
AC 2011-1264: AN EXAMINATION OF FACULTY PERCEPTIONS AND USE OF BLACKBOARD LEARNING MANAGEMENT SYSTEM

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An Examination of Faculty Perceptions and Use of Blackboard Learning Management System

Abstract

What are the attitudes, perceptions and usages of university faculty feel regarding learning management systems in use at their institutions? Do faculty believe they are making effective use of LMSs in course instruction? What elements do they consider to be crucial or important features in a learning management system? Do they believe LMSs benefit students and aid instruction?

This study examined faculty uses, perceptions and attitudes toward an online learning management system (Blackboard). Respondents were full time professors in the College of Technology at Purdue University. Survey questions focused on two main areas of inquiry, faculty usage and faculty perceptions of and attitudes toward the learning management system (LMS). Researchers also gave faculty the opportunity to respond to four open-ended questions including what they liked most and least in the system; suggestions for improvement in relationship to their use of the learning management system; and finally, how they could utilize the learning management system more effectively in their courses. The last section of questions concentrated on faculty's perceptions of online courses to help researchers gauge interest, experience, and opinions on the subject.

Traditional tools such as textbooks, lectures, videos and group activities have long kept students engaged in a traditional classroom setting. This research focused on how faculty utilize the features in an online learning management system to aid their students in the learning process and engage them in the material at hand. Specific elements were identified that faculty commonly populate in their learning management systems with and those elements faculty perceive students respond best to as well as care most about. Some of the findings will guide administrators and faculty in developing an online learning environment. General tools available in most learning management systems will be evaluated. This study also examined the extent of training faculty received in an LMS. And finally, we summarize our understanding of faculty perceptions of a learning management system.

Introduction

Technology has long been incorporated into education and continues to grow in popularity as new discoveries are developed.^{1,2} One such type of technology increasing in attractiveness among institutions of higher learning is the learning management system (LMS).³ LMS's have the capability to aid traditional faculty in setting up and organizing their courses in one convenient location online.⁴ But do faculty really utilize the LMS to its full capabilities? Are faculty actually embracing the technology within their courses? And do faculty believe using LMS in course instruction is useful to students?

For the purposes of this study, we wanted to better understand how faculty regard and how they use a mandated learning management system. This information can be helpful in improving training, support and usage of LMSs.

Method

For the purposes of this study, we sought to address three main questions: (1) How do university faculty feel about the learning management systems in use at their institution? (2) Do they believe they are engaging students with their use of the learning management system? (3) What elements do they consider to be crucial or important in a learning management system?

Full-time faculty from eight departments and every level of teaching experience from the College of Technology Purdue University were invited to participate in the study. Following IRB approval, a survey was developed using Qualtrics survey software. Faculty responded to the online survey which contained 35 questions designed to garner information on faculty usage, attitudes and perceptions of Blackboard, the learning management system in use at this institution. Participation was voluntary and no identifying information was collected. Limited demographic information was gathered in order to know the degree of diversity of the respondents. Four questions out of the 35 were open-ended questions, encouraging respondents to share thoughts and comments about what they liked most and least about the learning management systems; how their experience in using Blackboard in instruction could be improved; and finally, in what ways they would like to use Blackboard more effectively.

The survey was voluntary and available for faculty participation for exactly four weeks. A 45% participation rate was recorded from all 143 potential participants (faculty population of the College of Technology for the fall 2010 semester.) The survey took faculty approximately five to ten minutes to complete and they were able to “skip” over some of the questions if they so chose, passing on to the next question.

A number of questions were intended to understand how faculty use various features of Blackboard. For example, we wanted to know if faculty use Blackboard in course instruction or not. Do they post their syllabus on Blackboard? Do they use the My Grades feature to post assignment, mid term and final grades? Do the instructors use any communication tools within the LMS for regular course communication? Do they use Blackboard to distribute handouts, reading assignments, video clips, and other course materials?

To discover faculty perceptions of the LMS, questions were directed toward their understanding of what tools students valued within the LMS; and which tools were most important to have within a standard LMS template for their courses. Technology faculty were also asked about their experience level with the LMS and if they believed they could benefit from additional training. Questions inquiring the level of interest in online course and program development within Blackboard were the last questions on the survey.

Results

Since the survey was developed with two primary areas of interest in mind - faculty usage and faculty perceptions - we will examine the results by each area. We will also discuss training and online courses.

