Course Management Systems V.S. Online Instructors' Needs

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Abstract. Online education has become an increasingly pervasive modality in university instruction and learning. Much research has been done on the review of the course management systems, such as Blackboard and WebCT, also much has been done on the limitations of online learning, such as pedagogical affordance of the systems. Research on the differences between what teachers do in online learning environments and face-to-face environments needs more investigation. The purpose of this study is to investigate the affordances of the current course management systems and identify those components that foster meaningful teaching and learning in online environments. Additionally, this study will identify the current instructional and technical needs of online instructors.

INTRODUCTION

According to the survey report of The National Education Association (2000), one in 10 higher education NEA members teaches an online learning course. Furthermore, 90% of NEA members who teach traditional courses say that distance learning courses are offered or being considered at their institution. Following the dramatic growth of online/distance learning, research has been/is being conducted on the limitations of the current course management systems. Specifically, research is beginning to identify pedagogical issues of online learning by evaluating the differences between the roles of teachers and learners in online environment and those roles in traditional face-to-face environments.

LIMITATIONS OF COURSE MANAGEMENT SYSTEMS

In recent years online education has become an increasingly pervasive modality in university instruction and learning. Much research has been done on the review of the course management systems, such as Blackboard and WebCT, also much has been done on the limitations of online learning, such as pedagogical affordance of the systems(2). To beginning with, online learning environments contain several essential features, including leaner tools, support tools, and technical specifications. On the website of EduTools (2004), the authors provide a comprehensive comparison among the current course management systems and detailed descriptions of these three essential features. First of all, learner Tools are defined as interactive aids to assist learners as they investigate and pursue education at a distance (Indiana College Network (ICN), 2004). Learner Tools include Communication Tools, Productivity Tools, Student Involvement Tools. Second, support tools are interactive aids to assist the instructor and administrators. These tools are categorized as Administration Tools, Course Delivery Tools, and Curriculum Design. Third, technical Specifications are Hardware/Software and Pricing/Licensing information and agreement. Below are the table (Table 1.1.), which indicates the tools categorized into different features and the tools which are used in current course management systems.

Table 1.1 Tools within Categories

Category	Tools
Course Management Systems	ANGEL 6.1, BlackBoard 5.5, Desire2Learn 7.2, eCollege AU+, Educator, IntraLearn SME 3.1.2, Janison Toolbox 5.81, Jones e-education V2004, The Learning Manager 3.2, WebCT 3.7 Campus Edition, WebCT 3.8 Campus Edition, and WebCT Vista 1.2
Leaner Tools	·Communication tools: Discussion Forums, File Exchange, Internal Email, Online Journal/Notes, Real-time Chat, Video Services, and Whiteboard. ·Productivity Tools: Bookmarks, Calendar/Progress Review, Orientation/Help, Searching within Course, Work Offline/Synchronize. ·Student Involvement Tools: Groupwork, Self-assessment, Student Community Building, Student Portfolios)
Support Tools	·Administration Tools: Authentication, Course Authorization, Hosted Services, Registration Integration. ·Course Delivery Tools: Automated Testing and Scoring, Course Management, Instructor Helpdesk, Online Grading Tools, Student Tracking. ·Curriculum Design: Accessibility Compliance, Content Sharing/Reuse, Course Templates, Curriculum Management, Customized Look and Feel, Instructional Design Tools, Instructional Standards Compliance.
Technical Specifications	Hardware/Software and Pricing/Licensing information and agreement.

According to the EduTools (2004), there are various complaints about the current course management systems including the lack of student content creation, group activities and sequencing, and support for constructivist education. Student content creation refers to the ability of students to create content. Complaints of current practice include major systems are centered around the instructor as the main producer and publisher of content without input from students. Group activities and sequencing refers to the types of online group activities and the sequential presentation of those activities. Complaints of current practice suggest that most of the major systems have a hard time facilitating selective release and sequencing of tools (not content) especially to groups of students. Lack of support for constructivist education refers to embedding authentic tasks into contexts relevant to the learners. This process enables students to symbolize their own understanding by producing individually relevant artifacts (Marra & Jonassen, 2001). Lombard & McCahill, (2004) state that according to constructivist pedagogy, the primary educational goals of higher education can be divided into the following categories: 1) Knowledge and skills acquisition; 2) Socialization (the standards of particular communities, disciplines or professions) and 3) Development of intentional learning (a form of learning in which learning itself is the goal and the individual becomes a self-organized learner). The authors pointed out that among these three broad educational aims, current systems management tools have only addressed the first with any degree of success. Complaints of current practice have included that technology has not been successful in providing all of the tools that support various kinds of student-teacher and student-student interactions (Vrasidas, 2004).

According to Hedberg and Harper (1998), the affordances employed by Web-authoring tools restrict the learning environment by placing limitations on the organization of content and the learning strategies. Marra and Jonassen (2001) examined the limitations of online course delivery and management systems in terms of the range of pedagogies they support. The authors dispute that learning outcomes are limited by the lack of pedagogical affordances in the popular course delivery and management systems. Conversely, literature surrounding online learning often suggests that collaborative pedagogies are useful practices, especially in relation to both more engaged constructivist learning and, perhaps more obviously, ensuring evidence of participation and attendance (Australian National Teaching Authority (ANTA), 1998).

