

Spring
2015

Virginia Tech's Next Generation Learning Management System

INVESTIGATION AND SELECTION PROJECT REPORT

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Executive Summary

Over the course of the 2014/2015 academic year, Virginia Tech began a project to identify and select a next generation learning management system (LMS). The project was prompted by a variety of both external and internal factors.

External Factors

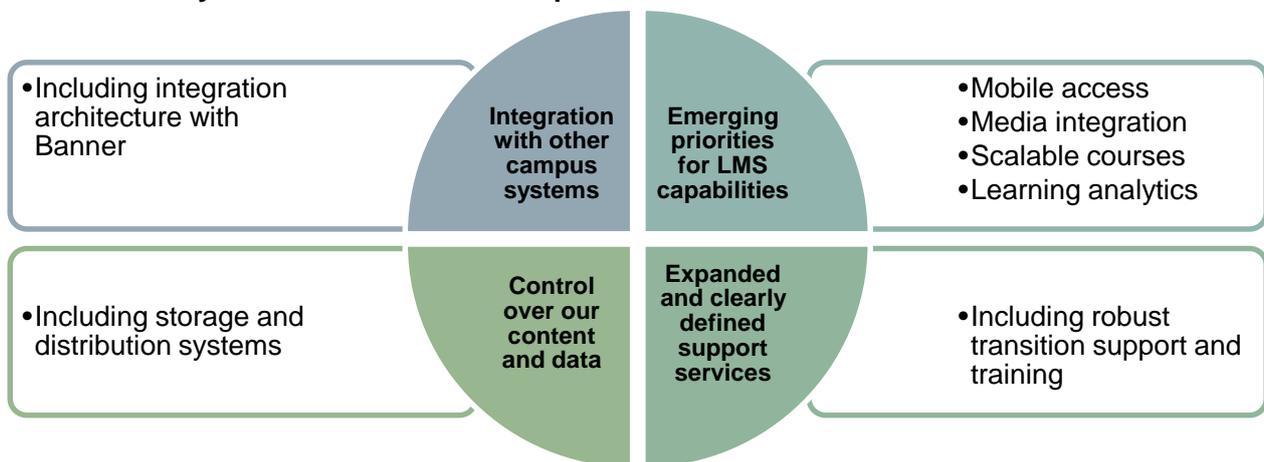
- Key contributors to Sakai (Scholar's platform) have departed, and the platform is moving in a different direction
- The LMS market and associated LMS capabilities have evolved dramatically since 2010

Internal Factors

- Scholar cannot currently meet many faculty and student requests for functionality
- Scholar lags behind best practices for instructional design
- Scholar has not kept up with industry trends for learning management systems
- Scholar cannot address emerging priorities for a modern LMS

Many of our former Sakai peers, and three out of four of the original founding institutions, have either implemented or are piloting a system by Instructure called Canvas. This is not only true of Sakai – many other peer institutions have also recently made the decision to transition to or pilot Canvas. After comparing our known needs and emerging priorities to the capabilities of major LMS vendors, Canvas appeared most likely to meet our requirements.

Key Considerations and Requirements for the Next Generation LMS



A proof-of-concept was conducted in Canvas in Spring 2015 to determine whether it was a viable for selection as Virginia Tech's next LMS. This was not a comprehensive evaluation, but was intended to confirm evaluations from other institutions and to assess support and technical related issues. Faculty and students participating in the proof-of-concept were pleased with Canvas, particularly in comparison to Scholar. Concurrent with the proof-of-concept, the project launched a comprehensive community engagement initiative to gather requirements for the next LMS and the transition and understand needs, desires, and concerns from the university community. The Virginia Tech community was strongly supportive of the need to transition to a new LMS. No critical gaps between community needs and Canvas functions were identified, though as with any system, individual gaps exist. Finally, a detailed technical evaluation found that Canvas satisfactorily or exceptionally met all emerging priorities and key considerations in addition to offering a wide variety of additional capabilities that are not present in Scholar.

Based on these outcomes of the investigation process, Vice President for Information Technology Scott Midkiff and Executive Director for Technology-enhanced Learning and Online Strategies Dale Pike officially selected Canvas as Virginia Tech's next generation LMS. Virginia Tech began moving forward with the procurement and implementation of Canvas beginning in May 2015.

Context

Loss of Key Partners

In 2004, several leading universities came together to build a learning management system that could compete with the growing influence of Blackboard. This effort, Sakai, Virginia Tech branded as “Scholar,” and made the switch in Fall 2010. Over the past few years, all of the original key contributors, including Indiana University, the University of Michigan, and the University of California-Berkeley, have left the collaboration and have switched or are switching to a different learning management system. With the loss of these key universities’ participation, Sakai is unlikely to significantly evolve or improve in directions consistent with the needs of universities such as Virginia Tech and its peers.

Addressing Emerging Priorities

Today, Scholar/Sakai does not deal effectively with challenges posed by four major emerging priorities for functionality, which are as follows:

- **Mobile Access:** Connected mobility is a simple fact of life, and college students, and many faculty, expect to be able to access course resources from anywhere at any time. For distance learning students, who engage with their coursework exclusively online, the need for connectivity is even more pressing. Learning management systems that lack fully-realized mobile interfaces and tools are a recognized barrier to engaging students with their learning environment. As such, strong mobile-native connectivity is an expectation for our next generation learning management system.
- **Media Integration:** One of the vital needs pushing us towards a new learning management system is the interest of faculty and students to have robust tools for multimedia integration. The ability to easily add video, audio, slideshow, and other graphic content to course modules; and to view and respond to that content from any device, anywhere can greatly enhance the learning experience. This capability is particularly important for asynchronous distance learning classes, hybrid classes, and flipped classes,
- **Scalable Courses:** Take your lab or seminar of 12 bright-eyed students – now make it work for 600. Innovative LMS packages can help teaching faculty to develop learning strategies designed to streamline the workload of larger classes without compromising the integrity of course objectives. Beyond the toolbox, though, the non-negotiable element is robust functionality. During times of peak usage in courses with hundreds or even thousands of participants, system performance factors – security, speed, latency, and stability – are of primary importance.
- **Learning Analytics:** Learning analytics help educators to uncover trends and patterns from educational “big data,” with the goal of improving student learning. The next generation LMS should make it possible to collect and analyze data in a manner that is practical and meaningful. Such data can be of value to students for assessing and improving their own learning activities, faculty for better understanding student performance and improving instruction and instructional material, and programs for assessing program objectives and learning outcomes.

Meeting Known Needs, Evolving Integration, and Maintaining Control

Other considerations for the next generation LMS included the known need for better support for students and faculty, a more modern interface, integration with VT Google Apps for Education, more student-centered communication preferences, and conformance with accessibility standards. Sakai is also less than ideal in its integration with other campus systems in areas of course creation and grading.

A new LMS would also require an approach that allows Virginia Tech to maintain control over its content and data. This is key for both historical and future facing reasons. Historically, in making the decision to transition to Scholar (Sakai), an important factor was the desire to retain ownership over our own data and content. The move from a vendor-owned environment to an open source LMS was in part driven by this desire for control. Moving forward, we can no longer reasonably expect that one system will remain in place for almost a decade, as Scholar has. The pace of development and evolution of software in general, and LMSes in particular, abbreviates the lifecycle for any system we might select. A likely eventual outcome of the evolution we have seen is a decentralization of LMS functions into a series of components that help faculty manage their courses in their preferred manner. In this eventual phase of teaching and learning solutions, one overarching LMS will not exist, and bundled capabilities will take the place of a traditional LMS. If this eventuality comes to pass, it will be crucial to ensure that Virginia Tech is well positioned to migrate as appropriate. This, in combination with Virginia Tech’s previous experiences with data ownership,

means it is particularly important for Virginia Tech's next generation LMS to allow us to maintain control over our own content and data.

Investigation Process

Identification of Additional Projects

Scholar at Virginia Tech is more than just a learning management system. While this first project was intended to focus specifically on course sites, the project team identified three additional areas that would be impacted by the transition to a new LMS and require their own, parallel projects as the Next Generation LMS project progressed. These are:

1. **Project sites:** Used by groups from search committees to research projects to manage documents and communication for ad hoc groups (including external participants)
2. **ePortfolios:** Currently housed in Scholar, ePortfolios are an important and growing specialized use case, allowing students to demonstrate their learning by curating a collection of evidence
3. **SPOT Online:** Scholar also provides the infrastructure for important projects such as SPOT online, which would be impacted by the transition to a new system

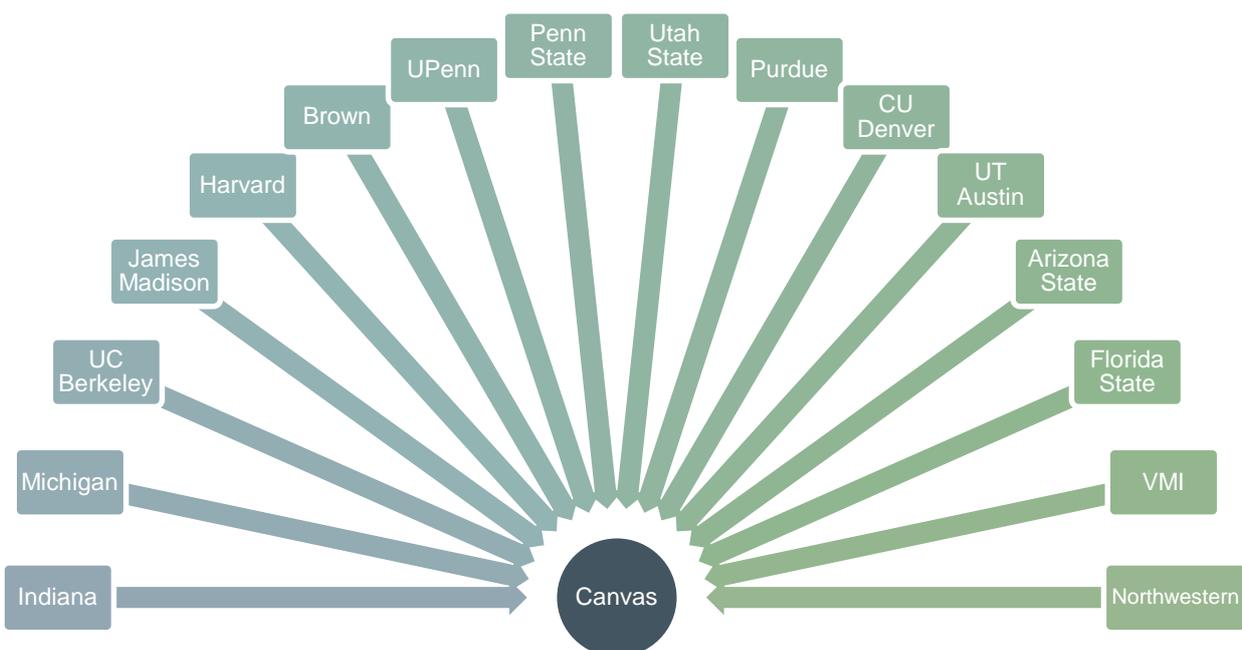
Peer Benchmarking and Review of Relevant Literature

To avoid reinventing the wheel and make efficient use of time and financial resources, peer institution benchmarking served an essential role in the foundational stages of the project and in helping to determine the subsequent processes followed. Many other research universities--particularly our former Sakai peers--recently made the decision to change their learning management systems. Peer institution benchmarking served three major purposes:

1. It helped us understand the functional requirements of our peer institutions and provided a basis of comparison to our own known needs and requirements
2. It provided grounding in the capabilities of varying systems as extensively evaluated by our peers
3. It offered guidance on project approaches based on the experiences of our peers

What we found

After our review of peer institutions, we have no reason to believe that Virginia Tech presents a qualitative difference that would skew our requirements in a demonstrably different direction. We also found that evaluations from these other institutions mirrored most of our own criteria. Several of our peer universities extensively analyzed competing platforms, with [Indiana University](#) engaging in what is largely considered the gold standard for a comprehensive evaluation and piloting of multiple systems over a two year timeframe. Ultimately, many of our former Sakai peers, and three out of the four original founding institutions¹ (Indiana, Michigan, and Berkeley) selected or are actively piloting Canvas, a system by



¹ Indiana University, University of Michigan, Massachusetts Institute of Technology, and University of California at Berkeley

Instructure, as their next generation LMS. In addition to our Sakai peers, many other peers and thought leader institutions have also recently made the decision to transition to or pilot Canvas. Canvas includes institutions of every type, and is experiencing a rapid growth in LMS market share.

How did other institutions reach their conclusions?

Institutions across the country engaged in reviews of their learning management systems for a variety of reasons ranging from contract expirations, the impending corporate de-supporting of the Angel learning system, and watching the shifting directions in the marketplace, including the changed status of Sakai. The LMS team reviewed the findings of these peer institutions, and a summary of the process and outcomes from highlighted peer institutions is provided in this section.

Indiana University

As noted above, Indiana University undertook multiple pilots, running trial courses in LMS's from Blackboard, Instructure, and Desire2Learn, and compared to their own version of Sakai, Oncourse. They worked to compare the tools used in Oncourse with the tools in the pilot platforms. In the responses from faculty, Instructure's Canvas was the clear favorite for usability, usefulness, effectiveness and efficiency for the instructor, and satisfaction with the tools. Students found Desire2Learn the most usable and most preferred over Oncourse/Sakai, while Canvas scored best on beneficial to learning, efficiency, and tool usefulness. Generally, Blackboard was found to be the most mature platform, while Canvas was rated similarly to Blackboard for the highest priority tools for Indiana University. Desire2Learn's scoring was more variable, rating high on some but low on other aspects.

University of Michigan

The University of Michigan evaluated Canvas as a potential replacement for their Sakai implementation (CTools). Three-quarters of the faculty involved preferred Canvas to Sakai, and 58% of the students showed the same preference. Canvas was used in teaching 23 courses during Fall 2014, with course size ranging from 5 to over 1800 students. Canvas was seen to be more intuitive and user friendly. Faculty found Canvas analytics to be helpful in being able to gauge student engagement with the course, notably for online courses. Michigan found difficulties in the use of Canvas in the largest of the courses, a focus of remediation as they move forward with Canvas.

University of Missouri

The University of Missouri conducted its evaluation during 2014. They focused on Blackboard, their current LMS, Desire2Learn, and Canvas as the only options robust enough for their campus. These three tools, in their evaluation, had the product maturity to meet the needs of their large and complex institution. Key tools included functions of gradebooks, assignment submissions, discussions, and several more. Additional needs were better collaboration and group tools, mobile applications, and an excellent interface. Rather than a full pilot, Missouri used demonstrations from the vendors, along with engaging the campus community with trial sites of the software options. Generally, large lecture courses were deemed to be approximately equally served by either Blackboard or Canvas, while online courses appeared to be better served by Canvas. Professional staff also evaluated the three products, finding Blackboard's Learn to provide reliability of cloud serve and a deep feature set, but with concerns about current product changes. Canvas rated highly on its intuitive user interface and mobile apps, with concerns about their high frequency of upgrades. D2L's Brightspace score strongly on analytics and ease of migration, but lacked functionality in mobile apps and complexity of technical implementation. Overall, the evaluation showed a consistent preference for Canvas.

Purdue University

Purdue University is using Blackboard, with its contract expiring in 2017, leading to their undertaking of an LMS review. The question they posed was whether Canvas is a viable alternative. Blackboard, they found, is a mature product, offering many features, but poses concerns about dominance in the market and what that may mean for future relationships. They were also interested in potential gains in efficiency with a cloud-based service. Purdue based their evaluation on a demonstration of Canvas, with—as Virginia Tech is doing—benchmarking schools that migrated from Blackboard to Canvas. Conclusions at Purdue including finding Canvas similar to Blackboard in Banner integration, superior mobile integration, good analytics, and support for student success.

The Pennsylvania State University

At Penn State, spring semester 2015 was the time for a pilot of Canvas as an alternative to Angel, soon to reach its product end-of-life. Over 80 courses were piloted across the campuses of the university. To date, faculty have favorable ratings of the SpeedGrader feature in Canvas. Students have liked its intuitive design, user friendliness, and its compatibility across all mobile devices and computer platforms.

Requirements Mapping with Major Learning Management Systems

After team members worked to benchmark peer processes and LMS provider decisions, we cross-walked our four major emerging needs (mobility, media integration, scalability, and learning analytics) and our known control requirement against the known capabilities of major systems on the market. In doing so, we determined that the direction taken by many of our Sakai peers appeared to be most appropriate for the known needs of Virginia Tech. Canvas emerged with three major advantages in this mapping process:

1. Canvas best met our high-level functional requirements
2. Canvas has made openness and extensibility a key aspect of the platform
3. Many Sakai peer institutions, including the founding Sakai member Indiana University, provided us with known successful transitions. These institutions vouched for the quality and speed of the conversion process and had paved the way for easier migration away from Sakai for other schools

Pressing Demand for Change

While the peer benchmarking and requirements mapping activities were occurring, the IT organization was asked to rapidly investigate and address challenges for the LMS created by forthcoming online enrollment growth. The Masters in Information Technology (MIT) program in particular was charged by its Executive Committee to grow the program to 5,000 students. This scale of online engagement, and the associated expansion in demand for the LMS and sophisticated new functionality, pointed to an immediate need to experiment with the capabilities of a new system.

Proof-of-Concept in Canvas for Spring 2015

Based on the outcomes of the peer benchmarking process, the mapping of our requirements to major system capabilities, and the need for a new LMS based on enrollment growth and other factors, the Vice President for Information Technology Scott Midkiff and the Executive Director and Associate Provost for Technology-enhanced Learning and Online Strategies (TLOS) Dale Pike selected Canvas for a proof-of-concept experiment run during Spring 2015. This experiment was intended to help the institution:

1. Learn more about a system that has been pursued by many of our peer institutions, particularly those leaving Sakai, and that appeared to meet our major requirements
2. Use feedback from proof-of-concept participants as well as project team experimentation and research as data points to assist in making a decision on whether to proceed with Canvas

Eight instructors and 338 students—including both graduate and undergraduate students--participated in the proof-of-concept experiment. The project team provided support, assisted in course setup, and gathered feedback from faculty and students during the Spring 2015 semester. Courses took place in the following departments and programs:

- Communications
- Educational Psychology
- Electrical and Computer Engineering (Master of Information Technology program)
- Engineering Education
- Graduate School
- History
- Industrial and Systems Engineering
- Visual Arts

Comprehensive Community Discussion

In addition to the proof-of-concept experiment, during Spring 2015, the Next Generation LMS project sought to reach as many members of the university community as possible to gather feedback on needs, desires, and challenges for the next generation LMS. The project sought input through open town halls; NLI sessions; and dedicated meetings for colleges, commissions, undergraduate and graduate students, academic leaders, administrative leaders and their teams, remote workers, and Virginia Tech community members in the National Capital Region.

The majority of these discussions were led by the Vice President for IT and the Executive Director and Associate Provost for TLOS. These feedback gathering events resulted in involvement from hundreds of community members, who shared their perspectives with the project team. The graphic below provides a high level summary of the different ways in which we sought to speak with Virginia Tech students, faculty, and staff. Visit our [website](#) for a comprehensive list of events.

| Community Engagement Events and Meetings | | | | | |
|---|--|---|--|--|---|
| Town Halls <ul style="list-style-type: none"> • 6 Total, attributes: <ul style="list-style-type: none"> • Two NCR based • Two student focused • One virtual • Three Blacksburg based | College and Academic Leadership Groups <ul style="list-style-type: none"> • 12 meetings total, attributes: <ul style="list-style-type: none"> • One for each college • Two academic leadership groups | Commissions <ul style="list-style-type: none"> • Five total | Student Groups <ul style="list-style-type: none"> • Two meetings with student associations | Administration <ul style="list-style-type: none"> • Five meetings with a wide variety of administrative leaders included | NLI Sessions <ul style="list-style-type: none"> • 9 total, attributes: <ul style="list-style-type: none"> • Four virtual • Six on Next Generation LMS • Two on planning in transition • One requested by a College |

Additionally, project team members made themselves available for individually requested meetings and community members had the opportunity to submit thoughts and feedback to both a managed email address: nextgenerationlms-g@vt.edu and the project Twitter: @VT_NextGenLMS. Community feedback received through all of these channels helped the project team evolve and modify aspects of the project plan (see the section “Modifications to Project Based on Feedback”) and was used to evaluate the appropriateness and feasibility of Canvas as the next generation LMS.

Proof-of-Concept and Feedback Outcomes

Modifications to Project Based on Feedback

Community feedback served not only as the key data for the ultimate decision on the next generation LMS, but was also used to shape and direct the project in real time as during Spring 2015. The project approach to both the next generation LMS work and the planned work and approach for project sites underwent significant changes.

Next Generation LMS Changes

- Adding engagement opportunities:
 - Based on requests from remote faculty, added virtual engagement opportunities in the form of a virtual town hall and four virtual NLI sessions. Based on a student request, expanded the virtual town hall to include students
 - Also based on faculty requests, arranged to have town hall sessions recorded for viewing at a later time for those unable to attend
 - Sought meetings with several additional groups based on requests/community-identified needs
 - Added an FAQs section to the project website to share some of the most frequently received questions and their answers with the community
- Many faculty asked for immediate access to teach over the summer, plan for upcoming redesigns based on the ratification of Pathways as the new general education framework for Virginia Tech, etc. While the number of licenses and support framework for the proof-of-concept precluded widespread immediate inclusion, the project team attempted to incorporate several amelioration measures to begin addressing this need:
 - NLI sessions focused on planning in transition were created for faculty who needed to make plans immediately and did not want to design or redesign a course in Scholar
 - Began investigation of an expedited timeframe for allowing faculty to enter the system if selected for production

Project Site Approach Changes:

While project sites were originally planned to be one of three additional projects to begin at a later point in time, community feedback and concern over the importance and impact of project sites received from faculty and staff made project sites an immediate priority. As a result of this input, the project team:

- Launched work months earlier than planned by:
 - Bringing together a working group within IT to focus on immediate progress and planning

- Sought and began a partnership with the IT Council to document requirements, understand unmet needs, and evaluate prospective alternatives
 - Originally, this group was set to primarily consider SharePoint Online and Google Apps. Based on additional feedback from community members concerned over complexity and the desire to not have to work outside the LMS, Canvas was added to the evaluation list and we are open to looking at other approaches

Recurring Themes

The Spring 2015 proof-of-concept and community engagement project activities brought forward a wide range of topics and conversations. Individual feedback and questions were addressed and noted directly as community members and proof-of-concept participants engaged. These individual feedback points were then analyzed to identify and understand broad themes in the questions, information, and feedback the project team received. The community engagement events and meetings also allowed the project team to track requirements, needs, and other institutional initiatives that might impact the project. Some of the major recurring themes specific to the LMS portions of these discussions are detailed below.

- **There is widespread support for the transition to a new LMS.** Community members were receptive to the need for transitioning to a new system and assisted in the identification of a wide variety of functionality gaps in Scholar. Functionality requests included, but were by no means limited to, the emerging priorities for the next LMS identified at the outset of the project (mobility, scalability, media integration, analytics).
- **The community agrees that maintaining control over our content and data is essential.** This previously identified system requirement was strongly reinforced in discussions with community members.
- **Those who used it agreed that Canvas is a viable and supported alternative to Scholar.** Both proof-of-concept participants and community members who had used Canvas as students or instructors at other institutions were extremely supportive of Canvas as the next generation LMS.
 - Those who had used Canvas at other institutions emphasized ease of use and additional functionality, such as mobile capabilities, collaboration tools, the ability to personalize preferences, and the ability to integrate with other applications and tools.
 - The vast majority of proof-of-concept participants who provided feedback were supportive of Canvas. While both faculty and students noted that there were capabilities they would like to see, Canvas consistently reviewed as a superior alternative to Scholar.
 - Student proof-of-concept participants ranked Canvas highly for ease of use and helping students learn content in a course. Although some admit there is a learning curve, students all had positive comments about the clean, attractive, and easy to use interface, the gradebook, and the speed of the system. What students appear to dislike are the same complaints from students with Sakai. Students noted that their professors do not know how to use the system and often have clunky file structures that are hard to navigate. Students did not appear to realize certain functions in Canvas were available, such as the ability to edit notifications or the availability of the Canvas mobile application.
 - Faculty proof-of-concept participants found Canvas generally easy to use and noted strong appreciation for new functions such as Speed Grader, which greatly simplifies assignment grading. Faculty emphasized their belief that Canvas will make teaching responsibilities easier overall through new functions that make administrative and grading tasks more efficient. Faculty noted that there were some things they felt could be improved or were missing in Canvas, or functions they had trouble learning to use, though this did not diminish support for Canvas over Scholar.
- **Support for the transition is coupled with concern over the transition process.** Community members consistently expressed the need for a well-managed transition. Concerns included ensuring the presence of appropriate support structures, the need for functionality request processes, a desire to expedite the timeline for completing the move, and the need for the project to integrate with other campus initiatives such as the new Pathways to General Education program.

Technical Evaluation and Canvas Comparison

The below information contrasts Scholar to Canvas, calling out important functional improvements for Virginia Tech in moving to the new system. Many of these features have been requested by instructors and students over the past several years. In the transition to a new system, there are a few things we are giving up, namely the DropBox and Email Archive tools. There are not equivalent offerings in Canvas. DropBox-like features should be handled using Assignments; Email Archive (misnomer, as it's really a listserv) features can be handled using a Google Group for the course OR can be done using internal messaging tools in Canvas, which is clearly different than being able to email a list.

Functional improvements in Canvas vs. Scholar²

| Category | Scholar | Canvas | Notes |
|--|---------|--------|--|
| Teaching and Learning Management | | | |
| Attendance Tracking – manual entry of attendance data | ✗ | ✓ | The “Roll Call” tool in Canvas |
| Date management - ability to adjust dates when reusing course content in a new semester | ✗ | ✓ | |
| Unified submissions management and grading interface and workflow | ✗ | ✓ | Very integrated in Canvas; all tools tightly coupled to support this. |
| Course setup assistance - features to guide and automate the process of building a new course | ✗ | ✓ | Similar to our “instructor checklist” (a PDF), it is built right in to Canvas. |
| Group assignments (one submission per group) | ✗ | ✓ | Scholar’s feature was never fully functional |
| Content Creation, Management, Reuse | | | |
| Audio/video capture and embed - capture webcam video or audio clips, embed, or attach them in the application | ✗ | ✓ | MEDIA INTEGRATION |
| Deep linking to course components in rich text editor and/or course navigation | ✗ | ✓ | |
| Assessment, Tracking, Reporting | | | |
| Certifications and badges - ability to issue badges and certifications when predefined requirements are met | ✗ | ✓ | |
| Grading rubrics | ✗ | ✓ | Even though complex to set up, these are deeply integrated into fabric of Canvas. |
| Learning outcomes assessment | ✗ | ✓ | |
| Mobile app for grading | ✗ | ✓ | MOBILE |
| Peer Assessment | ✗ ✓ | ✓ | Peer assessment possible in limited way in Scholar (via Lessons); Canvas has it built into assignments |
| Student progress/performance tracking | ✗ | ✓ | ANALYTICS, rich set of data for instructor review provided |
| Organizational hierarchy for delegating administration rights, outcomes assessment, campus/program branding, sharing resources, etc. | ✗ | ✓ | This hierarchy, similar to the hierarchy in SPOT, allows VT to organize courses far better than Scholar. |
| Openness, Licensing, Standards, and Permeability | | | |
| Common Cartridge Import/Export | ✗ | ✓ | OPENNESS AND OWNERSHIP: Open standard compliance excellent to future proof our system/data. |
| SCORM support | ✗ | ✓ | OPENNESS AND OWNERSHIP |
| Software is based on an open-source model | ✓ | ✓ | OPENNESS AND OWNERSHIP |
| Social Interaction and Collaboration | | | |
| Collaborative workspaces for groups | ✗ ✓ | ✓ | Scholar has group folders and collaboration via Wiki; Canvas group functions are more comprehensive |
| Google Docs and Etherpad integration | ✗ | ✓ | Natively integrated into Canvas |
| Built-in web conferencing | ✗ | ✓ | MEDIA INTEGRATION; this uses Big Blue Button in the Conferences tool. |
| User Autonomy, Personalization and Self-management | | | |
| Accessibility - gold certification from the National Federation for the Blind | ✗ | ✓ | CAMPUS GOAL: InclusiveVT |
| Notification options (SMS text, text to voice, Twitter, etc.) | ✗ | ✓ | Students control preferences here |
| Mobile app - general purpose | ✗ | ✓ | MOBILE, can do pretty much everything one can do in the browser version of Canvas |
| Inline annotation of assignment submissions | ✗ | ✓ | SpeedGrader delivers |
| Unified calendar - single calendar with color coded entries for each course; can be filtered by course | ✗ | ✓ | |
| Personalized To-Do and Past Due lists and notifications for both instructors and student | ✗ | ✓ | |
| System Performance | | | |
| System grows/shrinks dynamically to support changing server load | ✗ | ✓ | SCALABILITY |

² NOTE: table built using some categories and data from “IU LMS Pilots – A Comparative Functional Review”, pp. 11-13

Virginia Tech's Next Generation LMS: Canvas

Based on the outcomes of the investigation process described above, which included peer benchmarking, requirements mapping with major LMSes, the proof-of-concept in Canvas, the findings from our community engagement, and our technical evaluation, Vice President Midkiff and Executive Director Pike officially selected Canvas as Virginia Tech's next generation LMS. A high level summary of the outcomes from each major process area is provided below. Virginia Tech will begin moving forward with the procurement and implementation of Canvas beginning in May 2015.

Peer Benchmarking Summary

- Many former Sakai institutions and other peers recently made the decision to pilot or transition to Canvas based on similar needs

Requirements Mapping Summary

- Canvas emerged from an initial mapping of our requirements to major systems with three major advantages:
 - Canvas best met our high-level functional requirements
 - Canvas has made openness and extensibility a key aspect of the platform
 - Canvas has many successful transitions for schools recently coming from Sakai

Canvas Proof-of-Concept Summary

- Faculty and students participating in the proof-of-concept were pleased with Canvas, particularly in comparison to Scholar
- The TLOS technical team found no major problems in supporting Canvas for teaching as a hosted system

Community Engagement Summary

- The Virginia Tech community was overwhelmingly supportive of the need to transition to a new LMS
- No critical gaps between community needs and Canvas functions were identified, though as with any system, individual gaps exist

Technical Evaluation Summary

- The project team's technical evaluation found that Canvas satisfactorily or exceptionally met all emerging priorities and key considerations in addition to offering a wide variety of additional capabilities that are not present in Scholar