

A Comparative Report of Portland State University's Implementation of Blackboard and Desire2Learn

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Executive Summary

In the summer of 2010, Portland State University changed its online learning system from the Blackboard Learning Management System (LMS) to a new platform called Desire 2 Learn. This report provides a comparative analysis of the implementation of both platforms, including the selection process. The transition from the original platform, WebCT, which was in place prior to the transition to Blackboard did not involve a formal request for proposal process like that which was undertook in the selection of Desire2Learn. The reason a formal selection process did not take place was, at least in part, due to the purchase of WebCT by Blackboard, and the relatively sudden end of product support by the company. This placed Portland State University in a difficult position of having to replace, in a very limited amount of time, a learning platform that was poorly functioning and no longer supported.

Blackboard effectively leveraged the similarities between its new learning management system and PSU's existing WebCT platform. Portland State University faculty and student's familiarity with WebCT made transitioning to Blackboard far easier since the two platforms functioned similarly. As such, Portland State University had a choice of either continuing to manage in unsupported platform with numerous problems for perhaps another year while an entirely new platform was selected, or to implement Blackboard, which offered a short-term, but workable solution.

The fact that Portland State University found itself in position of having to choose between two solutions, neither of which was ideal, strongly suggest that when an organization chooses to implement a learning management system, it should make alternate plans in the

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event that the solution does not meet expectations. However, the complexity and scope involved in implementing a learning management system for a large university makes the risk assessment and alternative planning difficult, but no less important, quite the contrary. For this reason alone, the selection of the best possible solution is made even more important, it is a critical decision that will have a significant impact on the entire university. In addition, in light of the fact that learning management systems have become an integral element of higher education in the United States, having a superior solution can translate into the success or failure of any higher education institution.

The Blackboard learning system proved inadequate for a wide variety of reasons. Faculty complained of cumbersome tasks in creating and managing course content, and students complained of slow response times, and IT helpdesk staff was constantly either solving technical glitches, or assisting faculty and students to address problems. Although not ideal, the many problems associated with Blackboard resulted in far more planning and analysis of the request for proposal process for a new learning management system.

Blackboard was initially viewed as a short-term solution to the address the university's need to replace a software platform no longer supported by the manufacture. Blackboard LMS was inefficient and failed to meet the universities needs for online instruction. PSU decided on transitioning to a new LMS. Many learning software platforms were considered. The final two candidates for the LMS was Moodle rooms and Desire 2 Learn. The final selection was based in part on the results of survey of end users on a weighted-scale scoring system (see Table A below) between Moodlerooms and Desire 2 Learn was chosen as being the best choice for PSU.

Table A				
Learning Managem	ent System Su	rvey Results		
Evaluation Criteria	Weighting/	Desire2Learn	Moodlerooms	
	multiplier			
Product Requirements	70	82	65	
Price	40	0	0	
System Support	20	16	17	
Data/Systems Security	20	17	17	
References	20	18	11	
Profile/History	10	7	7	
Implementation Plan	10	7	7	
Training	10	2	2	
Final Scores149125				

Both Moodle rooms and Desire2learn offered robust, scalable learning system solutions that could meet Portland State University's requirements, however, based on the survey's conducted, pricing and contract terms, Desire2Learn was selected.

Blackboard and D2L Comparison

While both software implementation projects were similar in scope, the approach and situation PSU faced with were very unique and different between Blackboard's transition and Desire2learn's transition. The WebCT to Blackboard transition wasn't as well planned or thoroughly evaluated prior to implementation in comparison with the Desire2Learn project. The primary factors affecting the WebCT to Blackboard transition was significant time constraints and ongoing software modifications that going taking place in both the existing WebCT platform, as well as Blackboard platform. Furthermore, the decision behind choosing Blackboard was done through a different organizational structure for the project than was put in place for the Desire2Learn project. Blackboard was effectively another version of the existing platform WebCT. Of course, Desire2learn could be viewed as having a blank slate with no history biases or software integration/version issues that undoubtedly effected the Blackboard implementation.

Fortunately, many of the issues and problems that plagued blackboard not only throughout the implementation, but also on an ongoing basis, were addressed in advance in the Desire2Learn selection and implementation. In effect, Blackboard served as a training ground to better prepare the University's Information technology department for the selection and implementation of Desire2learn.

The entire approach to the Desire2Learn implementation varied significantly from earlier efforts with Blackboard. Participation from in-groups and out-group stakeholders, as well as a different organizational project team structure was put in place for the Desire2Learn project. The organization structure included four levels of participants, an advisory board, and the involvement of an 3rd party technology consultation.

Key Differences in BlackBoard and Desire2Learn Implementation

- Blackboard solution was chosen with an RFP Process
- Blackboard solution was implemented under limited time constraints
- Desire2Learn had better planning and supplier selection
- Both WebCT (BB predecessor) and Blackboard had software design problems not evident in Desire2Learn.

Background: Internet Technology

After the dot.com bubble burst in fall of 2001, a revolution brought forth changes that shifted towards the dawn of web 2.0. The concept of Web 2.0 was a discussion session between O'Reilly and Media-Live International and brought forth a revolutionized web platform. The potential of Web 2.0 was significantly innovative compared to web 1.0 because of its astounding potentials that it introduced to the World Wide Web. Web was not only used through PC browsers but also evolved with combination of inter-connectivity with multiple mobile and electronic devices [2]. Web 2.0 implemented new technology with the capability of Graphic User Interface (GUI), rich content media, interactive applets and website. The web 2.0 innovations

introduced a mix of technologies with growing potentials of the web 2.0 evolution. These immense changes that transitioned into web 2.0 continued to flourish into combination of mashed web 2.0 technologies [1].

With newer technologies available to the market, developers slowly jumped forth and utilized the available technologies revolutionizing the experience of the Internet. Web 2.0 has continued to flourish into social media, social networking, blogs, and in the educational sectors. The result created a need for advanced Learning Management Systems for university and training sectors.

Background: Distance Learning

Distance Learning has existed for hundreds of years since earliest time of Caleb Phillipps in 1728 by using what was known as the early postal service sending out lesson to students. A great deal has change since the 1720's and with the birth of technologies that brought forth ARPANET in 1969 revolutionize methods of communication that brought forth to the Internet boom 32 years later [3].

Since the birth of ARPANET, educational and training sectors have been finding new ways to include communications technologies with to expand the geographical availability and improve educational standards; Stanford University used their SITN (Stanford Instructional Television Network) to trained twelve engineers in the late 60's. One of the earliest Learning Management Systems was created and used in the 1980's called The Learning Manager (TLM), and in 1999 a student named John Baker from the University of Waterloo created the first version of Desire2Learn for faculty to use in the department of engineering [3].

Using communications technology and tools for learning continues to be an evolving concept. But the difference of what Web 2.0 changes is the possibility to combining a variety of web tools, where mass audiences can access with ease, and communicate over nearly distances limited only by the availability of the Internet. Web 2.0 enables software-based personification for instructors to use all the latest web tools of their choice and to customize their courses with modern Learning Management Systems. Students are now able to

communicate with another virtually and customized their own environment with personalized web 2.0 widget that is implemented within the Learning Management System. Distance Learning has transitioned from using postal services to real time dynamic communication with instructors, and access to documents and a wide variety of course materials as a result of Web 2.0 and Learning Management Systems.

PSU Background Information Before D2L

Portland State University now offers access to nearly every course either partially, or fully through its Learning Management System. Portland State University on-site classes also augment instruction by offering students' access to the Learning Management System. Portland State University's first learning management system (Web CT) was implemented in 2002. After 4 years of using WebCT, Portland State University was essentially forced into selecting a new Learning Management System for the University. Support for WebCT's Learning Management System flagship product (version 4) was terminated when the company was purchased by Blackboard, a competing Learning Management System company [6].

With a sudden request of change for LMS and facing a time constraint, PSU formed a team of faculty members and staff from various departments and formed the Learning Management System (LMS) Advisory Committee Board. The advisory board consisted of regular LMS users and Portland State University in-house LMS experts. Collectively the LMS advisory board concluded that transitioning from WebCT 4 to Blackboard CE 6 (previously WebCT 6) was the best short term solution. Portland State University had an insufficient amount time to complete LMS request for proposal process, selecting a new LMS, as well as implementation processes. Blackboard was selected because the system was practically the same as WebCT through the functions, interface, and use. The school, instructors, faculty, and students were also familiar with WebCT and transitioning to Blackboard would be less of a learning curve due to the similarities of both LMS systems. Blackboard was selected and was implemented as Portland State University's primary Learning Management System.

PSU Issues and Problem with Blackboard

After the transition from WebCT 4 to Blackboard CE 6, Portland State University started noticing problems with the Blackboard LMS and realized that the LMS was insufficient to meet for Portland State's growing needs. Blackboard services did not provide enough flexibility for faculty and designers; the LMS hosted on the server was exceptionally slow and navigation was tedious. Faculty complained that the course builder function was difficult and cumbersome to use. A typical complaint stated that they would spend 5 minutes and longer just to get into the right course, which alone took five steps: pulling up the URL, logging into Blackboard course building account, selecting the term, locating the course, and entering the file management system for the class. In addition faculty member's complained that after logging into the course, simple changes and updates would take another 3 to 5 minutes. Furthermore, uploading rich content media into course was also time-consuming task to perform for both course designers and builders. For example, uploading a 15-minutes standard definition clip took 1 hour to 3 hours when on the university high-speed network, remote users experienced much slower response times.

Managing the learning management systems was also time and resource consuming, and offered few automated features. The Office of Information Technology (OIT), Online Learning Services (OLS), Center for Academic Excellency (CAE), and Distant Learning departments were all contributors in maintaining, advising, supporting, and resolving RT tickets in regards to the issues arising with Blackboard. During the three years that PSU used Blackboard, numerous software versions and updates were implemented to address problems, but many issues remained unsolved. Online Learning Services (OLS) is responsible for managing, building, and providing support for all fully supported online courses, OLS constantly worked with Blackboard's help desk and regularly communicated with many university departments that were conducting courses online. A compiled lists of Bugs and issues related to Blackboard software were regularly recorded and tracked by the Department System Analysis. According to the list before the transition to D2L, the last Blackboard in place included 28 detailed critical bugs and issues that remained unresolved. The following list some of these problems:

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- Surveys not working properly
- Glitches in Table of Contents did not work
- Grade book issues unresolved
- Regular issues with file with upload and download
- Issues with Blackboard Group member and Group mail

Three years of continuing problems with the Blackboard Learning Management Software led Portland State University to the decision to find a better Learning Management System.

Battle of The LMS

A committee was formed with PSU's provost assigned as the executive supervisor, and a project manager was selected to help with the selection of a new Learning Management System. An advisory committee was formed that also included previous members from the Blackboard committee who provided valuable information in developing the supplier selection process and reaching a decision and plan for implementing the next LMS. With a supervisor, a project manager, and committee formed, the LMS project. In addition, Portland State University hired a technology consulting company to help with project.

The role that a contracted technology consultant played was to advise PSU and introduce a proven and reliable approach to the process. The external consultants conducted most of the surveys for the selection process of the LMS. The consultants were also coordinated supplier presentations, developed the RFP, and negotiated on Portland State University's behalf improved contract terms. In terms of communication, the primary responsibility at Portland State University for communicating between PSU departments and the technology consultant agency was PSU's CIO.

The first phase was assessing and developing Portland State University's requirements, and then gathering ideas for what PSU's faculty and staff expected of the a Learning Management System. Through careful organizational evaluation and analysis done from a collection of surveys, PSU compiled the result and formed a requirements list. The list of requirements provided a clear understanding of what was needed in the next LMS.

PSU LMS Requirements Groups - Chart 1

The list below is an extract and re-categorized and broken down into groups for this report.

1. Academic Program 31. Availability and **17.** Integration with other Assessment system and software Recovery **2.** Access / Authentication **18.** Manage Content 32. Database **3.** ADA Accessibility 19. Online Notes Administration 4. Administration 20. Portfolios 33. DBMS Functionality **5.** Bulletin Board / Blogs **21.** Publication Workflow 34. Development Tools /Discussion 22. Report **35.** Key Operations Features 6. Calendar / Events **23.** Repositories / Learning 36. Performance, Scalability 7. Chat / Whiteboard and Fail-over Object **8.** Core Technology 24. Search Capability **37.** Report Administration 9. Create Content **25.** Student Participation 38. Report Design and **10.** Data Import / Export Development and Progress **26.** Student Study Tools 39. Search 11. Discussion 12. Email **27.** Synchronous Meeting 40. Security **13.** File Exchange / Drop Box Tools 41. System Access and Usability 14. General 28. User Support 15. Gradebook 29. Whiteboard 16. Group Participation 30. Application Server Administration

Highlighted items are critical sub features.

Portland State University Selects Two Learning Management System Finalist

PSU has listed a total 523 requirements of both needs and wants. With a list of these requirements, PSU performed a survey in order to understand which of these 523 requirements were important. The results of the survey taken from faculty, staffs, students and other

employees were weighted and a statistical analysis was performed that distributed the

requirements into 2 categories: Functional and Technical.

Within each separate category, the requirements distribution was further broken down and assigned a weighted value.

Table B – Weighting Criteria		
Criteria of Distribution	Weighting/	
	multiplier	
Critical	70	
Important	40	
Desired	20	

Weighted and percentage analysis of survey results

Table C - Functional Requirements			
Functional	Critical	46	8.8%
	Important	280	53.5%
	Desired	109	20.8%
Functional Total		435	83.2%

Table D -Technical Requirements			
Technical	Critical	41	7.8%
	Important	45	8.6%
	Desired	2	0.4%
Technical			
Total		88	16.8%

With a total of 523 listed requirements, 87 *critical* requirements were identified that must be available in the next LMS. As such, these 87 criteria will be heavily looked upon for he final decision for PSU's next LMS. 325 requirements were *important* to have but not a critical feature, and rests of the 111 of the requirements are not as important but a *liked* feature.

The weighted result from the survey presented a clear result of what needs to be in the next LMS. This helped PSU eliminate candidates who did not meet the critical requirements, relatively quickly narrow down the RFP respondents to realistic candidates. PSU continued and contacted various LMS companies and published a request for a pre-proposal. A total of 17

LMS companies were identify and contacted. 9 companies replied to PSU with a formal proposal and agreed to a mandatory teleconferencing.

The 9 LMS candidates

- R Smart
- Learn.com
- Pearson Learning Solution (E.college)
- Epsillen LLC
- Blackboard
- Desire2Learn
- Moodlerooms, LLC
- Timecruiser Computing Coporation

PSU went through each of the 9 LMS and Request for Proposal. Using a "Short List Vendor Demo" that evaluated through a 2-hour vendor LMS demo performed evaluations. The modules category extracted from the top 10 critical requirements from the 523 LMS requirements, which were identified as the following:

- Course Migration
- Content Creation / Maintenance / Management
- ADA Accessibility
- Access, Authentication, Administration, Reports, User Support
- Bulletin Boards, Blogs, Discussion, Chat, Whiteboard, Group Participation
- File Exchange and Assignment Drop Box
- Gradebook
- General
- Core technology

Course Migration and ADA accessibility both consisted of 5 points while the rest combined totaled 10 points, for a total of 20 points. Each key element had a clear description of the requirement. The evaluation helped narrow down the from nine potential MMS suppliers to the top 2 which were

- Desire2Learn
- Moodle (Remote Learner)

With two LMS finalist, PSU invited both Desire2Learn and Moodle to do training and presentation of their LMS solutions. Selected members from OIT, OLS, CAE, and Distance Learning department that are part of the LMS Advisory had to attend all of the presentations and participated. Since they were also key members in the decision-making process, staff and employees from those departments were highly encouraged to attend the LMS seminar and were assigned to various subject to focus on. Both Moodle and D2L had separate presentation days and seminars that were broken out into an hour and half of presentation slots. The presentation slot started from 9am until noon following with a one-hour lunch break and continue to 4pm, with middle 15 minutes break at 2:30pm.

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Time	Topics Covered
9:00 am – 10:30am	Core LMS Demonstration
10:30am – 11:00am	Advanced Features Demonstration
11:00am – 12:00pm	Guided Practice with Faculty – Open Session for Students
12:00pm – 1:00pm	Lunch break
1:00pm – 2:30pm	LMS Professional Developers Demonstration
2:30pm – 2:45pm	Break
2:45pm – 4:00pm	Library, Reports & Assessment Demonstration

Day Two

Time	Topics Covered
9:00 am – 10:30am	Guided Practice with Professional Course Developers
10:30am – 10:45am	Break
10:45am – 12:00pm	Systems Related Discussion and Scenarios

12:00pm – 1:30pm	Lunch with Committee
1:30pm – 3:00pm	Core LMS Demonstration (repeat session)
3:00pm – 3:30pm	Advanced Features Demonstration (repeat session)
3:30-pm – 4:30pm	Guided Practice with Faculty – Open Session for Students
	(repeat session)

In order for PSU to decide on the final candidate for the LMS, PSU had all the attendees' complete surveys. Short surveys were passed for students and instructors while long detail surveys were given to various department representatives. Similar to what PSU did for the LMS requirements, similar methods was use to analyze the survey and choose the winner for the LMS. The visual graphic below illustrates the consistent higher scores of Desire2Learn (Blue) over Moodle (Red). The final results is shown again in Table A below.



Graph Result for D2L and Moodle from the Survey

Survey result with D2L being the LMS of choice

Table A					
Learning Managem	Learning Management System Survey Results				
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References	20	18	11		
Profile/History	10	7	7		
Implementation Plan	10	7	7		
Training	10	2	2		
Final Scores 149 125					

Rounding up the points from the survey, D2L ended up with winning by 24 total points or about twenty percent. The only category that D2L lost to Moodle was System Support. PSU made the decision after going through a two-stage selection process that carefully gathered input from all of the key stakeholders. Te selection process was open and the RFP was publically available according to Oregon State Government guidelines. This transparency not only helps insure a fair process, but contributes to a positive affect of the stakeholders that have to work and use the end result. With D2L being the choice for PSU, PSU has to prepare an even bigger project; a migration from Blackboard to D2L with a PSU system implementation that will be supporting 25,000 students and 5,000 staff and faculty members.

PSU Organizational and Communication Structure

PSU is running under a functional organizational system, where hierarchal structure is centered through decision, operation, implementation, university policies and procedures. Even though PSU is functional organization, the decision still requires advisory non-executive members who participate in the decision making from all levels of management. Instructors, staff, students, and faculty members are the primary users for LMS and experts of the university. PSU LMS processes allowed all ranges of stakeholders to participate.

One of the critical aspects of this project was ensuring communication to project team members and other stakeholders. The core project team carefully determined all the key stakeholders, departments and maintained open lines of communication throughout the project through the use of email, regularly schedule meetings with optional attendance for secondary stakeholders, and provided regular updates to all in involved.

Post-implementation the LMS project continues to be overseen under an executive supervisor and the vice provost of PSU was fulfilling that role at the top level for both Blackboard and D2L projects. Even though both Blackboard and D2L LMS project were similar projects, the decision-making and involvement were a little different from one another. The

Portland State University LMS project management organization structure is diagramed below (Diagram 1).



Diagram 1

When PSU was going through WebCT to Blackboard CE 6 transition both the PSU provost and PSU CIO from OIT supervised the structure involved behind the project. Under their supervision were 9 members from the project team who leaded 4 groups that contributed to the Blackboard implementation and decision-making.

Diagram 2

Blackboard to Desire2learn Transition Management Structure



The Blackboard to D2L transition involves a slightly more complex process and organization with a 4 level structure. PSU's Provost was now being the top executive level who supervised the D2L project; the second level were COLT chairman (Collaborative Online Learning Team) and PSU CIO from OIT. COLT consisted of various members selected from various departments who are knowledgeable with the LMS, with the role of being advisors to the D2L project. The PSU project manager was at the 3rd level reporting directly to the Project Sponsor – who served as a mediator between the project management and the advisory board [3]. The project manager also had the support of a Core Implementation Team – a functional team that consisted of all the departments of PSU, and a technical team [7].

Desire2Learn Project Scope

Just after the selection of the new LMS, Desire2Learn, PSU accelerated the conversion project from BB to D2L. Because converting an infrastructural system is critical to avoid any encumbrances to its regular academic calendar, PSU wanted completion of project objectives within expected time-line of the project. The project objectives included the following:

- Fully configure and test development and production environments
- Develop policy supporting new LMS
- Course Conversion: Blackboard courses to D2L, including all history in Blackboard
- Integration: Integrate D2L with Banner, Luminis, IdM (OAM), Elluminate, and Echo360
- Training: Fully train PSU Trainers and faculty. Provide on-line resources for faculty and students
- Communication: Provide well communicated updates to project sponsors and PSU faculty and students

PSU, according to D2L Project Charter on April 27, 2010, expected that the timescale for the project needed about eleven months from the beginning to completion including training before the expiration of the contract with the old system, Blackboard. As soon as approval of the project initiation, Desire2Learn and the PSU project team immediately stated to integration and migration of data, which was already stored in the server. And, all of stakeholders tried to keep the following steps on track, and each step of the project completed on time. The following table [Table D] provides the key expected milestones of the project [3].

Completion Date	Milestone	Deliverable(s) completed
May 2010	Stage Site Available	Hosted application available to project
		team for functional testing
		Server available for integration testing
July 2010	Production site	Production site available and
	Available for New	populated with CRNs
	Course	Faculty have access to build
	Development and	Summer/Fall courses
	Migration	
Fall 2010	Pilot courses offered	Select groups of courses taught by
		early adopters
Summer & Fall 2010	Training for Faculty	Training delivered to faculty and
		instructional designers
Winter 2011	Full Production	All courses converted and available to
	Implementation	faculty
3/31/2011	Decommission	Blackboard no longer available and not
	Blackboard	supported

Table D. Milestones of D2L Project

In conducting this project, there were two main executive teams; the Core

Implementation Team (COLT) and Technical Team. Finally, the cost of the project was

reportedly estimated at two hundred thousand dollars (Schaffhauser, D., 2010).

D2L Project Completion Training of stakeholders

Training stakeholders who mainly use the new LMS, D2L, was an important outcome of this project. First of all, the training was conducted from taking roughly 70 volunteers who were faculties teaching courses divided three categories: online and partially online courses, new courses, and new and existing courses with a new cohort like freshmen in 2010 fall term. The training proceeded according to a "pilot plan" for about 45 days from August to September in 2010. During this period, the faculties who took part in the training program were required to respond to a surveys which asked their individual needs throughout the process including through the training elements such as the modular online training course, handbook, individual meeting and weekly open lab sessions at OLS. After the training, the faculty performance was evaluated, and the training course reviewed with all participants.

For training other stakeholders such as students or staffs, the specific organization such as OIT and OLS prepared and provided online training and support materials. Also these organizations actively support each stakeholder with troubleshooting and assistance on an ongoing basis.

Evaluation

After the training, the project team conducted a survey of some faculties who adapted the new system to their classes after the fall term in 2010. In this survey, over <u>eighty percent</u> of the participants responded that they were satisfied with the new D2L system by and large, as shown Fig. 1. However, they also required improvements of the system such as Rubrics and Dropbox tools.



Overall Level of Satisfaction with D2L

Fig. 1. Overall Level of satisfaction with D2L

Terminating BB

Terminating or decommissioning Blackboard was a sub-project within the larger project plan. The project manager had to address a number of issues prior to decommissioning. Once Blackboard was decommissioned, all data is lost and encrypted, so a process was put in place to give faculty and staff an opportunity to download any data that they deemed important. Time was also critical because every month that the University used Blackboard, even minimal use, the university was charged roughly \$8,400 per month, so terminating the software reduced the universities costs, and also ensured that the budget for the University's learning management system did not exceed planned costs. Another major element was that once the universities license to use blackboard expired, the decryption algorithms would no longer work, and any unretrieved data at that point would be unattainable.

Several other elements of the blackboard decommissioning included ensuring that grades of student's incompletes were recorded on other media so that data would not be lost.

Lastly, as a result of decommissioning challenges, the university developed and put in place a policy and work order process for faculty and staff to ensure that when courses end, if the instructor wanted to retain the information or a course template for subsequent terms the data would be stored and protected.

Conclusions

Portland State University's implementation and transition from Blackboard to Desire2learn was overall a very successful project with few major difficulties that were not anticipated. Blackboard needed to be replaced because of a host of problems, many of which had no near-term solutions including: slow processing, cumbersome procedures for creating course templates, and the inability to meet the growing needs of the university. Desire2Learn's learning management system offered quicker services, new and meaningful features, was userfriendly, as well as flexible and customizable. Quicker Services

The project management team, the advisory board, and other contributors did an excellent job of not only managing the implementation, but also ensuring that all key stakeholders and end users were represented, queried during the selection process, and

actually contributed to the final selection of the Desire2Learn. This is an important aspect of project management, and that is addressing the need for stakeholders to play a much a part of the decision-making process as possible. Once the final two candidates were selected (Moodle and Desire2Learn), the project management team wisely elicited the input from faculty, staff, and student representatives to create an element of empowerment in the University's selection process. The value of this step of this cannot be overstated. Creating consensus is an important tool in the project manager's toolbox to help ensure the success of any project.

Another important aspect of this project was conferring with, and in some cases making a part of the project team, people that were a part of the former WebCT to Blackboard transition. This was absolutely critical in identifying the features the university wanted, and anticipating the issues that helped ensure that the University's new supplier solved existing problems, improved functionality, and maintained or reduced overall service delivery costs.

While there are many elements to successful project management, perhaps more important than any other of a project of this scope is planning. Furthermore, no one project manager can be the 'expert' in every aspect of a project of this magnitude, but a good project manager creates a team that collectively brings to bear the broad set of expertise needed to make such a project a success.

Lastly, while the Desire2Learn platform has proved largely successful based on end-user surveys and the on-going experience of the helpdesk, few technologies are evolving as quickly as that of computer technology, telecommunications and as such the organization must continue to be prepared for change. Interestingly, projects of this type cycle through relatively

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quickly. In order to be competitive, the university must continue to provide faculty and students with the best technology available. With this in mind, an important ongoing task is supplier management, and placing the university in a position that communicates to its supplier its willingness to change platforms if necessary to maintain its technology edge in the competitive higher education industry. Do so, will hopefully encourage the supplier to invest in innovation, and continue meeting the service needs of the university.

D2L Project Lifecycle

- Initiation process
 - Kick-off meeting, timeline discussion
 - Review Planning Workbook
 - Prepare draft implementation plan
 - Review draft implementation plan
 - Approve implementation plan
- Planning process
 - In scope, Phase I:
 - The list of deliverables
 - Project organization chart
 - Project Schedule or implementation plan
 - D2l timing plan
 - Out of scope, Phase I:
 - The deliverables not included in the scope
- Execution process
 - D2l implementation update
 - Work performance measurement
 - Project management plan update
- Project control process
 - Project Manager (PM) work plan
- D2L Project Implementation
 - Updated D2I project implementation
 - Training plan
 - o Post implementation document

D2L Project Risk

- o List of project risks
- o Analysis of the project risk

Problem and issues

• Problem face during project and after closure

• How was it solved

Analysis of Key Point Success

• What was done to make it successful

• Initiation process

Initiation process committed the team members to begin the planning phase of the D2L project. There was the kick off meeting and present in the meeting were PDX, PM, DS. They discussed about timeline. The PDX and PM reviewed planning workbook and on June 10th, 2020 and PM prepared the draft implementation plan. On June 17th, 2010, PDX and PM met again to review the draft implementation plan and PDX approved the implementation plan on June 24th 2010.

• Planning processes

Even though both the Blackboard and the D2L projects had similar time line, the D2L had a better timeline plan and an early start. They therefore utilized most of the float times to take care of the uncertainty in activity estimate time. Additionally, PSU used the Blackboard as a prototype to help them come up with a much better plan for D2L. The project scope for both projects has some similarities. They both had communication, training, New course Development, migration of existing courses, integration of (Banner, IDM and Luminis) plans. D2L project had extra plans like support, Training, Testing and Migration plans as well as Elluminate and Echo360 integration plans. D2L had learning Repository and archival of Blackboard courses. The deliverables out of scope for D2L project included:

- ✓ Eportfolio : A group may be selected to pilot this software upon completion of phase I
- Clicker Integration: Once a solution is selected by the University, integration into D2L may be tested concurrently with phase I, but is not guaranteed for phase I.
- Turnitin or other anti-plagiarism software
- ✓ LearnerWeb, ALEKS or other student placement software

The deliverables out of scope for BB project included:

- ✓ Student Data Integration Plan
- ✓ Maintenance Plan
- ✓ Student Orientation Plan
- ✓ Distance Education Guidelines

The deliverables like Project Plan, Training Plan, Migration Plan, Trained Faculty, Migrated Courses, Training Materials and Testing Plan were same in both D2L and BB projects. However there were some differences for examples D2L project had Communication Plan and Data Integration Plan for D2L while BB project did not have. Instead BB project had Student Data Integration Plan, Maintenance Plan,

Student Orientation Plan and Distance Education Guidelines

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