

2017-2018 EVALUATION OF THE LEARNING MANAGEMENT SYSTEM AT UNCW



By:

Stephen Anim, Instructional Designer

Jennifer Graham, Instructional Designer

Prepared for:

Sheri Conklin, Director of E-Learning

Thomas Dorgan, Business & Technology Applications Analyst

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EXECUTIVE SUMMARY

The University of North Carolina at Wilmington is evaluating its learning management system, Blackboard Learn, with the intent of migrating to a new platform that better meets its institutional and faculty needs. It has an enrollment of over 15,000 students and a faculty size of over 900. Of particular importance is UNCW's large online degree program in nursing and its future plans to offer more online courses and degree programs.

On an institutional level, there are two major problems with Blackboard Learn: 1) patches and fixes can only be made when the system is taken offline, leaving users unable to access it for hours, and 2) the system must currently be monitored in real time by IT personnel so they can manually allocate resources during high traffic periods.

Among faculty, users experience numerous problems with Blackboard Learn including: unintuitive interface, numerous clicks or steps to complete tasks, slow performance, system or web application failure during exams, lack of control over the interface, and more. There are also features that faculty would like to use but are lacking in Blackboard Learn, mainly from third-party tools.

The problems that the institution and faculty face are inherent in the learning management system, its performance, and its design and cannot be mitigated through training. Thus, a replacement of this system is necessary.

The current LMS, Blackboard Learn, was compared with three others—Canvas, Blackboard Ultra, and Dare 2 Learn—in a cost-benefit analysis. While there were certainly advantages that UNCW could benefit from by implementing Dare 2 Learn and Blackboard Ultra, the costs outweighed the benefits. The user interface has been updated with Blackboard Learn along with some of the issues associated with third-party tool integration, but the system is still in the process of migrating to the cloud-based server. D2L is a large company with a proven track record, but is also still migrating to a cloud-based system and has received negative feedback for poor customer service and technical support. D2L struggles to maintain consistency with third-party tool integration and this was already a primary concern for faculty with Blackboard Learn.

Overall, the benefits associated with Canvas far outweighed the costs and all of the needs identified in the needs assessment can not only be met, but exceeded, with Canvas. For these reasons, Canvas was ultimately chosen as the recommended solution for the university.

GENERAL INFORMATION

PURPOSE

The University of North Carolina at Wilmington (UNCW) is currently evaluating its learning management system (LMS), Blackboard Learn. The university has been using Blackboard Learn since 2010, hosting it on university servers. According to UNCW's official LMS evaluation web page, LMS evaluation is a routine task universities typically undergo approximately every 8 years; however, plans for this current evaluation began two years ago, just five years after the implementation of Blackboard Learn.

The purpose of evaluating UNCW's learning management system is to find a system that meets the university's current and future needs more successfully and conveniently than the current system. Due to UNCW's needs and political climate, the convenience, functionality, and faculty endorsement of the LMS is of greater importance than the cost.

Because the evaluation process was already well underway, the authors of this paper began a case study of the process, reviewing notes and video recordings of prior meetings, reviewing the results of a faculty survey, and conducting an interview with the co-chairs of the LMS evaluation committee.

OVERVIEW

UNCW is a public university. The following table provides basic facts and demographics.

Data Point	Quantity
Total Enrollment	16,487 students
Undergraduate Students	14,502
Graduate Students	1,985
Faculty Members	936
Staff Members	1,334
bachelor's Degrees	55
Majors	49
Master's Degrees	30
Combined Programs (Bachelor/Master)	3
Dual Degrees	1
Doctoral Degrees	4
Annual Budget	\$310,230,444

Plans for evaluation began two years ago in 2015, headed by the associate vice chancellor of Distance Education. It reportedly took some 9 months to form the committee. Earlier this year, the associate vice chancellor stepped down and the LMS evaluation committee was inherited by the director of the Office of e-Learning and the Business and Technology Applications Analyst in Information Technology Services, who now serve as co-chairs.

The LMS evaluation committee is made up of 11 staff members and 10 faculty members. The staff members work in various capacities in Information Technology Services (ITS), Human Resources (HR), Purchasing, and the library. The faculty members come from all colleges and schools within the university—College of Arts and Sciences (CAS), College of Health and Human Services (CHHS), Watson College, and Cameron School of Business (CSB). The reasoning behind the selection of each person was not acquired during the interview with co-chairs because the co-chairs inherited the committee long after its members were selected. However, it is apparent that the selector(s) sought to bring together technical experts who worked with the LMS (ITS), staff authorities who would be involved in financial negotiations (Purchasing), and faculty perspectives from all over campus.

