

<b>SUBJECT</b>	<b>NEXT GENERATION DIGITAL LEARNING ECOSYSTEM</b>
<b>MEETING DATE</b>	<b>JUNE 14, 2016</b>

Forwarded to the Board of Governors on the Recommendation of the President

**APPROVED FOR  
SUBMISSION**



Martha C. Piper, Interim President and Vice-Chancellor

<b>DECISION REQUESTED</b>	<b>For Information</b>
<b>Report Date</b>	May 25, 2016

**Presented By** Angela Redish, Provost and Vice-President Academic *pro tem*  
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**EXECUTIVE SUMMARY**

The core of UBCs ecosystem of tools and applications to support teaching and learning is the Blackboard Learn product, locally badged as *Connect*, procured and deployed in 2012/13. Since then there have been significant changes in the hardware and software landscape, including the arrival of cloud-based hosting, the growth of mobile as a channel and an increasing range of other applications and tools providing additional and alternative functionality through integration with the core Learning Management System (LMS).

The *Connect* service suffered serious performance and stability issues at the start of the 2013-14 academic session, with widespread disruption to faculty and students. This damaged user trust, which has struggled to be rebuilt given on-going concerns about an aging codebase, click-heavy interface and outdated UI. Significant product updates to Blackboard Learn have been substantially delayed and there remains no firm timeline for deployment for self-hosting sites such as UBC. Confidence in the product and the company is waning in the North American HE sector: Blackboard has lost close to 50% of its market share in the last 6 years. Our current license with Blackboard expires in 2019: in order to allow time to potentially transition to a new system, plus a desire to avoid collision with the rollout of the main teaching and learning functionality of the SASI project, it is very timely to review the options for the core of the digital learning environment.

This project will conduct an analysis of LMS options, with a view to making a decision by May 2017, for deployment in the 2017-18 academic session. The project aims to take a very different approach to engaging faculty and students in the assessment of needs for a next generation digital learning environment. Faculty secondments (via course buy-outs) and student secondments (via co-op appointments) will lead conversations with their peers around what tools and data they need to be able to design and participate in learning activities

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to support and deliver excellent teaching. Instructional support staff based in Faculties will contribute features and tools used extensively in their academic domains, and technical staff will identify current and emerging standards to be used, together with security, privacy and integration requirements. These consultations will be used to formulate discrete functional, technical and operational requirements, against which vendors can be evaluated with a final decision to be taken in May 2017.

The project will be led by senior staff from the LTHub leadership team (the collaboration of relevant areas of CTLT and UBC IT with responsibilities for functional / pedagogical and technical aspects of LT), reporting into the Learning Technology Leadership Team (LTLT). LTLT is the decision making committee of the new LT governance structure, implanted in fall 2015, chaired by Eric Eich, Vice Provost Academic Affairs and has strong links into executive strategy groups on both campuses.

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**INSTITUTIONAL STRATEGIC PRIORITIES SUPPORTED**

Learning

Research

Innovation

Engagement  
(Internal / External)

International

or  Operational

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Attached: Business Case: Evaluation of Next Generation Digital Learning Ecosystem



## Business Case:

# Evaluation of Next Generation Digital Learning Ecosystem

Prepared by: Marianne Schroeder, Simon Bates  
Centre for Teaching, Learning and Technology

Version 2.1  
May 14, 2016



### Revision History

<b>Version Number</b>	<b>Description</b>	<b>Date Modified</b>	<b>Author</b>
1.0	Initial text prepared for ITAC meeting May 2016	3 <sup>rd</sup> May 2016	MS, SB
2.0	Feedback from Jennifer Burns & Robert MacFarlane	13 <sup>th</sup> May 2016	MS, SB
2.1	Feedback from ITAC discussions, Executive meeting	25 <sup>th</sup> May 2016	SB



# Authority Signatures

This section contains the signatures of key stakeholders, indicating that they agree with the presentation or proposal as it appears in the business case.

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Provost and Vice-President Academic pro tem, UBC Vancouver

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# Executive Summary

The core of UBC's ecosystem of tools and applications to support teaching and learning is the Blackboard Learn product, locally badged as *Connect*, procured and deployed in 2012/13. Since then there have been significant changes in the hardware and software landscape, including the arrival of cloud-based hosting, the growth of mobile as a channel and an increasing range of other applications and tools providing additional and alternative functionality through integration with the core Learning Management System (LMS). The *Connect* service suffered serious performance and stability issues at the start of the 2013-14 academic session, with widespread disruption to faculty and students. This damaged user trust, which has struggled to be rebuilt given on-going concerns about an aging codebase, click-heavy interface and outdated UI. These events, plus the fact that the current license with Blackboard expires in 2019, makes it timely and necessary to re-evaluate the options for the platform that sits at the heart of UBC's technology ecosystem for teaching and learning.

This project arose from work undertaken in the fall of 2014, in the form of an extensive dialogue with faculty, students and staff about the learning technology ecosystem at UBC – the collection of tools, applications and support for technology in learning and teaching activities. This dialogue aimed to develop a shared vision, blueprint for near term future state of learning technology and a roadmap towards that. One of the key recommendations was a re-evaluation of the LMS at the heart of the ecosystem. Although recent years have seen a strong growth in the range of tools used to support teaching and learning – both supported and integrated with other UBC systems and existing outside of this structure – there is still a requirement for a central core, albeit with a reduced footprint of services that it can uniquely provide. This is a view that is well aligned with educational technology thought leaders (e.g., from EDUCAUSE), with a shift away from language that talks of systems to *manage learning* towards those that form part of a digital learning environment.

The current project aims to take a very different approach to engaging faculty and students in the assessment of needs for a next generation digital learning environment, one that is attracting significant interest from other institutions approaching similar learning technology decision points. Faculty secondments (via course buy-out) and student secondments (via co-op appointments) will lead conversations with their peers around what tools and data they need to be able to design and participate in learning activities to support excellence. Instructional support staff based in Faculties will contribute features and tools used extensively in their academic domains, and technical staff will identify current and emerging standards to be used, together with security, privacy and integration requirements. These consultations will be used to formulate discrete functional, technical and operational requirements, against which vendors can be evaluated with a final decision to be taken in May 2017.

The project will be led by senior staff from the LTHub leadership team (the collaboration of relevant areas of CTLT and UBC IT with responsibilities for functional / pedagogical and technical aspects of LT), reporting into the Learning Technology Leadership Team (LTLT). LTLT is the decision making committee of the new LT governance structure, implanted in fall 2015, chaired by Eric Eich, Vice Provost Academic Affairs and has strong links into executive strategy groups on both campuses.

# Phase I: The Strategic Context

## Environmental Analysis

Learning technology is increasingly seen as a key enabler for teaching and learning innovation and enhancement. UBC faculty have been using a learning management system (LMS) since 1996, when WebCT was created by a UBC computer science professor. That product was sold to Blackboard in 2005, and they ended support for the product in January 2013. In 2012/2013, UBC implemented Blackboard Learn (called **Connect** at UBC) after a two year community evaluation process.

Stability and performance issues at the start of the 2013-14 academic session caused significant disruption to faculty and students, eroding trust in the application and its performance. Data collected six months later from the 2014 ECAR survey of faculty and technology demonstrated widespread dissatisfaction with the system, in terms of availability, response time and ease of use. A wide-ranging consultation with faculty further confirmed this dissatisfaction.

