UNCW SPRING 2018 CANVAS-PILOT PROPOSAL

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IMPLEMENTATION PERIOD: DECEMBER 11, 2017 TO MAY 11, 2018
SUBMISSION DATE: NOVEMBER 30, 2017

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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 Desire2Learn (D2L) —in a cost-benefit analysis. While there were certainly advantages that UNCW could benefit from by implementing Desire2Learn 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.

OVERVIEW

UNCW is a public university whose mission is dedicated to the integration of teaching and mentoring with research and service. Their culture reflects values of diversity and globalization, ethics and integrity, and excellence and innovation.

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 ANALYSIS & SOLUTION

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 is 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 dislike it, while 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 *dis*satisfied. 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 Desire2Learn (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.

Desire2Learn (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 is 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. The LMS expert committee has 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?	3rd 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	Pricing is based on	Yes – costs will	There are different tiers for support;	UNCW would need to hire additional	Other universities	Canvas is open source,	Yes	Works extremely

(open source)	the number of full-time equivalents. No separate cost for Canvas mobile.	be incurred from the current LMS for more vendor support, at least during the migration.	their top tier support includes 24/7 access via phone, chat, and e-mail. Feedback for the quality of the support provided has been ranked very high.	graduate assistants to support this new LMS. Ideally, they would also like to hire 2 more instructional designers on top of the support currently provided.	have not had any issues with scalability and much of the feedback from users praises Canvas's smooth operating processes. Mobile app is available at no additional costs.	so there is more room for customization. User interface is very intuitive, clean, and simple.		well with third-party tools. Audio and video can be easily embedded and faculty can 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	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	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	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

	incurred for adopting this new version. UNCW currently pays $150,000 annually for original version of Blackboard.		not be a need for additional support from Blackboard.		devices would still be a separate cost.			from Blackboard Collaborate (original version).
D2L (proprietary)	Pricing is based on number of users and varies between different institutions. D2L has been reported by other universities to be more budget-friendly than others, though.	Yes	D2L provides technical support and customer service, though feedback from prior users has not been positive in regard to the quality provided.	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 market for some time and can handle billions of users.	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 with third-party tool integration.

IMPLEMENTATION STRATEGY

OVERVIEW

UNCW has opted to test the use of Canvas in a pilot program for Spring 2018. The current strategy is to maximize the chances of the pilot's success so that a full roll-out of Canvas to other courses can proceed afterward. Preliminary sentiments from faculty, as gathered from the LMS survey, are that some instructors are excited. A conference with UNC-Charlotte revealed overwhelmingly positive consensus among faculty for their transition from Moodle to Canvas. This implementation plan, therefore, assumes the success of the pilot program and that the processes undertaken during the pilot will closely resemble the full roll-out. The contingency, should the pilot not be a success, will be to send out request for proposals (RFPs) for Desire2Learn and Blackboard Ultra.

The director of UNCW's Office of e-Learning (OEL) and the lead LMS manager in UNCW's Information Technology Services have formulated the plan for the pilot. In addition to explaining their current plan, we will make recommendations to maximize the pilot program's success and to use the pilot to inform the campus-wide implementation plan.

CONDITIONS OF THE CANVAS PILOT

The duration of the pilot program will be the entire Spring 2018 semester. The conditions of the pilot program work within the constraints written in the contract offered by Instructure, which limits the number of full-time enrolled (FTE) users (i.e. students) to 400. This equates to 15 to 16 courses with no more than 25 students per course. Those who will act as course instructors in the LMS (i.e. faculty) will not be counted in the FTE capacity limitations. This sample size is small enough to manage and respond to throughout a 15-week academic term and large enough to test a variety of teaching styles and user interactions with the LMS. (Note: This contract is for the pilot program only, and a separate contract will need to be developed and approved for the campus-wide rollout should the university choose to officially adopt Canvas.)

