

A Faculty Usability Survey of the UMR Blackboard Learning System

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Introduction

With 477 faculty members and over 650 classes taught at UMR each semester, the Blackboard Learning system is a valuable tool that faculty and students alike can use to organize and coordinate their class work. The Blackboard learning system provides a digital drop-box, allows the posting of assignments, grades, and announcements, and provides collaborative tools such as forums and virtual classrooms. With so many people using the system so frequently, it is vital that the system provides a positive user experience. Since the usability of Blackboard from the student perspective is being investigated by another group, here we investigate the usability of the UMR Blackboard Learning system through a short on-line survey of the UMR faculty. We present our methods and results, as well as our conclusions and suggestions for improving the Blackboard system.

Researching a topic such as this brought a couple important issues to mind. It is important for such a tool as Blackboard to be designed for adaptation to novelty and change, since so many students rely on this system. When a design is changed dramatically it tends to cause serious confusion with the users, which causes the user's satisfaction to drop. So, it is important that if the design is changed, the change should be minimized as much as possible. (Haj 592) It is also important that a tool such as this should be made as simple as possible. If the system is made so it is difficult to use, research shows that the stress level of the user increases. (Par 611) Representational errors can be very troublesome for the user. A representational error reflects problems with the misinterpretation of information based on a person's current mental model of the system. Designing the system so that these errors happen as least as possible is very important. This goes to back to the topic of simplifying the system. If a user thinks they are accomplishing one thing and they are actually doing something else, a problem arises. (Jon 367) Another factor that could be used to improve the system is the addition of feedback fields. Receiving feedback from the users can help structure the system so that problems are minimized. If these tools are not used, it tends to get difficult to actually know when it is time to make a change. If these tools are used, research shows that the user's satisfaction is maximized. (Keu 418)

Problem Statement

To justifiably evaluate the usability of an online system such as Blackboard is a difficult process as there are not many standard tasks that can be measured due to the configurability of the system. Also, the techniques necessary for quantitative evaluation are time-consuming and centralized, which would limit the number of responses we could receive for the evaluation. Thus, we qualitatively evaluate the learning system using an on-line survey as outlined in Appendix A. This allowed us to collect information in a simple, distributed way, resulting in a high response rate and minimizing experimental bias introduced by personal interactions.

Results

We received 32 responses across 4 departments from faculty members with a wide range of class sizes. Of those responders, 23 reported using the Blackboard system for organizing their classwork. Table 1 shows a summary of usage frequency of our responders by department. Each entry in Table 1 lists the number of responders that chose the given response. Table 2 summarizes the usage of different Blackboard Features, and the average satisfaction of our responders with these features.

Table 1 - Blackboard Use Frequency

	A	B	C	D	E	F	G	H	I	J	K
				Frequency of Use				Frequency of Problem Reports			
Department	Average Number of Students	Blackboard Usage	Responses	Frequent	Often	Seldom	Rarely	Frequent	Often	Seldom	Rarely
1 Engineering	106	10	15	2	4	3	1	0	2	5	3
2 Arts and Sciences	130	6	6	1	3	2	0	0	0	4	2
3 Management and Info. Sys.	60	5	6	0	4	0	1	0	0	4	1
4 Materials, Energy, Earth Res.	70	2	5	0	0	2	0	0	0	0	2
5 Total	366	23	32	3	11	7	2	0	2	13	8

Table 2 - Blackboard User Satisfaction

	A	B	C	D		
	Engineering	Arts and Sciences	Management and Info. Sys.	Materlais, Energy, Earth Res.	Total	
1	Responders Using Assignment Posting	7	5	4	2	18
2	Avg. Assignment Feature Satisfaction	8.0	7.4	7.5	5.0	7.0
3	Responders Using Grade Reporting	6	6	5	0	17
4	Avg. Grade Reporting Satisfaction	5.5	4.8	4.6	N/A	5.0
5	Responders Using Announcements	9	4	4	2	19
6	Avg. Announcement Satisfaction	7.1	6.3	6.5	7.5	6.8
7	Responders Using Digital Dropbox	1	2	2	0	5
8	Avg. Dropbox Sat.	4.0	5.0	7.0	N/A	5.3
9	Responders Using Discussion Groups	1	0	2	0	3
10	Avg. Discussion Group Satisfaction	3.0	N/A	2.0	N/A	2.5
11	Responders Using Calendar	0	1	1	0	2
12	Avg. Calendar Satisfaction	N/A	2.0	1.0	N/A	1.5
13	Avg. Total Satisfaction	6.5	6.3	5.0	6.0	6.0

The most frequent comments resided around the grading system, regarding the flexibility of it. Teachers would like the additional functions, like automatic notifications of when items are posted on the site. Other comments included: suggestions of how to improve the calendar system, appreciation for the simplicity of the announcement system, trashing and praising of the course document possibilities, and other comments regarding the discussion groups and drop-box. However, there were some faculty members that did not utilize the system at all, and unfortunately none of those individuals provided any insight as to why that is so.

