

WEIGHING COSTS VERSUS BENEFITS: EVALUATING THE IMPACT FROM IMPLEMENTING A COURSE MANAGEMENT SYSTEM

Rick West
University of Georgia (rickwest@uga.edu)

Greg Waddoups, Meghan Kennedy, and Charles R. Graham
Brigham Young University

Research Questions

Considering the rapid adoption of Course Management Systems, it is surprising that there has not been more thought, reflection, and research about what the impact might be. Like many others, our university has invested a large amount of resources into purchasing and supporting a CMS. This study was designed to help us better understand the effects on our institution from using this technology, as well as provide ideas for how we can improve the integration of this and other educational technologies into different instructional contexts. Specifically, we asked: How has the implementation of a CMS impacted teaching/learning at the university? What are the benefits/challenges from supporting this tool on an institution-wide basis?

Context for the Study

- Average university enrollment each semester is 30,000 students
- 8,000 academic courses for both fall and winter semesters in 2004.
- There were slightly more than 4,000 Blackboard courses created during each semester
- Over 300,000 students and faculty are estimated to have used Blackboard at least once.

Methods

- Open-ended/closed-ended survey questions ($n=124$ instructors; 163 students) administered to students and instructors over two semesters
- An analysis of the calls reported to the Blackboard support center on campus ($n=1,341$)
- Semi-structured interviews with instructors ($n=53$) and brief intercept interviews with students ($n=17$).
- Data was analyzed inductively, looking for patterns within major categories

Findings

Table 1. **(Satisfaction)** — *How satisfied students are with Blackboard and how comfortable they feel using the tool.*

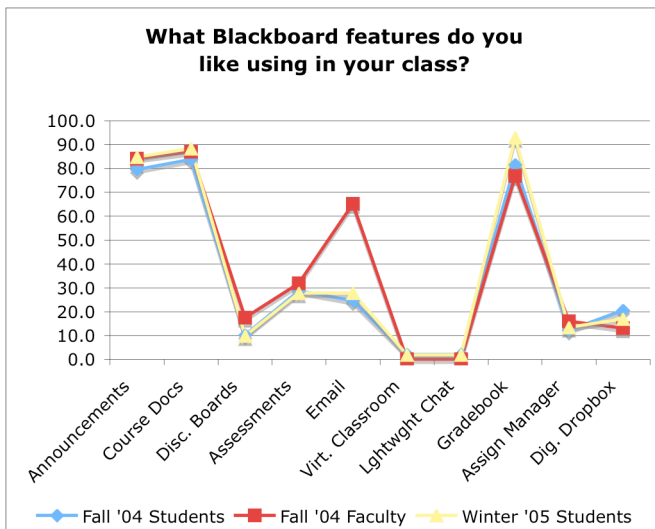
Survey Question	Population	SD	D	N	A	SA
Blackboard is easy to learn/use.	Fall 04 Students	4.2%	6.3%	14.6%	68.8%	6.3%
	Winter 05 Students	6.2%	6.2%	14.2%	55.8%	17.7%
I prefer that instructors use Blackboard in their courses.	Fall 04 Students	10.2%	4.1%	18.4%	36.7%	30.6%
	Winter 05 Students	6.3%	7.1%	20.5%	42.9%	23.2%

Note. SD=Strongly Disagree, D=Disagree, N=Neither, A=Agree, SA=Strongly Agree.

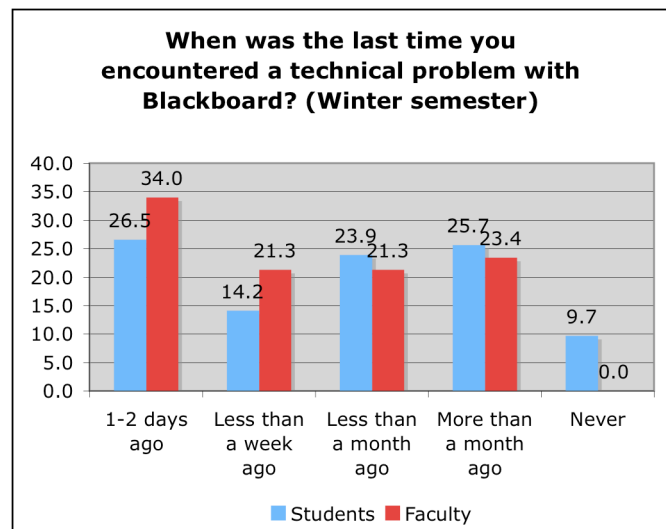
Table 2. **(Satisfaction)** — How satisfied faculty are with Blackboard and how comfortable they feel using the tool.

Survey Question	Population	SD	D	N	A	SA
I am not comfortable using Blackboard in my teaching.	Fall 04 Faculty	33%	45%	10%	12%	0%
	Winter 05 Faculty	15%	52%	17%	13%	4%
I feel confident using Blackboard To help me teach.	Fall 04 Faculty	0%	8%	24%	50%	18%
	Winter 05 Faculty	0%	17%	24%	54%	4%
I have an easy time using Blackboard.	Fall 04 Faculty	6%	16%	16%	51%	12%
	Winter 05 Faculty	7%	16%	18%	56%	4%

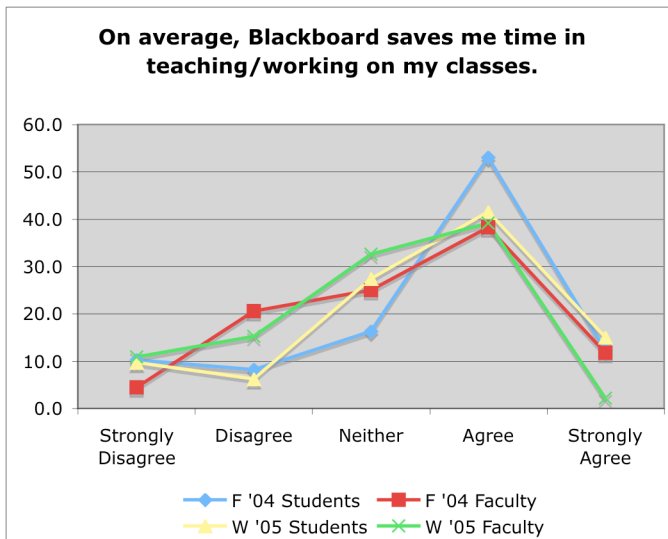
Note. SD=Strongly Disagree, D=Disagree, N=Neither, A=Agree, SA=Strongly Agree.



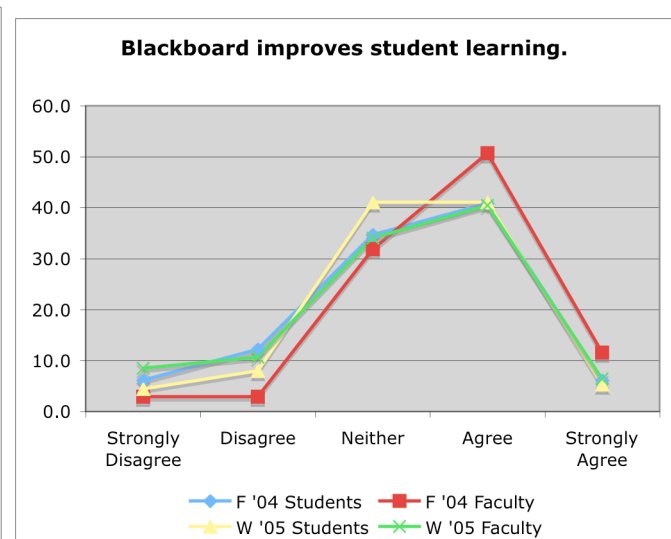
Satisfaction



Stability



Efficiency



Perceived Impact on Learning

Case Vignette 1 — The Impact of CMS Stability Problems

When Blackboard has stability problems, it is not simply inconvenient for the instructor and students. Instability can also damage instructor/student relationships and the students' perceptions of the effectiveness of the instructor—even though the instructor may not have been able to prevent the instability problems. For example, Dr. Samuelson, the week before we interviewed him, had attempted to use Blackboard to administer an online test in his course. When the system lost 25 percent of his students' scores, students were frustrated and angry that they needed to take the test over again. Dr. Samuelson felt powerless to stop the problems associated with this quiz, and all he could do is apologize and ask students to retake the quiz on paper. He also had problems the same semester with Blackboard not delivering three "critical" emails to his students. To complicate things further, the Blackboard system is not set up to inform instructors like Dr. Samuelson when their emails are not delivered, so he was not aware that some students did not receive the emails.

Dr. Samuelson feels the bitter feelings arising from these situations permanently damaged his credibility with the students, and that he was going to be penalized in the student ratings—even though it was not his fault. "Whatever teacher ratings I would get this semester, Blackboard will take 1/2 a point off. It looks like it works great, but there are glitches," he said.

Case Vignette 2 – A Struggle to Use Blackboard for Collaborative Learning

Dr. Maxwell teaches a large, introductory course with over 100 students that focuses on learning collaborative writing, so Dr. Maxwell's approach to the course is to stimulate collaboration and student co-construction of knowledge and a written artifact through discussion and interaction with peers. In his class, Dr. Maxwell wants his students to work in groups, but he also wants to frequently mix up these groups so students get new experiences. The difficulty is that Blackboard requires too many steps for creating groups and allows for too many errors. As Dr. Maxwell explained, "It's really cumbersome."

