

Canvas Pilot Assessment

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Spring 2015 Quantitative Results

Note: For the purposes of this writing sample, only the Spring 2015 quantitative results are shared.

Purpose

The purpose of this assessment was to discover how the Purdue University community felt about the usage of the Canvas Learning Management System in comparison to the Blackboard Learn Learning Management System. While staff were included in some assessment activities, the primary users of interest were students and faculty.

Methodology

The focus group protocols and end-of-semester surveys for both students and faculty were adapted from Indiana University instruments used in their Canvas Pilot Project. Their surveys and focus group protocols were obtained from their final project report.

For the fall 2014 pilot, which was considerably smaller than the Spring 2015 pilot, the assessment activities focused less on comparing Blackboard Learn to Canvas, and instead looked at Canvas only.

Analysis of the focus group, interviews, and open-ended questions was done through the lens of “what is positive/what is negative” about Canvas. The only comparison that end users were specifically asked to make was when they were asked which operating system they preferred (or if they preferred neither) and why.

Spring 2015

Assessment activities focus change

For the spring 2015 pilot the assessment activities focused on understanding what features of each learning management system (LMS) were most important to end users and then how good those were in each system (Canvas and Blackboard). The focus groups and open-ended questions on mid and end of semester surveys were analyzed with this lens.

Development of Spring 2015 end-of-semester survey

The analysis of the qualitative data was used as stand-alone data as well as informing the development of the final assessment survey. The features that were used for the comparison were those that were mentioned the most during focus groups, interviews, feedback offered from faculty informally throughout the semester (via conversations recorded by support staff and emails), and open-ended surveys sent to those who did not participate in any of the interviews and focus groups.

The reason for the change in focus between fall 2014 and spring 2015 was because this assessment was done solely to help Purdue make a final decision about whether to move from

Blackboard to Canvas. Through reflection after the fall 2014 pilot and in discussions with different stakeholders it became apparent that, for Purdue, the information that would be most beneficial to making a final decision was having an understanding of what features in a learning management system were of most important to students and faculty, and, during Spring 2015, how faculty and students rated those features for each system.

Use of effect size

Determination of difference levels (none, low, medium, high) was done using effect size. The reasoning for this is that statistical significance provides only a “very pale reflection of effect size” (Cohen, Cohen, West Aiken, p. 5) and does not indicate how meaningful the difference is (Cohen, Cohen, West Aiken; Pedhazur Schmelkin, 1991). Effect size is a method of determining the size of the difference between two groups, and for determining how well an intervention works, rather than just if it works (Coe, 2002).

Effect size explanation

Effect size is a way of quantifying the size difference between two groups (Coe, 2002). Whereas statistical significance measures whether there is a difference between two groups (p values) effect size describes the size of the difference, or how meaningful that difference is. Further, you can run a test of statistical significance (e.g. t-test, ANOVA) and not find significance but still find a meaningful difference (effect size) between the two groups. You can also have the opposite situation, where you find statistical significance ($p < .05$) but that difference isn't very meaningful (effect size).

The range of effect sizes are:

- 0.2: slightly meaningful difference
- 0.5: moderately meaningful difference
- 0.8: large meaningful difference

(Cohen, 1969)

Determination of categories used for analysis

For the Spring final survey the data was analyzed by course size, delivery of course, campus, and usage.

Course size delineations were determined through examination of section size data from the 2013-2014 data digest published by Purdue's Office of Institutional Research (<http://www.purdue.edu/datadigest/InstrStuLife/DistUGClasses.html>). Small courses are those with 0-19 students in them, medium are those with 20-49 students, large are those with 50-99 students, and finally 100+ are those with over 100 students in each course. Number in each course was determined by the spreadsheet of pilot courses kept by the Canvas Pilot Team.

Usage delineations were determined through looking at the amount of time an instructor spent in Canvas, and then for those courses where the instructor was +/- 5 hours on the high/medium division and +/- 3 hours on the low/medium division, if a course used 9 or more tools they were put in the higher category. High usage courses were those where the instructor spent more than 70 hours in Canvas over the course of the semester, medium were those where the instructor spent 25-69 hours in Canvas, and low were those where instructors spent less than 25 hours in Canvas during the pilot semester.

Delivery of course for the student survey was determined by answers to the question on the survey “This course was delivered primarily: face-to-face, face-to-face online, or online only.”

Spring 2015 Faculty Assessment Results

The conclusions and data presented in this section are from both the focus groups, interviews, and open-ended surveys that were sent out in the middle of Spring 2015 semester and the final survey that was sent out at the end of the Spring 2015 semester.

Population

End of semester survey

- 48 faculty teaching assistants filled out the end-of-semester survey
- 8 from Purdue Calumet
- 4 from Purdue North Central
- 36 from Purdue West Lafayette

Focus groups / interviews/ mid semester surveys

- 7 faculty members from West Lafayette participated in mid-semester focus groups
- 3 faculty members from West Lafayette participated in mid-semester interviews

Open ended surveys

- 4 faculty members from Purdue North Central
- 10 from Purdue Calumet
- 12 from Purdue West Lafayette

Summary of findings

- There is no overall difference faculty ratings of Blackboard versus Canvas.
- Course size makes the biggest impact on ratings.
 - Those teaching courses with 100+ students and large (50-99 students) courses preferred Blackboard to Canvas at a slightly meaningful level.
 - Those teaching medium sized (20-49) size courses didn't have a preference.
 - Those teaching small (1-19 students) preferred Canvas to Blackboard in at a moderately meaningful level.
- When examined by usage, those teaching medium and low usage courses indicate a slightly meaningful preference for Canvas over Blackboard, while those in high usage courses don't indicate a preference for either.
- When examined by delivery type, those teaching face-to-face courses slightly preferred Canvas more than Blackboard, while those teaching online-only courses prefer Blackboard to Canvas.
- Those faculty at North Central prefer Canvas to Blackboard at a moderately meaningful level, while those at West Lafayette slightly prefer Canvas over Blackboard, and those at Calumet do not prefer one to the other.
- 13 faculty prefer Blackboard over Canvas, 21 prefer Canvas over Blackboard, and 9 have no preference.

- 23 faculty members think that Purdue should move to Canvas, and 20 think that Purdue should not move to Canvas.
- The features of Canvas that faculty prefer over their counterpart in Blackboard are:
 - The speed grader
 - Setting up a course
 - The look and feel
 - The calendar
 - Modules
- The features in Blackboard that faculty prefer over their counterpart in Canvas are:
 - The grade book
 - The quiz / test feature
 - Being able to customize the system for their needs
 - Rubrics.
- It needs to be noted that the grade book in Canvas is the biggest single issue that has been mentioned by faculty.

Average score comparison *(Not included in this writing sample)*

Faculty were given 25 features of a learning management system to rate in the end-of- semester survey to rate on a scale of 0-6, or did not use. Because of the large number of different features that faculty were given to rate, in order to make an overall determination as to how they felt about each learning management system (LMS) it was decided to use average score given to each feature. Thus, the following, entire LMS comparisons, are made using this score.

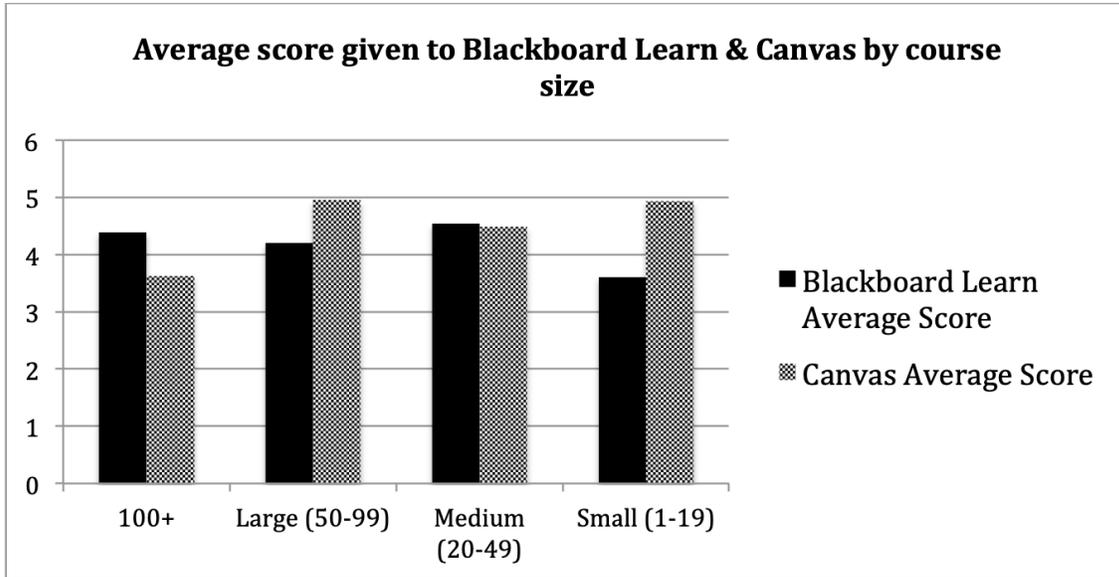
Comparison as a whole group

Results from the faculty survey indicate that, overall, there is no meaningful difference ($d=0.18$) in students’ opinion of Blackboard Learn (N=39 faculty, M= 4.12) versus Canvas (N=43 faculty, M= 4.54).

	Number of instructors	Mean	SD	Difference
Blackboard Average Score	39	4.12	1.34	None
Canvas Average Score	43	4.54	1.42	($d=0.18$)

Average score by course size

Course size delineations were determined through examination of section size data from the 2013-2014 data digest published by Purdue’s Office of Institutional Research (<http://www.purdue.edu/datadigest/InstrStuLife/DistUGClasses.html>). Small courses are those with 0-19 students in them, medium are those with 20-49 students, large are those with 50-99 students, and finally 100+ are those with over 100 students in each course.



Results show that for courses with 100 or more students, and those with 50-99 courses that there is a small difference between Blackboard Learn and Canvas. Those in courses with 100+ students rated Blackboard higher than Canvas, while those in courses with 50-99 students rated Canvas higher than Blackboard. For those in in medium sized (20- 49) courses there was no

Size		Number of instructors	Mean	Standard Deviation	Difference (Effect size)
100+	Blackboard Average Score	9	4.39	1.21	Small (d=0.40)
	Canvas Average Score	10	3.63	1.66	
Large (50-99)	Blackboard Average Score	5	4.21	1.09	Small (d=0.45)
	Canvas Average Score	6	4.95	0.97	
Medium (20-49)	Blackboard Average Score	10	4.54	1.17	None (d=0.02)
	Canvas Average Score	11	4.49	1.39	
Small (1-19)	Blackboard Average Score	15	3.61	1.52	Moderate (d=0.54)
	Canvas Average Score	16	4.94	1.15	

meaningful difference between Blackboard and Canvas. Those in small (1-19) courses rated Blackboard higher than Canvas at a moderately higher level. See table below for mean, standard deviation, and difference levels (effect size).

Spring 2015 Student Assessment Results

The conclusions and data presented in this section are from both the focus groups open-ended surveys that were sent out in the middle of spring 2015 semester and the final survey that was sent out at the end of the spring 2015 semester.

Population

End-of-semester survey

- 431 Purdue West Lafayette students
- 64 Purdue Calumet students
- 14 Purdue North Central students

Focus groups

43 Purdue West Lafayette students participated in 4 focus groups

Mid-semester survey

- 19 Purdue Calumet students
- 18 Purdue North Central

Summary of findings

- While Canvas is scored slightly higher in most comparisons, the difference, for most comparisons, is small to not meaningful.
- When examining total scores by campus, the 14 students who answered the survey from North Central scored Blackboard Learn higher than Canvas, and the difference was at a small meaningful level.
- When examining total scores by course delivery the 28 students in the online course scored Blackboard Learn higher, and the difference was at a small meaningful level.
- The features of Canvas that students liked the most are the grading, particularly the ability to put in a “what if” grade in order to project what their course grade would be if they got a certain grade on an individual assignment.
- Students also like how Canvas tracks assignments.
- Students were mixed in their opinions on the layout of Canvas and Canvas’s notification system.
- The most important features to students are ability to track their course grade, tracking grades on assignments, accessing files on assignments, tracking assignments and taking tests and quizzes within the learning management system.
- Students prefer the Canvas mobile application to the Blackboard mobile application.

Canvas Total Score

Results from the student survey indicate that, overall, there is no meaningful difference ($d=0.07$) in students' opinion of Blackboard Learn (N=509 students, M=47.03) versus Canvas (N=511 students, M=48.53).

LMS	Number of responses	Mean	Standard Deviation	Difference
Blackboard Learn	509	47.03	15.659	No difference ($d=0.07$)
Canvas	511	48.53	15.439	

Total score by class size

For all course sizes the difference is no meaningful differences in ratings of Blackboard Learn and Canvas See table below for means, standard deviations, and difference comparisons).

		Blackboard Learn Total	Canvas Total	Difference
Small (1-19)	N	95	95	None ($d=0.09$)
	Mean	49.32	50.61	
	Std. Deviation	14.98	14.59	
Medium (20-49)	N	92	93	None ($d=0.02$)
	Mean	48.41	48.71	
	Std. Deviation	18.56	17.27	
Large (50-99)	N	117	117	None ($d=0.19$)
	Mean	45.08	47.79	
	Std. Deviation	14.61	14.42	
100+	N	204	205	None ($d=0.09$)
	Mean	46.55	47.95	
	Std. Deviation	15.02	15.56	