Faculty Usage

Questions in this area were designed to determine the extent of the use of the LMS by faculty; so the first question posed was appropriately “did they use Blackboard in their instruction at all?” 68% of respondents reported “yes, always”, 19% answered “some of the time” and 13% responded “no” or “not at all”. Researchers then asked how often faculty used Blackboard in their course. The results were:

Table 1. Frequency of Faculty Usage of Blackboard

<u>Frequency</u>	<u>Percent</u>
Daily	30
Once per week	18
2-3 times per week	42
Once a month	0
Less than once per month	4
2-3 times per month	4
Never	2

Faculty were asked to identify the ways in which they incorporate Blackboard into their courses. Most of the respondents indicated they used Blackboard features to post course materials, to post grades and to post assignments.

Table 2. Features of Blackboard Commonly Used by Faculty

<u>Features</u>	<u>Percent</u>
To post course materials, readings, notes, assignments, videos, etc.	92
Email and other communications	55
Online exams and quizzes	37
Assignment posts and submissions	63
Online Discussions and chat	33
Distance Education	37
Posting of student grades	78
Course Calendar	43

The next questions were related to course materials used and/or posted in the LMS. Faculty were asked if they posted the course syllabus on Blackboard. 86% of respondents answered, “yes, always”, 10% reported “yes, sometimes” and 4% said “no”. Faculty were asked to identify which communication tools they used on Blackboard. Their responses are captured in Table 3.

Table 3. Communication Tools in Blackboard Used by Faculty

<u>Tool/Feature</u>	<u>Percent</u>
Blackboard Messages	36
Blackboard Email	56

Blackboard Chat Room	10
Blackboard Announcements	54
Blackboard Discussions	36
Instructor Developed Outlook Class List	28
None	2
Other, please specify	22

Other features used by faculty included: the Calendar tool, Outlook email, registrar provided class distribution list, announcements, university email and links to Facebook.

Researchers inquired as to the specific tools faculty used to distribute course materials such as PowerPoint's, lecture notes, videos, readings, etc. These results are presented in Table 4.

Table 4. Tools Used to Provide Course Materials on Blackboard

<u>Tool</u>	<u>Percent</u>
Course Content (Main Blackboard page)	84
Messages	24
Announcements	43
Calendar	31
Assignments	59
Web Links	53
None	6

Faculty were asked if they used the Gradebook section in Blackboard to deliver grades to students. 80% answered "yes, always" while 4% said "yes, some of the time" and 15% replied "no, not at all".

To determine if faculty were taking full advantage of Blackboard's instructor tools/features, researchers asked if the faculty used tools such as calculation or column formulas to calculate points and grades for students. 38% responded "yes, always", 10% stated "yes, some of the time" and 52% replied "no, not at all".

Finally, faculty were asked if they or their students experienced any problems accessing or using Blackboard. The responses were: 4% said "yes, always", 10% said "yes, some of the time", 58% said "yes, occasionally" and 27% said "no, never".

Faculty Perceptions

We wanted to gather information on faculty attitudes toward and perceptions of Blackboard as a supplement to classroom instruction. Faculty were asked how important they thought it was for students to monitor their course performance and grades online. 72% felt that it was "extremely to very important", 11% thought it was "somewhat important", 16% considered it "neither important or unimportant", and only 2% reported it as being "unimportant".

We also wanted to know how important it was to post course materials (PowerPoint's, lectures, assignments, syllabus, etc.) and a student roster on Blackboard. 75% of respondents felt it was "extremely to very important", 16% thought it was "somewhat important", 2% said it was "neither important or unimportant", and 7 % thought it was "unimportant".

Faculty were asked to identify which Blackboard tools were most and least useful to students in their view. Replies were as follows:

Table 5. Usefulness of Blackboard Tools as Identified by Faculty (Percentages)

<u>Tool</u>	<u>Most Useful for Students</u>	<u>Least Useful for Students</u>
Syllabus	46	3
Resources/Web Links	34	11
Messages	16	28
My Grades	43	5
Assignments	44	2
Assessments	19	19
Chat	1	42
Discussions	17	23
Announcements	30	17

Finally, we asked if faculty believe Blackboard helps to improve student learning and performance. 40% of faculty respondents commented "yes, definitely", 29% reported "yes, sometimes", 23% stated they "do not know", and 8% said "no, not at all".

