

Northern New Mexico College
C2 Campus Evaluation Report
by Kirk Minnick, NM EPSCoR C2 External Evaluator

Introduction

According to the NM EPSCoR C2 proposal to NSF "Improving Broadband Connectivity for Tribal and Regional Colleges in New Mexico":

"This C2 proposal will improve bandwidth and cyber connectivity for three rural higher education institutions in New Mexico; two Hispanic Serving institutions and one Tribal College. The improved cyberinfrastructure will enable the institutions to enhance education and research, increase participation in research and learning at all levels, and seize opportunities for external engagement, workforce and economic development, and collaboration."

This report is focused on one of these institutions: Northern New Mexico College. According to the proposal:

"Northern New Mexico College, also a Hispanic-Serving, rural institution, began as a teacher training school for the State's Spanish-speaking population. In the 1960s, the school began offering two-year degree programs with an emphasis on technical-vocational degrees. For the next 40 years, the mission of the school evolved and expanded until legislation in 2005 changed the institution's name to Northern New Mexico College and permitted it to offer four-year programs. Today, NNMC is a comprehensive regional public college enrolling approximately 2,100 students across 40 associate degree and ten baccalaureate degree programs as well as certificate programs. The college's service area is primarily rural or semi-rural and encompasses an area larger than Massachusetts. Its main campus is in Espanola (population ~10,000), and its second campus is in El Rito, nestled in the Carson National Forest. NNMC operates ten off-site attendance centers in schools and other public facilities in rural communities and an environmental science lab in Santa Fe. Tuition at NNMC is less than \$1,350 per semester, making it among the least expensive colleges in the country, yet more than 80% of students receive financial assistance."

In order to meet the proposal objectives of improving bandwidth and cyberconnectivity, the proposal stated that:

"NNMC will expand broadband access on campus by: 1) establishing a new fiber optic link between two buildings on campus, 2) upgrading campus network switches and routers, and 3) providing new campus-wide wireless service. The fiber optic cabling link will establish connectivity between the Teacher Education building (under construction) and the Administration building, which is the termination point for broadband access to the outside world. Upgrading CISCO routers, switches, and accompanying network administration software and services in several campus buildings will accommodate higher line speeds for fiber optic lines that are already installed. Developing wireless access for the entire campus will increase both the number and the portability of devices that can connect to the network. These improvements are fundamental to NNMC's CI strategic plan to establish a 150 Mbps connection to the Albuquerque GigaPoP, and via the GigaPop to the Lambda Rail."

These new capabilities are designed to accomplish the following in enhancing research and education programs.

"NNMC will deploy the new capabilities resulting from the proposed cyber improvements to enhance research and education programs in several strategic areas. After the first stage improvements to the campus network, the plan calls for the following activities.

- E-learning and research. Approximately 2,500 students will gain access to the on campus wireless network. Users of the wireless and wired networks will notice the increased speed and reliability as they connect to the college's research and learning resources, including: the NNMC library, which provides access to online databases and periodicals; e-mail for communications between and among faculty and students; and a growing number of online courses that are especially important for students who cannot attend traditional classes during the day. Currently, many students complain about slow access speeds from off campus locations, and they drive to campus in the evening to improve their access to online courses rather than wait for downloads and responses at remote locations. The upgraded network will improve campus access to online courses, enable students to complete more courses in less time, and enable the college to increase the number of course offerings.

Longer term, first stage improvements will enable additional cyberinfrastructure that will provide NNMC and the Espanola Valley with Internet access at 150 Mbps, which is competitive with colleges and regions of similar size. With completion of the second stage, additional enhancements will occur.

- E-learning. NNMC currently offers more than 40 courses via the Internet using a substandard access speed of 6 Mbps. The college is transitioning from a two-year to a four-year institution and expects the number of students, faculty, and courses, including online courses, to increasingly stress the existing cyberinfrastructure. If the college receives approval to offer a proposed Masters degree in Education, the system will experience even greater stress. Broadband access will relieve network congestion and increase opportunities for distance delivery of new and existing courses through out the college service area.

- Research. As NNMC increases its number of baccalaureate programs, the college seeks to hire more Ph.D. faculty, most of whom have an interest in developing or continuing their research programs. Cyberinfrastructure improvements are needed to attract and retain quality faculty. For example, faculty in engineering are currently collaborating with Public Utility of New Mexico (PNM, the electric utility company) and Sandia National Laboratory on a solar energy research project which is hindered by difficulties in transmitting large data streams and model input and output files.

- Workforce development. NNMC will use the increased bandwidth to improve access to a broader selection of online courses for the many students who are over 40, working, and attending college to earn certificates or degrees that will increase their wages or enable them to get better jobs. Broadband connectivity will make NNMC's service area competitive with more developed regions in attracting primary industry and commerce.

- External engagement. NNMC works with the school districts in their service area by offering dual credit programs to high schools. NNMC currently has an NSF STEP grant focused on developing a STEM student pipeline from regional rural high schools, to NNMC, and on to NM's larger research universities."

Evaluation Metrics

While each C2 institution has its own objectives to accomplish using the increased cyberinfrastructure, there are common milestones and metrics to measure the impact of the C2 project as a whole. These are:

- Technology/Infrastructure Capability: installation and use of equipment and cyberinfrastructure;
- Increase in availability of broadband on and off campus; increase in reliability of networks;
- Cyperinfrastructure Workforce: increase in number of students enrolled in and/or graduating with emphasis in technology related careers; increase in reported career interest in STEM/cyberinfrastructure related fields;
- Research Capacity and Competitiveness: increase in STEM faculty reported research collaborations outside the institution resulting from broadband availability, increase in number of proposals submitted by STEM faculty;
- Education/Institution capability: increase in use of technology in STEM courses and e-learning courses offered and number of students enrolled in STEM e-learning courses;
- STEM Pipeline Enhancement: increase in number of high school students concurrently enrolled in college courses, especially in STEM courses.

Campus Visit

The external evaluator conducted campus visits to each of the C2 institutions during the first year of the award. The purpose was to obtain a better understanding of the challenges facing the C2 institutions and collect baseline data onsite. The campus visits included meeting with the IT director, interviewing faculty and administrators, measuring wireless speed/connectivity around the campus, and observing the geographical and physical challenges posed for each institution.

A campus visit to NNMC was conducted on March 31, 2011. The main campus is located in Espanola, NM, 70 miles northwest of Albuquerque. It takes approximately 1 and one-half hours to reach the campus from Albuquerque. The community is in the Espanola Valley just 30 minutes from Santa Fe and Los Alamos.

The evaluator met with Jorge Lucero, Director of Information Technology for NNMC to discuss the status of the hardware upgrades on campus, as well as to review the pre-survey feedback. He indicated that the school is still waiting for approval to install a microwave dish between Espanola and Santa Fe, in order to connect to the GigaPop. NNMC has a branch campus in El Rito.

During the campus visit, the evaluator also spoke with faculty and staff about their experiences with the campus network. There have been some problems with email on campus and that has generated some frustration. It appears to be fixed but people were still apprehensive about losing emails. Faculty reported that wireless is not good in some of their offices, and they rely on the hardwired network. Faculty reported that the campus network has been down in the past for days at a time. There are some buildings on campus that are built with cinder blocks, which interferes with the wireless signals. Smartboards have been installed in many of the classrooms, but it was reported that training was lacking for their use. Some faculty have learned how to use them, but expressed frustration at the lack of wireless connectivity in the classrooms to maximize their use.

One faculty member raised the issue of the need for more technology support for students who work and have families. His concern was that these students lack computer skills and have limited time to learn how to best use technology in their education and life. It is important for the school to reach out to these students to make them aware of the technology and provide the training for them to succeed.

The IT director felt that some of the network reliability problems were the result of policies, or lack thereof, prior to his employment. Departments were allowed to setup and manage their own network systems resulting in a hodgepodge of equipment and the necessary technical expertise to support these

different networks varied by department. The IT department's goal is to standardize the campus into one network; however departments are wary of relinquishing control of their individual systems.

Campus Wireless Speed

The external evaluator took a sample of wireless connection speeds on campus using a HP Probook 5310m and the internet site www.speedtest.net. The results are presented in the following table.

Campus Wireless Speedtest* at a Sample of Campus Locations

Location	Ping (ms)	Download(mbs)	Upload (mbs)
Cafeteria	35	2.09	0.45
GE 104	35	1.80	0.87
Education	35	1.90	0.84
Library	55	0.43	0.17
Outside GE building	35	1.40	0.54
Athletic complex	No connection	No connection	No connection
JCI 103 (Auto linksys)	45	0.30	0.30
Auto building	45	0.63	0.57
Outside Administration	No connection	No connection	No connection
HT Building	35	1.70	0.65
Nursing	75	0.53	0.05

* conducted using www.speedtest.net and a HP Probook 5310m

The connection speeds varied widely across campus, probably because of a lack of single wireless system. The worst locations were at the athletic complex and outside the administration building where a signal was not available. Slow connections were recorded in the library, Johnson Control Business Park (JCI), and nursing. Nursing was especially weak in upload speed.

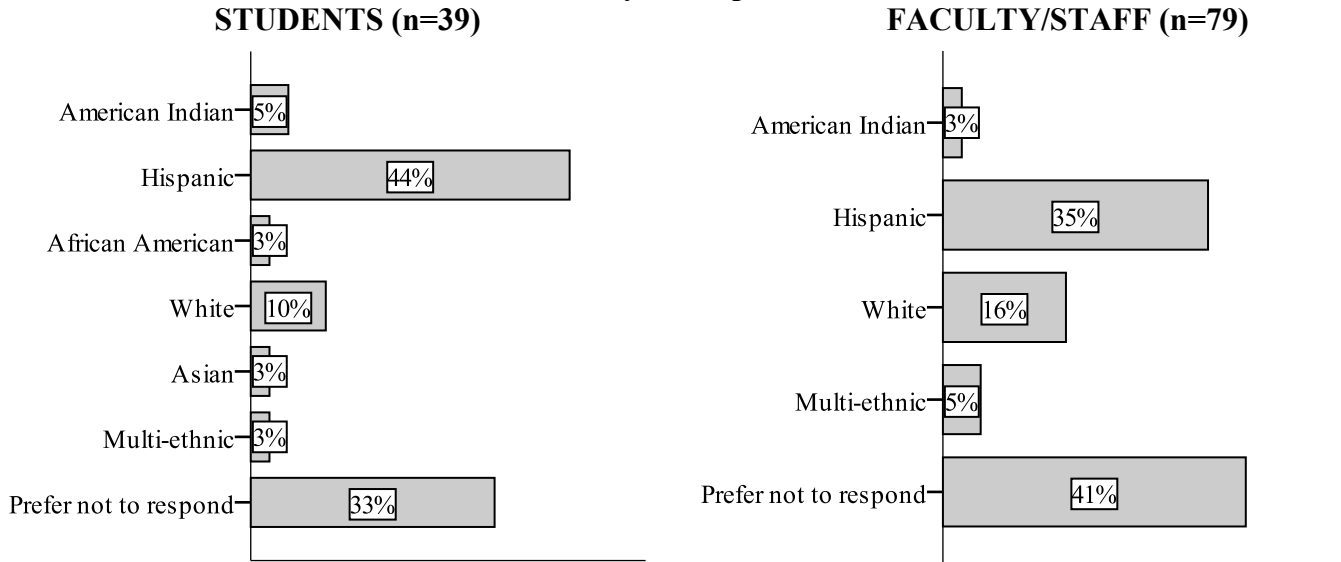
Survey of Students and Faculty

A survey was made available to the students and faculty of all the C2 institutions. It was designed to collect self-reported data on the use of various computer technologies, software, and satisfaction with IT services, systems and support. Each institution was responsible for distributing the surveys to their students, faculty and staff.

