

February 28, 2012

## Background

A goal of UNCP's 2006-2011 strategic plan was to improve the access, application and quality of information and computing technologies. This goal called for the establishment of an Instructional Technology Center (TC) to support faculty use of technology. The TC would provide the interconnection of pedagogy, technology, and information serving as a catalyst for both formal and informal faculty development activities, services, events, resources, as well as be a place for faculty to gather and socialize using technology. A defining characteristic of the TC would be its ability to capitalize on the combined experience and knowledge of faculty, professional staff, peer helpers, and student consultants to meet technology-related teaching and research needs. Much has been done to accomplish this goal including finding physical space to house such a facility. Allocation of resources to fund the TC is critical.

Student Government Association assessment data show that students are satisfied with classroom technology upgrades, but more needs to be done. Faculty feedback resulted in technology upgrades with instructional technologies, including new faculty machines and new installations of teaching software (e.g., ChemDraw and Adobe). Survey data from ECAR, the research arm for EDUCAUSE a recognized leader in higher education technology, indicates that 49.6% of students felt that most or almost all faculty at UNCP used technology effectively in their courses—an increase of 2.5% from a previous year's response. This evaluation also places UNCP's score 5% above the national average for the student rating.

UNCP's Division of Information Technology (DoIT) has developed a five- to six-year strategic plan for data center needs. This includes the expansion of centralized data storage and updating the data backup infrastructure, creating an off-site system to ensure the availability of key university systems in the event of a disaster, and the installation of infrastructure capable of supporting centrally-managed applications to less-expensive lab PCs. UNCP is heavily invested in a virtual server "cloud" environment. Strategic investments have resulted in ample room for expanding centralized storage. The move to server virtualization supports campus "green" initiatives while providing a robust, agile and redundant server infrastructure.

Successful technology projects include enabling local payroll services and the implementation of SciQuest (BraveCart) e-Procurement software, and campus scheduling (EMS). UNCP's network infrastructure was upgraded and campus backbone network bandwidth was increased to industry standards.

Based on client feedback, the DoIT Helpdesk is perceived as customer service oriented. The elimination of the out-sourced Blackboard helpdesk (bringing the services in-house) is supported by faculty. UNCP's helpdesk was perceived as a better alternative for getting assistance than the out-sourced services.

As a primary initiative to keep computers assigned to faculty, labs, and classrooms updated with state-of-the-art technologies, a three-year refresh cycle was established. Due to funding restraints, computer labs have been reduced in number.

As part of the UNCP 2006-2011 strategic plan, classroom teaching technologies were extensively upgraded. UNCP has 139 general purpose classrooms that are fully equipped with a teaching workstation housing a computer and other teaching technologies. Of the 139 rooms, 93 are equipped with a Star and/or Smart Board. Many classrooms have DVD/VCR combination players while some have video presenters, presentation whiteboards, and/or other teaching technologies. Equipment refreshes have been completed yearly using one-time funding.

February 28, 2012

**Lessons Learned:** While not in crisis mode, the current campus fiber architecture exposes core networking connectivity to catastrophic single points of failure. Much of the campus fiber is nearing end-of-life. It is recommended that a capital project be proposed to build a new fiber plant for campus connectivity.

The continuous expansion of systems and associated data has placed a strain on UNCP's ability to efficiently perform data backups thus the need for a new backup solution. With minimal funding, DoIT's data infrastructure could be well-positioned for the next five to six years.

**Big Picture:** Higher education institutions are increasingly engaged in data-driven, decision-making processes. Predictive analysis of our collected data on students can determine the probability of success for that student. Analysis can also guide personalized institutional support efforts for that individual. Large amounts of data are available, but the value for the institution is in capturing the right data based upon needs and developing meaning from that data through analysis. Cost containment through using technology wisely and in a coordinated fashion must be a shared vision.

Successful institutions will view its enterprise technology systems from a strategic viewpoint. Implementation of new systems or modifications to existing functionality will be in response to specific steps in meeting institutional goals and aspirations. Functional offices must communicate and collaborate to eliminate silos of process, services and information. In order to be successful, the academy must share an overarching vision when discussing enterprise technology. Those institutions that continue to operate with discrete processes and systems based upon islands of functionality will be hard put to address increasingly tough questions concerning efficiency and effectiveness.

In the past, student technology used for accessing institutional systems and resources was primarily a laptop computer, or students used institutional computers rather than personal devices. Now, students are bringing and accessing institutional systems with multiple technologies such as smart phones and E-readers. Portable technology in the form of tablets and iPads are seeing large increases in student ownership. Students living on campus are bringing gaming devices and use network resources for other than school-related activities. Services such as Netflix and other online entertainment suppliers have become staples of student life. The campus network infrastructure must be up to the challenge to meet student and institutional demands.

UNCP will be challenged to provide multiple learning resources for students. Lecture capture, podcasts, supplemental materials, rich learning activities (just to name a few) will challenge the traditional content lecture. Students expect that their learning activities will engage digital media content along with technologies such as social media, entertainment, and gaming. Students also expect course activities that engage them as learners in an active learning environment with access to media-rich content. The challenge for faculty and support staff is in continued training and support resources for developing and delivering learning activities to match expectations.

As college costs increase, less personal dollars are available for buying technology. Nationwide, ECAR surveys place technology ownership as pervasive, well into the 90% range of ownership. However, for UNCP the data show that approximately 15% of students do not own a computer or mobile device. The digital divide, therefore, remains an issue in Southeastern North Carolina.

**Strategic Themes:** Chancellor Kyle Carter's vision for UNCP is summed in four themes. These four themes resonate with both internal and external stakeholders. Themes include the "new normal" operational environment, student success, institution of choice and finally, regional engagement.

February 28, 2012

**Theme number one:** *Address the new normal.* The Chancellor has stated that we must become more efficient and effective by overhauling our policy and codification processes to become more open and transparent, and in so doing, clarify responsibility and authority. From the technology perspective, a first step is to streamline technology compliance/contract issues by exploring opportunities to create compliance staffing. To ensure audit compliance the Banner account security process and practice would benefit from additional centralized assistance and staffing.

Two state policies are limiting the institution's ability to use funds most effectively. The institution should be able to carry additional state dollars forward year-to-year in order to amass funds for large purchases such as technology infrastructure items. The student technology fee funding should not be designated as state funding. A reversion means that the student is paying the state additional dollars from funds paid locally to support technology.

The Chancellor has asked for modification of UNCP's business environment to take advantage of opportunities that are common-place at research universities. One potential starting point is in developing skills to analyze data to inform decision-making. The campus should further integrate digital document imaging/management into processes as well as automation software. Implementing and supporting project management methodologies and building project management staff resources could prove to be a key enabler for this theme as well.

Decentralized budget authority and decision-making is recommended. Developing necessary technology reports and processes to support budget functions would be a good first step. Fund managers need tools to support greater autonomy (e.g., move dollars within fund codes). Banner Finance Self Service should be implemented to provide Web-based, access to budget information.

UNCP should replace outdated systems with technology that improves effectiveness and efficiency. Suggestions include increasing the availability of online campus processes (e.g., parking, developing mobile interfaces for Banner Self-Service, and modernize/replace the outdated cashier system). Implementing cloud desktop technologies for functional offices and student labs would virtualize the desktop experience promoting greater functionality and ease of support, while creating a greener energy environment. The Virtual Computer Lab services should be enhanced, creating software in the cloud giving faculty, staff and students access to specialized software and activities.

**Theme number two:** *Focus on student success.* Over the next 5 years, UNCP will increase admission standards incrementally. For technology, this means creating resources for looking at and determining meaning from student data. The data are used for predictive strategies in order to take a proactive role in recruitment, monitoring and ensuring student persistence and success. Adding necessary tools to look at large data sets, building necessary historical data sets and data analytics staff resources will be critical to our future.