According to the co-chairs, UNCW believes the university's LMS plays a significant role in teaching and learning. With the current evaluation, the LMS committee is not only addressing current needs (detailed in the next section) but also looking ahead and anticipating future needs as the university grows and as technology advances.

NEEDS ASSESSMENT

UNIVERSITY NEEDS ASSESSMENT

Information on the university needs was acquired via emails and an interview with the co-chairs of the LMS evaluation committee.

The most pressing needs for the university are technical and logistical in nature. UNCW hosts Blackboard Learn on its own servers at <http://learn.uncw.edu> as opposed to having the LMS hosted on Blackboard's servers. Consequently, IT personnel can only apply patches and fixes to the system when Blackboard is taken down for that purpose. This is an inconvenient practice in general, but UNCW has a major online program that adds special needs. UNCW runs an accredited Bachelor of Science in Nursing program that is completely online and runs almost year-round, so there is no convenient time to take Blackboard down to apply patches. Therefore, UNCW needs a system that can be patched while it's still up and running. The demand for a system with little downtime will only increase, as UNCW's agenda includes offering more courses online in the future.

With an enrollment regularly above 15,000 students, UNCW cannot afford to have an LMS company fail, so the university must avoid young companies and companies without successful track records with universities of similar or larger size.

Blackboard Learn can also be labor intensive. Currently, IT personnel must continuously monitor the online traffic of the LMS throughout the day and manually allocate resources. If the system could allocate resources automatically, then it would free up IT personnel to address other issues and be even more responsive to faculty and student needs.

FACULTY NEEDS ASSESSMENT

Information on faculty needs (and desires) was acquired via an interview with the committee co-chairs, a review of the committee's meeting notes, and a survey of faculty.

FACULTY NEEDS AND OPINIONS FROM INTERVIEW AND COMMITTEE MEETINGS

There are a lot of mixed feelings about Blackboard among faculty. Some have become used to its glitches and high number of clicks to get to frequently used functions; some have developed workarounds for Blackboard's inconvenient behaviors. Some faculty outright hate it. Some faculty assumptions about Blackboard are based on old problems that have since been solved.

The LMS evaluation committee sent out an email asking faculty what they want to see in an LMS. Their responses had more to do with third-party tools, so the committee worked to clearly define what it meant by LMS before sending out the full survey. However, the high demand for third-party tools was duly noted. Some desired tools include: a streaming media center, closed captioning service, and proctoring services. Because faculty have a high tendency to use or desire third-party tools, UNCW needs an LMS with adequate availability of tools that integrate with it.

FACULTY NEEDS AND OPINIONS FROM FACULTY SURVEY

More than half of faculty are at least somewhat satisfied with Blackboard, but about a third are at least somewhat *dissatisfied*. The dissatisfaction rate should ideally be half of the current rate, 15 percent or less.

Responses to the prompt: "Please rate your overall satisfaction with the Learning Management System (LMS) Blackboard."

Answer	%	Count
Extremely satisfied	13.79%	12
Somewhat satisfied	42.53%	37

Neither satisfied nor dissatisfied	12.64%	11
Somewhat dissatisfied	18.39%	16
Extremely dissatisfied	12.64%	11
Total	100%	87

Responses to the question: "Do you feel that Bb is meeting the needs of your students?"

Answer	%	Count
Definitely yes	16.09%	14
Probably yes	36.78%	32
Might or might not	25.29%	22
Probably not	11.49%	10
Definitely not	10.34%	9
Total	100%	87

SATISFACTORY FEATURES

Despite the mixed feelings about Blackboard, it is important to note the current features with which faculty are satisfied so that the committee checks that they are included in the new LMS selected.

Some Blackboard features faculty noted that they liked were:

- Instructor ability to make assignments, readings, and video available online.
- Instructor ability to export gradebook to Excel and then upload.
- Instructor ability to administer quizzes and exams online.
- Student ability to submit assignments online instead of having to print and bring to class.
- Student ability to access courses content 24/7.
- Student ability to see their grades at any time.
- Integration with some textbook publisher resources.

UNSATISFACTORY FEATURES

The aspects of the current LMS with which faculty are dissatisfied are important indications of the needs gaps. Most problems with Blackboard cannot be mitigated with training and are

inherent to the software. Each unsatisfactory feature is an area for improvement with the new LMS.

