a Course Management System to Improve Instruction**

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### **Abstract**

Over the past several years, technology has affected our instructional process in many positive ways. A course management system (CMS) can be a useful tool to help an instructor meet defined teaching aims and help students achieve learning objectives. A CMS such as Blackboard 5.5 allows an instructor to make various types of course materials readily accessible to students via the Internet and also provides online discussion and communication opportunities. The CMS can be used as a vehicle to deliver a course online or as a supplement to the learning process for a traditional face to face course.

This paper will explore some of the potential uses for a CMS, specifically referencing Blackboard 5.5. Primary emphasis will be placed on ways to use the CMS as a supplement to the learning process in a traditional course setting.

### **Introduction**

The popularity of Course Management systems or e-learning systems has grown substantially over the past several years. A 2002 Gartner Research Survey reported that 95 percent of colleges and universities are now employing e-learning systems as part of their educational delivery (Weinstein, 2002). Young (2002) reports that indeed course management software has become a fixture on many campuses and that approximately 20% of college courses now use the software. As the capabilities and demands for CMS products has increased, so too have prices. Young further reports that typical CMS products that only a few years ago cost a few thousand dollars will cost in the “six figures” annually for many institutions. Many sales contracts for CMSs are based on headcount. The escalating cost structure creates a serious financial problem for many institutions whose faculty have now become accustomed to using CMSs in a variety of ways. In a short time, CMSs have become mission critical systems for many institutions (Young). As a result of the significant price increases, many institutions are being forced to use older, low-end versions of CMSs. These versions do not have the most up-to-date capabilities, and many in the industry believe the low-end versions will disappear shortly. In partial response to the significantly higher prices, the Massachusetts Institute of Technology and Stanford University are leading an Open Knowledge Initiative Project that will develop a course management system and eventually provide free course management software. The project will also identify technical standards to which future CMS products will likely be compelled to adhere (Arnone, 2002).

The most popular vendor names associated with CMSs are Blackboard, Web-CT and eCollege. All major vendors admit that the expectations of CMSs are very dynamic, and development ef-

forts to remain current and competitive are intense (Syllabus, 2002). Most of the CMSs are functionally similar and enable a professor to implement an educational philosophy (Brown, 2002).

Originally designed with the specific intention of delivering courses for distance education, CMSs have evolved into much more diverse and versatile applications. For example, Brown (Ibid.) suggests that a CMS can be used as a tool on which an academic department can deposit materials and hold discussions and chat sessions. At the Duquesne University School of Business, we have adopted the Blackboard CMS in a similar role as it serves as our School intranet tool. As the CMS tools become more comprehensive and versatile, their range of uses will be limited only by the imagination and creativity of their users.

A number of professors, including the author of this paper, have discovered that many students from face to face courses like the learning environment created by a CMS course supplement. It is an ideal communications medium, and is particularly helpful in dealing with working adult learners.

Historically, significant educational research has been conducted on the learning process and how students learn. One consistently mentioned essential ingredient for student learning is the degree of engagement between the student and the material to be mastered (Johnstone, 2002). Most educators agree that good instruction promotes active engagement and CMSs provide students with opportunities to work with course content. Ansorge and Cooley (2003) assert that “Web based instruction provides students with instantaneous access to current content and gives instructors more time to interact with students by freeing them from mundane repetitive tasks such as transmitting content to students...” Ansorge and Cooley go on to say that good instruction also promotes communication and interaction, another quality enabled by CMSs.

### **Blackboard Learning System™ Course Management System**

In this section, this paper will present a number of the major features inherent in the Blackboard Learning System™ course management system. The paper will then describe several ways that the CMS can be used as a supplement in a traditional face to face course.

Blackboard Inc., based in Washington, D.C. (Blackboard.com), was founded in 1997 with a vision to transform the Internet into a powerful online learning environment and be scalable for wider institutional applications. Blackboard’s roots can be traced to a teaching and learning platform originally known as CourseInfo. The Blackboard CMS is known as The Blackboard Learning System™ which was “developed to provide instructors and students with a feature-rich learning environment, pedagogical flexibility, complete control of the course design and unmatched ease of use” (Blackboard.com/highered, 2003).

Much research is currently being conducted on how to improve the learning process and how to measure outcomes. Many feel that CMSs can naturally enhance the learning process. The Blackboard Learning System™ is currently in use at more than 2,000 academic institutions for online, Web-enhanced, or hybrid courses. The stated objectives of the System as presented on Blackboard.com are “to measure and improve student performance, increase instructor productivity, enable ‘web-enhanced’ classroom-based teaching and learning, deliver distance learning,

blend face-to-face and online learning techniques, leverage technology in order to enhance institutional competitiveness, and provide a framework for institutions to manage digital assets and content.”