This lengthy process to create a group is very time-consuming and inefficient for Dr. Maxwell. It also discourages him from being innovative with how he organizes his collaborative groups because once the groups are set, it would take a lot of time to reorganize them again. This discourages him from reorganizing groups as often as he otherwise would. Another frustration Dr. Maxwell has is that when he issues grades, he gives a grade to an entire group, not an individual. However, Blackboard's gradebook does not allow for group input of grades, and it is organized to allow only for individual assessment. Dr. Maxwell used the term "liquid" to explain how he would like the gradebook to function, "The gradebook is just not liquid enough for me for what I need to do. It's great to be able to pull up an assignment and put all the grades in, that's pretty basic . . . but I need to be able to compare between assignments and go back and forth without having to pull up everybody in the entire class . . . it's just very cumbersome to use the gradebook. . . . Because of how it is, I simply use it to enter grades so students can look and see that they've got their grades. . . . I keep all my grades separate and figure them out separately."

Not only do Blackboard's limitations keep Dr. Maxwell from creating the collaborative environment he wants, it also discourages him from even trying to be innovative and creative in his teaching. He has basically given up on trying to find a way to use Blackboard to support his teaching methods, and he only uses it to disperse course documents. In this way, Blackboard serves only in a teacher-centered role in his class (documents from the teacher to the students). He no longer tries to use Blackboard for student-centered activities. "I've only thought of it as a bulletin board [to post up course documents, not for discussion], paper support system because all of the other areas that I wanted were so cumbersome that I didn't look at it for any other possibilities," he said.

Conclusions

Satisfaction with the Tool

- **When** Blackboard works without technical difficulties, most students and instructors at our university reported being satisfied with the tool because it is convenient for them to use, easy to learn, and helpful in their studies.
- Students prefer that their instructors use the tool, and instructors are comfortable doing so.
- Satisfaction is high for only four features, and these are the only features used regularly (announcements, email, posting of course documents, and gradebook). Satisfaction is low for synchronous chatting tools, discussion boards, assessments, and the digital dropbox

Stability of the Tool

- Most instructors and students have had stability challenges with Blackboard. Over half of instructors surveyed in winter semester had encountered challenges in the previous week.
- Stability issues have plagued the most critical features causing missing grades, lost emails, etc.
- Most instructors and students qualify their satisfaction of the CMS as, “WHEN it is stable.”
- Stability is reversing progress in many areas of adoption of the CMS.

Married to the Tool?

Even though many instructors responded that they like Blackboard overall when it is stable, most find some aspects of the tool that they do not like. However, even though Blackboard is not a perfect tool for most people, many instructors are worried about the possibility that our university might leave Blackboard for another CMS option after they have spent a lot of time learning the tool, preparing materials for online distribution, and uploading many years’ worth of these materials onto their Blackboard courses. We have found that in this way, because of the large-scale adoption of the CMS at our university, the tool has become somewhat “mission critical,” and many instructors are dependant upon the tool. In fact, it is because so many feel that their instruction is now tied to the tool that stability is such a major issue, for losing Blackboard at critical moments for many instructors is like having the lights turned off in the classroom or the textbook not available in the bookstore. To some degree, these instructors feel married to Blackboard, for better and for worse.

Blackboard Can Be Used to Improve Efficiency

- Exactly half of the instructors responding to the fall survey and 41% of the winter respondents felt the CMS saved them time and improved their efficiency, compared with about 26% of instructors who felt Blackboard cost them time overall.
- The majority of students also felt that using Blackboard helped them be more efficient (65% fall semester and 57% winter semester).
- Four common methods for using the CMS to improve efficiency were to: improve distribution of class materials, updated materials more often electronically, pace the instruction of the course, and provide more frequent and quicker feedback on grades and other issues.

Blackboard Can Be Used to Improve Teacher-centered Instruction

- 47% of instructors in winter semester (62% fall semester) felt Blackboard improved student learning, compared with 19% in winter (6% in fall) who felt it did not
- Through interviews, we have learned that most of the instructors who feel that using Blackboard does positively impact learning are those instructors who predominantly use a teacher-centered approach to instruction.
- Most instructors described the CMS as “an information dispersion tool” or “communication” tool, being a tool to facilitate the transfer of information, documents, and assignments from the instructor to the students.

Blackboard Is Not Perceived as a Useful Tool for Student-centered Instruction

- Many of the instructors who do not find Blackboard to be a helpful tool are those instructors who prefer more hands-on, exploratory, or student-centered approaches to instruction (see Case Vignette 2)
- Because they find that the CMS best supports information dispersal, these instructors often feel that Blackboard’s benefits do not outweigh the costs associated with using the tool. These instructors are not dependant on the tool, and would not object if our university discontinued using Blackboard—in fact these instructors are typically seeking out alternatives to fulfill their online instructional needs.
- Two reasons why Blackboard struggles to support student-centered learning are: All feature controls are open only to the teacher and the tool is not easily adaptable to different teaching styles.