Some Blackboard features faculty noted they disliked were:

- Unintuitive interface.
- Interface is not flexible/customizable.
- Not enough control over what the students see and experience.
- High learning curve.
- Difficult to remember how to perform a task after a few months of not having performed that task.
- Takes many clicks to accomplish a task.
- Reports produced in Blackboard are suboptimal.
- Grading center isn't conducive for feedback.
- LMS sometimes fails during exams.
- System downtime is too frequent.
- Slow performance.

SIGNIFICANCE OF FACULTY INPUT

The co-chairs have noted that the political climate of UNCW is such that faculty have a lot of power and influence. This is in large part because faculty tend to remain at an institution (at public universities), while administration tends to turnover much more frequently. Consequently, faculty endorsement of the LMS is an even greater priority than the cost.

STUDENT NEEDS ASSESSMENT

The LMS committee reached out to the Student Government Association (SGA) and the Grad Student Council, but no one got back to them. No further attempts to contact student organizations have been made.

Another attempt to acquire student feedback will be made during the evaluation of any pilot program implemented for a new LMS.

COST-BENEFIT ANALYSIS

There have been 3 alternative LMS solutions selected for this project: Canvas, Blackboard Ultra, and Dare 2 Learn (D2L). Canvas is being considered first and will be piloted to the university; if the pilot is successful, UNCW will likely choose this option as their new campus-wide LMS. If the pilot is unsuccessful, the committee will move on to pilot the other listed alternative solutions. Currently, the UNC General Administration has an agreement with Instructure - the developer

of Canvas. Canvas is an open-source LMS that was recently adopted as the platform of choice for K-12 education systems in North Carolina and the feedback from teachers and students alike has been overwhelmingly positive. Canvas has one of the most user-friendly and intuitive interfaces that is smooth, clean, and simple.

Blackboard Ultra is the newest version of Blackboard that was launched just this year. Ultra was selected as an alternative solution due to the fact that UNCW has been using Blackboard for many years and faculty and students are very familiar with the system. User interface and third-party tool compatibilities have ranked as some of the highest concerns amongst faculty and students, both of which have undergone serious changes in this new version. Although there are many faculty who are unsatisfied with Blackboard currently, there are still many faculty who prefer the system. Perhaps if the issues with interface and audio/visual integration capabilities were resolved with this new version, more support may be garnered from faculty once again.

Dare 2 Learn (D2L) is a proprietary LMS that is well established in the education system and is one of the largest platforms that supports over a billion users. One of the highest priorities of the committee was for the new LMS to have a proven track record and D2L certainly fits the bill. The committee has spoken with other universities who have adopted this LMS in the past.

COSTS

This section provides all costs to develop and operate each alternative described above, including both one-time and recurring costs.

While cost can certainly be a constraint with LMS migration, it should be noted that the committee has prioritized faculty endorsement and technical needs over financial costs. Pricing negotiations are made by the purchasing department at UNCW.

CANVAS

Not unlike many LMS companies, licensing fees for Canvas are based on the number of full-time equivalents and packages are customizable, varying from university to university. Because of this, we do not have exact figures, but can estimate that UNCW will probably pay more in licensing fees for Canvas than they are currently for Blackboard Learn because it is a newer system with greater capabilities. However, there is no separate cost associated with access to the mobile application, unlike the current LMS. UNCW will incur additional costs for increased technical support and customer service, especially during the migration phase. The committee has expressed that they would be interested in purchasing the top tier support level which is \$130,000. Costs for additional graduate assistants would also need to be taken into consideration and currently spend \$28,800 each semester for current graduate assistants.

Ideally, UNCW would also like to hire 2 additional instructional designers to better support the Office of E-Learning for which costs should also be noted.

BLACKBOARD ULTRA

The university currently pays an annual fee of \$150,000 for Blackboard Learn and while packages are based on the size of the university and are highly customizable, it can be assumed that the new system would be at least slightly more expensive than the older original system the university currently has. Because they are already familiar with Blackboard, UNCW would not have to hire much additional support than is already in place currently. There would still be a separate cost associated with the mobile device package, though – something that many LMS companies usually include at no additional charge. While Blackboard lay claim to fixing the third-party tool integration issues, this system is so new that it may not have been around long enough for UNCW to trust that the issues have been completely resolved.

D2L

At the request of the committee to not contact vendors for quotes and due to the fact that pricing for D2L, along with the other alternative solutions, varies based on size, exact figures for licensing fees are unavailable. However, it was noted in a meeting held with the College of Charleston who has adopted D2L as their LMS, that cost was a top priority, suggesting that D2L may be more budget-friendly than other LMS's. UNCW would have to hire additional graduate assistants as well to help support this transition for which additional costs should be considered. There are many other limitations to implementing D2L as an LMS for UNCW including the fact that their customer service has been reported to be extremely slow and not very helpful for other colleges. Furthermore, while D2L is now cloud-based, this change was made very recently so there may still be some bugs to figure out. D2L is also proprietary so the university would have no access to the source code, limiting customization and control over user interface.

BENEFITS

This section describes benefits that can be assigned dollar values for each alternative system described above.

CANVAS

The LMS evaluation committee conducted a video conference with LMS experts at UNC Charlotte to glean insights from their respective migrations to Instructure Canvas. They piloted Canvas in the Spring of 2016 and fully integrated Canvas as of Fall 2017 with 51 faculty in 109 courses. Faculty support was the driving force behind deciding which LMS to adopt and the

committee was more or less unanimous in choosing Canvas. They have reported that downtimes are reasonable in length (minutes instead of hours) and that the average time to retool a course that was migrated from their previous LMS (Moodle) was 1 work day. According to the instructional designer who trains faculty, most faculty have adapted easily to Canvas and was very well received for the control it allowed instructors. Instructure's support team was also expressed as being extremely help for faculty, students, and staff with the top tier option providing 24/7 access with email, chat, and phone communication options.

Aside from these benefits listed from UNC Charlotte, there have also been no reports of scalability issues with Canvas as the system is highly praised for their smooth operating system. Canvas has always been *made* for the cloud and has never had to migrate from another server. There are no separate costs associated with accessing the mobile application either. The user interface has always received extremely positive feedback for being responsive, intuitive, simple, and easy to use. Canvas is a newer LMS that stays up to date with current technologies and has been praised for its ability to integrate with third-party tools. Audio and video are easily embedded and with Canvas being open source, students and faculty both have more control over the customization of the interface. There may be additional costs associated with Canvas as compared to Blackboard Learn, though it is clear to see that the benefits far outweigh the costs.

BLACKBOARD ULTRA

While there are many limitations to Ultra, there are still some notable advantages. UNCW faculty and students are already familiar with the system and the changes that have been made would not require as much of a learning curve as Canvas or D2L may. Blackboard Ultra is equipped with a new user interface which is more intuitive and easier to navigate than Blackboard Learn, though the new user interface may still pale in comparison to that of Canvas. With this new system, Blackboard is using a cloud-based server, though they are currently in the process of migrating which may prove to be problematic. UNCW would not have to pay for as much technical support as they will with the Canvas LMS initially, either. However, given that cost is not a top priority for the committee, it is clear that the costs outweigh the benefits for the needs of the university at this time. We would recommend Ultra as an alternative solution above D2L, though not above Canvas.

D2L

The primary benefit of integrating D2L as an LMS for the university is that the company has been in the market for a substantial amount of time and is far from a start-up business – something the university listed as a top priority. D2L is cloud-based as well, though, like Blackboard, is in the process of migrating. D2L can support an incredible userbase and does not

appear to have issues with scalability. However, D2L is another proprietary LMS where the university would not have access to the source code, restricting the amount of control users would have over the interface. While hiring additional graduate assistants would help with the migration, D2L's slow and inadequate customer service track record would be a huge barrier, especially during the initial phases of migrating to a completely new LMS. One of the main complaints from faculty with the current system is that 3rd-party tools are not easily integrated and feedback from previous clients list this as a limitation for D2L as well. Because technical support and faculty endorsement are of the highest priorities for UNCW, we do not feel D2L is a feasible option for this project. The costs far outweigh the benefits and the needs of the university will not be met with this LMS.

LMS COST/BENEFIT COMPARISON TABLE

Possible Solutions	Licensing Fee	Managed Hosting?	Support/Customer Service	Staffing/Personnel	Hardware and Scalability	Integration	Cloud-Based?	Third-Party Tools
Current Blackboard Learn (proprietary)	Pricing is customized and is based on the size of the university or department. There is an annual fee and the contract is 1-3 years with a multi-year discount. UNCW currently pays \$150,000. Separate cost for Blackboard mobile.	No; UNCW is currently self-hosted.	UNCW provides technical support for faculty and students, though Blackboard does not.	There are currently 3 full-time administrators and 2 instructional designers but support is also provided by DVA, Unix, TAC, and OEL. Currently spend \$28,800 each semester for graduate assistants and are looking to hire a technician very soon.	Feedback from faculty has highlighted many issues with the system glitching; there may be some scalability issues. Blackboard is available on mobile devices, but UNCW pays a separate cost for this.	This LMS is proprietary, so there is no access to the source code. User interface is not intuitive.	No	Does not work very well with third-party tools. The functionality is present, but the process is much more complex than it needs to be.
Instructure Canvas (open source)	Pricing is based on the number of full-time equivalents. No separate cost for Canvas mobile.	Yes – costs will be incurred from the current LMS for more vendor support, at least	There are different tiers for support; their top tier support includes 24/7 access via phone, chat, and e-mail. Feedback for the quality of the support	UNCW would need to hire additional graduate assistants to support this new LMS. Ideally, they would also like to hire 2 more instructional designers on top	Other universities have not had any issues with scalability and much of the feedback from users	Canvas is open source, so there is more room for customization. User interface is very intuitive,	Yes	Works extremely well with third-party tools. Audio and video can be easily embedded and faculty can

		during the migration.	provided has been ranked very high.	of the support currently provided.	praises Canvas's smooth operating processes. Mobile app is available at no additional costs.	clean, and simple.		broadcast to students at the click of a button.
Blackboard Ultra (proprietary)	Blackboard Ultra is packaged as a different type of user experience within the Blackboard Learn LMS so there may be additional costs incurred for adopting this new version. UNCW currently pays \$150,000 annually for original version of Blackboard.	Yes	UNCW provides all technical and customer service support for faculty and students. The changes made to this newer system revolve mostly around third-party tool integration and an updated user interface; there would likely not be a need for additional support from Blackboard.	Support would remain the same as it currently stands (See Blackboard Learn support section above).	Blackboard has not addressed whether or not scalability issues have been addressed in this update. Access on mobile devices would still be a separate cost.	The biggest change Blackboard has made with this new system has been the user interface which is supposed to be more user-friendly and simple.	Yes	Blackboard claims with their new Ultra experience update, third-party tool compatibility and functionality has improved from Blackboard Collaborate (original version).
D2L (proprietary)	Pricing is based on number of users and varies between different institutions.	Yes	D2L provides technical support and customer service, though feedback from prior users has not	UNCW would need to hire additional graduate assistants to help with the migration of this new LMS.	D2L is one of the larger LMS companies that has been in the	There would be no access to the source code, limiting customization.	Yes (very new to the cloud, though)	User feedback has suggested that D2L struggles

	D2L has been reported by other universities to be more budget-friendly than others, though.		been positive in regard to the quality provided.		market for some time and can handle billions of users.			with third-party tool integration.
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RECOMMENDED SOLUTION

Our team unanimously agrees that Instructure's Canvas is by far the most feasible option and highest recommended solution to meet the needs of the university at this time. Faculty endorsement is a top priority for the committee and Canvas appears to fill in, so to speak, many of the gaps faculty have concerns for with Blackboard Learn. Some of the main complaints from faculty regarding the current LMS include issues with third-party tool integration, a choppy user interface that is difficult and complex to navigate, and the fact that system downtime is too frequent.

Canvas has an extremely intuitive interface that users find easy to navigate with not much of a learning curve and is highly customizable. Canvas stays up to date with the latest technologies and third-party integration is effortless. Canvas has always been cloud-based, eliminating the need for the university to shut it down at all when applying updates. A cloud-based solution can also monitor usage/traffic and allocate resources automatically so the end-user doesn't experience any performance issues. This is highly convenient for when usage spikes during exam periods. Only questions about Blackboard Learn were asked in the survey sent to faculty, yet several faculty members requested a switch to Canvas specifically.

UNCC just migrated to Canvas and only positive feedback was listed when asked about the experience. The UNC System already has an existing contract or agreement with Instructure, which helps to offset the costs that will be incurred from higher licensing fees and the need to hire additional support.

One of the needs outlined by the committee for a new LMS was for the company to have been established for at least 3 years as they are not comfortable working with a start-up company. Although Canvas is relatively new compared to Blackboard and D2L (founded in 2008), they have established great rapport and a successful track record in the few years they have been operating.

Migrating to a new LMS, especially at the scale of over 19,000 faculty, staff members, and students is not an easy task and technical support is crucial. Canvas has one of the highest rated customer service staff and has an option at their top tier level for 24/7 assistance via phone, email, or chat communication channels. Overall, the university has much to gain by implementing Canvas as their new LMS and we feel that the switch will be widely accepted across campus.