Blackboard.com indicates that the following utilities are available in the Blackboard Learning System™:

- Content management and content sharing
- Asset Management
- Gradebook and assignment management
- Collaboration and communication
- Student and instructor portfolio management

In addition, for system administration, the following functions are also inherent in the System:

- Data management for student information, identity management and authentication systems
- System management utilities
- Standards, policies, and management for online courses
- Branding, system configuration and design
- Communications and calendaring functions

The main areas of emphasis in the system include collaboration, assessment and quizzes, course content and communications. Using the Internet as a medium, these areas can be combined to maximize student and instructor productivity. Organization of materials is achieved through the creation of folders and learning units, and instructors have the luxury of communicating with the entire class electronically through the Announcements feature. Messages can be posted and viewed at any time at any Internet-capable location. The Assessment Manager allows instructors to view areas of strength and weakness for each student. The Virtual Classroom feature enables student/instructor collaboration in both synchronous and asynchronous formats, and discussion threads can be archived and retrieved at later dates. The overall list of features and capabilities is very impressive.

### **Use of Blackboard in a Traditional Face-to-Face Course**

The author of this paper uses the Blackboard Learning System™ as a supplement in a traditional face-to-face MBA information systems course entitled Information Systems for Managers. Since the MBA program at Duquesne’s Graduate School of Business is predominately a part-time program that caters to working professionals, the Blackboard CMS is an ideal back-up support and communications tool. Students enrolled in the MBA program frequently have business and travel obligations that prevent them from attending every class. If the majority of required course material is posted on the Blackboard site, the material is readily accessible to a student who is unable to attend class. Of course the basic material is not enriched by class discussion that may have occurred. The site also provides access to fellow classmates via email and chat. Although the course is not designed for distance learning, the readily available course content allows the student to work more independently when the need arises. Blackboard provides a significant information resource enhancement to the traditional face-to-face nature of the course.

Following is a summary of Blackboard feature used for the MBA level Information Systems for Managers course as it is currently constructed.

**Course Information:** This section of the course website provides students with access to a PDF version of the course syllabus. All necessary contact information for the instructor and teaching assistant are included in the syllabus, as well as a detailed outline of course objectives and goals, student responsibilities, grading requirements, and course schedule. The syllabus is normally posted to the Blackboard site in advance of the start of the course to allow for student planning.

**Course Documents:** This section of the course website includes links to relevant PowerPoint slides grouped by chapter or lecture topic. Also in this section are the Sample Study Topics and Sample Exam Questions. These sections provide students with focused direction in the form of a study guide as they prepare for a mid-term and final exam. The majority of exam questions are modifications of the collection of questions made available to students. Links to required readings and cases can also be included in this section.

**Class Email Addresses:** This function of Blackboard serves to support the primary out-of-class communication among the students, faculty member, and teaching assistant. Each student is required to have a valid Duquesne University email address prior to gaining access to the course website, and students are encouraged to set up mail forwards if their Duquesne address is not their primary email address. Messages can be sent to all users, individuals, or select groups of students.

**Digital Drop-Box:** Students who wish to electronically submit course documents or assignments use this feature. The course administrator has access to all submissions, and students can submit as many documents as they wish. The documents remain in the drop-box until one of the course administrators removes them. The Digital Drop-Box is an added convenience to students who have periodical conflicts with the class time due to extenuating circumstances or travel obligations.

**Online Gradebook:** This feature of the course website allows students to check their grades periodically throughout the course. The gradebook area can be formatted in a weighted fashion in order to allow a tabulation of the student's weighted score at the conclusion of the course. The Information Systems for Managers course takes advantage of this capability. Course administrators have full access to all registered students' grades, whereas individual students can only view their own progress results as assigned to their user accounts.

**Virtual Classroom:** The virtual classroom feature allows students to enter a monitored online chat session to discuss class material. The instructor may use this feature in place of a face-to-face class session, or to supplement the existing coursework discussed in each class. The course administrators have the ability to focus students' discussions in specific areas or provide directions by acting as a forum moderator. All students wishing to participate in a chat session must be logged in to the course website concurrently.

**Discussion Board:** This feature is very similar to the Virtual Classroom, except discussions can take place asynchronously. Students can view and post messages as they see fit, and all class

members and instructors can view the postings. Course administrators can also create and maintain threaded discussions in order to facilitate the participation level of the students.

## Conclusion

Course management systems are having a significant impact on teaching and learning. In many institutions, CMSs have been welcomed by both faculty and students because they serve to enhance teaching and improve learning. Course management systems possess the versatility to stand-alone for online education or serve as support tools for Web-enhanced or hybrid courses. The CMS serves as a great resource for organizing course materials and communicating with and among students. Students, obviously appreciate the opportunity to access course resources at their convenience. By its very nature, a course management system is a technology tool that supports and enhances the learning process.

The use of course management systems will continue to increase in the future. Demand for additional capabilities and functionality will likely make them larger, slower, and more costly (Carmean, 2003). There is a concern that as the systems grow, they will become cumbersome, time-consuming, and difficult to use. Most users feel that the systems should not demand significantly more time from students and faculty than a traditional course (Ibid.). Building more robust modules to address fundamental instructional design issues will be a great assist to faculty who lack instructional design expertise. Finally, to create an ideal learning environment, the needs of the student must be as important as those of the faculty in building a course. Students and faculty must be linked to best practices and resources for learning (Ibid.). As educators, we want more and better performance, but we fear the rising costs associated with added functionality.

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