Transitioning From Blackboard To Moodle - Course Management Software: Faculty And Student Opinions

Dennis L. Payette, Adelphi University, USA
Rakesh Gupta, Adelphi University, USA

ABSTRACT

Colleges and universities have increasingly invested in specialized software and hardware designed to enhance and facilitate the instructional process for faculty and students. One type of technological assistance is commonly known as course management software (CMS). Once learned, these CMS packages can greatly enhance and enrich the classroom experience and provide internet based access to course materials, assignments, grades, supplementary materials, such as quizzes, PPTs, and study aids. Like all moderately complex software packages (Blackboard is proprietary software and Moodle is open source software), there is a learning curve involved in mastering the functionality of each CMS. This paper examines the process of changing from one type of CMS (Blackboard) to another (Moodle). Faulty (FT & PT) and students (graduate & undergraduate) were surveyed to obtain opinions about the transition from one CMS system to another. The goal is to identify issues that may be addressed by targeted training and insights which would improve the transition process.

Keywords: CMS, Blackboard, Moodle, Computer Aided Instruction, VLE.

INTRODUCTION

delphi University is a medium sized (8000 students) private sector university offering bachelor's, master's and doctoral degrees; it is located in Garden City, New York in the United States. This case study was conducted in the School of Business at Adelphi University which offers bachelors and MBA degrees in business. Approximately two thirds of the students are in part time and full-time undergraduates programs, and one third enroll in graduate business programs in traditional formats as well as in accelerated cohort formats.

Adelphi University is an AACSB- International accredited institution; pedagogical research is one of the foci of scholarly activity. The goal of the research was to study the transition from Blackboard CMS to Moodle CMS.

The purpose of this research is to determine what the faculty and students think about the use of CMS and more specifically what they think about the comparative advantages and disadvantages of each system. It is hoped that the results of the surveys will lead to ideas to improve not just the transition to Moodle which will be the only CMS available as of the Fall 2009, but also for ideas on faculty and student support mechanisms. Finally, this type of pedagogical research is consistent with the School of Business's continuous improvement initiatives.

Asked about the Blackboard to Moodle transition Astrid Palm said:

"In terms of academic benefits, Moodle has many more educational activities built in, which faculty can choose to implement into their instruction. It has been positively received and adopted by faculty in higher education across the country and around the globe with astounding speed and confidence."

Jack Chen, the CIO said: *"From the IT perspective there were three main issues that led us to make the transfer from Blackboard to Moodle. They were:*

- *Inadequate system support*
- *Inability to support Web 2.0*
- *Increasing cost escalation*

These three issues made it clear to us that a change needed to be made. Moodle, as an open source CMS, was our choice to best resolve the three main deficiencies with Blackboard."

RESEARCH METHODOLOGY AND DATA COLLECTION METHODS

Two questionnaires, one for faculty, and one for students, were prepared and pretested for validity and completion time. Student questionnaires were distributed to classes in the School of Business, graduate and undergraduate and day and evening sessions. Data from the surveys were input into Excel Spreadsheets, which were then transferred into SPSS Version 17 for data analysis.

The research proposal and all related materials were submitted to the Institutional Review Board (IRB) for review. The researchers were required to be certified in the latest research methods which use human subjects in any manner.

REVIEW OF CMS LITERATURE

In his classic book on how innovations, technological and non-technological, are adopted, Rogers (1983) states that:

"One reason, why there is so much interest in the diffusion of innovations is because getting a new idea   adopted, even when it has obvious advantages, is often very difficult…. Many innovations require a lengthy period, often of some years…… to the time they are adopted."(p.1.)

Little did any of us anticipate the astonishing rate of technological and related behavioral change in the nearly three decades since Rogers examined the elements involved in the innovation process. Friedman(2007), in his thought provoking examination of the current state of world communication and its leveling effect on society and business, has one of the best overviews of global economic transformation. The rapid adoption of the internet and its attendant impact on the use of computer based communication methods, far too numerous to succinctly summarize, has effected more change in a shorter time span than any other innovation in history.