Faculty Training

To determine if any training issues were present, faculty were asked to rate their experience level in using Blackboard:

Table 6. Faculty Experience Level in Using Blackboard

<u>Experience Level</u>	<u>No. of Responses</u>	<u>Percent</u>
Experienced User	16	29
Competent User	23	41
Occasional User	5	9
Novice User	9	16
None user (never use)	3	5

When asked if they would like more training or assistance in using Blackboard, 29% of faculty responded reported "yes, definitely", 41% said "yes, but only in certain areas" and 30% of respondents replied "no, not at all". For those faculty who felt they needed more training, researchers asked them to identify specific areas in which they would like more training or support. Multiple answers were possible for this question. The specific areas identified by faculty are presented in Table 7.

Table 7. Specific Areas of Need Identified by Faculty

Area	No. of Responses	Percent
Setting up a Blackboard-assisted course	12	29
Setting up a distance education course on Blackboard	14	34
Posting Course Content	9	22
Mail and Communication	12	29
Announcements/ Chat/Discussions	11	27
Assessments and Assignments	20	49
Grades and Data Columns	18	44
Calendar	7	17
Web Links/Resources	12	29
Other, please specify	9	22

Under the category of “Other, please specify”, faculty gave the following additional training suggestions:

- “Putting video clips on Blackboard”
- “Working out bugs in Blackboard”
- “Online texts - as soon as available”
- “Group assignments and database tools for tests”
- “Multi-media usage”
- “Taking advantage of features that can save time and help student performance”
- “Use for virtual communications such as chat and discussion”

Researchers wanted to discern if faculty felt they were given the appropriate resources and support by the College of Technology at Purdue University to enable them to use Blackboard effectively. 30% commented “yes, definitely”, only 2% with “yes, but only in certain areas”, 33% said “sometimes”, and 35% replied “no, not at all”. Expanding upon this subject, we asked if faculty felt they received adequate help in using Blackboard, such as setting up a class, posting assignments, creating assessments, etc., when it was requested. 48% of respondents reported “yes, definitely”, 30% said “yes, sometimes”, and 22% replied “no, not at all”.

Faculty were able to comment on questions regarding their overall experiences with using Blackboard in course instruction. Specifically, faculty were asked to comment on what they liked most and least about Blackboard, how their use of Blackboard could be improved, and how they might personally use it more effectively in their courses.

A number of faculty cited “better communication” and “improved use of online content and assessments” as areas for improvement. Adding or improving the online component was a common theme with several faculty and included new, creative methods such as “posting videos of my lectures for students who miss class.” One faculty respondent suggested that electronic books be made available on Blackboard. Many faculty felt improving student to student interaction as well as student to faculty connections were areas that needed improvement. Several faculty cited the need to post more assignments, assessments, and grades on Blackboard as areas in which they could improve its usefulness.

What do faculty like most about Blackboard? Common themes were (1) “ease of use, flexibility, remote access, versatility” and (2) “student engagement, grades, and communication”. Faculty liked the fact that Blackboard brought all of their courses together in one convenient location for better manageability. They also liked the way Blackboard helped them organize course materials for posting online.

In response to what faculty liked least about Blackboard, comments focused on technical problems and glitches, such as (1) the “awkwardness” of using the Gradebook; (2) “slow” response times”, and (3) the “difficulty” of building course content. One faculty member replied that, in his opinion, Blackboard had a “horrible interface for faculty and students.” Several commented that a windows-based course management system would be preferred over the multiple step approach used in Blackboard to build content or assessments. Some viewed Blackboard as “tedious” and time consuming.

When asked how their experience with Blackboard could be improved, faculty cited the need for “annual training” workshops on the basics of the LMS and more “advanced training” on the tools within Blackboard. Several faculty respondents requested more control over their own course site within Blackboard. One faculty member thought it would be helpful to benchmark other faculty on the use of the LMS. Some wished to “learn more from the "power users"; and to “see examples of how others use it and design their courses.”

Online courses

Given that Blackboard is a system capable of facilitating online courses and programs, researchers were curious to discover faculty perceptions and feelings on distance education. It should be noted that this particular college offers some online courses, but mainly at the undergraduate level.

To begin with, faculty were asked if they had ever taught an exclusively online course using Blackboard. 39% of respondents replied yes, while 61% said no. Researchers asked if faculty “would consider teaching an exclusively online course.” A significant response of 85% replied yes, while 15% answered no. Faculty were asked if they were in the “process of developing an exclusively online course” to which 30% answered yes and 70% said no. When asked if they would like “training in online course development and strategies, 70% answered yes, while 30% responded no.

Finally, faculty were asked their opinion as to whether the College of Technology at Purdue University should offer online courses and online degree programs. 82% of faculty agreed that online courses should be offered, while 18% disagreed. As for online degree programs, 46% agreed they should be offered, but 54% said no.

Conclusion and Recommendations

The results of this study suggest that most faculty are willing to embrace a learning management system to facilitate their courses. Several concerns must be addressed, however, to provide an

improved environment for quicker adaption and improved use of the LMS. Training was cited as a major concern in this study, as faculty brought to light that there is a repeated and frequent need for additional education with the LMS. Faculty also recognized that additional training and support would enable them to improve utilization of the LMS to foster better student engagement and learning.

The results confirmed that a majority of faculty use Blackboard to facilitate their courses at least once a week or more. Faculty are also utilizing the major tools in the LMS including posting content (lecture notes, PPT slides, etc), online assessments and quizzes, communication methods, assignments and posting of grades. Researchers took note though that only 38% of faculty surveyed took advantage of the ability for calculations or formulas within the LMS to aid them in calculating students' grades.

Faculty have definite opinions as to the benefits of Blackboard for students. Most agreed that it was advantageous for students to track their performance in courses using Blackboard as well as populating Blackboard with appropriate learning materials. However, a large percentage of faculty felt that both of these issues were not of major importance. When ranking the importance of tools to aid students in Blackboard, faculty cited communication tools (such as messaging, discussions and chat) as least useful. Faculty were equally divided as to the usefulness of the Assessments tool in Blackboard. The faculty were split on the issue of whether or not Blackboard helps student learning and student performance. Nearly one-fourth of faculty simply didn't know.

While the majority of faculty respondents have not conducted an exclusively online course using Blackboard, results proved a general interest in the development and launch of such courses. A majority of respondents would like training in the development of online courses, but also admitted they are not developing such courses currently on their own. The faculty were also almost overwhelmingly in favor of their institution offering online courses in their programs, but were equally divided on the issue of offering online degree programs.

This research brings to light the mixed approach faculty have toward the use of their LMS, which in this case was Blackboard. To build upon this preliminary research, it might be advisable to have focus groups or interviews with faculty members to uncover additional insights into the factors that hinder and enhance the use of LMSs in course instruction.

In particular, researchers would be interested in gaining a better understanding of the hesitation some faculty members expressed in using a LMS. We would also like to know what changes can be made to the current LMS (Blackboard) to make it more appealing to faculty, more user friendly and more accessible to students and faculty. It was interesting to note that where students want more use of communication tools in Blackboard course instruction⁵, faculty find little or no merit in such tools. It would be helpful to broaden the scope of the study to include faculty from other disciplines and to go in great depth on some questions as to course content, measuring student learning, and improving faculty skill in using LMSs.

Further research may also need to focus on administrative and policy issues, including technical support, costs, upgradability, permissions and authorizations, and the upkeep of campus

technology that could affect the efficacy and use of LMSs in instruction. Due to the interest of the development of online courses and the improvement in the application of the LMS, benchmarking with other institutions could also prove beneficial to this institution.

Bibliography

1. Hall, J. 2003. "Assessing Learning Management Systems." *Chief Learning Officer*. January.
2. Petherbridge, D., & Chapman, D. (2007). Upgrading or Replacing Your Learning Management System: Implications for Student Support. *Online Journal of Distance Learning Administration*, X(I).
3. Watson, W.R., & Watson, S.L. (2007). An Argument for clarity: What are Learning Management Systems, what are they not, and what should they become. *TechTrends*, 51(2).
4. Lonn, S., & Teasley, S. (2009). Saving time or innovating practice: Investigating perceptions and uses of Learning Management Systems. *Computers and Education* 53(3), 686–694.
5. Little-Wiles, J., & Naimi, L. (2011). A Study of Traditional Undergraduate Student Engagement in Blackboard Learning Management System. Proceedings from 118th ASEE 2011 Conference. Vancouver, Canada.