As a result, we undertook a short, focused Learning Technology Ecosystem Project (LTEP) to create a vision for learning technology at UBC, to provide clarity on the current state of tools and services, to envision what a future state might look like, and to outline a roadmap to achieve the future state. Driven largely by a faculty, student and staff working group, over a series of collaborative workshops, with steering committee oversight from Deans and institutional leaders, the project reported out in May 2015, and to ITAC in July 2015.

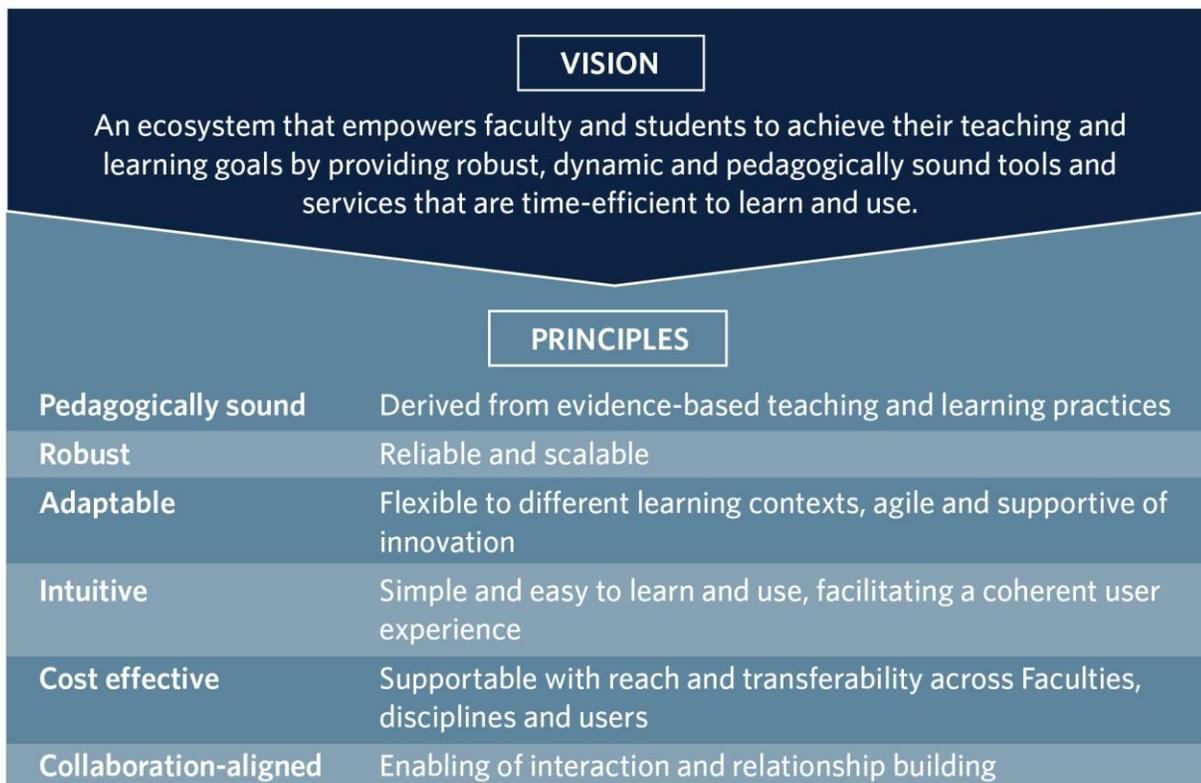


Figure 1. Vision and Principles developed from LTEP project



The functional footprint from a single LMS has decreased over time, with the addition of tools that provide additional capability or flexibility. Faculty desire a greater choice of tools, so that the one with the best fit for the pedagogical purpose can be selected. A spring 2016 current state analysis completed by the Learning Technology User Committee demonstrated that a broad range of tools is currently in use (please see Appendix I).

## Case for Action

### Timing

Blackboard Learn was fully implemented at UBC in September of 2013. The current vendor agreement expires in December 2019. The learning technology (LT) roadmap, developed as part of a community consultation in 2014 and 2015, requires a decision about the future of this product by the end of 2016. Initially, the intent was to implement fully in September 2018. The anticipated roll out of SASI at the same time necessitates an adjustment in the schedule to one year earlier.

### Vendor Profile

In the last six years, Blackboard has lost approximately 50% of its North American market share. Blackboard is owned by Providence Equity Partners, who, according to Reuters, put it up for auction in July 2015. A deal did not materialize. In January of this year, Providence replaced the CEO with William Ballhaus, who last prepared SRA International, also owned by Providence, for sale. Ballhaus is the second Blackboard CEO in a little more than three years.

### Product Roadmap

Blackboard's next generation product Ultra, announced in 2014, is still at least a year behind schedule. This cloud based product, with significant user interface improvements, is currently available only in SaaS with limited functionality and not suitable for large complex institutions such as UBC.

The Ultra product roadmap is confusing and the delivery date remains vague. For periods of 2014 and 2015, Blackboard representatives claimed the current Learn product would be deprecated, though they now say it will continue to be under active development.

These factors, in addition to Learn's shortcomings (see below) indicate that a re-evaluation is in order.

## Shortcomings of Blackboard Learn

### Satisfaction

In the ECAR Study, faculty were asked to identify one thing that UBC could do with technology to better facilitate or support their faculty role. Almost all faculty responded to this question, with roughly one quarter related directly to the operation, the functionality and/or the viability of **Connect**, UBC's learning management system.



Forty-four percent believe that the LMS is critical to their teaching, 52% believe it is a useful tool to enhance their teaching, and 48% believe it is useful to enhance student learning. Predictably, UBC faculty were unhappy with the operation and the functionality of UBC’s LMS, due in part to its unreliability in the Fall of 2013. This is particularly striking when compared to peer institutions.

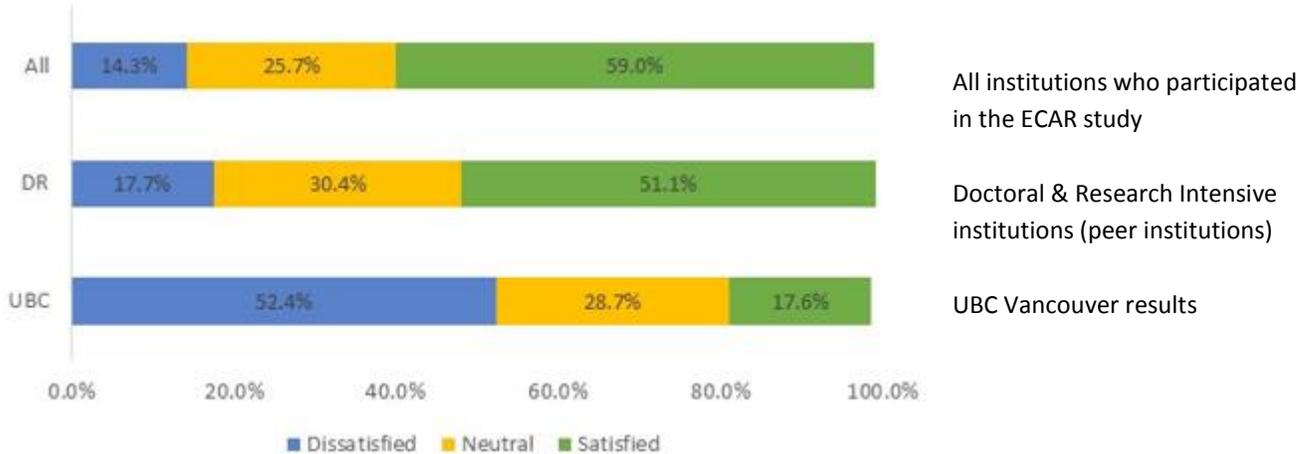


Figure 2. LMS: Overall satisfaction ([http://ctlit.ubc.ca/resources/ecar\\_report/](http://ctlit.ubc.ca/resources/ecar_report/))

### Usability

The original Blackboard code was developed in 1997 and still retains some usability elements of that era. Faculty describe **Connect** in the following way:

*Improve the ease of use of CONNECT...the ham-handed interface is like trying to eat dinner while wearing hockey goalie equipment.*

*The single greatest obstacle to a successful technology-learning relationship at UBC is the current Connect system. Far from cutting edge, this online system is on par with 1998 Windows usability.*

On ease of use, faculty members responded as follows:

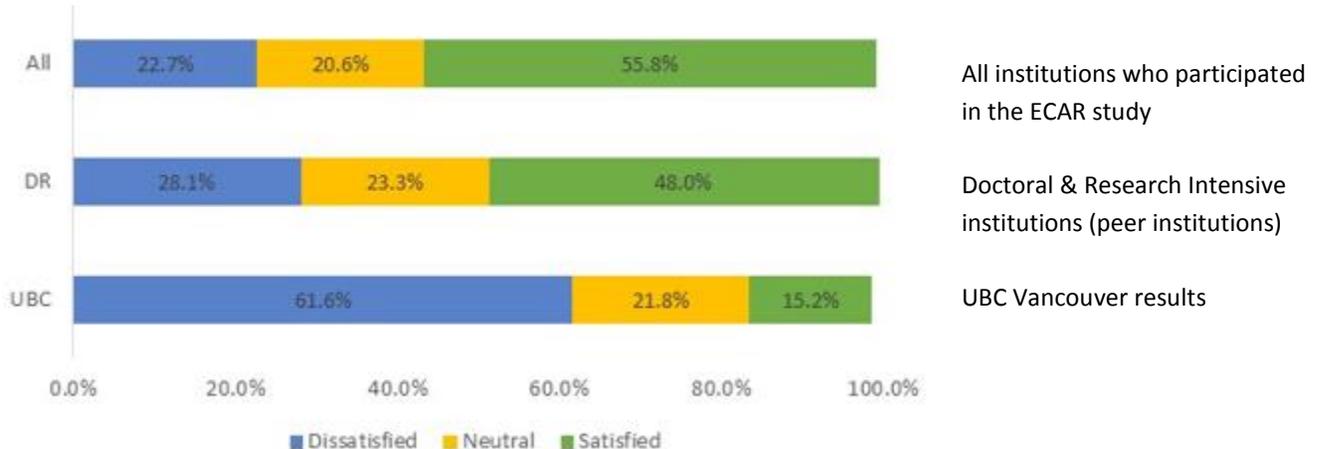


Figure 3. LMS: Ease of Use ([http://ctlit.ubc.ca/resources/ecar\\_report/](http://ctlit.ubc.ca/resources/ecar_report/))



## Lessons Learned

The implementation of Blackboard Learn was challenging, and the negative experience surrounding performance and stability issues in 2013 continues to cast a long shadow. We learned a number of lessons which we are taking care not to repeat.

Then	Now
<ul style="list-style-type: none"> <li>• Emphasis on technology and functional parity with existing system</li> </ul>	<ul style="list-style-type: none"> <li>• Emphasis on pedagogy and needs of faculty and students</li> </ul>
<ul style="list-style-type: none"> <li>• Input from faculty members and students at stage of functional testing</li> </ul>	<ul style="list-style-type: none"> <li>• Input from faculty and students led by peers seconded to project</li> </ul>
<ul style="list-style-type: none"> <li>• Implementation support limited to producing exact replicas</li> </ul>	<ul style="list-style-type: none"> <li>• Implementation support will allow for pedagogical transformation</li> </ul>
<ul style="list-style-type: none"> <li>• Disproportionate input from technical and instructional support staff</li> </ul>	<ul style="list-style-type: none"> <li>• Appropriate level of input from all stakeholders, with faculty / student needs paramount</li> </ul>

Table 1. Lessons learned from the 2012/13 implementation of Blackboard Learn

## Drivers for Change

### Evolution of teaching

The teaching and learning context is evolving. Through the multi-year efforts of the Carl Wieman Science Education Initiative (CWSEI), UBC’s strategic investment in Flexible Learning (FL), annual targeted funding opportunities through the Teaching and Learning Enhancement Fund (TLEF) and now ASPIRE Learning & Teaching Fund (UBC’s Okanagan campus), faculty members are changing the way that they teach. Learning tools need to facilitate, enable and enhance these changes, not prevent or impede them.

### Changing expectations

UBC needs to continue to invest in learning technologies, to ensure that faculty have the resources they need for teaching, to meet student expectations, and to keep up with the pace of change in learning technology.

**For instructors.** UBC faculty follow the typical technology adoption curve. They need tools that are simple and easy to learn and use, that are flexible to different learning contexts and still support innovation for the fraction of faculty members who are early adopters / innovators in this space.



**For students.** In the 2014 NSSE Learning with Technology student, UBC first (96%) and fourth year (98%) students reported that technology contributed to their understanding of course materials. However, they frequently have uncomplimentary things to say about the technology offered by UBC – they prefer to use systems with more modern interfaces, that are able to be used on mobile devices, and that are more like social media tools they’re using in their daily life.

**For employers.** Employers want to hire students with the right skillset. Technologies described as being from the 90’s are unlikely to prepare students for the demands of the workplace in the 21<sup>st</sup> century.

### Improvements in technology

The technological landscape is changing and the rate of change is accelerating.

**Interoperability.** With the introduction of international standards for learning tools interoperability, it is possible to expand from a single monolithic LMS into a smaller functional core with best of breed tools integrated into the ecosystem.

**Cloud based.** On demand computing is elastic, enabling just-in-time increases in capacity. It permits continuous product improvements and makes disaster recovery possible (something we do not have now).

**Mobile.** The use of mobile technology is increasing, and according to the 2015 ECAR Study of Students and Information Technology, student ownership of a smartphone is now almost equal to that of a laptop.

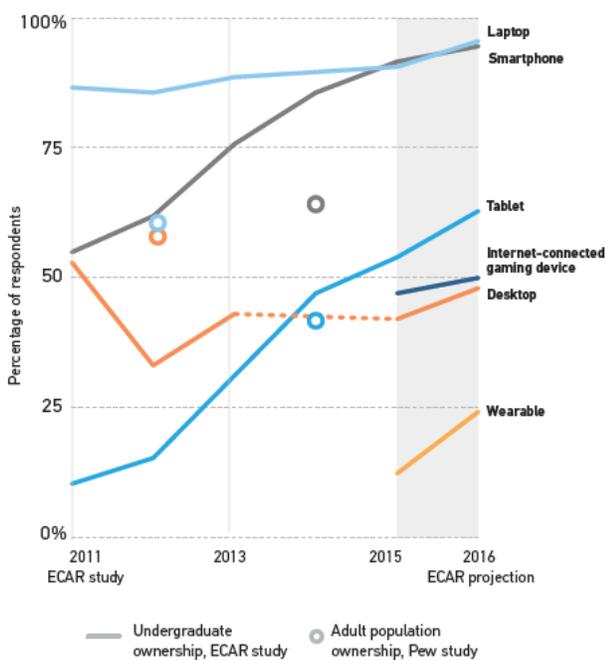


Figure 4. Device ownership history, with 2016 projections. Eden Dahlstrom, with D. Christopher Brooks, Susan Grajek, and Jamie Reeves. *ECAR Study of Students and Information Technology, 2015*. Research report. Louisville, CO: ECAR, December 2015, p. 14.



This means that any system selected will need to have responsive design and be device independent. A large percentage of UBC students are commuters, and need to be able to access course content and assignments on their way to and from campus.

Until very recently, Blackboard’s mobile product required a separate license, did not meet the requirements of FIPPA, and was rated very poorly by students from other institutions. As a result, UBC has not had a functional mobile solution.

### Use of Learning Data

In 2013, when UBC fully implemented Blackboard Learn, a license for the analytics tool (A4L) was also purchased. This tool has been very difficult to deploy, and to date, we have still not deployed it against production (as a result, license fees were waived).

The potential for educators (and learners) to exploit the vast quantities of data captured in learning events and interactions inside applications is significant, but challenging. The inability to access, curate, visualize and interrogate this data hampers the effort to measure the effectiveness of teaching and the efficacy of particular learning tools.

### License Renewal

The current license with Blackboard ends in 2019; realistically, a platform decision must be made at the end of 2016 to facilitate planning and implementation of the (potential) move to a new platform. So as not to collide with the implementation of SASI, the timeline for implementation has been accelerated.

## Strategic Outcomes

Priority	Target Client	Outcome
High	<b>Faculty</b>	Supports effective research-based pedagogies Able to design the best possible learning opportunities Data available at the level of detail required for research purposes
High	<b>Faculty &amp; Students</b>	Intuitive to accomplish common tasks Able to design and configure elements of user experience
High	<b>Students</b>	Flexible Device independent
High	<b>All</b>	Conforms to existing international standards for interoperability Capable of continuous improvement Excellent user interface (modern code-base)

Table 2. Strategic Outcomes



## Opportunity statement

The tools and technology used to support teaching and learning have changed dramatically in the last decade and have gone from being ‘nice to have’ optional extras to essential elements of modern pedagogy. Faculty have been reconsidering how to make the very best use of class room time, blending in-person and online activities and interactions with course content and assessments. Hardware delivery platforms have changed: mobile has become important and will soon become the dominant channel for interaction with learning content. Learning management systems have evolved and become digital learning platforms, environments that integrate a wide variety of other tools and applications that share data. Ease of access to the data generated in learning interactions in various systems, so as to be able see progress and make near-real-time adjustments, is becoming more of a priority for faculty and learners. In a relatively short space of time, the ‘one size does all’ version of a learning management system with origins, and in some cases significant parts of the code base, back in the 1990’s is looking increasingly anachronistic.

The following table summarizes the opportunities that a re-evaluation of the core LMS will provide:

Priority	Description
1.	Help UBC keep up with technological advances such as mobility and cloud-based solutions demonstrating an innovative culture, which is a critical part of the university’s Strategic Plan.
2.	Improve usability for faculty and students. The current system is widely thought to be click-heavy, slow, counter-intuitive with poor UI design and performance across mobile platforms.
3.	Provide easier access to data on learning events, allowing faculty to better understand what is happening in the digital space within courses.
4.	Supporting and facilitating easy integration of a wide variety of tools and applications
5.	Capable of supporting emerging pedagogical priorities, including personalization, adaptive and/or competency based learning

**Table 3: Summary of LMS Opportunities and Priorities**

## Stakeholder Impacts

In Term 1 of 2015W, courses were accessed within the LMS a total of 95.5 million times. The impact is pervasive and extends to:

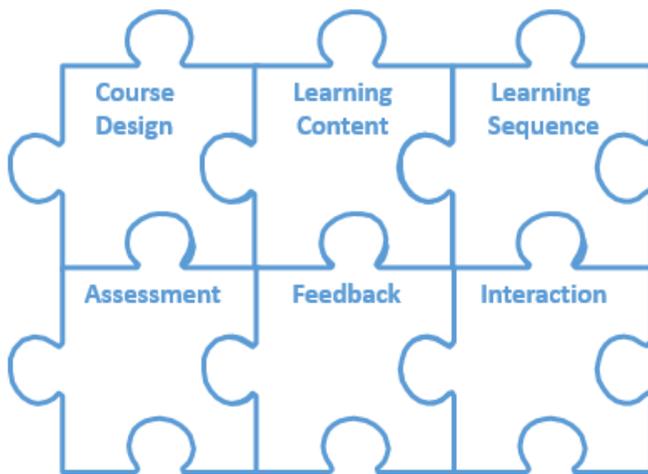
- Faculty on both campuses
- All registered students taking UBC credit courses
- Learning support staff, in both Faculty-based learning support roles and central (CTLT and UBC IT)
- Some CPE programs that make extensive use of the current LMS (current and potentially future)

### Assumptions/Constraints/Dependences

- Current LMS is not the automatic choice – there is considerable frustration around capability and usability
- SASI product cannot deliver all of the required functionality of an LMS
- SASI academic model change impacts the implementation of any downstream system
- BC’s Freedom of Information and Privacy Protection Act (FIPPA) will restrict the number of options available as personal data must be stored in Canada with limited access to vendors from outside Canada except for temporary purposes related to the installation, maintenance or trouble shooting of the system.
- No other learning tools currently in use at UBC have the comprehensive functionality of an LMS (e.g., WordPress, edX).

### In-Scope / Out of Scope

The following functions are within scope of the LT Ecosystem.



Function	Description
Course Design	• Planning and conceptual design of a course by working backwards from the intended learning outcomes
Learning Content	• Selection, development and management of learning content to be delivered in a course
Learning Sequence	• Development and delivery of the sequence of learning activities that take place during a course
Assessment	• Development, delivery and management of assessment methods and tools to measure students understanding
Interaction	• Formal and informal Interactions between faculty and students as well as interactions amongst peers during a course delivery
Feedback	• Feedback delivered from faculty to students as well as feedback provided by students to faculty (not part of formal evaluation processes)
Evaluation	• Formal and informal evaluation of an instructor, course, peer and /or learning experience

- In scope of the LT Ecosystem Project
- Out of scope of the LT Ecosystem Project

Figure 5. Course functions.

We are working closely with the SASI team to ensure that there is no unnecessary duplication in functionality. At present, assessment activities, as well as the grades associated with them, will be part of the learning technology ecosystem. The results of those assessments will transfer automatically to the new SIS, though the level of detail in the grades transfer is not yet decided.

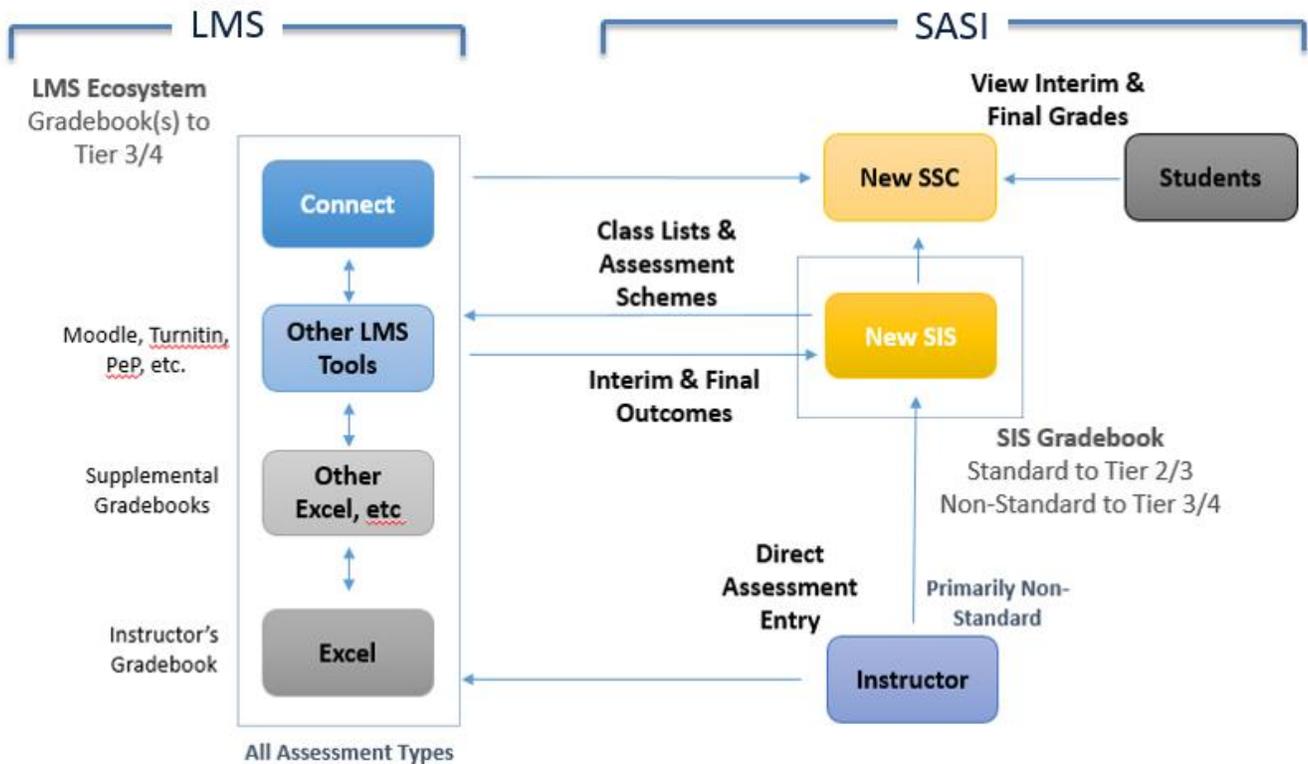


Figure 6. Possible Future State. Source: SASI Program Committee 2016-03-03

# Phase II: Analysis and Recommendation

## Options

**Do nothing.** If we continue with the current license until 2019, and collide with the SASI implementation, the risk that one or both projects will fail is substantially increased. In addition, faculty and staff would have to deal with multiple systems implementations in a single year, increasing required change management activities.

**Renew current Blackboard License.** This is an untenable option, given that the technology is not sustainable, is not scalable, and it is highly likely that, at some point in the relatively near future, the existing product will be deprecated, requiring a change at the vendor’s instigation rather than through a planned process.

**Analyze and/or confirm needs and select a product.** Teaching and learning is a critical component of the University’s mission. It is essential that faculty have reliable, sustainable tools to support their teaching, and that students’ experience of learning is enhanced rather than hindered by the technology.

## Process

As a result of the current anticipated timescale for full implementation of SASI, we have accelerated the timeline for implementation of the NGDLE. Clear feedback from Deans and institutional leaders was that the risk of implementing two large systems at the same time was too high, particularly since SASI is proposing to go live in the middle of an academic term. The proposed timeline for the NGDLE is:

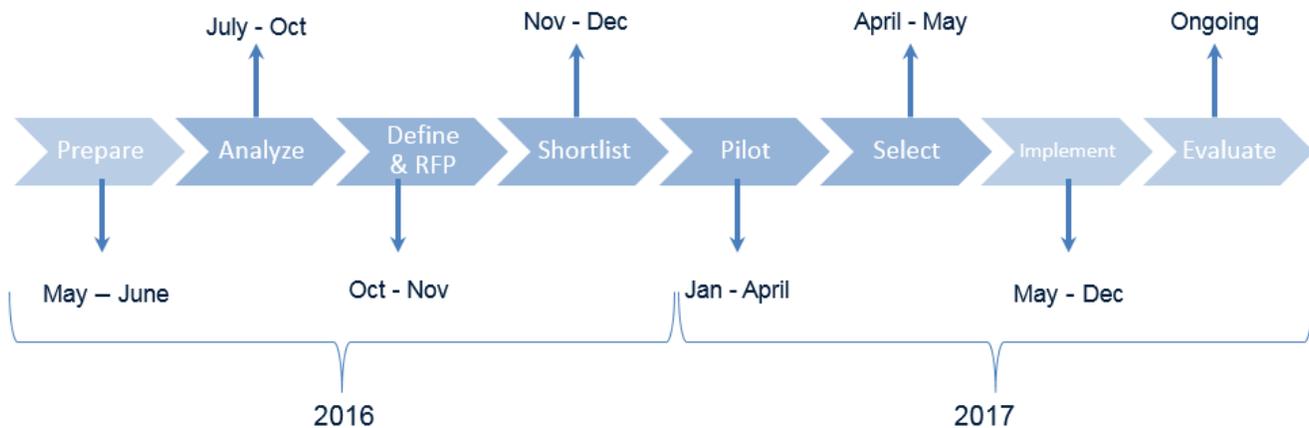


Figure 7. DLE Evaluation Process.

**Analysis.** The needs analysis phase will begin with a determination of the strategic institutional drivers (including academic strategy) over the next three to five years. Faculty input on pedagogical approaches and functionality to support these will be identified. Students will be asked what functionality they desire to support their learning. Instructional support staff will identify features currently used, as well as challenges

and opportunities. Technical staff will identify current and emerging standards to be used, integration, security and authentication requirements.

**Define Requirements.** Principles for selection will be established within the governance framework. A limited number (30-60) discrete functional, technical and operational requirements will be identified and then prioritized. A flexible multi-stage RFP process will be initiated.

**Shortlist Products.** Products that meet the requirements will be selected for pilot (or 'bake off') during the January through April 2017 term. The vendor roadmap will be evaluated and a vendor risk analysis will be completed.

**Pilot.** Several cross-disciplinary pilots will be conducted; performance will be measured. In parallel, staff will conduct due diligence on all requirements. Faculty and students participating in the pilots will be asked to evaluate their experience, and this will inform the decision.

**Select.** Vendor(s) may be asked to provide a final and best offer prior to a decision being made.

## Vendor Options

Realistically, the selection options are limited. A recent analysis identifies the leading open source players as Moodle and Sakai. Canvas is partially open source, but full functionality is available only in the cloud. Vendors Blackboard and Brightspace (formerly Desire to Learn or D2L) round out the list.

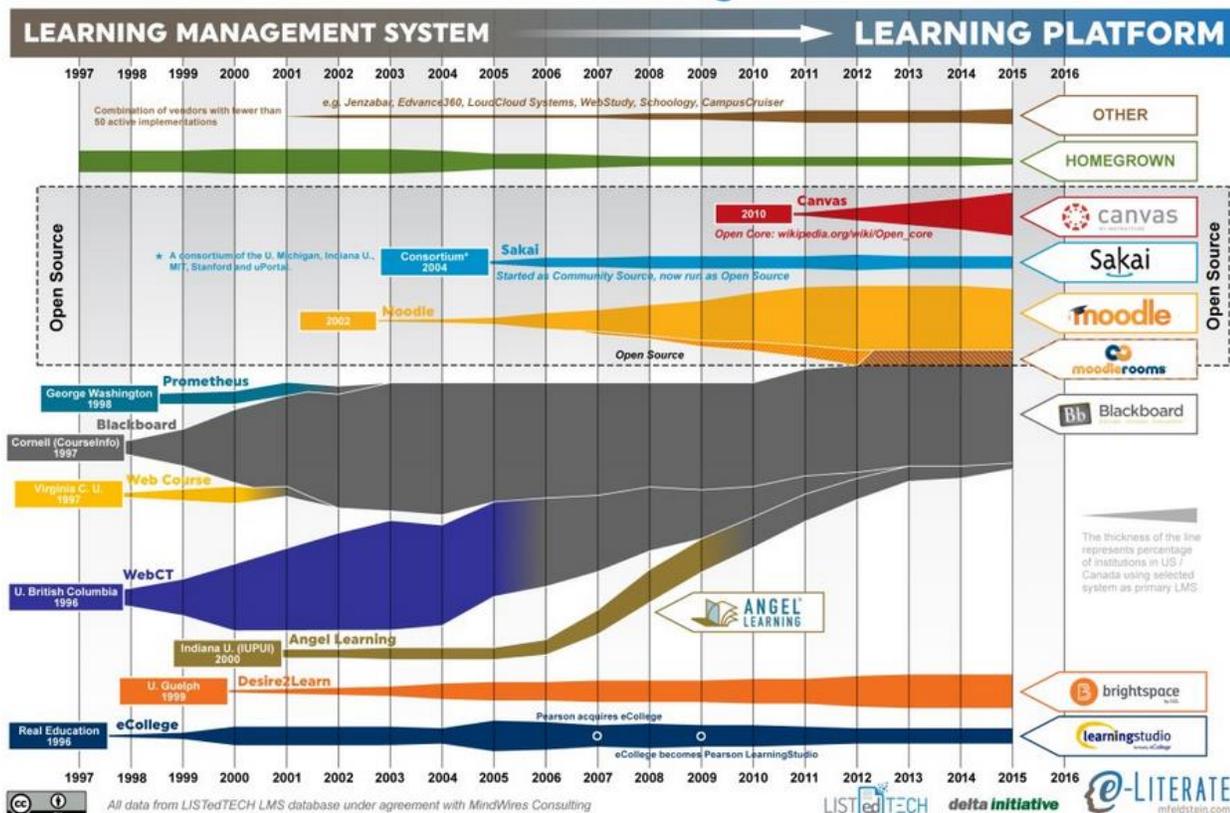


Figure 8. State of Higher Ed LMS Market for US and Canada: Spring 2016 Edition. Phil Hill, April 19, 2016. (<http://mfeldstein.com/state-higher-ed-lms-market-spring-2016/>)



Canvas is the fastest growing LMS according to both Gartner and eLiterate. Blackboard is continuing to lose market share, and Gartner predicts they will continue to do so. Currently, their largest growth sector is the Middle East.

### Peer Institutions

According to Gartner (2016 Update on Learning Management Systems), 15-30% of North American institutions will enter an evaluation cycle this year. Most of the new contracts are going to Instructure-Canvas.

We tested this hypothesis by examining the top forty institutions in the Shanghai Academic World Rankings (2015) to determine which LMS products they use (the total exceeds 40, as some institutions use more than one).

LMS Product	Number	Under review	Pilots
Blackboard	9	2	
Canvas	15		3
D2L	1		
Moodle	7	1	
Sakai	6		
Unknown	4		

Table 4. LMS Products used by the top forty institutions in the Shanghai Academic World Rankings, 2015.

This information is particularly interesting when compared to the percent of market share shown in Figure 8 (previous page).

### Request for Proposal

We are working with UBC Legal Counsel and Procurement to ensure that the process we use will protect the University’s interests, as well as permit selection of the best possible tool for the next 3-5 years. The multi-stage, flexible RFP is expected to be issued in the October / November timeframe, and completed in March / April 2017.

### Cost Summary

The activities for the next fiscal year (through March 31, 2017) have received funding of \$350,000. This amount covers the costs of faculty secondments, co-op students, as well as support staff for the process.

Project costs beyond the first year are estimated, in part, on data collected as part of the community consultation process. For that project, we calculated the total cost of ownership of current learning technology,



including Blackboard Learn, split between licenses, hardware and support (see Appendix II). We also consider the budget allocated to the last LMS transition.

Largely because of the unknowns, the contingency calculated is higher than usual, both to accommodate for potential licenses paid in US dollars, and to anticipate a cloud hosted product. There may be some additional one-time salary continuance costs if the skillset available does not meet the project profile.

## Estimated Project Costs

<b>Analysis through Selection</b> (through March 31, 2017). Budget allocated.	350,000
<b>Implementation</b> (from April 2017).	3,000,000
<b>Contingency</b> <ul style="list-style-type: none"><li>• Exchange rate</li><li>• Salary continuance (if needed)</li><li>• Project contingency</li></ul>	1,500,000

# Phase III: Management

## Project Governance

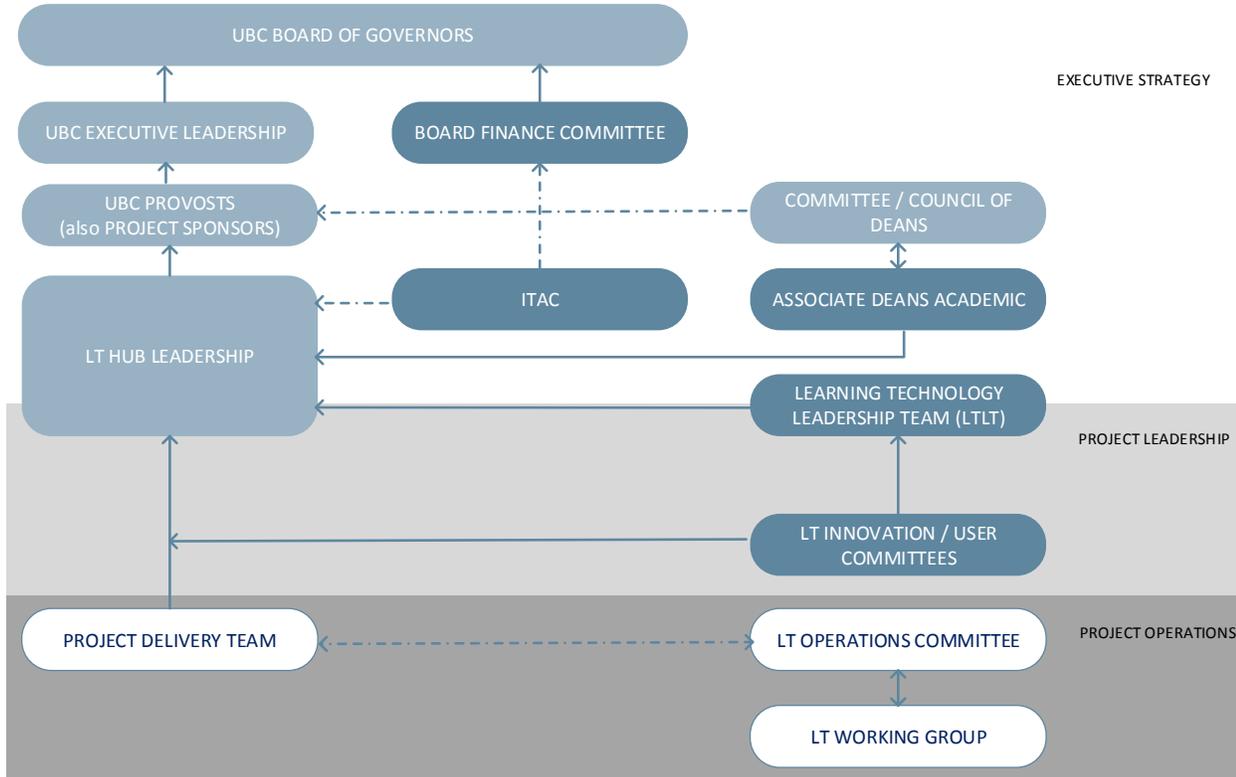


Figure 9. Proposed Project Governance Structure

## Implementation Approach

Teaching and learning is increasingly enabled by and dependent upon technology. The selection and evaluation of tools to support teaching and learning must be driven by research -informed field-tested pedagogies.

Based on consultation with peer institutions, industry approaches, and lessons learned from the 2012/2013 UBC evaluation process, we are proposing a very different approach, one which the Learning Technology Leadership Team has endorsed.

In order to ensure that pedagogical needs drive the selection, we are hiring faculty members on both campuses (through course buy-out) to consult with their peers about discipline specific pedagogical approaches, about functionality required for all teaching approaches and modalities, and about what data instructors need to guide and support student learning.

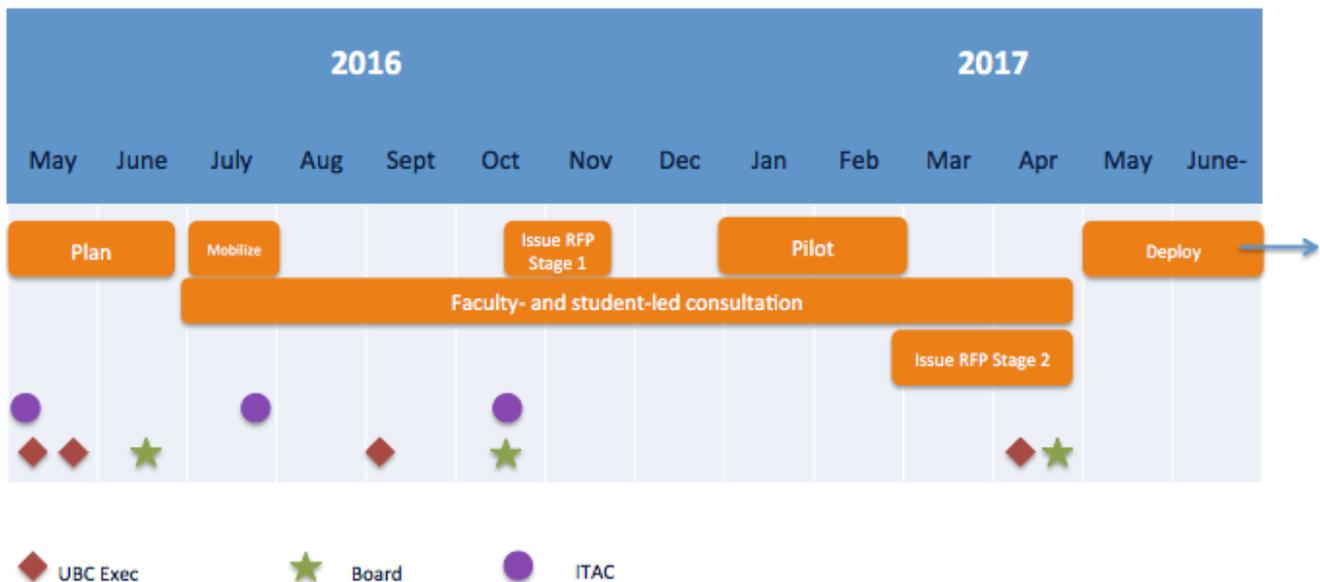


In parallel, we have hired co-op students to consult with their peers to identify the functionality they need to enhance their learning, as well as to identify any data they believe is important to guide and support their own learning.

The conversations of faculty and students talking to their peers will be supported by recent work undertaken by the two LT committees composed of faculty and students, in these committees first year of operation. Based in part on a current state analysis recently completed by the LT User Committee, instructional support staff will identify features they know their faculty use, and will identify any opportunities and challenges they currently face. The LT Innovation Committee has developed a set of pedagogical priorities for UBC to guide conversations around future technologies likely to be adopted in a 3-5 year timeframe. Staff with functional and technical experience in learning technology will identify integration points, security and authentication requirements, as well as standards to be applied.

This process, coordinated by an individual with pedagogical expertise, will result in a short list of functional, technical and operational requirements, which will form the basis for selection. We have selected this approach based, in part, on conversations with peer institutions and on lessons learned from the 2012/2013 evaluation approach.

### Major Project Milestones



<sup>1</sup> Approvals may shift depending on project progress

Figure 10. Project Milestones



## Risks

We have identified a number of potential (non-technical) risks for the project:

- Because of the delay in allocating budget for FY2017, the announcement for faculty secondment opportunities was sent on May 11. Many departments have already made teaching assignments, and there is a danger that too few applications will be received.
- There is a significant amount of Faculty independence in areas related to learning technology, and a danger that Faculty instructional support units will not participate in the community process and/or select an independent approach.
- During the last selection process, instructional support staff had greater influence on the decision making process. Information to faculty members was metered, and communication with students largely absent. This is a change management challenge.
- The product(s) selected may require a different staff skillset for implementation and support.
- Transitions are challenging and resistance to change is expected.

In addition, technical risks include:

Risk #	Description	Impact	Probability	Mitigation Strategy
1.	Cloud based LMS solutions could increase privacy risks, complexity and management overhead	High	High	Complete Privacy Impact Assessment. Ensure FIPPA compliance for all components and tools.
2.	Implementing solution with current SIS and then switching over to the new SIS will require rework	High	High	Data model and design changes must be anticipated
3.	Insufficient resources to update legacy system integrations	High	Medium	Plan ahead; where not available ensure timelines are managed
4.	Out of the box system with limited customizations is not accepted	Medium	Medium	Collaborate with Operations Committee members to understand impacts. Ensure communications are clear.

**Table 5. Technical Risks.**

## Change Management Strategy

The process proposed for this project is designed, in part, to mitigate the impacts of change. Faculty and student user experience with the pilot systems is paramount and will carry significant weight in the decision making process. Faculty will gather input from other faculty; likewise, students from other students. And, at every stage in the process, we will ask them to communicate with their peers.



Instructional support staff have already been asked to identify various stakeholders in their Faculties, and to estimate the level of communication these stakeholders will need about the project. Some are beginning to build user stories, and this activity will soon expand to other groups.

In this particular project, we believe that the transition to a new way of doing things will be most difficult for staff. In the past, they have decided the functional requirements of new systems, as well as what support will be offered. Some had very good reasons for their decisions, based on what they thought students needed; others made decisions based on current workload and/or job preservation (and were very open about that). In the current political climate at UBC, and given the way 21<sup>st</sup> century applications work, that approach is no longer tenable. We will work hard bottom up and top down to bring them alongside.

In addition, we are working closely with the SASI team to coordinate our activities where it makes sense to do.

A formal change management approach will be available for the July ITAC meeting.



# Appendix I – Functional Map of Learning Technology Tools

CONTENT					ASSESSMENT		
Content Authoring		Content Delivery		Publisher	Simulations	Assessment	Peer Based
Adobe Creative Suite	<a href="#">MediaSite (*)</a>	Arts File Share	<a href="#">iBooks</a>	<a href="#">SourceTree</a>	<a href="#">Agile</a>	Google Cardboard	Calibrated Peer Review (CPR) (*)
Articulate Studio	Microsoft Excel	Collaborative Learning (*)	<a href="#">Kaltura (*)</a>	<a href="#">SugarSync</a>	Cengage (LIS) (*)	<a href="#">Layer</a>	Crossmark
Articulate Storyline 2	Microsoft PowerPoint	Annotation System (CLAS)	<a href="#">Connect (Content Management) (*)</a>	<a href="#">LearnDash (WordPress) (*)</a>	Cengage (PIC) (*)	Manasque Simulations	iPeer (*)
Audacity	Office Mix	Document Camera	<a href="#">Library Online Course Reserves (LOCR) (*)</a>	UBC iTunes (*)	Macmillan (PIC) (*)	Motion Control	PeerScholar
Camtasia (*)	One button Studio (*)	Dropbox	<a href="#">Lyrise</a>	UBC Wiki (*)	McGraw-Hill (PIC) (*)	<a href="#">Neotoolz</a>	PeerWise (*)
Final Cut Pro	<a href="#">Descript</a>	Drupal (*)	Modern Digital Image Database (MDID)	UBC YouTube (*)	Pearson (PIC) (*)	Phet Simulations	
Hot Potatoes	Prezi	Drupal	Moodle (*)	Vimeo	Sapling Learning (PIC) (*)	Praxis	
Jing	<a href="#">Snagit</a>	<a href="#">edX (*)</a>	Omeka	<a href="#">VitalSource</a>	Wiley (PIC) (*)	VCER	
Keynote	Timeline JS	Entada	Owncloud	<a href="#">WebAssign</a>			
Lectona	<a href="#">VideoScribe (*)</a>	Eemote	Perusal	Wikipedia			
Lightboard (*)	Zoomify	Exam Prep Database (*)	Plaza (*)	<a href="#">Write</a>			
<a href="#">Lumen5</a>		Explain Everything	<a href="#">Piazza</a>	Workspace (*)		<b>Portfolios</b>	
		Github	Podcasts	<a href="#">Zimbra</a>		Chalk and Wire	
		Google Docs	Reflector			<a href="#">Connect (Portfolio) (*)</a>	
		HTML5 Flash Cards	<a href="#">Respondus StudyMate (*)</a>			PeP	
						UBC Blogs (WordPress) (*)	

Discussion	Survey Tool	Social Media	Video Conference
<b>Bb Collaborate Voice Tools (*)</b>	<a href="#">Connect (Enterprise Surveys) (*)</a>	Facebook	Adobe Connect
<a href="#">Connect (Discussions) (*)</a>	<a href="#">Connect (Surveys) (*)</a>	Figure 1	<b>Bb Collaborate Web Conf. (*)</b>
<a href="#">Plaza (*)</a>	<a href="#">FieldSurveys (*)</a>	Google+	<a href="#">Blackboard (*)</a>
<a href="#">PiazzaPress (*)</a>	Gravity Forms (WordPress)	LinkedIn	Google Hangouts
Slack	<a href="#">LimeSurvey</a>	Twitter	<a href="#">Liluzite</a>
UBC Blogs (WordPress) (*)	<a href="#">Qualtrics</a>	<b>Response System</b>	Skype
	Survey Monkey	<a href="#">iClicker (*)</a>	<a href="#">Cisco TelePresence (MedTI)</a>
		Kahoot!	WebEx
		Learning Catalytics	
		PollEverywhere	
		REEF polling (*)	
		Top Hat	

Analytics	Course Evaluation	Course Admin	Other
Arts Datamart	<b>Bb Outcomes Assessment (*)</b>	<a href="#">Connect (Grade Center) (*)</a>	3D printing
<b>Bb Outcomes Assessment (*)</b>	<a href="#">CourseEval (*)</a>	Doodle	Entada
<a href="#">Connect (Performance Center) (*)</a>	<a href="#">SEoT Datamart (*)</a>	Google Calendar	Google Earth
Google Analytics	<a href="#">TeachEval (*)</a>	Grade Grinder	iStudies Pro
IBM SPSS		<a href="#">LearnDash (WordPress) (*)</a>	OSCAR
JMP		Moodle (*)	SCORM (*)
Microsoft Excel		One5	
<a href="#">SEoT Datamart (*)</a>		ReMark	
Stat		<a href="#">Turnitin (*)</a>	
Tableau		<b>UBC Blogs (WordPress) (*)</b>	
<a href="#">eAPI / Learning Record Store (LRS)</a>		<a href="#">WebAssign</a>	

**Bold** = Integrated Tool  
(\*) = Supported by LT Hub

April 5, 2016



# Appendix II – Current spend on LT

As part of the Learning Technology Ecosystem Project, approximate current annual spend on LT applications was determined, split across types of tools, and unit responsible.

## OUTLINE OF CURRENT LT SPEND BY COMPONENT AND UNIT

	Blackboard	Publishing	LT tools	Media	Class / AV	SEoT
<b>Faculties (including UBC-O)</b>						
Development				270,000		
Support	← 5,000,000 →			550,000		290,000
MED IT	← 3,000,000 →			900,000		
<b>SUB-TOTAL</b>	← 8,000,000 →			<b>1,720,000</b>		<b>290,000</b>
<b>CTLT</b>						
Licensing	200,000		220,000	40,000		30,000
Development	90,000	85,000	235,000			
Support	210,000	185,000	255,000	40,000		175,000
<b>SUB-TOTAL</b>	<b>500,000</b>	<b>270,000</b>	<b>710,000</b>	<b>80,000</b>		<b>205,000</b>
<b>UBC IT</b>						
Licensing	91,000		7,000			
Development	250,000					
Support	819,000			100,000	1,750,000	
<b>SUB-TOTAL</b>	<b>1,160,000</b>		<b>7,000</b>	<b>100,000</b>	<b>1,750,000</b>	
<b>TOTAL</b>	<b>9,660,000</b>			<b>1,900,000</b>	<b>1,750,000</b>	<b>495,000</b>

### NOTES

- CTLT support is functional and pedagogical; UBC IT support is technical and operational
  - UBC IT is not currently paying for an analytics license (value \$50k). Outcomes license is included in figures
  - Most license costs are in \$US so exchange related increases expected next fiscal
  - Infrastructure costs are ~\$110k
- Source: CTLT, UBC IT, UBC-O and Faculty figures estimated from # of Connect administrators and other publicly available information



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