Conclusions

We can see from the data collected that the assignment and announcement posting features of Blackboard are the most used by the faculty, and that they also carry the highest user satisfaction scores. Following that, the Grade Reporting feature is highly used, but only carries a 50% satisfaction rating across responders, suggesting that the feature is highly desirable but difficult to use or maintain. The lowest scoring features, the Digital Drop-box, Discussion Groups, and Calendar are also the least utilized. Their low ratings suggest that their poor usability deters users from these features, but this relationship cannot be determined using the data from tables 1 and 2 alone. Overall, respondents are moderately satisfied with the usability of the Blackboard system, though it appears that there is much room for improvement.

The same can be concluded by the comments received that while the faculty that use the system are overall appreciative, no one is completely satisfied, as no one gave the system a score of ten.

In order to make a primary impact in the receptiveness of the system, we would make the following changes first. First, we would increase the amount of training and or material which is available for people to learn how to use the system, this might increase the amount of use of other applications. Secondly, we would further survey the faculty and see exactly what improvements in the grading system they would like to see be made. Then, we would add some additional functionality like automatic notifications and ease the navigation by eliminating the linearity. Finally, we would try and cut down on the clutter, it seems that some individuals are confused and just scared about trying new things.

References

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Appendix A - A Sample Usability Survey

The Actual Survey can be found at: <https://ccadm.umr.edu/auth-cgi-bin/cgiwrap/survey/display.pl?survey=127606>

1. How many total students do you instruct in all of your classes?
2. What is your department?
3. Do you use Blackboard as part of your instruction? Y/N
 - a. If yes, what is your impression of its usefulness?
 - b. If no, why?
4. How often do you receive comments/questions about how to use Blackboard from your students (circle one)?

Rarely – less than once per semester
 Seldom – less than once per month
 Often – less than once per week
 Frequently – More than once per week

5. Do you use Blackboard to Post assignments? Yes No
 - a. If so, rate your satisfaction of the Assignment Posting Functionality on a scale from 1 to 10, 1 being completely dissatisfied, 10 being completely satisfied: ____
 - b. If yes, what do you like about the Assignment Posting Functionality?
 - c. What do you dislike about the Assignment Posting Functionality?
6. Rate, on a scale from 1 to 10, your satisfaction with the Blackboard Learning system, 1 being completely dissatisfied, 10 being completely satisfied: ____
7. How often do you use Blackboard to post class documents, such as lectures or supplementary materials (circle one)?

Rarely – less than once per semester
 Seldom – less than once per month
 Often – less than once per week
 Frequently – More than once per week

8. Do you use Blackboard to track your student's grades?

- a. If so, rate your satisfaction of Blackboard's Grade Tracking on a scale from 1 to 10, 1 being completely dissatisfied, 10 being completely satisfied: ____
 - b. If yes, what do you like about Blackboard's Grade Tracking?
 - c. What do you dislike about Blackboard's Grade Tracking?
9. Do you use Blackboard to post class announcements?
- a. If so, how often?
 - b. If so, rate your satisfaction of Blackboard's announcement system on a scale from 1 to 10, 1 being completely dissatisfied, 10 being completely satisfied: ____
 - c. If yes, what do you like about Blackboard's announcement system?
 - d. What do you dislike about Blackboard's announcement system?
10. Do you encourage the use of Blackboard's Discussion Boards in your instruction?
- a. If so, for what purpose?
 - b. If so, rate your satisfaction of the Discussion Boards on a scale from 1 to 10, 1 being completely dissatisfied, 10 being completely satisfied: ____
 - c. If yes, what do you like about the Discussion Boards?
 - d. What do you dislike about the Discussion Boards?
11. Do you use the Blackboard Digital Drop-box in your instruction?
- a. If so, rate your satisfaction of the Digital Drop-box on a scale from 1 to 10, 1 being completely dissatisfied, 10 being completely satisfied: ____
 - b. If yes, what do you like about the Digital Drop-box?
 - c. What do you dislike about the Digital Drop-box?
12. Do you use the Blackboard Calendar in your instruction?
- a. If so, rate your satisfaction of the Calendar on a scale from 1 to 10, 1 being completely dissatisfied, 10 being completely satisfied: ____
 - b. If yes, what do you like about the Calendar?
 - c. What do you dislike about the Calendar?
13. If you have any comments that you would like to share about the Blackboard system, please provide them below: