One Canvas, Two Audiences:
How Faculty and Students Use a newly Adopted Learning Management System

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Abstract: James Madison University (JMU) adopted a new Learning Management System in the 2013-2014 academic year. In the 2014-2015 academic year, a small group of instructors and 2 instructional technologists conducted survey research to evaluate the faculty’s and student body’s experiences with the Canvas learning management system (LMS) roll-out. The results of the study indicated that while faculty and students were generally satisfied with Canvas, there are distinct differences in the way each group uses technology: faculty design their courses for delivery on laptops, but students use smartphones to access Canvas. Unfortunately, the interface, navigation, and features on Canvas for mobile devices are very limited. In addition, the course structure and learning modules cannot be viewed on smartphones. This creates a usability issue for the students, and presents a distinct challenge for instructors who are unaware that their students are not able to see or use the course, as they intended.

Introduction

James Madison University (JMU) is a public institution in the Shenandoah Valley of Virginia. Prior to the fall of 2013, JMU used the Blackboard learning management system (LMS) for course management and delivery. JMU transitioned from Blackboard to Canvas during the 2013-2014 academic year, and at the end of the Spring 2014 semester, Blackboard was discontinued. In the 2014-2015 academic year, a group of administrators and professors from several departments at JMU conducted a study to evaluate the Canvas roll-out. The goals of the study were to examine instructors’ and students’ opinions of Canvas, the technologies used to access it, and potential usability issues; determine training needs and best practices for instructors’ use; and explore how to best support faculty in their use of Canvas.

Purpose of the Study/Research Questions

The study had several purposes. We were interested in examining faculty and student perceptions of the features and functions of the Canvas LMS. We also wanted to: 1) determine how faculty and students were accessing Canvas, 2) determine best practices for faculty development when adopting a new LMS, with specific emphasis on how to effectively use the various features and functions; 3) investigate whether specific training is required for any of the features; and 4) determine how to best support faculty in their adoption, learning and implementation of Canvas. The following research question were formulated at the onset of the study:

1. What is the impact of the LMS transition from Blackboard to Canvas?
2. What are the different perceptions between adopters and non-adopters of Canvas?
3. What are innovative ways or limitations of using the newly adopted Canvas?
4. What are the concerns of adopting Canvas for teaching and learning?
5. What are the perceived best practices when using a Learning Management System (LMS)?
6. Are there differences in teaching and learning activities when using a LMS for undergraduate and graduate classes?
Conceptual Framework

As educators who regularly use technology in instruction, we recognize that the adoption of new technology can be problematic for faculty who are not avid technology users, and this particular system implementation was no exception. In this study, we were interested in how the new learning management system affected both faculty and students, their usage of the different system components, and the tools they used to access the system. Figure 1 shows the three variables operationalized in the study. The first variable, the learning management system, was investigated along three lines: cost, adaptability and flexibility, and faculty and student orientation. Faculty comprise the second variable. This variable covers faculty adoption and diffusion strategies, curriculum design, content curation, learning module development and the most frequently used modes of access to the system: desktop, laptop and tablet. The final variable addresses student use of Canvas; their use of Web 2.0 and Social Media tools, need for collaboration, 24-7 access, mobility, and finally, the technologies (smartphones) students use to access the learning management system.

![Conceptual Framework of the Study](image)

Figure 1. Conceptual Framework of the Study

Rationale for the Study

In higher education, adoption and integration of a new learning management system is never easy. Moving from the easy and familiar to the new and unfamiliar is fraught with problems. Typically, the adoption of a new system involves a steep learning curve, resistance, and mounting frustration when attempting to replicate tasks and activities in the new system. Most learning management systems contain technologies for multiple forms of communication; features that assist faculty in creating, curating and maintaining course content; testing options; polling and survey tools; repositories; and information management tools (Naveh, Tubin, & Pliskin, 2010; Clark, 2002). Student and faculty satisfaction with learning or course management systems has been studied from the perspectives of communication and knowledge transmission (Lonn & Teasley, 2009; Malikoswki, Thompson, & Theis, 2007), traditional course content (Morgan, 2003; Selim, 2007; Falvo & Johnson, 2007) and student self-efficacy (Liaw, 2008; Hong, 2002). Learning management systems are a relatively new phenomenon in higher education, having become commonplace only in the last 10 to 15 years. While largely in a nascent stage, learning management systems have taken hold in higher education. Fully, 95% of colleges and universities report having some form of online course management system (Pollack, 2003).

The Study

A faculty group from several colleges at James Madison University assembled in the fall of 2014 to evaluate the Canvas implementation. The group first examined existing research on how various features of the
learning management system influence the way instructors design courses and contribute to the overall student learning experience, and then used surveys to gather data from faculty and students. Following the surveys, faculty focus groups were conducted in order to collect more in-depth information on faculty experiences.

Two surveys were designed and delivered in Qualtrics, one to evaluate the faculty’s experience and the other to address the students’ experience. Both surveys contained questions to gather demographic data on age, gender, and college affiliation; 4-point Likert-scale questions (Strongly Agree to Strongly Disagree) to assess opinions regarding system usability, system features, and the instructor’s use of features; and open-ended questions.

The research was approved by JMU’s Institutional Review Board in February of 2015. Subsequently, emails were sent to faculty and students inviting them to participate in the study. The surveys remained open only 3 weeks. The timing of the study was somewhat problematic, as the emails to students were sent immediately prior to Spring Break. Consequently, the student response rate (.8%) was much lower than the faculty response rate (9.8%). Both response rates were substantially lower than the 30-40% rate commonly seen for internal surveys (https://www.surveygizmo.com/survey-blog/survey-response-rates/).

Faculty Demographics

The survey results were collected by Qualtrics during late February and early March of 2015. The final sample consisted of 220 faculty members (9.8%) of a population of 2,200 professors. In total, instructors from 7 different colleges participated in the study. Some colleges had better representation than others. Only 8.5% of the College of Visual and Performing Arts faculty participated, whereas 44% of the College of Education faculty participated. The faculty age ranges appeared to be normally distributed: 25-30 (3%), 31-40 (21%), 41-50 (31%), 51-60 (26%), 61-70 (18%), 71 and older (1%). The gender breakdown of the sample was 57% female and 42% male, compared to 48% female and 52% male of the population.

Faculty Use of Canvas

Ninety-seven percent of the faculty respondents reported that they use Canvas, and access it with either a desktop (75%), or a laptop (64%). A smaller number reported that they also access Canvas via iPad (20%) or smartphone (9%). Ninety-six percent reported that they use Canvas to house content; 82% use it to communicate with students; 75% use it to manage grades; 62% use it to deliver assignments, quizzes, and exams; 33% use it for calendaring; and 25% used it to manage attendance. When asked which features they used most, faculty responded that they most frequently used Assignments (85%), Announcements (80%), Grades (79%), and the Speedgrader (56%).

The survey asked faculty to rate Canvas on usability, management functions, and ease of communication. A sizable minority felt that Canvas: was not user friendly (36%), did not address the needs of of users from novice to expert (40%), did not allow for customization (37%), did not work with their preferred browser (27%), and did not offer an easy-to-use Discussion Board (18%). A sizable minority found the following difficult: grade calculation (27%), assignment submission (19%), quiz administration (18%), and peer review (8%). Finally, the participants did not feel that Canvas: facilitated interactions between students (24%), facilitated interaction between instructors and students (30%), enabled users to received timely feedback (15%), enabled users to feel connected to other students (33%), or enabled users to feel connected to the instructor (29%).

In the open-ended survey questions and faculty focus groups, instructors voiced a number of concerns about the learning management system and its implementation. Some were concerned with the large learning curve and the tremendous amount of time (40 to 60 hours) required to design a course. They felt that the time spent on Canvas took them away from their discipline, and this they found frustrating. Others were concerned that learning management systems, in general, devalue classroom teaching and potentially make faculty superfluous to the university. In particular, they worried that learning management systems, with their focus on standardization of content delivery and assessment, are antithetical to traditional instructional activities such as careful reading of texts, deep classroom discussion, and in-class essays. Some felt that Canvas “forced” them into pedagogical models they do not like and did not consent to use.
Some instructors mentioned that they appreciated the automatic system updating, but others found the constant updating frustrating since features were changed frequently without notice. Of particular concern to most instructors was the fact that system updates were pushed right before the beginning of a semester, leaving faculty members feeling confused about features and unsupported since the training they attended did not address the new features that were pushed!

**Student Survey Results**

One hundred and eighty-one (.8%) of 22,000 students participated in the survey. Eighty percent of the respondents were in the 18 to 24-year age range, 7% of respondents were in the 31-40 age range, 6% were 18 or younger, 4% were in the 25-30 age range, 2% were in the 51-50 age range, and 1% was in the 41-50 and 61-70 age ranges. The gender of the sample was skewed in favor of women: 86% for the sample compared to 60% for the JMU population. As shown in Figure 2, the respondents were fairly well divided among the class levels. The majority of the students surveyed (87%) had previously used another learning management system, and most of these had taken multiple courses where the content was delivered by a learning management system.

![Figure 2. Participants by Class Level](image)

**Student’s Impressions of the new LMS**

Students’ survey questions addressed the faculty’s use of Canvas, system usability, and ease of communication and organization. Generally, students liked the appearance of Canvas and found it user friendly. Their overall perceptions of Canvas were much more favorable than those of the faculty. There was, however, a sizable minority that provided feedback on specific features, technologies, or strategies that they felt did not work as expected based on their prior experience with another learning management system. Ninety-three percent of the students agreed that the learning modules in Canvas enabled them to engage with the content. Eighteen percent of students disagreed that the content was organized consistently in their Canvas courses. Twenty percent of the students disagreed that their instructors used a variety of methods to provide appropriate and timely feedback.