Wikipedia, the free on-line open source encyclopedia is one such innovation. Like many technological innovations it has rapidly changed, along with Google, how we access data on virtually any subject. While questions exist as to the validity and reliability of the information, and researchers eschew its use, Wikipedia is widely used by the general public to acquire general information on almost anything. For example, when one looks up "course management software," we find that there are thirty specialized learning programs which are generally classified as "virtual learning environment software" (VLE). Essentially VLE "is a software system designed to support teaching and learning in an educational setting." (http://en.wikipedia.org/wiki/coursemanagementsystem).

Blackboard is categorized under VLE and Moodle is listed as free software and open source CMS. (Wikipedia). Therefore, with respect to this research we are examining the decision to transition from a VLE and proprietary family of software namely, Blackboard to a CMS which is free software and open source, i.e., Moodle. Ullman and Rabinowitz (2004) suggest that the use of CMS "enables teachers to extend the class room beyond its traditional boundaries of time and space" (p.1.) Ullman and Rabinowitz also state that, "every CMS contains some implementation of the following functions:"

- Authoring/Publishing Tools
- Virtual Community

- Data Management
- Testing
- Course Organizer

Each institution can decide how the CMS selected can be used by the faculty and students. Blackboard, which refers to itself as "a global leader in education technology" and Moodle "is a free access web application that educators can use to create effective outline learning sites." (http:// moodle.org/ 5/12/2009) According to Twigg (2003):

".... There is credible evidence that course management systems when implemented within a cohesive programmatic and management framework can enhance student performance, reduce drop-withdraw-failure rates, and foster active student participation in course activities."

Hannafin (2008) indicated "that the number (of CMS) is growing at a staggering rate." Moreover, the applications within the CMS has rapidly evolved from their limited original functions, namely online courses to a fall array of support functions for faculty and students alike. They also noted the fact that some of the programs can be confusing and take a considerable amount of time to learn. Dykman and Davis (2008) explored the phenomenon of rapidly adoption and state that "a large transition is underway." They further cite the following CMS features which may account for this rapid growth:

- Ability to use Information technologies effectively
- Provides convenient mechanism for sustained learning
- Timeliness of the information used
- A new paradigm for teaching and learning
- Allows for internationalization through the use of the internet

The authors conclude the CMS's make it possible to accomplish goals in education that could never have been possible before." Dykman and Davis (2008) published two more papers on the use of technology and "educational practice." (see references)

Nworie and Haughton (2008) explored the possibility of "unlimited consequences" as the use of CMS by students increases such as frivolous use of time on computers in class other than the course material. The authors of this paper have also noticed this phenomenon and believe the problem exists and that it be researched. They further state that "Identifying unintended effects early is crucial as negative consequences may become more pronounced over time." (p.57)

That may be part of Roqueta's (2008) recommendation to create an education team of all faculty, students and staff to participate in a joint assessment effort to understand and evaluate the new learning systems. Another study by Smith, Torres-Ayala and Heindel (2008) raises an important question namely, are these differences in the applicability of CMS's among the disciplines. They conclude that:

"One may expect that certain disciplines may work more gracefully with the current e-learning tools than others."

This brief review of some of the key points in the literature concerning education change/innovation and the positive potential impact upon higher education supports the importance of conducting research on CMS that institutions use. Further, it is critical to know what the users think about the systems that institutions invest in. That need to understand what faculty and students think about the use of CMS is a most worthy research undertaking.

The question then arises as to which CMS system is the best overall or which system features are the most useful for any given institution. There is a lively debate in higher education on these issues. Blackboard currently holds the dominant position as a commercial/ proprietary system while others like Moodle and Sakai as open source systems have the appeal of being more flexible and less costly.

What is clear is that the use of CMS is growing and possibly changing how many faculty members support their instruction and what students are coming to expect by way of technological support mechanisms for their classes. It may well be that the predicted revolution in institutions through the use of technology is in fact happening. Blackboard now has a client base in seventy countries and has 57% of the institutions that use CMS. (Chronicle of Higher Education, May 22, 2009. (p.A11)

FINDINGS

The first and critically important feature of the results of this study is to note the very large variation in the sample sizes between the faculty and students (34 vs. 390). Therefore, faculty data reported is problematic whereas student data, in this instance, is valid. Nonetheless the results demonstrate some interesting patterns of opinions and preferences. Two of the most revealing results are the extent to which faculty regard, in a positive manner, assistance received from the Faculty Center for Professional Excellence (FCPE). The other noteworthy finding was the degree to which (nearly 90%) of the students reported learning both CMS programs "on their own." This raises the question of how much effort and resources needs to be allocated for student support in learning CMS programs and perhaps other software programs as well.