PILOT TRAINING AND SUPPORT

Before the semester, participating faculty will be trained by Instructure personnel in using Canvas. In accordance with the Instructure contract, pilot instructors will also have access to Instructure's Tier 1 support, which includes 24/7 support via phone, email, or live chat. Support from UNCW's own Technology Assistance Center (TAC) will also be available for faculty and students who would prefer speaking with someone on campus. At least one graduate assistant for UNCW's Office of e-Learning will enroll in each pilot course so they can receive the same class-wide messages and respond to those that require support (e.g. a student emailing the

class to ask if others are having the same problem submitting an assignment). Finally, The Office of e-Learning will conduct weekly check-ins with faculty to hear updates and provide assistance.

We also recommend maintaining a log of issues faculty and students encounter and collecting data on the most often used features in Canvas. This data can feed into a needs assessment for the training materials and job aids that instructional designers in the Office of e-Learning will provide faculty during the campus-wide implementation. Also, if possible, a button for Canvas support should be made available on TAC's Service Catalog web page.

FULLY-ONLINE PROGRAMS

One of the main concerns noted in the first meeting with the LMS evaluation committee leaders was the need for an LMS that could accommodate UNCW's growing roster of fully-online programs, with the RN to BSN program being of particular import. Some of UNCW's fully-online programs have seven-week academic terms and an unconventional curriculum structure and so could not be a part of the pilot program. However, a few online courses within conventionally-structured degree programs were selected and can serve as models for other online courses.

Fully-online programs will be addressed after the pilot program. Assuming UNCW moves forward with a campus-wide rollout of Canvas, the Office of e-Learning will proceed as follows: migrating these courses from Blackboard into Canvas will be performed by OEL personnel in the summer

- Summer 2018: Fully-online courses will be migrated by OEL personnel from Blackboard into Canvas.
- Fall 2018: Faculty will be trained in Canvas by OEL personnel and/or Instructure's experts, depending on the readiness of OEL's training material by this time. Faculty cannot be trained during the summer because they are on nine-month contracts in which they are not paid to work during the summer.
- Spring 2019: Courses in the fully-online programs will be officially launched.

We recommend the same approach with other online and face-to-face courses—migrating courses ahead of time and training faculty the semester before they begin teaching in the new LMS.

GOALS & OBJECTIVES

The department chairs who are leading the Canvas pilot are hoping that the implementation will be successful and that this will ultimately be the new LMS UNCW will fully integrate in the coming year. For the most part, the pilot will provide full Canvas access for faculty and will very

closely resemble the live implementation. However, there are a few components and features that will need to go through the RFP process first due to them not being included in the current contract.

FACULTY BENEFITS

In relation to faculty, the team wants instructors to be more satisfied using Canvas as compared with Blackboard and to embrace the change with as many early adopters on board as possible. The hope is that the pilot program will encourage word-of-mouth to promote the initiative. One of the primary concerns faculty have expressed with the current system is that they are unable to grade assignments on a mobile device - something that Canvas will now be able to provide.

STUDENT BENEFITS

The team also wants students to have a smoother end-user experience with Canvas with greater ease of use and less time required to navigate through the course to find the features they need. For some learners, such as those who work full-time and are enrolled in a completely online program, it could prove to be very beneficial to access their courses on their mobile devices.

METRICS AND METHODS TO MEASURE SUCCESS

In addition to the benefits the department chairs hope the pilot provides to both faculty and students, the team is really aiming for little to no technical difficulties or glitches with Canvas as compared to the many issues that were experienced with Blackboard. Since Canvas is cloud-based, there should be much more uptime as staff members will now be able to make updates on the system without having to shut it down. They are also hoping for much faster processing and fewer clicks to access different course materials.

It is our recommendation that surveys should be sent to both students and faculty upon completion of the pilot courses with questions geared toward obtaining information regarding overall satisfaction and specific likes and dislikes. Open-ended questions pertaining to satisfaction can be used to measure success qualitatively and Likert scale questions regarding specific features of the LMS can be used to measure success quantitatively.

IMPLEMENTATION PROJECT PLAN

In this section, we will treat the implementation of the LMS as a project and present a plan for how to complete it successfully.

