

User Profiles Subgroup Report

Elearning Roadmap Committee

Summary

The User Profiles Subgroup was tasked with producing Duke-specific user profiles addressing what elearning tools are used at Duke and how these tools support teaching and learning activities. During Fall 2009, user profiles were developed through individual and group interviews with faculty and students, open meetings with a variety of faculty and staff groups, and data mining of Blackboard use patterns.

The report below summarizes current elearning tool use at Duke from three perspectives:

- *Patterns of usage of Blackboard* – statistics and usage of the campus standard LMS, with a focus on the variation by discipline and functional needs
- *Scenarios of teaching at Duke* – these scenarios illustrate the wide range of practices, needs and challenges across different disciplines, settings and contexts
- *Duke-specific user profiles* – drawing on the various types of data gathered, these user profiles provide a touchstone for functional requirements, to ensure that requirements will reflect the nature of teaching and elearning tool use at Duke

Current Patterns of Blackboard Usage

The Blackboard course management system is widely adopted across campus as a means of providing online presence for over 3200 classes each year. A large majority of undergraduate courses maintain at least a minimal active Blackboard course site. Given its broad adoption across most of Duke's schools and departments, analysis of Blackboard usage provides useful insight into broad needs and trends of Duke courses.

Quick facts about Blackboard

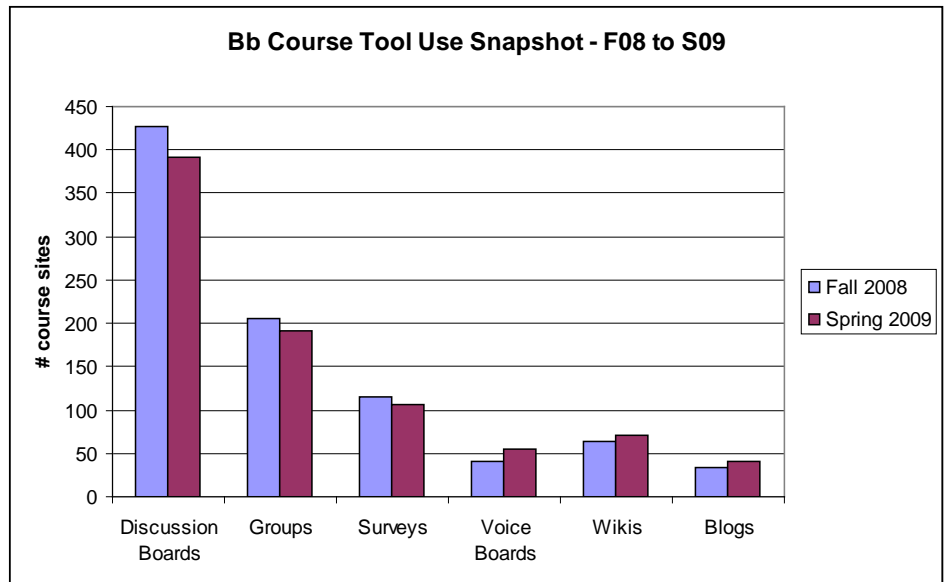
- Over 2 TB of course data are stored (excluding mirrors and test environments) – in Fall 2009, fewer than 15 courses exceeded 1GB of space used, and a large majority of course sites consume 100MB or less.
- Courses which need large amounts of storage space for course materials are found in all discipline areas – the 100 largest Blackboard course web spaces for Fall 2009 include courses in the Sciences (42), Languages (28), Humanities (15) and Social Sciences (14).
- A large majority of faculty in the Arts & Sciences have used Blackboard for at least one course in the past 2 years, and nearly all Duke Undergraduates (and many graduate students) are enrolled in at least one active Blackboard course site.
- Use of some functions (Content Areas, Announcements, External Links, & rosters for email) are nearly universal. Also, the Gradebook is used (at least minimally) by a majority of active sites within Blackboard. Adoption & use of other tools varies (*see Tool Use analysis, p2, for more information*)

Tool use analysis for AY08-09

To understand emerging patterns of Blackboard use, six additional tools were targeted for investigation to determine whether their use was broad or restricted to only a narrow set of course sites. (Figure 1, right).

Based on this analysis, three tools - *Discussion Boards*, *Groups & Surveys* - emerged as more *broadly adopted* than the other three tools – *Voice Boards*, *Wikis & Blogs* - were less broadly adopted.

Note: A Fall to Spring drop does not necessarily indicate a downward trend; there are approximately 5-10% fewer active Blackboard course sites in the Spring as compared with the Fall of a given academic year.



Broadly adopted tools (100-500 course sites per semester)

Tools that are widely in use by many courses across a wide range of disciplines include:

- *Discussion boards* – usage is prevalent in the Sciences, Nursing and Languages with substantial pockets of users also found in Social Sciences and Humanities.
- *Groups* – Most widespread in the Sciences, substantial numbers of courses in the Social Sciences, Nursing, Humanities and Divinity school also use Groups on a routine basis.
- *Surveys* – Nursing, Health Sciences and Sciences (including Engineering) frequently make use of the internal Blackboard survey tool. Social Sciences, Languages and Humanities courses were also found to commonly make use of the survey tool.

Less widely adopted tools (<100 course sites per semester)

- *Wikis* - Wikis are used broadly across courses in the languages, social sciences & sciences. Use in the humanities increased last year with several new programs (Dance, Documentary Studies) exploring wiki use in Blackboard. The number of Science and Language programs using wikis also increased.

- *Blogs* – Blogs are most popular in language & culture courses but several courses in sciences, Nursing, Humanities and Social Science disciplines are also using these within Blackboard
- *Voice boards* – Voice boards are used primarily used in language courses (French, Italian, Spanish, German, Latin, Hindi, Russian, Japanese); a handful of course sites in other disciplines have adopted Voice boards (Writing, ISIS, History)

Scenarios of Teaching at Duke

These nine scenarios reflect some of the teaching and elearning practices of Duke faculty. They are written to illustrate to the wide range of needs and challenges described by faculty in different disciplines, settings and contexts.



Exploring contemporary issues in a medium-sized interdisciplinary course

This course relies mainly on Blackboard as a portal for most of the course materials and many course activities. In addition to posting documents (including the syllabus) and sharing PDF copies of readings for class, the faculty member routinely uses Blackboard to communicate with the students using Announcements and Email. Since the nature of the class includes the study of contemporary issues, freely accessible web-based materials (such as news articles & YouTube videos) play a big role; the faculty member typically shares these resources with students by adding links into the course web site or emailing the class via Blackboard. Students submit some individual written assignments but the main method of assessment involves group projects, including PowerPoint presentations created by the students. Students make active use of the 'Group' spaces in Blackboard, which also enables the faculty member to check in on their progress or emailing members of the group as needed. Student grades are managed in an Excel file offline, in part because this enables the faculty member to more easily handle grading of group assignments. Some student work is created with an audience beyond the university, including policymakers and the general public, so student projects are more frequently taking a form that lends itself to this wider audience, including interactive web sites, videos, and podcasts.¹



Engaging students in a humanities seminar

Close study and, occasionally, translation of historical texts and literature plays a central role in the course. Broader availability of special collections in digital form has increased the interest of faculty and students in incorporating digital images of text, art and other historical artifacts in course activities. Most of the course activities revolve around seminar discussions focused on these historically important texts and images. New directions for this course would include leveraging open wikis to annotate texts or work collaboratively with students and scholars outside Duke on translations. Helping students gain a deep understanding of the works studied in a historical context is one of greatest challenges in this course, so the faculty member is exploring how multimedia timeline tools or geospatial visualization tools might support new kinds of student assignments and powerful learning experiences.²



Guiding discussions in an introductory social sciences course

Students typically prepare for class with readings from the course textbook and journal articles. During class, the faculty member uses prepared PowerPoint slides to review concepts from the texts, raise questions, probe student interpretations, and spur discussion and conversation. Students are graded on class participation somewhat,

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but the primary assessment of student learning is through research papers which the faculty member collects in hard copy, annotates and grades by hand, and returns to the students. Grades are entered in spreadsheets offline. Video resources are used occasionally now; students access these clips through links to freely available web videos or locally hosted securely streamed video which the departmental IT staff set up for the faculty member in order to protect the intellectual property value of these videos, which include original materials created by this department. New directions being explored include more integration of video resources to increase student engagement, connecting to current issues as well as interviews and lectures by global experts in the field.³

Moving between face-to-face and online teaching

Teaching both face to face and online courses, this faculty member uses a wide range of technologies to deliver courses and connect with students. Narrated PowerPoint presentations are the primary mode of delivering course content and reviewing key concepts from the readings; these presentations are shared with students via Blackboard and form the basis of weekly online synchronous discussions held via Adobe Connect. Communication with students at remote locations is accomplished with email or Skype (for 1:1 meetings). Online discussion boards are used occasionally for this faculty member's campus-based courses; however, these discussion boards play a central role in providing a forum for students in the online-only courses to ask questions and get answers from the faculty member, TA, or other students. Because this faculty member's courses often tackles contemporary issues, readings and resources used for the course include traditional scholarly journal articles, whitepapers, government publications and data sources. In some courses, these graduate students gather data and conduct research as part of the course activities and have found that third-party tools meet this need better than centrally supported Duke tools.⁴