Although 93% agreed that the learning modules in Canvas enabled them to engage with the content, many students felt that the faculty did not use this feature. Many thought that instructors organized course content inconsistently, and that their instructors used Canvas as a database only. Often, students found it difficult to check grades in Canvas, or to use the learning management system to connect with other students and instructors. Many thought the Discussion Board was an ineffective way to hold discussions.

**Discussion**

The differences between faculty and student perceptions were enlightening. Although students liked the learning modules and felt that they enabled them to engage more easily with the content, many faculty members thought the learning modules forced them to adopt a particular, more regimented pedagogy that was antithetical to their particular teaching approach. A sizable minority of students felt that their Canvas courses were not organized in any logical fashion. Again, this was a surprise because many faculty members felt that Canvas was too structured, as the menu items were preconfigured and did not allow faculty members to make structural changes to their Canvas courses. Some students complained that their instructors appeared to use Canvas as a dumping ground for files. A little investigation into the source of this complaint revealed that many students access Canvas through their smartphones and unbeknownst to the faculty, the Canvas app does not enable students to fully access all features of
Canvas, such as the learning modules (which organizes files), assignments, and other features. In fact, course files do appear disconnected and disorganized in the Canvas app, so this may partially explain these students’ dissatisfaction with their instructors’ apparent lack of file organization protocols. Finally, many students felt that their instructors did not use Canvas to provide appropriate and timely feedback. This was another revelation, as Canvas offers a variety of features such as Announcements, Email, Audio and Video Feedback for instructors to provide students with timely and relevant feedback. This particular student complaint may be due to differences in what is considered ‘timely’ feedback. It is common for faculty to use a 2-week turn around time when providing feedback for assignments, but Millennial students are accustomed to instant gratification, so 2 weeks may seem like an inordinately long time between assignment submission and feedback.

The most important finding from our research was that most students access Canvas on their smartphones. In contrast, instructors typically use a desktop or laptop to access Canvas (see Figure 3). Although Canvas is usable on a cell phone, its mobile interface, navigation, and available features are vastly different than the computer-based version. For example, learning modules do not work at all on the smartphone version of Canvas, files are not organized in any logical fashion, and the Canvas course interface is completely different. As most instructors do not use Canvas on their phones, they have no idea how their courses appear on this type of device. Faculty members are encouraged to use Canvas’ learning modules to create sequential and organized course content, but it seems counterproductive to spend time designing learning modules that cannot be viewed by students on their preferred devices. When students attempt to access Canvas learning modules on their smartphones, the content of the learning modules appears as individual files, with no apparent organization.

Limitations

Our study had some important limitations. The size of the sample relative to the population of faculty and students was a major limitation in this study. Had the study occurred earlier or later in the semester, it is possible that we would have obtained a larger sample size. Because the sample was so small, it is difficult to determine whether the results truly represented the views of the greater population. In addition, both the student and faculty samples were somewhat skewed. The student sample contained a disproportionately large number of females relative to the student population. Thus, the male student experience was not fully documented in this research. The faculty sample contained a disproportionately large number of professors from specific colleges. Consequently, the perspectives of instructors in some colleges were not adequately represented in this study.

Conclusion

This research identified several key issues related to course design for learning management systems. First, instructors are not designing their courses for the target platform used by students: smartphones. As a result, students are not able to engage fully with the course content in the manner envisioned by the instructor. Second, many instructors are unfamiliar with instructional design models and consequently do not take full advantage of the
features afforded in Canvas. Therefore, their course design may suffer from a lack of organization, leading students to experience difficulty with course navigation. Third, faculty are concerned about the quality of learning and interaction afforded by any learning management system. This concern is amplified when the student’s entire learning experience occurs on a smartphone, a tool routinely forgotten by the developers of learning management systems and by the instructors. As evident in our research, members of the Millennial generation are avid users of technology, but they use it in a superficial way. Brabazon (2007) portrays the current “net generation” of undergraduate students as one where “clicking replaces thinking” and scholarship consists of little more than “Googling their way” through degree courses (Brabazon, 2007, p. 16) and engaging in forms of “accelerated smash and grab scholarship” (Brabazon, 2007, p. 39). As designers of instruction, it is important to ensure that the student’s learning experience is equivalent regardless of the delivery platform. For this reason, we recommend that developers of learning management systems, such as Canvas, consider improving the functionality of the apps they offer for use on smartphones. Improved functionality will make it possible for students to experience the course as designed by the professor, and not as a series of disorganized files.

References