ONLINE INSTRUCTOR ROLES AND TASKS

Learning involves two types of interaction: interaction with content and interpersonal interaction. Both types are critical in many types of learning. Educators design courses that promote higher order learning rather than rote memorization. It becomes important to provide an environment in which both kinds of interaction can occur. With technology available today both of the interactions (with and about the content and interpersonal interaction) are allowed (Berge, 1995). Along with this, the roles and tasks of online instructors are very different from traditional teachers in the classroom.

Based on the special environment of the online learning, clearly the most important role of the online instructor is to model effective teaching (Berge, 1995) and accept "the responsibility of keeping discussions on track, contributing special knowledge and insights, weaving together various discussion threads and course components, and maintaining group harmony" (Rohfeld & Hiemstra, 1995, p. 91).

There are many necessary conditions for successful online tutoring, which are categorized into the following four areas (Berge, 1995): pedagogical, social, managerial, and technical. Not all of these roles need to be carried out in their entirety by the same person. Goodyear and Salmon also identified (2001) that the main role of the online teacher is designer, teacher, evaluator, manger-administrator, content facilitator, and advisor-counselor. The online teacher is asked to perform a variety of tasks, such as designing online learning tasks and facilitating the learner's growing understanding of course content, etc.

COMPARISON OF FACE-TO-FACE AND ONLINE TEACHING

There is limited current research on instructional practices of teaching online courses. Most current research investigates student learning in the online environment. In an investigation conducted by Neuhauser and Charlotte (2002), no significant differences were found between student leaning styles and student preferences for online or face-to-face course formats. The authors found equivalent learning activities can be equally effective for online and face-to-face learners. To find out the differences between online and face-to-face teaching, Smith, Glenn Gordon, Ferguson, David, Caris, and Mieke (2001) interviewed 21 instructors who had taught both in the distance and the face-to-face formats. They concluded that current Web-based online college courses are not an alienating, mass-produced product. But rather, online courses are a labor-intensive, highly text-based, intellectually challenging forum which elicits deeper thinking on the part of the students and which presents, for better or worse, more equality between instructor and student. In addition, Smith, Feguson, and Caris (2001) discovered that compare to face-to-face classes, online instructors is more difficult use their presence and teaching skills to deliver knowledge to students. Also, the text-based communication in online courses lacks of visual and facial expressions, which is easier to lead to misunderstandings of instructors and students or students and students. Therefore, when teaching online courses, providing detail and clear information is necessary, and instructors have to design their teaching in new and different ways in order to facilitate students' learning effectively.

Berge (1998) summarized the impediments to online teaching and learning as situational, epistemological, philosophical, psychological, pedagogical, technical, social, and/or cultural. The purpose of this study is to investigate the affordances of the current course management systems and identify those components that foster meaningful teaching and learning in online environments. Additionally, this study will identify the current instructional and technical needs of online instructors.

RESEARCH QUESTIONS

- What are the differences between teaching online and teaching face-to-face? Especially, what are the instructor's views of the differences between teaching face-to-face and online courses?
- Are the features of current course management systems, such as Blackboard and WebCT, satisfying all the needs of online instructors?
- Do the course management systems sufficiently support course functions?
- To what extent does the course management system support collaborative leaning?

RESEARCH METHOD

As a pilot study, qualitative research method, interview will be conducted to examine and explore how and why the instructors who have both online teaching and face-to-face teaching experience do different in different learning environments. We plan to interview teachers in SISLT with both online teaching and face-to-face teaching experiences. Also, according to the results of the interviews, surveys will be constructed for future research.

Participants

Participants will consist of instructors in School of Information Science and Learning Technology (SISLT) at University –Columbia. Within the SISLT 77 out of 111 courses are delivered via internet, starburst, or as web-assisted courses. Internet courses are those that are completely online with no face-to-face interaction with the instructor. Starburst and web-assisted courses are those in which there is limited face-to-face involvement with instructors or regional facilitators. This study will involve instructors who have both face-to-face teaching

experience and online teaching experiences in teaching internet, starburst and/or web-assisted courses. A total of 5 to 10 instructors will be interviewed for the study.

Pilot Study Result

Because this study is in the progressing, there are only two instructors who were interviewed. Simply, we summarized their perspectives for this paper, but we will complete other interviews before 2005. As a result, both of the instructors expressed their experiences in online and face-to-face teaching, and emphasized that the current systems, BlackBoard and WebCT, cannot provide them with sufficient and effective affordances for successful teaching. The shortcomings include:

- For project-based classes, it is hard to conduct collaborative learning among students. Group activities do not work as well with online courses.
- For the digital media class, there is no good way for the instructor to organize students to review and comment on others product due to the limited affordance,
- Both of them agree that the current systems are good for the text-based instruction, and act as assistance to the classroom activities. For example, for the instructor who teaches in classroom, it's very convenient for the instructor to put the lecture notes online and for the students to download.
- The assessment tools in BlackBoard and WebCT are far from ideal tools for assessment.
- The lack of spontaneous interaction for online teaching is troublesome.
- Instructors have to spend a lot more time to teach online than to teach face-to-face class.

CONCLUSION

Through interviewing instructors with experiences of online teaching and face-to-face teaching, we have found out that the affordances of current course management systems such as BlackBoard and WebCT are not sufficient for effective online teaching. Especially, for collaborative group activities and for some types of courses need to be provided with more appropriate functions. Further research to explore this problem and therefore to better support online teaching is needed.

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