A department-based support approach to elearning course tools

This faculty member does not activate his course sites in Blackboard. For his ~40 student course, he uses departmental web server space to build a no-frills course web site that includes the syllabus, assignments, and course calendar. Communication with students is done using email lists created by departmental IT staff based on course enrollment along with private file sharing space needed for course activities, also provided by local IT staff.

Readings primarily consist of article pre-prints freely available via faculty pages of leading scholars in the field, so this course does not usually require access to copyrighted materials. Student work is typically submitted as electronic files (either attachments to email or uploaded to a departmentally-created secure file sharing space) and grades are recorded and student averages computing using Excel spreadsheets. Software tools used by students in the course are typically open source or licensed by the department. Other than email, no centrally supported campus



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⁴Image via Creative Commons license, <http://www.flickr.com/photos/mofetos/435827739/>

resources are used for this faculty member's courses. One particular area of interest for this faculty member is the provision of virtual computing to access licensed software only available on departmental lab machines.⁵



Leveraging elearning tools to meet the complex needs of a faculty-administrator

With classes that range from 55-75 students, Blackboard has greatly reduced the amount of paper distributed by this faculty member in the sciences. Blackboard sites are used to deliver content to her students, including screen recordings of lecture slide annotations. She relies on the ability to easily control access to her course sites, adding guest instructors or department staff as needed. She

generally collects student work in hard copy, primarily to facilitate the distribution of grading across the TAs who work with her, but also to simplify attendance tracking in these larger courses. Communication with students outside of class is typically in person or via email, including email lists set up by her department. As both faculty member and departmental administrator, she increasingly relies on Blackboard Org sites to meet a growing need for secure intranet space for student portals, committee work, meeting minutes, and departmental policy and administrative documents. Having one tool that meets multiple needs in both administrative and faculty roles has turned out to be a convenient synergy, reducing the time learning and accessing multiple tools. For the first time this year, web conferencing with Adobe Connect provided a convenient and successful forum for pre-registration advising. Needs not well met by existing tools include integration between department-level group calendaring systems which help in scheduling advising appointments with her individual calendar, as well as a growing need for tools manage and aggregate a program-level view of assessment data on student outcomes gathered and reported by individual faculty.⁶

Multimedia intensive teaching to develop student language proficiency

These multi-section courses rely extensively on Blackboard as well as third-party tools to implement course management and curricular activities. Individual course sites in Blackboard are used to distribute materials and links to a wide variety of multimedia elements. Multimedia used in these courses includes internally hosted, licensed copies of audio and video textbook companion materials as well as a rich set of text, multimedia and reference materials freely available on the web from media companies, non-profits and other educational institutions. Text-based discussion boards within Blackboard and add-ons such as Wimba voice recording tools (which allow students to record and submit audio directly in the course web site) are used extensively, keeping students engaged in the target language outside of regularly scheduled classroom hours. Students submit written and multimedia assignments in electronic form using the assignment management tool within Blackboard, simplifying the logistics



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⁶Image via Creative Commons license, <http://www.flickr.com/photos/applestickler/5869733/>

for the faculty of collecting student work in a course where there are a large number of graded assignments. Many of these courses also use the internal Blackboard wiki for individual student portfolio or group writing assignments. Increased use of video assignments, greater interest in student blogging (particularly during study abroad), and social media tools are some of the new directions being explored in these courses.⁷



Instructor resource repositories

Multi-section courses with a standardized syllabus often set up a central Blackboard course site into which they can place common course documents (e.g. syllabis, quizzes, handouts), audio or video clips, Web links, or other resources that used by instructors who teach different sections of the same course. Materials and resources are often annotated with comments from instructors about ways to integrate the materials into learning activities or helpful tips on how to

present a particular assignment. Instructors will copy the materials they want from the resource repository into the specific Blackboard site for their individual section(s). This approach not only supports efficient organizing of these multisection courses but also provides a way for more experienced instructors to share proven materials and activities with neophyte instructors, as well as for new instructors to share fresh ideas with their colleagues.⁸

Courses co-taught with a partner institution

Co-teaching a course that is listed as both a Duke course and as part of the course catalog of another institution, classes meet simultaneously (accounting for time zone differences) and use a variety of tools to interact and share materials. Students at the remote institution may be given Duke NetIDs so they can access any Duke tools needed for the class. Web and videoconferencing tools are used to provide a way for participants in each location to see, hear and talk with the students and faculty at the other location. The communications features of the web and videoconferencing tools are used as an additional method of exchanging dialogue between the remote locations, along with other tools like instant messaging clients. Students and faculty use shared storage spaces and wiki spaces to exchange files and write group documents. A key part of the course is the collaboration between students outside of the live class meetings. To this end, they may use online collaboration tools or virtual environments to hold meetings and work on projects together.⁹



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⁸ Image via Creative Commons license: <http://www.flickr.com/photos/junitha/934181316/>

⁹ Image via Creative Commons license: http://www.flickr.com/photos/matt_hintsa/3256096955/

Duke-specific User Profiles

	Courses they teach may ...	Their personal approach to technology use is generally...	Their elearning tool use often...	Challenges or future directions for them includes...
High end innovator	<ul style="list-style-type: none"> • Have very small enrollments and be project-based • Have mid- to large enrollments, but are technology –intensive in their nature • Be online or hybrid courses • Incorporate assignments where students actively create and consume multimedia • Involve extensive applications of technology 	<ul style="list-style-type: none"> • Experimental • Early adopter • Independent • Actively investigates new technologies • Comfortable self-teaching or explore without support • Looks for the ‘best of breed’ tool, regardless of whether Duke support is provided • Is highly interactive, social and collaborative 	<ul style="list-style-type: none"> • Combines Duke-supported and third party tools to meet a wide range of needs • Due to its intensive nature, may rely heavily on local IT resources • Uses custom options or advanced features of tools • May include the use of tools in courses which they are learning along with the students • Reflects a novel applications of a tool which does not yet have proven academic use 	<ul style="list-style-type: none"> • Providing access to nonDuke tools for their students • Exploring data- or multimedia-intensive assignments
Technology enthusiast	<ul style="list-style-type: none"> • Have large enrollments or multiple sections • Frequently rely on multimedia materials • Be technology intensive, at least for some part of the term • Have already shifted the majority of the course content delivery outside of class time 	<ul style="list-style-type: none"> • Interested in new technologies that seem promising • Likes to stay current and tries to at least be aware of ‘what’s out there’, actively looks for technologies that would improve their courses • Is becoming increasingly interactive, social and collaborative 	<ul style="list-style-type: none"> • Is driven by a belief that effective technologies can improve student learning • Is supported by workshops, training sessions or personal consultations • Includes some interactive uses of elearning tools • Reflects what innovative colleagues have done, or may be driven by student ideas 	<ul style="list-style-type: none"> • Keeping abreast of the rapid proliferation of interesting new tools • Managing their personal libraries of learning materials, including multimedia

	Courses they teach may ...	Their personal approach to technology use is generally...	Their elearning tool use often...	Challenges or future directions for them includes...
Mainstream technology user	<ul style="list-style-type: none"> • Use some multimedia, but primarily rely on text • Deliver the majority of course content during the class session • Rely heavily on face to face interaction for most class activities 	<ul style="list-style-type: none"> • Prefers proven technologies • Will use what is provided and centrally supported • Unlikely to adopt a new technology that isn't used by at least a few of their colleagues • Becomes aware of new technologies typically by seeing them in use by colleagues • Is mostly individual, but may occasionally be social or collaborative 	<ul style="list-style-type: none"> • Is driven by course management needs • Is supported by local departmental support or personal consultations • Relies on common subsets of functions with proven application • Reflects the standard configuration of options selected • Prefers significant lead time and support when implementing new tools • May require several months of use before they are comfortable implementing anything new 	<ul style="list-style-type: none"> • Concern over the need to migrate content or the time required to learn new technologies • Finding easy ways to incorporate multimedia into their course materials and activities
Technology minimalists or Skeptics	<ul style="list-style-type: none"> • Be primarily discussion-focused • Be fairly stable over time due to the nature of the topic or course content 	<ul style="list-style-type: none"> • May avoid technology generally, or sharply delineates technology use as a researcher from their technology use in the classroom • Adopts new tools in response to requirements or external incentives 	<ul style="list-style-type: none"> • Is low in relation to colleagues or other courses in their program • Primarily provides a means of distributing materials or sharing documents • May be found in their courses but only used by TAs or support staff on their behalf 	<ul style="list-style-type: none"> • Concern over any requirement to learn or use technologies that are not relevant