Tables 1-5 summarize the findings:

Table 1. Usage and Ease of Use of Blackboard and Moodle

	BB Usage		Moodle Usage	
	How many?	Easy to use?	How many?	Easy to use?
Students	88.9%	93.5%	91.5%	90.1%
Faculty	72.7%	91.3%	58.8%	42.1%

Percentages do not add to 100% due to multiple responses

Blackboard was the exclusive CMS program until the spring of 2007 when both Blackboard and Moodle could be used based on faculty choice. As of the fall of 2009, Moodle is the only CMS that will be available and supported. Note that student use did not vary between the two CMSs; however, faculty use of Moodle was significantly lower than Blackboard, although that may well change when Moodle is the only option. Faculty also reported that Moodle was not as easy to use but that may also change with more extended use. Student use data may be due, in part, to the fact that they were using one CMS in at least one or more classes, whereas faculty may not have been using any CMS.

Table 2: How students learned to use CMS

	Faculty	Help Desk	Online Tutorial	On my own
Blackboard	25.4%	2.8%	2.0%	86.0%
Moodle	27.1%	2.6%	1.9%	87.4%

Students overwhelmingly reported learning both CMS programs on their own and one-quarter reported learning from their faculty.

Table 3: Faculty use of CMS support services

	FCPE	Attended Workshop	Phone Assistance	Online Tutorials
All Faculty	64.5%	46.9%	43.8%	15.6%
FT Faculty	72.7%	52.2%	47.8%	17.4%
PT Faculty	57.1%	42.9%	42.9%	14.3%
Tenured	62.5%	55.6%	33.3%	30.8%
Non-tenured	69.2%	53.8%	61.5%	0%

Percentages do not add to 100% due to multiple responses

The Faculty Center for Professional Excellence (FCPE) was used more than any other method to learn CMSs, which validates the effort to provide such services. This was followed by workshops and telephone assistance. The least used resource by the faculty were on-line tutorials. In retrospect, another category should have been considered; namely, "asked a colleague." There was relatively little variation between all categories of faculty; i.e., full-time, part-time, tenured and non-tenured faculty.

Table 4: Faculty satisfaction with FCPE support

	Percent satisfied
All faculty	85.7%
Tenured faculty	71.4%
Non-tenured	92.3%

The level of satisfaction is high by all levels of faculty with the FCPE with the non-tenured faculty reporting the highest level of satisfaction. This might reflect that the non-tenured faculty needs to engage in research and concern for student classroom performance.

Table 5: Moodle, compared with Blackboard, is—

	Better	Worse
All Faculty	47.4%	52.6%
FT Faculty	35.7%	64.3%
PT Faculty	80.0%	20.0%
Tenured	75.0%	25.0%
Non-tenured	50.0%	50.0%
All Students	74.9%	25.1%
Undergrads	76.1%	23.9%
MBAs	71.6%	28.4%

There was very little difference between undergraduate and graduate students, three-quarters of whom thought Moodle was better than Blackboard. Faculty, with a much smaller sample size, were nearly equal in their

preference between Moodle and Blackboard in the aggregate. The tenured faculty, however, preferred Moodle over Blackboard.

DELIMITATIONS

The research findings are limited to faculty and students at one institution; namely, Adelphi University, and therefore the results may not be generalized. The methods used could be replicated; however, at other institutions that may be contemplating making changes in the CMS programs and not necessarily just Blackboard and/or Moodle, but any other CMS packages. We believe that this research can lead to potentially important information about faculty and student opinions that could be used for the development of transition procedures and training workshops for both faculty and students. Due to the sample size (faculty n=34 and students n=390), full statistical analysis was not done and further research is planned.

DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

The results of the study reveal much that was unknown about student and faculty opinions on the use of CMS. That, by itself, is valuable information to consider when making policy decisions. Secondly, this type of pedagogical analysis may well lead to improved CMS applications in the classroom. For example, faculty who do spend time teaching CMS systems may need to rethink that allocation of time when the student data points to students learning new programs on their own over any other method.

The assumption that a separate resource for teaching and supporting faculty as new CMS programs are introduced is strongly supported by this research. Students rated Moodle much higher than did faculty, which is a finding that merits additional attention since the use of CMSs, based on the review of the literature, will almost certainly continue to grow.

ACKNOWLEDGEMENTS

AUTHOR INFORMATION

Dr. Payette is a tenured Associate Professor in the Department of Management, Marketing & Decision Sciences, School of Business, at Adelphi University located in Garden City, New York. His research interests have focused on pedagogical research related to the use of modern teaching methods and technologies. He has published many articles in the past few years, made numerous presentations and he serves as the Chair of the AACSB Faculty Committee at Adelphi University. In addition to teaching and research Dr. Payette's background includes service as a senior administrator at Long Island University and Dowling College.

Rakesh Gupta is Interim Dean of the School of Business at Adelphi University. He earned an MBA from Baruch College and was an electrical engineer. His research interests are in strategic management, management of technology, and a focus on pedagogy of financial literacy and business ethics.

REFERENCES

1. *Moodle.* Retrieved 5 12, 2009, from Moodle: http://moodle.org
2. *Blackboard.* Retrieved 5 12, 2009, from http://www.blackboard.com/company/media_center/pressreleases
3. Twigg, C. (2003). Improving Learning and Reducing Costs: Lessons Learned from Round One of the Pew Grant Program in Course Redesign (New York: Center for Academic Transformation), p.2. Center for Applied Research Volume 2. In *EDUCAUSE Volume 2* (p. 79).
4. Chen, J. (Interview: 2009, 5 26). Chief Information Officer of Adelphi University.
5. *Course Management Systems*. Retrieved 5 13, 2009, from Wikipedia: http://wikipedia.org/wiki/course_management_systems
6. Davis, C. A. (2008). Online Education Forum- Part Three A Quality Online Education Experience. *Journal of Information Systems Education , 19(3)*, 281,9.
7. Davis, C. A. Online Education Forum: Part Two- Teaching Online Versus Teaching Conventionally. *Journal of Information Systems Education , 19(2)*.
8. Davis, C. A. (2008). Part One- The Shift Toward Online Education . *Journal of Information Systems Education , 19(1)*, 11.
9. Freedman, G. *Challenges Critical Responses.* Retrieved from Unlocking the Global Education Imperative Core: http://blog.blackboard.com/gordenfreedman
10. Friedman, T. L. (2007). *The World is Flat: A Brief History of the Twenty first Century.* New York: Picador.
11. Smith,G. G, Torres-Ayala and Heindel, A.J. (2008). Disciplinary Differences in E-Learning Instructional Design: The Case of Mathematics. *Journal of Distance Education , 22(3)*, 63-88.
12. Hannafin, A. I. (2008). Course Management Systems:. *Time for Users to Get What They Need* , p. 46.
13. Haughton,N and Nworie, J. (2008). Good Intentions and Unanticipated Effects: The Unintended Consequences of the application of Technology in Teaching and Learning Environments, *Tech Trends , 52*, 52.
14. Palm, A. (Interview: 2009, 5 26). Director of the Faculty Center for Professional Excellence Adelphi University.
15. Rabinowitz, C. U. (2004). Course Management Systems and the Reinvention of Instruction. *T.H.E Journal*.
16. Rogers, E. M. (1983). *Diffusion of Innovations.* New York: The Free Press.
17. Roqueta, M. Learning Management Systems A Foucs on the Learner. *Distance Learning , 5(4)*.
18. *Sakai 3 Proposal*.Retrieved 5 22, 2009, from Sakai Foundation: http://3AKAI.SAKAIproject.org
19. Why Blackboard's Plan to buy a Rival Sparked a Campus Uproar. (2009, 5 22). *The Chronicle of Higher Education* , p. A 1.

NOTES