UNCP will enhance, consolidate and co-locate student support services. Technology can assist in developing a service "Commons" in Lowry which includes more comprehensive helpdesk services. Data gathered indicate students want increased access to technology. In response, more than just another lab, the development of a Student Technology Commons would be the nexus of student technology providing access promoting work with interactive white boards, projection systems, teleconferencing, along with group work spaces with specialized software and functionality to support student projects and learning.

Strategies for technology include further developing and implementing student academic technology software and systems to facilitate advisor/student interaction and enhanced earlier alerts for students experiencing academic difficulties. This system should also enable development of individualized student support programs.

February 28, 2012

UNCP should establish a student technology requirement and provide remedial intervention for students in the use of technology (e.g., implement technology entrance standards much like existing English and Math placement). To ensure compliance and learning outcomes, UNCP should offer free basic technology courses for students not meeting entrance standards. Teaching and learning technology needs to be enhanced and new learning systems implemented to supporting multiple instructional modalities for both hybrid and fully online courses.

**Theme number three:** *UNCP to become an institution of choice, beyond affordability and access.* To support this effort UNCP must continue to support the teacher/scholar model by creating the Faculty Commons in keeping with Goal #3 of UNCP Strategic Plan.

UNCP must retain robust personal interaction with students. Enhancing mobile technologies by creating mobile interfaces for Banner and the course management system such as Blackboard are ways for technology to support this objective. Enhanced communication systems to facilitate text messaging of student success related messaging is a second option. Finally, all students and institutional support systems communicate using the campus network. To ensure continued interconnectivity a capital project is needed to build a new fiber plant for campus connectivity. Also, the campus should initiate planning and funding strategies to complete a total wireless network for the campus while planning replacement and updating of the initially installed campus wireless infrastructure.

**Theme number four:** *Focus on regional engagement.* UNCP must support the town of Pembroke in its efforts to revitalize the downtown. Technology can support this objective by developing a computer sales and support store possibly in partnership with UNCP's new downtown center. To collaborate with the Tribe on programs of mutual benefit, the campus should develop a student technology funding grant for Lumbee students attending UNCP.

There are several strategies for UNCP to engage externally with sister campuses. The UNC Teaching and Learning with Technology (TLT) Collaborative set a high water mark for its collaborative efforts and established a world class model for sharing information and resources to promote student learning with technology. UNC General Administration (GA) should support recreating the TLT Collaborative. In addition, UNCP needs to work with UNC-GA to re-establish priorities for Teaching and Learning Centers. These centers also must be held accountable for preparing faculty to meet the learning challenges of our "digital" students

Chancellor Carter challenged the campus in stating that regardless of how large or complex UNCP becomes, its core principles must be maintained (e.g., provide educational pathways for a better life regardless of one's station in life). The opportunity exists to explore technology partnerships with the various campus departments and disciplines to enhance student technology engagement and availability thus increasing student technology literacy skills. The institution should consider creating service learning and paid internship possibilities in using and supporting campus technology. For example, students in the School of Business can play a major role in the success of the proposed downtown computer store. Communication students can also play an important role. The possibilities are only limited only by our imagination.

**Options:** In 2009, the Faculty Senate charged the Associate Vice Chancellor for Information Resources and Chief Information Officer with leading a task force to investigate issues associated with the a student computer requirement. The implementation plan produced balances the need for student technology against the increased cost for students. This plan should remain under consideration.

Adequate staffing for technology continues to be problematic. The technology operations area is short-staffed, campus networking has one telephony technician "in the field," and one network specialist monitoring and

February 28, 2012

controlling all network resources and the support of instructional technologies and faculty in the use of technology in teaching is minimal at best. DoIT also has one individual staffing campus video facilities and assisting faculty with ITV class sessions, as well as creating Podcasts and other digital media. Desktop and application support for College and Schools needs to be more localized. Student support is deficient and data indicate the institution is not providing the level of technology support our students want or deserve. National EDUCAUSE data, a review of sister UNC campuses, and the volume of service requests are all indicative that a serious staffing deficiency exists both within IT and for IT across the UNCP campus.

**Projected Costs:** Consistent funding for technology needs to be determined. A technology funding allocation in support of Distance Education is needed.

Reviewing EDUCAUSE's Core Data concerning Information Technology, central IT funding is normally 5% of the institutional budget. Given state funding is approximately \$58,000,000 for UNCP, IT funding coming from state resources should be approximately \$3,000,000. Another funding norm is \$4,791 central IT funding for each institutional faculty and staff FTE. Given UNCP's total of 854 faculty and staff FTE, using this average provides a funding total of \$4,091,514. Central IT funding per FTE for student, faculty and staff is on average \$777 for Master's degree granting institutions. For 2010-11, student FTE was 6055, adding 854 faculty and staff FTE gives a total of 6909 FTE. This FTE number produces institutional funding of \$5,368,293. In terms of central IT staffing, IT staff total 6% of total institutional FTE. For UNCP that equates to 51 staff member for central IT. For reference, total centralized IT funding expenditures during 2010-11 for UNCP was \$3,639,901. This total includes both state funds, fee-based, and revenue generated funds. Total centralized staffing is 38.

UNCP charges a Student Education and Technology Fee of \$276 with \$221 or 80% of the fee paying for centralized IT expenses. The UNC system average E&T Fee charge is \$375.23 which is close to \$100 more than the fee at UNCP. In FY 2010-11, DoIT had an E&T budget of \$1,084,000. The E&T budget at UNCP is insufficient to maintain and expand the instructional technologies demanded by the students and wanted by faculty. The E&T fee covers hardware, maintenance and support for the campus computer labs, Blackboard/Collaborate, Networking/ResNet/wireless access, BraveMail, BraveWeb, Virtual Computing Lab, Help Desk Support as well as campus software licenses for operating systems and applications.

**Short and Long-term Plans:** UNCP should move forward with the Instructional Commons concept to create a focal point for innovation with technology in teaching. Grants, stipends and additional travels funds can be directed to faculty to create opportunities within the Commons for faculty to faculty innovation and the sharing of successful practices with teaching technologies. Faculty mentorships can also be created providing addition stipends and release time for faculty "experts" promoting increased student learning through the use of technologies such as digital media, research and data analysis, visualization, gaming and geographic information systems. Creative and successful use of technology for increased student learning should also become a positive factor in faculty evaluations.

For students, Hawk Assistantship funds can be used to engage students in technology activities that assist the institution in meeting its technology strategic agenda. Opportunities for students majoring in multiple disciplines are numerous ensuring enhanced learning opportunities for the student and certainly enabling and supporting campus directions and activities. The campus should move forward increasing student fees using the funds to hire additional student support staffing and to create the Student Technology Commons to support technology use and availability while creating additional learning opportunities to ensure technology literacy. Once these support structures are in place, the student technology recommendation can be implemented along with the downtown computer store concept as they are mutually supporting activities. Again, student

February 28, 2012

internships and engagement activities can be major resources for the store's success while creating rich learning experiences for students.

Administratively, the campus can turn to expansion funding, enrollment growth or student success dollars to build business intelligence and data analytics capabilities. The capabilities should focus on predictive analysis and in creating individualize academic support activities for students. UNCP needs to study and determine various data elements necessary for predictive analysis and build a data repository with necessary tools to support institutional directives. Functional offices should continue to evaluate processes to ensure existing technology tools are maximized, outdated systems replaced and needed functionality implemented. Staff resources should also be addressed so processes, tasks, and expectations are in balance with available resources. Secondly, process re-engineering should rise in importance using feedback from faculty, staff and students as well as companion offices. The focus should be on excellence in service, efficiency and effectiveness for campus processes using technology to ensure that these foundational business efforts are strong. Once excellence is achieved in our base-line services, attention can turn to innovation making UNCP a true institutional of choice from a service perspective.