A total of 39 students and 79 faculty/staff responded to the request to complete the surveys. The questions on the surveys were similar but not identical. The results will be presented by question with the student and faculty/staff responses reported separately.

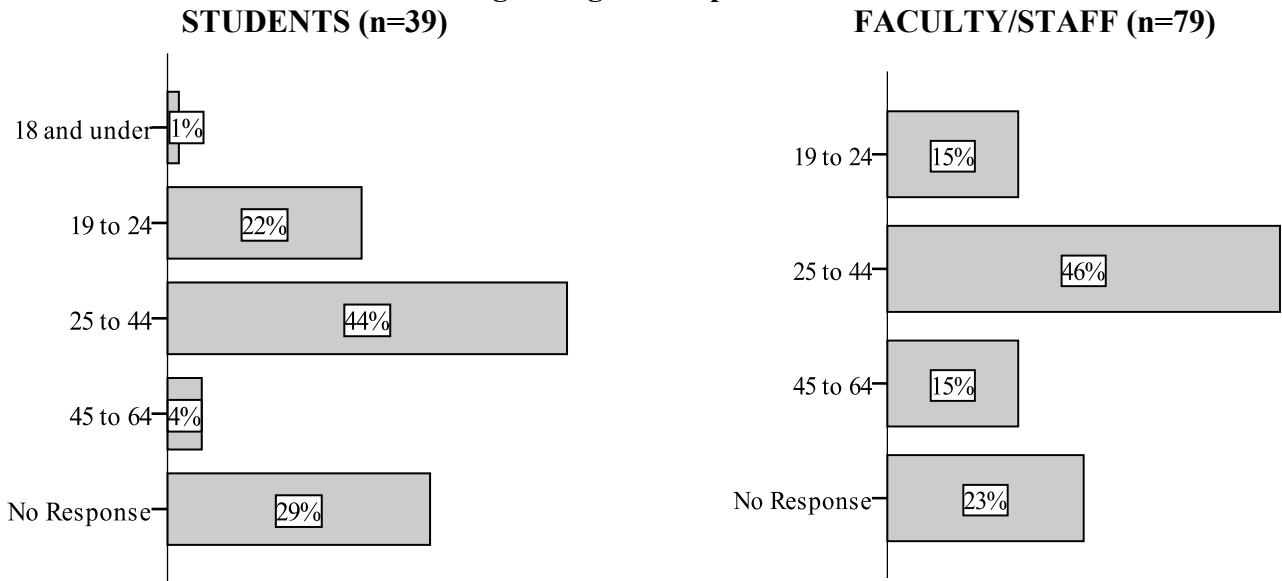
Figure 1 and 2 presents the demographics of the two groups of respondents: Ethnicity and Age.

Figure 1
Ethnicity of Respondents



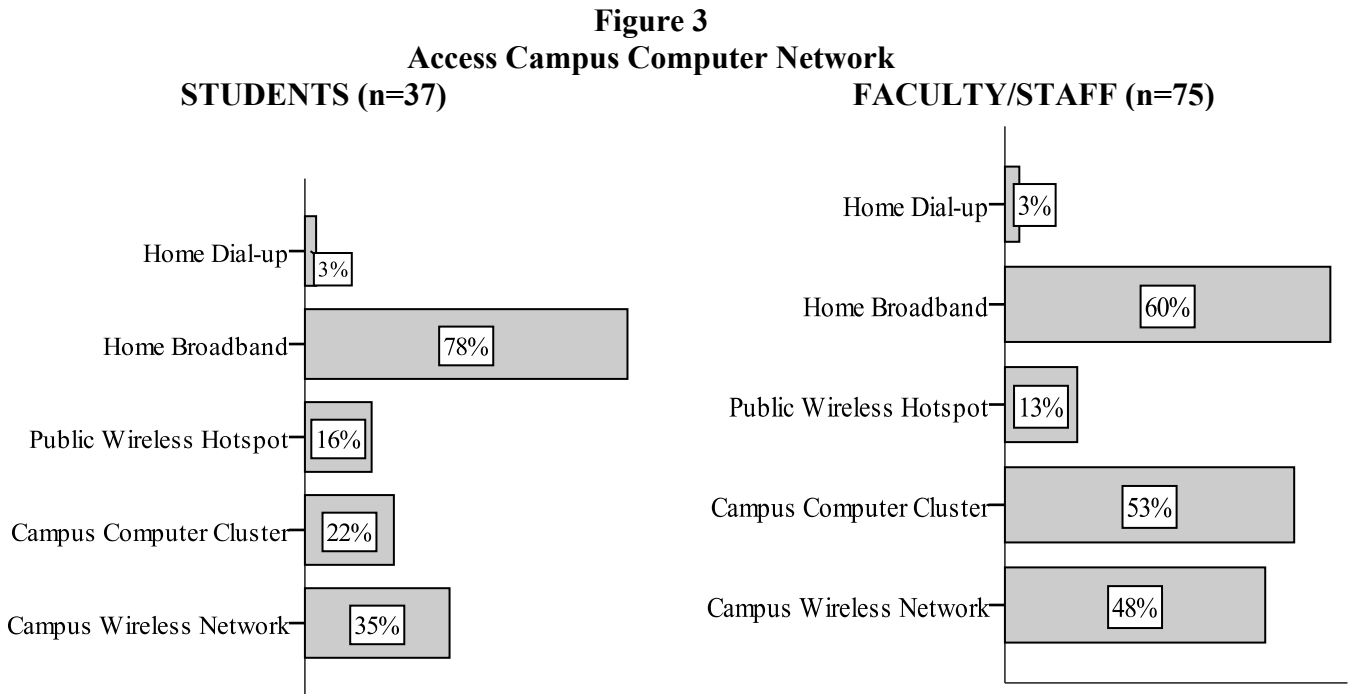
Student respondents were slightly more likely to report being Hispanic than Faculty/Staff (Student: 44%; Faculty/Staff: 35%), while the percentage of other ethnicities were similar. The number of faculty/staff who preferred not to respond or left the question blank was higher than the student respondents (Students: 33%; Faculty/Staff: 41%).

Figure 2
Age Range of Respondents



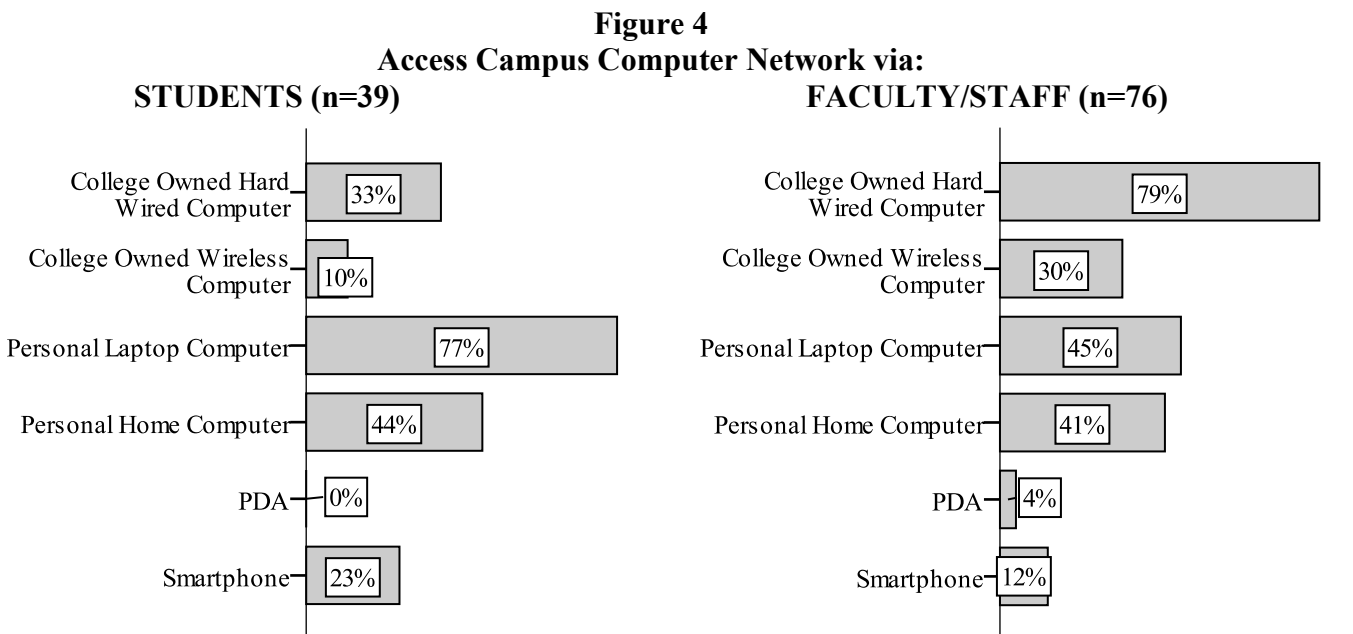
Student and faculty/staff respondents were in a variety of age ranges. Almost half (44%) of the students reported being 25-44, with 12% reporting being in the age range of 19-24. Almost half (46%) of the faculty/staff that respondent reported being in the age range of 25-44.

Figure 3 presents the responses to a question on how they access the campus computer network.
 "I currently access the campus computer network from (please select all that apply)"



Both groups of respondents reported multiple ways of accessing the campus computer network. Three-fourths (78%) of students reported accessing it using 'home broadband', and 35% use 'campus wireless network'. More than half (60%) of the faculty/staff reported using 'home-broadband' to access the campus network, 58% use "campus computer cluster" and 48% us 'wireless network'.

Figure 4 presents the responses to a question on how they access the campus computer network.
 "I currently access the campus computer network via (please select all that apply)"

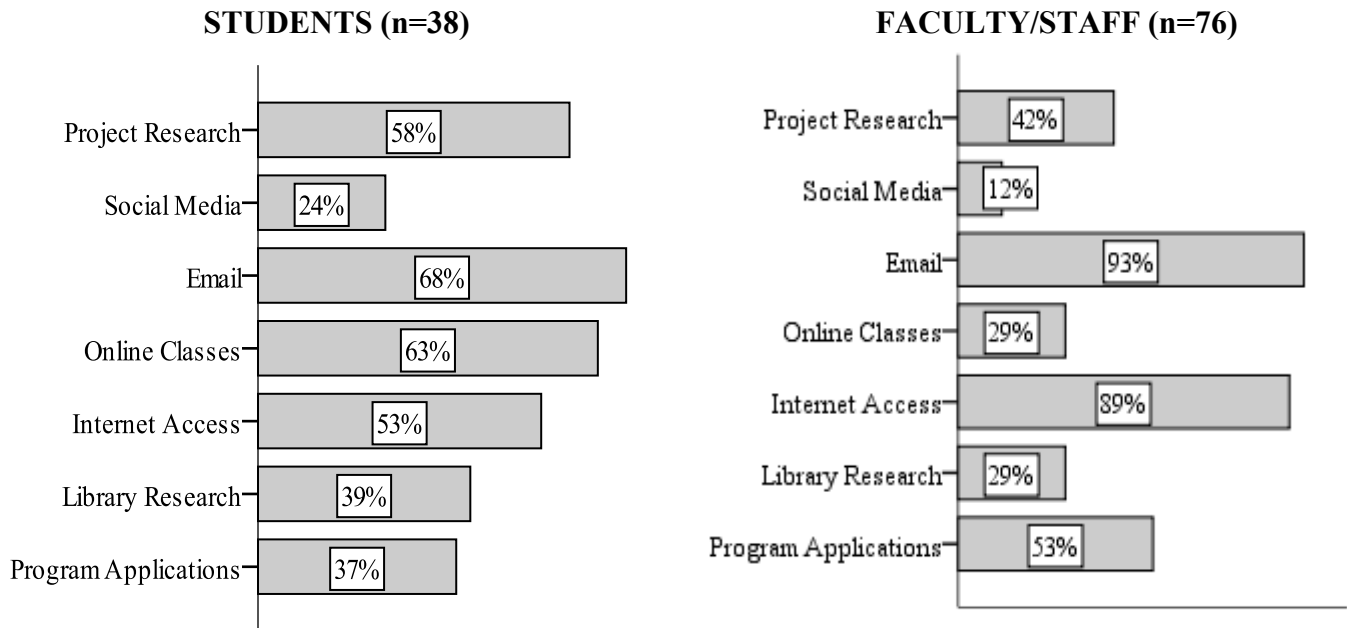


Respondents reported using a variety of devices to access the campus network. The most used by the students were: 'personal laptop' (77%), 'personal home computer' (44%) and 'college owned hard wired computer' (33%). Almost one-fourth (23%) access the campus network with their Smartphones. The overwhelming access vehicle for faculty/staff was a 'college owned hard wired computers' (79%) and 'personal home computer' (41%) and 'personal laptop' (45%). Only 12% of the faculty/staff reported using a 'Smartphone' to access the campus network.

Figure 5 presents the responses to the following question:

"I currently use the campus computer network for the following (please select all that apply)".

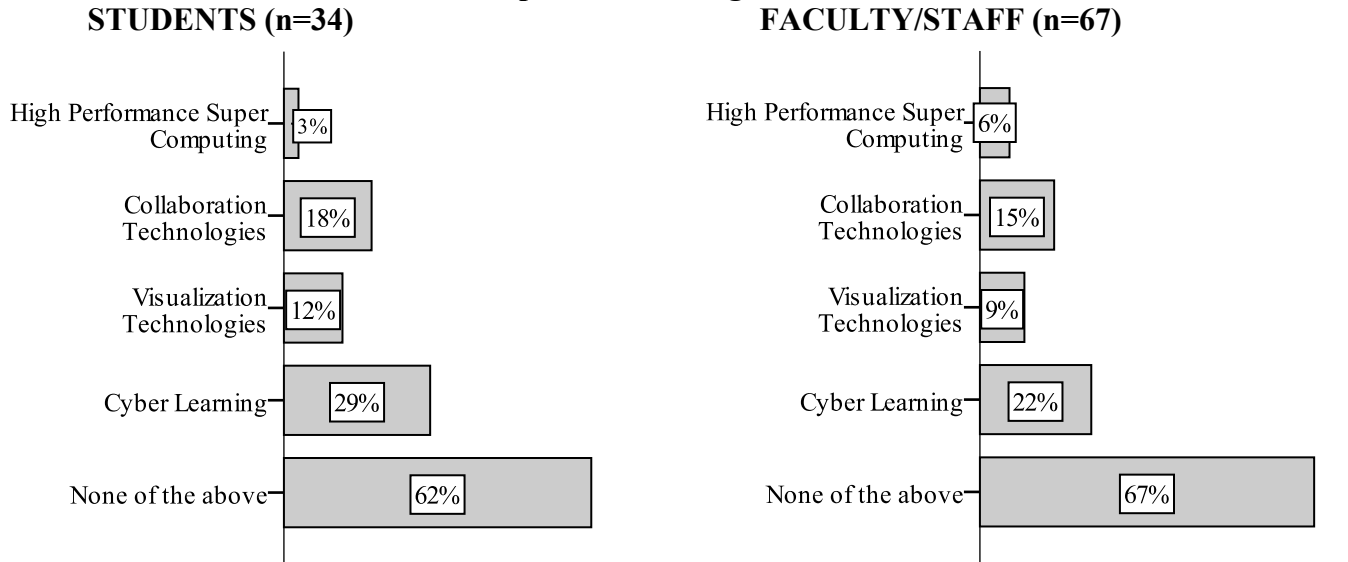
Figure 5
Use Campus Computer Network for the Following:



As one would suspect the campus computer network is used for different purposes by the two groups. Almost two-thirds (63%) of the students reported using the network for 'online classes' and 'email' (68%); while 93% of the faculty/staff reported using it for email and less than one-third (29%) for online classes. Using the network for 'internet access' was reported by 89% of the faculty/staff compared to 53% of the students. About one-fourth (23%) of the students and 12% of the Faculty/staff reported using the campus network for 'social media'.

Figure 6 presents the responses to a question about the use of various computer technologies; including High performance computing, collaboration technologies, visualization and cyber learning.

Figure 6
Computer Technologies Used

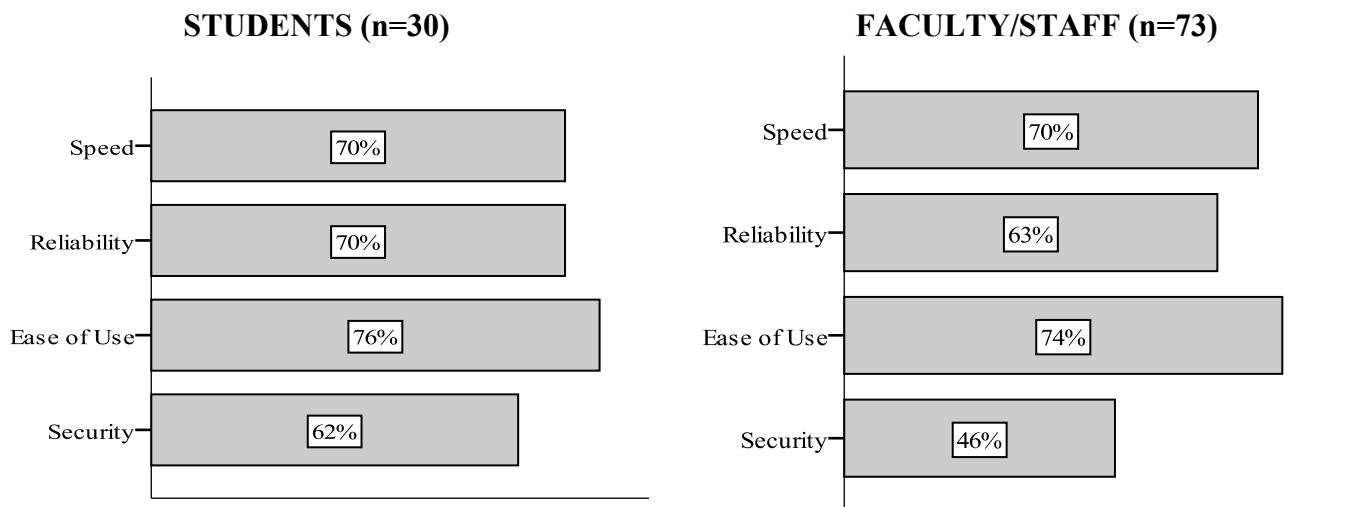


Of the computer technologies presented to respondents, 'Cyber learning' was reported the most used by both groups (Students: 29%; Faculty/staff: 22%). 'Collaboration technologies' were reported used by 18% of the students and 15% of the faculty/staff.

Figure 7 presents the responses to a question about the level of satisfaction with the campus hard wired computer network:

"Please rate your satisfaction of the following when using the campus Hard Wired computer network"

Figure 7
Satisfaction with Campus Hard Wired Network
Percent 'Satisfied' or 'Very Satisfied'

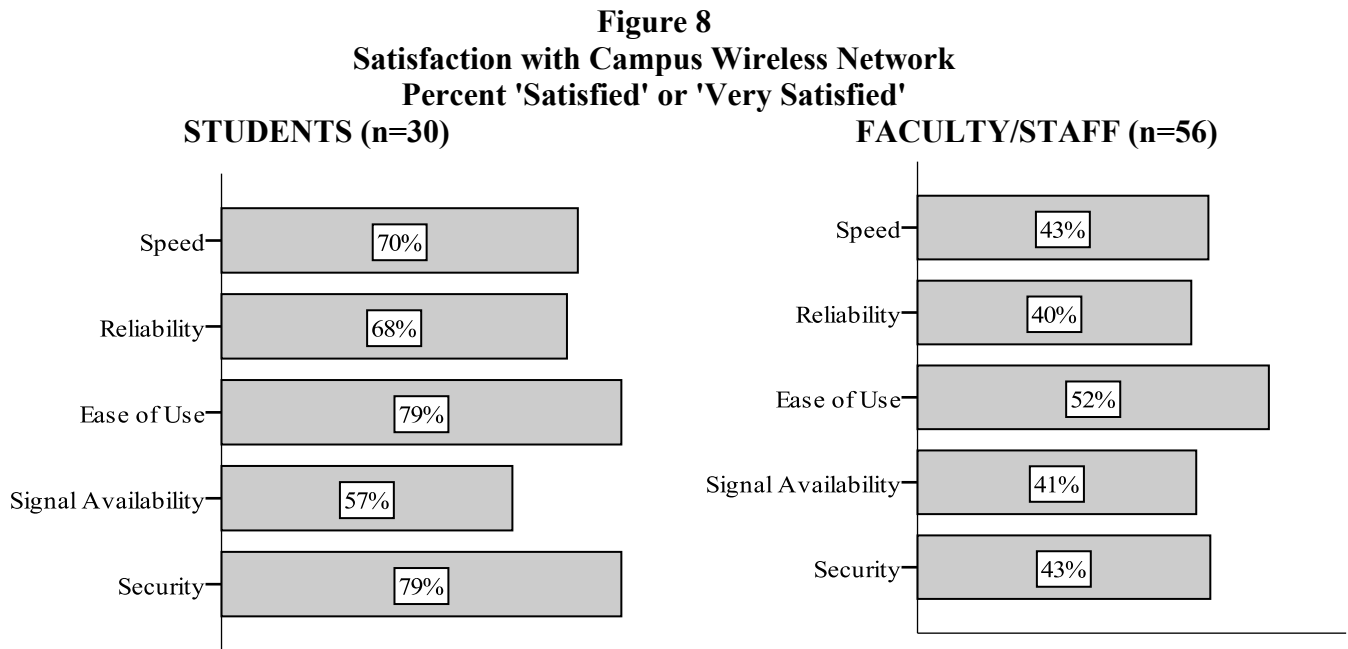


Ratings of satisfaction are subject to a person's interpretation of what satisfaction means to them. It is not necessarily based on objective criteria, but it is still meaningful to them and should be considered when making upgrades to the campus computer network. The ratings of the campus hard wired network were similar between the two groups of respondents, except for the rating for 'security', where

less than half (46%) of the faculty/staff reported being 'satisfied' or 'very satisfied'. The highest degree of satisfaction was for 'Ease of use' (Students: 76%; Faculty/staff: 74%). About two-thirds (Students: 70%; Faculty/staff: 63%) were 'satisfied' or 'very satisfied' with the 'Reliability' of the hard wired campus network.

Figure 8 presents the responses to a question about the level of satisfaction with the campus wireless computer network:

"Please rate your satisfaction of the following when using the campus Wireless computer network"



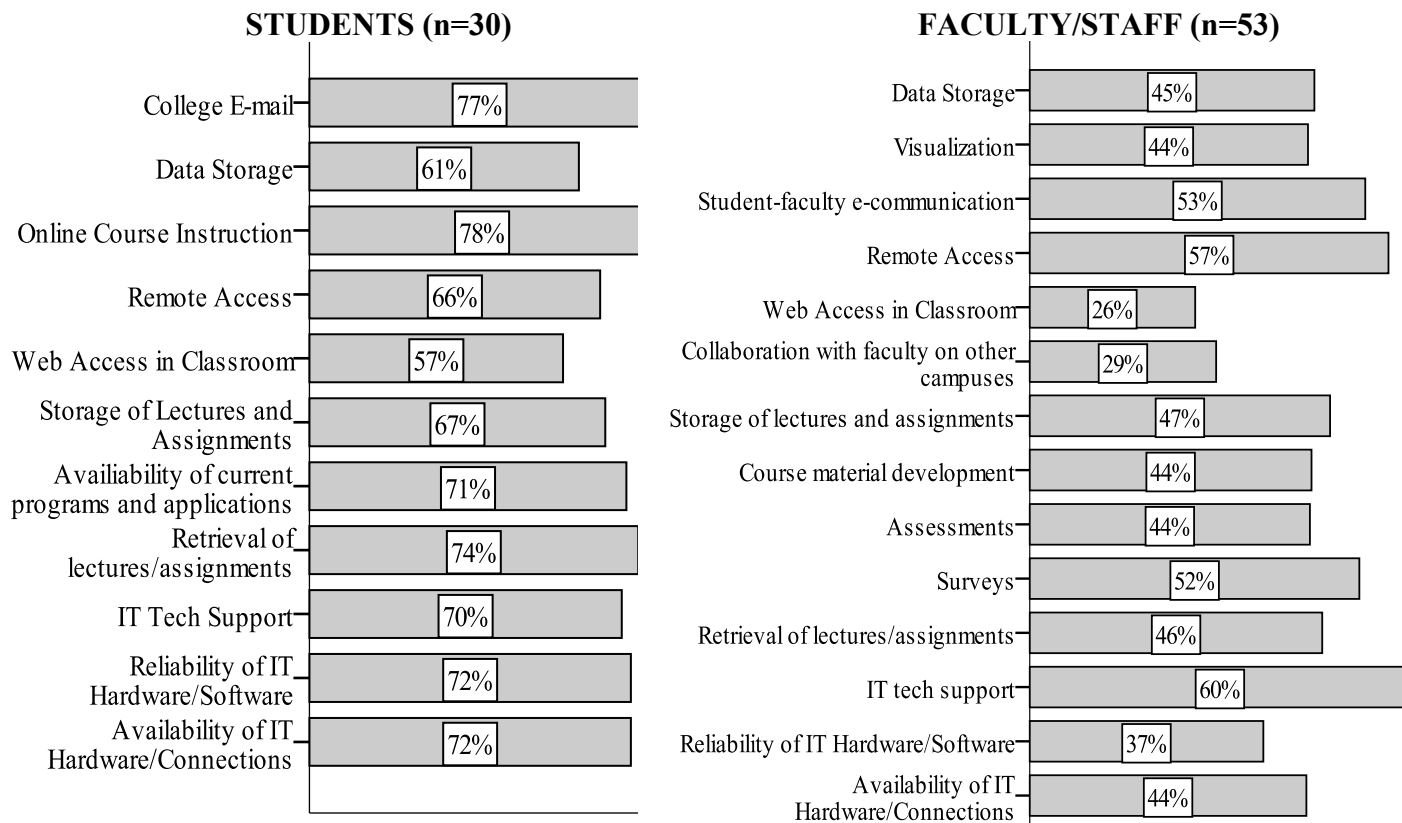
The ratings of the campus wireless network were very dissimilar between the two groups of respondents, as if they were rating different networks. Student ratings were 26-28 percentage points higher in satisfaction on four of five areas: 'Reliability' (Students: 68%; Faculty/staff: 40%); 'Ease of use' (Students: 79%; Faculty/staff: 52%); 'Speed' (Students: 70%; Faculty/staff: 43%); and 'Security' (79%; Faculty/Staff: 43%). These extreme differences are surprising and may be the result of the lack of a common wireless network across the campus.

Figure 9 presents the responses to a question about the level of satisfaction with IT support:

Students: "Please rate your satisfaction regarding the campus IT support of each of the following with respect to your studies"

Faculty/Staff: "Please rate your satisfaction regarding the campus IT support of each of the following"

Figure 9
Satisfaction with IT support for the Following
Percent 'Satisfied' or 'Very Satisfied'



Respondents were asked to rate their level of satisfaction regarding the campus IT support for a variety of typical network activities for each group. Although there were some similar items on the lists of the two groups, the lists were designed to capture the unique network uses of the different groups.

Satisfaction ratings for items included in both lists were: 'Data Storage' (Students: 61%; Faculty/Staff: 45%); 'Remote Access' (Students: 66%; Faculty/Staff: 57%); 'Web Access in Classroom' (Students: 57%; Faculty/Staff: 26%); 'Storage of Lectures and Assignments' (Students: 67%; Faculty/Staff: 47%); 'Retrieval of lectures/assignments' (Students: 74%; Faculty/Staff: 46%); 'IT Tech support' (Students: 70%; Faculty/Staff: 60%); 'Reliability of IT hardware/Software' (Students: 72%; Faculty/Staff: 37%) and 'Availability of IT Hardware/Connections' (Students: 72%; Faculty/Staff: 44%). Faculty/staff had satisfaction ratings 20 percentage points or more lower than students on the following: 'Reliability of IT hardware/Software' (35); 'Web Access in the Classroom' (31); 'Retrieval of lectures/assignments' (28); 'Availability of IT Hardware/Connections' (28) and 'Storage of Lectures and Assignments' (20).

The two items that were unique to the student survey both had satisfaction ratings higher than three-fourths: 'College E-mail' (77%) and 'Online Course Instruction' (78%).

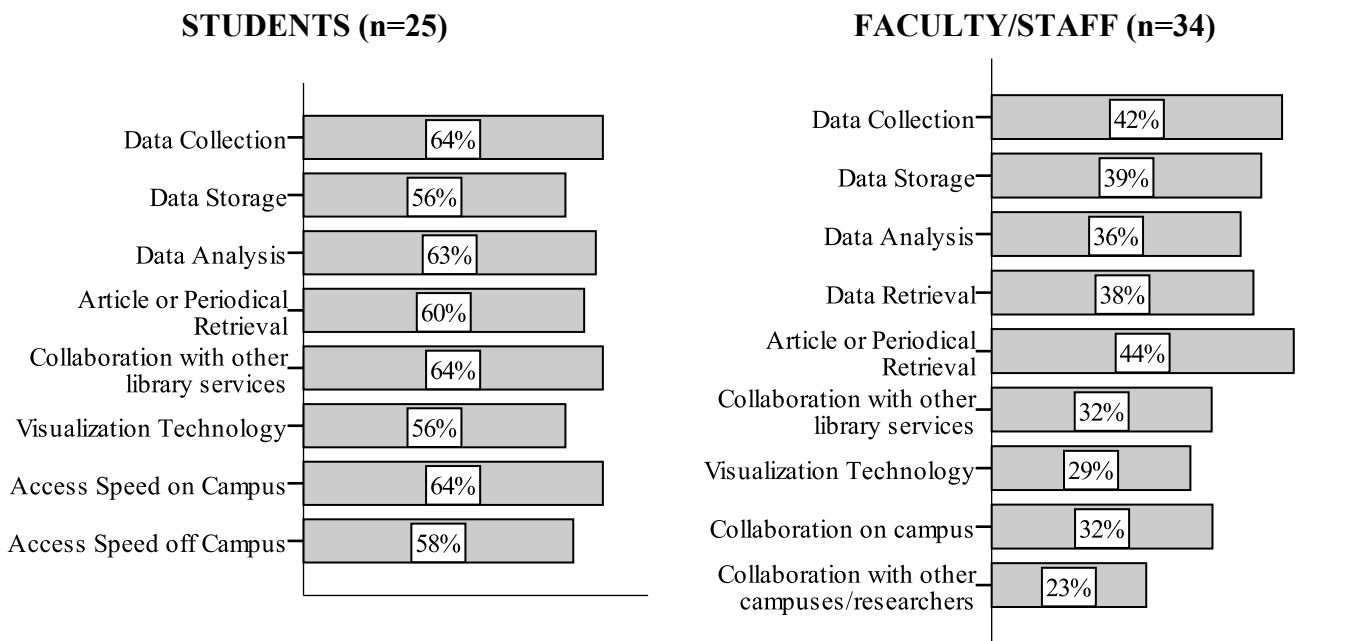
The faculty/staff survey included the following additional items with respect to satisfaction of IT support for: 'Visualization' (44%); 'Student-faculty e-communication' (53%); 'Collaboration with faculty on other campuses' (29%); 'Course material development' (44%); and 'Assessments' (44%).

Figure 10 presents the responses to a question about the level of satisfaction with IT support with respect to library research and/or teaching or research:

Students: "Please rate your satisfaction regarding the campus IT support of each of the following with respect to library research"

Faculty/Staff: "Please rate your satisfaction regarding the campus IT support of each of the following with respect to your teaching or research"

Figure 10
Satisfaction with IT support of the Following
Percent 'Satisfied' or 'Very Satisfied'



Respondents were asked to rate their level of satisfaction regarding the campus IT support for a variety of network activities related to 'library research' in the case of students or 'teaching or research' for the faculty/staff. There were many similar items on the lists of the two groups. These included: 'Data Collection' (Students: 64%; Faculty: 42%); 'Data Storage' (Students: 56%; Faculty: 39%); 'Data Analysis' (Students: 63%; Faculty: 36%); 'Article or Periodical Retrieval' (Students: 60%; Faculty: 44%); 'Collaboration with other library services' (Students: 64%; