Library and Information Technology

2012 – 2013 Highlights Report

Below you will find highlights of the academic year 2012-2013 for Library and Information Technology. If you have any questions about the items below, please contact Jason Snyder.

Bucknell University Intelligence (BUI)

The Bucknell University Intelligence (BUI) program made great strides during the past year with the implementation of its pilot project "BUI Student Life Cycle - Phase 1". The project was sponsored by Enrollment Management and Library and Information Technology and led by a cross-functional team.

There are now over 25 key administrators trained and accessing student data in the data warehouse, including Athletics, Engineering, Arts and Sciences and Student Life administrative staff. This is being accomplished through a new open access model that looks at "student" data holistically, rather than as data silos of the "Registrar", "Admissions", and "Financial Aid" offices. For the first time at Bucknell, student data "snapshots" have been defined for point-in-time, period over period, comparative analytics on metrics such as retention rates and registration counts.

As a result of these and other pilot successes, the overall BUI Program has taken a large step forward. At a program level, there are also several parallel efforts underway in order to realize our long-term outcomes. One of these includes a BUI "author" working group that shares and grows analytics best practices across offices through regular working meetings. Another is a focused effort to document and define our BUI data elements in a data dictionary. This dictionary, called the "BUI Data Cookbook" will be actively assessed by data stewards and proactively researched by consumers and authors of BUI information as they ask and answer analytics questions. In addition, since October, two Library and Information Technology positions (reallocated) and part of one additional IR staff member have been hired and charged with an increased focus on the BUI program and helping to grow and support the effort.

The BUI Student Life Cycle - Phase 2 project began in June 2013 and will re-envision Registrar analytics including moving all office analytics to Cognos, further expanding the scope of available data in the warehouse and considering strategic questions beyond retention.

Mellon Grant

The Andrew W. Mellon Foundation in New York has awarded Bucknell a grant of $700,000 to support a new Digital Scholarship initiative. The grant will provide opportunities and resources for faculty development workshops, course development and undergraduate research in the humanities and social sciences. Through workshops and conferences hosted on campus, Bucknell plans to share these faculty/student digital media research efforts that promote new
findings in the humanities and social sciences, new methods of instruction in digital scholarship and new uses of technologies for research and teaching.

Along with this support from the Mellon Foundation, the University is making a significant investment in digital scholarship by dedicating new staff to the initiative (two digital scholarship coordinators and a GIS specialist joined the staff during the summer months) and creating a Digital Scholarship Center, a physical space in the library dedicated to faculty, student and staff collaboration. Library and Information Technology will also create a system of archiving, preserving and presenting digital scholarship projects for the benefit of future students.

**Open Education Resource Task Force**

In October 2012, President Bravman formed a Task force on Open Educational Resources and Residential Learning led by Prof. Geoff Schneider and Param Bedi, VP for Library and Information Technology. The task force charge can be found [here](#).

The rapid rise of MOOCs and other Open Educational Resources (OERs) presents challenges as well as opportunities to liberal arts institutions such as Bucknell. The provision of free content from elite institutions such as Harvard, MIT and Stanford will challenge Bucknell to justify the high cost of a Bucknell education. The rise of OERs must also be addressed because students coming to Bucknell will increasingly have experience in K-12 with online learning and will expect that as part of their education. At the same time, adoption of some forms of OERs could make a liberal arts education more distinctive and rich and allow Bucknell to attract more diverse students.

OERs also provide real opportunities for liberal arts schools. Flipped classrooms and online exercises can improve learning outcomes, while collaborative courses can broaden our curriculum and engage our students with scholars from around the globe. Because few liberal arts institutions have yet to embrace the full potential of OERs, Bucknell has the opportunity to be a leader in this area.

Bucknell has invested in its instructional technology program over the past few years. As a result, the instructional technology staff members have positioned themselves as partners with the faculty in strengthening Bucknell's educational offerings and enhancing the undergraduate learning experience. We are working from a position of strength with expertise in place to move us forward with the adoption of OERs and Digital Scholarship on campus.

This task force recommends that Bucknell move immediately to pursue the most promising aspects of OERs, while evaluating carefully the impact of OERs on student learning as well as the human and resource cost of this endeavor. The task force recommends the cultivation of support for faculty interested in pursuing open education, encouraging faculty experimentation with OERs, creating institutional structures to facilitate ongoing work on OERs and expanding Bucknell’s reach into online learning in key areas.
**New Horizons Series**

In the fall of 2012 Library and IT launched a new programming series for faculty. New Horizons, a lunch series, focuses on providing opportunities, through peer-sharing and outside speakers, for faculty to consider the enhancements that technology and the library may bring to their teaching and research—both in the near-term and the distant future.

This new series offers 8 to 10 programs each semester with a clear focus on innovation and new possibilities, rather than workshops or more tool-oriented programming which we reserve largely for the summer and intersession. Strong attendance – 15 to 20 faculty per session, with some having closer to 50 – is a testament to our faculty’s willingness to participate in high-quality, informative sessions.

Use of the campus WebEx license allowed both Bucknell faculty and preeminent outside experts to share innovative practices. Twice during this first year of programming, Library and Information Technology hosted experts who discussed the possibilities high speed networking can bring to a liberal arts campus. Another session introduced an eTextbook authoring expert from Apple to challenge our thinking on the future of the textbook. Other sessions included a digital scholarship showcase, a student panel on the use of technology in the classroom and a series of faculty presentations which focused on assignments and scholarship projects meant to engage the public at large. Additionally, Provost Mick Smyer presented his own perspective on the critical role of technology in a liberal arts context.

Library and information technology professionals are often fortunate to hear notable speakers at conferences. Providing an opportunity for our faculty to interact with these experts is invaluable. The New Horizons series will continue in 2013-2014 with plans to host a specialist in new media as well as an open access expert from Harvard.

**GIS Conference**

In November 2012, Bucknell hosted the conference “GIS & Spatial Thinking in the Undergraduate Curriculum.” Nearly 100 faculty and GIS specialists from more than 50 different universities in the U.S. and Canada participated in the conference, sharing challenges and successes and generating a wealth of ideas about how to embed spatial thinking throughout the undergraduate educational experience. Envisioned as a problem-solving workshop, the gathering enabled faculty from various disciplines to share tools, methods and resources for integrating GIS and spatial analysis into their work, and GIS/IT staff to learn more about the discipline-specific spatial needs and goals of faculty. The weekend-long conference featured a pre-conference workshop on qualitative GIS, a map gallery reception, three nationally-known keynote speakers and discussion sessions organized around the following major themes: (1) Mapping Human Activity - Qualitative Analysis with GIS; (2) GIS in Pedagogy; (3) GIS in Higher Education Outreach & Service Learning. Due to the tremendous success of the conference there are plans underway to create a consortium of schools that would take turns hosting and planning the conference on a biennial basis.
Moodle

The 2012-2013 academic year saw the final transition of learning management systems from Blackboard to Moodle. During the spring semester, 544 courses were available in Moodle, while only 51 courses were available in Blackboard. In other words, 91% of the courses using an LMS were using Moodle. In addition to the 557 courses that were carried over from Blackboard to Moodle in the summer of 2012, an additional 264 course conversion requests were made during the academic year, allowing us to finalize the conversion to Moodle during the subsequent summer months.

KINBER

KINBER, the Keystone Initiative for Network Based Education, recently completed a $128 million PennREN statewide fiber network. PennREN provides advanced data networking to non-profit organizations across 50 counties of Pennsylvania. It enables value-added services like realistic high-definition video, real-time videoconferencing, and data sharing for education, research, healthcare, workforce development, government and economic development. The collaborative environment also provides opportunities for member institutions to share best practices, content and programs.

The KINBER research network joins 38 other state research networks across the country (including Pennsylvania’s surrounding states) that deliver high bandwidth networking services to support regional economic development. Along with its charter and board member status, Bucknell acts as one of thirteen main KINBER Service Nodes, providing regional connectivity and entree into PennREN for any future subscribers to that network.

Learn more about KINBER.

Networking

Library and IT implemented several Internet service changes for the new fiscal year. Previously, the University’s primary 1000Mbps Internet service was provided by Level 3 Communications, with a 100Mbps burstable backup circuit from Windstream Communications. With the recent completion of PennREN, the University replaced its Level 3 circuit with a 2000Mbps connection from KINBER. Further, Library and IT negotiated a new 1000Mbps backup Internet connection through Windstream. The upshot is that, compared to fiscal year 2013, Bucknell’s primary and backup Internet services are two times faster at 76% cost and ten times faster at 40% cost, respectively.

The 801.11n campus wireless network project is essentially complete, with ongoing activity consisting mainly of adding access point hardware in areas of reported signal strength issues where possible and practical. Library and IT is presently in the initial stages of planning for significantly improved outdoor coverage in campus quad areas, as well as developing a longer-term, phased plan to provide “future proof”, in-building network infrastructure to support
newer generation wireless standards.

Library and Information Technology recently completed upgrading the speed of Bucknell’s core and distribution switch infrastructure to 10Gbps. This will ensure the continued accommodation of Bucknell’s constantly increasing data traffic during the next several years, as well as conserving the campus fiber infrastructure by decreasing the number of strands necessary to carry that traffic.

Classroom Technology

Library and IT continues its annual upgrade of pedagogical technology in one auditorium plus a number of existing classrooms to include widescreen projection, improved digital touch control systems and multi-region Blu-ray players. This summer’s classrooms include the six on the ground floor of Coleman, three in Vaughan Literature, plus one in Dana Engineering. Rooke Auditorium will have the improvements listed above plus dual projection with the option of projecting two independent sources. In addition, the Langone Center’s Gallery Theater will have the capability for surround sound.

The Coleman Foreign Languages Hearth is both a performance and collaboration space with computer projection, speech reinforcement and a flat screen television that includes media sharing and technology integration in the collaborative area. A Media Lab suite is being installed in the basement of Marts Hall to facilitate the production of video projects, including film production and digital editing. Projection and control systems are also being installed in both the new Coleman costume shop and the Vaughan Literature archaeology lab.

Academic West

Newly opened Academic West has twenty-eight rooms that include some level of technology. All nine classrooms, three conference rooms and one seminar room have digital control systems, widescreen projection or flat panels and multi-region Blu-ray players. Window shades and lighting are controllable through the instructor's touch panel in most rooms. Classrooms and computer labs include ceiling-mounted document cameras and back-wall mounted webcams; and lecture capture software will be installed on instructors’ stations before the fall semester. Larger rooms have systems for hearing-impaired individuals, back-wall mounted flat panels and speech reinforcement. Two rooms – one seventy-seat classroom and one seminar room – contain video conferencing equipment. Three group study rooms are equipped with Steelcase media:scape tables, and there are numerous locations in which students can connect laptops to large, flat panel monitors.

Continuous Improvement

Regular questioning of the "hows and whys" of our office work, including the tools and processes we are using, remains key to campus-wide continuous improvement. Library and Information Technology’s Enterprise Systems group has a significant role as a catalyst and facilitator of these efforts, several of which either made significant progress or were completed
this year.

In partnership with Finance, a new vendor-hosted event ticketing system was implemented, improving payment information security, adding modern customer service features such as on-line ordering, printing tickets from home and scanning ticket stubs at events. After a full review and system needs analysis during the previous year, the International Education team is implementing a new system that will streamline the student experience with the office including research and application approval while also enhancing the accuracy of key administrative data tied to expected off-campus headcount. The document imaging initiative also continues to make great strides across campus, having fifteen offices that are actively moving content online and improving sharing of information with colleagues across offices. Other projects in HR included a learning management system for producing, tracking and recording and reporting on administrative training, a performance management system to formalize the annual review process and increased automation of salary planning tools. All of these systems were integrated with Banner to help ensure quality and access to data.

Attention to Banner, particularly helping to ensure that both our needs and the vendor's regular evolution of the product are keeping pace with each other, is another continuous improvement focus. We are in the midst of a 2-year external review of each of our Banner modules to help offices assess how we are using the available functions, suggest changes (if needed) and prioritize the changes based on both overall university risk and functional area benefit. Some offices are already seeing significant data quality and Banner work process improvements, while others are beginning to record and store data in more concise and meaningful ways as a result of these efforts. Student Life, HR and Finance completed reviews in the past year. The Financial Aid and Advancement modules are slated for the coming year.

Library Feasibility Study

During 2012-13, working closely with Facilities, Library and IT undertook a programming and conceptual study of Bertrand Library to consider the scope, priorities and feasibility of an expansion and renovation to the facility that is known as the heart of campus. In fall of 2012, following an extensive request for information process, a Project Advisory Committee (PAC) comprised of students, faculty and administration representatives selected Bohlin, Cywinski, Jackson (BCJ) as our partner for this endeavor.

The PAC and BCJ worked closely to develop the program that would define a future Bertrand Library through a series of department, student and committee interviews and visioning sessions. The PAC visited a number of other college libraries and took part in discussions with the design team about the essential qualities, resources and services that should be available and the requirements of existing and possible future library residents. The team considered how technology has changed student study habits, research and collaboration. The team also considered alternate service point arrangements that would influence how staff interacts with each other and with students and faculty. Important elements missing from the existing library building were prioritized, such as expanded space for Special Collections & University Archives,
event space(s), a larger cafe and more student study seats.

Chief Information Security Officer

This spring, Bucknell joined forces with Franklin and Marshall College and Susquehanna University to form a consortium specifically designed to address information security issues across all three schools. In the short time since the consortium was formed, we have begun to develop common security procedures, policies and an incident response plan for the three institutions whose collective network is accessed by 25,000 on-campus devices on a daily basis when classes are in session.

At Bucknell, we have been assessing the overall health of information systems within our network. By using penetration testing and system auditing techniques, we have gathered data which will allow us to identify and remediate issues which could expose the university to increased risk. In conjunction with our work in the technology space, we are bolstering campus information security policies and procedures. Our current work on a high-level security policy, as well as a separate policy focused on remote and mobile device security, will serve as a baseline for systems configuration and end-user training.

This fall, the consortium will kick off a series of professional development events for staff across all three schools. “iOS Application Security” will be a one-day, intensive, hands-on session for software developers, systems administrators and network engineers and will explore Apple’s iOS operating system. Attendees will learn to evaluate application security issues and have the opportunity to network with their counterparts from other institutions.

Implementing Team Dynamix

After a thorough review of internal processes, Library and IT implemented Team Dynamix, a project portfolio management software tool built for higher education. (http://www.teamdynamix.com) Bucknell joins a list of other Team Dynamix schools, including Carnegie Mellon, Syracuse University and University of Massachusetts.

The effort was divided into two phases: Phase 1 - Project Management and Internal Ticketing with a goal of implementing Team Dynamix and beginning to use it for project/portfolio management and internal tickets and Phase 2 - Service Desk Ticketing with a goal of replacing our former problem tracking system with the Team Dynamix ticketing solution.

Our staff completed the implementation, including a significant review and revision of our business processes, in March. The tool now provides project portfolio and ticketing reporting to our leadership team. Over 500 projects and 8,000 tickets have been created and managed through the system. Over the next year we will continue to work to refine our internal business processes for both ticketing and project/portfolio management.