There is only a little over a month between the time of this writing and the start of the Spring 2018 semester. The LMS managers in Information Techology Services do not have enough time

to get trained on how to migrate courses into Canvas before the pilot program begins. They will, therefore, rely on Instructure's Canvas experts, who will either perform course migration themselves or coach UNCW's LMS managers in doing so. (Plans are not yet definitive because the official contract with Instructure has only recently been approved, and certain communications between OEL and ITS personnel and Instructure could not happen until university approval was given.)

However, here, were present our recommendations for how to approach the key sets of tasks of course migration for the pilot. We estimate that there should be sufficient time to complete these procedures for the 15 to 16 courses in the pilot.

ADMINISTRATIVE TASKS

This section outlines the recommended tasks to set up the new LMS, Canvas, for its various intended users.

- User profiles system integration: Involves integrating the university's Banner system with instructor, student, and course-enrollment data with Canvas.
- Set up account-level roles in Canvas: Involves creating various types of user accounts and assigning the appropriate permissions for functions and access to data in the LMS commensurate with the administrative duties, responsibilities, and authority of one's occupation. Specific users will be assigned these roles later.
- Set up course-level roles in Canvas: Involves creating student, instructor, teaching assistant, instructional designer, and tech support roles and then assigning permissions for functions and access within and control over courses in the LMS.
- Set up support communications: Involves setting up and testing communications between instructors and those they may have reason to contact in the LMS (e.g. Administrators, tech support, etc.).

COURSE DEVELOPMENT TASKS

This section outlines the recommended tasks for uploading new courses into Canvas for the pilot program.

- Enter course metadata: Involves entering the course number, course title, section number, instructor name, and other metadata about each course in the pilot.
- Create course structures: Involves building out the structures (i.e. modules, lessons, assessments, discussion boards, etc.) for courses in the pilot.
- Set up course communications: Involves setting up email and notifications systems to be used within courses.

- Create courses in Canvas environment: Involves instructors working with a Canvas migration expert uploading course content into Canvas course structures.

TESTING TASKS

This section outlines the recommended tasks for testing the successful functionality of Canvas.

- Plan testing procedures: Involves developing a list of procedures for testing and debugging the LMS.
- Delegate tasks: Involves assigning testing tasks to ITS personnel (mainly LMS managers) and creating a system for them to log their findings.
- Schedule testing tasks: Involves sequencing the testing tasks in the optimal order and setting a deadline.
- Fix bugs: Involves reviewing logs, categorizing bugs, finding their route cause, and addressing each bug until all are resolved.

TECHNOLOGY AND RESOURCES

Because learning management systems are a form of web application, the LMS migration will impact various technologies at the university and those who interact with these technologies. In this section, we discuss the affected technologies we identified and how they should be handled.

UNIVERSITY SYSTEMS INTEGRATION

The current LMS integrates with some of the university's systems, like those containing user accounts and profiles. Banner is one such system and is common among universities. At UNCW, this system is branded as SeaNet and is where student academic profiles and data are stored and managed. When a student needs to enroll in a course, they do so in SeaNet/Banner. In order for the LMS to provide a student with access to a course, it must correctly interpret a file exported from Banner with that student's enrollment data. That exported file must be formatted so that each piece of metadata from Banner goes to its corresponding location in Canvas, which will be different from its corresponding location in Blackboard. The director of OEL also anticipates that instructors will want the ability to push their grades from Canvas courses into Banner so they do not have to manually enter them.

UNC Charlotte has successfully integrated student enrollment and grading with Banner and should be consulted for instructions on how to do so at UNCW. Integrating user data transfer is an urgent need and should be performed before the pilot program. However, because integrating grade transfer is a delicate process involving the coordination of multiple components in Information Technology Services, it should not be implemented during the pilot,

which will take place very soon, and should wait for a time when the integration can be carefully tested.

THIRD-PARTY TOOL INTEGRATION

Current Blackboard usage and the faculty LMS evaluation survey have revealed that faculty will want some features that are not native to Canvas and will require third-party tools. One popular tool is SafeAssign, a plagiarism-detection software that is free with Blackboard. UNCW will have to find another tool that performs the same task (e.g. VeriCite, which UNC Charlotte uses), but it will cost the university money and, therefore, must be vetted.

Canvas integrates with many advanced third-party tools that would appeal to faculty. But the types of tools, as well as the variety of tools for any given feature, are vast in number. Allowing faculty to integrate any tool they wanted would not be wise because of the effects an untested tool could have on the functionality of a course. Furthermore, ITS's LMS managers can only provide support for tools of which they are knowledgeable. We recommend that the LMS managers develop a system to curate third-party tools. This curation process should include testing for functionality, ease-of-use, and interoperability (i.e. single sign-on, allowing users to use the tool without having to enter a separate login).

SERVER AND HOSTING

Because Canvas is cloud-based, it will not be hosted locally like Blackboard. This should not only lead to less downtime but also fewer resources devoted to monitoring the system. The lack of increase in workload will be convenient for the pilot. However, during spring 2018, most courses will still run on Blackboard, so a reduction in workload will not yet be experienced. After the campus-wide rollout of Canvas, hours spent monitoring the old LMS and responding to downtime or server issues could be shifted over to tasks that support instructors' technical needs (e.g. researching and vetting third-party tools that are in demand).

HARDWARE

There are no anticipated needs for changes in hardware resulting from the move from Blackboard to Canvas.

MANAGEMENT

As stated previously, the Director of UNCW's Office of e-Learning (OEL) and the Lead LMS manager in UNCW's Information Technology Services department are leading and overseeing all aspects of the new LMS implementation initiative. Within each of these campus

departments, there are distinct sub-groups that will be responsible for different tasks associated with implementing the Canvas pilot next semester.

INFORMATION TECHNOLOGY SERVICES

Within the Information Technology Services (ITS) department, aside from the oversight the Director has been and will continue to provide, a three-person LMS group will be established. The primary responsibilities for this team will include pulling information from the Banner Student Information System and writing scripts accordingly. This will ensure that all students are enrolled in the appropriate courses.

OFFICE OF E-LEARNING

In the Office of e-Learning (OEL), instructional designers and graduate assistants will be responsible for the majority of the tasks pertaining to the Canvas pilot implementation plan for the Spring 2018 semester. The instructional designers will take turns hosting open training sessions in the lab for any faculty who are not directly involved in instructing courses for the pilot but who are interested in exploring and testing out the Canvas LMS. Instructional designers will also be focused on designing quality courses with subject matter experts and other faculty for future university programs and courses.

Graduate assistants will be responsible for most of the ongoing course migrations in preemptive preparation for campus-wide rollout. They will also participate in the open training sessions held by the instructional designers as mentioned above. Additionally, graduate assistants will host their own open training sessions at Hoggard High School during their regular 4-hour work time. It is important to note that the graduate assistants will only be involved with Canvas as the instructional designers will be handling Blackboard.

INSTRUCTURE TRAINERS

As mentioned previously, for the LMS pilot for the Spring 2018 semester, UNCW has purchased the top-tiered level of support from Instructure which includes access to trainers in person. Trainers from Canvas will come to UNCW to train the pilot faculty members along with the instructional designers from the OEL and the LMS managers from the ITS department in migrating, set-up, building and editing courses from scratch, adding content, grading, comparisons between Blackboard and Canvas, and any other relevant areas. Each department will then apply this information to the tasks they are each responsible for (listed above) and pilot faculty members will use this information to conduct courses. Should there be any political issues with faculty members, the Dean will be informed and will handle these cases.

CANVAS PERMISSIONS

Our team felt that it was pertinent to discuss the various permissions each of these major roles should have within the Canvas LMS. Currently, Canvas provides 5 different types of course-level base roles that include: 1) Student, 2) Teacher Assistant (TA), 3) Teacher, 4) Designer, and 5) Observer. Canvas also provides an account-level role with the base role of being an account administrator. Each of these roles are equipped with default permissions, though they can be customized to fit the needs of the university.

STUDENTS

Students should always have permission to access to view and interact with course content material as deemed necessary by the instructor. They should also have permissions to submit assignments and participate in discussion board posts. Students will have many restricted permissions as compared with the other types of roles but should have enough access to use the system. Our team would assign this role to the students enrolled in the 15-16 pilot courses for the upcoming semester.

TEACHER ASSISTANTS

The permissions of a teacher assistant (TA) are similar to those of a teacher, but TA's do not have access to student information system data. Sometimes TA's are granted permissions to grade assignments, though our team feels that this is a decision that should be made by each individual teacher on a case-by-case basis, depending on the needs of the instructor/course. This role would be assigned to the teaching assistants paired with each pilot faculty member.

TEACHERS

Teachers should have total control over their individual course(s) and have very little restrictions. They are able to modify permissions given to both students and teacher assistants and use their account as a student or TA as well. However, teacher roles do not have as many permissions as an account administrator such as the ability to manage developer keys. Our team would assign this user base role to all pilot faculty members.

DESIGNERS

Designers should have access to create any content-related material for the course such as an announcement, quiz, test, discussion board, etc., but are not granted permission to grade assignments or view grades in general. Our team would assign this role to the OEL graduate assistants.

OBSERVERS

Observer roles are generally used by tutors or mentors to view a student's progress in the course. Each observer role is linked to a specific student account and they usually have the least amount of permissions compared to that of any other base role. They are able to view the progress a student is making in a course (which assignments have been submitted, current grades, etc.), but are unable to interact with the course.

ACCOUNT ADMINISTRATORS

Account administrator roles have total control over the account and have no restrictions. This user role is very similar to that of a teacher role, though there are a few permissions account administrators have access to that teachers do not. This role is able to act as a user, add and remove other administrators to the account, blueprint courses, import SIS data, and manage courses, developer keys, and account-level settings. We recommend that the instructional designers, LMS managers, and department chairs involved with this pilot should be granted account administrator roles.

RISKS & CHALLENGES

The risks and challenges identified in this LMS migration are faculty-related and student-related. Here, we discuss each area of concern individually and propose strategies for mitigating them.

FACULTY CONCERNS

Despite the reportedly high user-friendliness of Canvas in teleconference meetings with UNC Charlotte and UNC Pembroke, some UNC Wilmington faculty may have difficulty adjusting to the new interface. We recommend providing a table that lists, in the first column, the often-used features in Blackboard (gathered via faculty input) and, in the second column, a list of similar features and where to find them in Canvas. Migrations from Blackboard to Canvas are common enough among universities that such feature comparisons already exist. A combination of reviewing these existing comparisons and of acquiring data on Blackboard features and tools UNCW faculty used frequently should provide an accurate basis for designing and developing guides to acclimate faculty to the new LMS. Analysis, design, and development for this job aid can be accomplished during the pilot in preparation for the campus-wide rollout. These guides—and any other such tools---should be placed in a central location for faculty and students to find, preferably the OEL website.

On a political level, faculty have great influence at UNCW, and the success of the LMS migration depends greatly on faculty buy-in. The leaders of the LMS evaluation committee have noted one difficult-to-please faculty member among the pilot sample. Should the faculty member have an unfavorable experience during the pilot, she may be disgruntled enough to actively

build a negative consensus. To preempt such a response, authorities (e.g. the Dean) should be made aware. Throughout the pilot, however, this faculty member should be provided with extra support from both OEL and ITS to minimize the chances of her having a bad experience.

STUDENT USER-EXPERIENCE CONCERNS

The user interface (i.e. the graphical layout or and means of interacting with the LMS) and the user experience (i.e. the way the LMS's features are organized relative to the user's knowledge and intuition) are vastly different between Blackboard and Canvas. If a student had to alternate frequently between the two LMSs for different classes, the cognitive load could be quite taxing. This can be mitigated during the campus-wide rollout by migrating an entire degree program from the old LMS to the new all at once in the same semester. This would not entirely eliminate the use of two different LMSs, since some students may take courses outside of their degree program, but it would greatly reduce the chances, especially for students who are past their liberal arts requirements. The transition guide mentioned in the previous section will also be of help.

The courses selected for the pilot, however, are from different degree programs, so OEL may need to put together a preliminary version of the transition/comparison guide based on existing guides from other universities and then update it later for the campus-wide rollout.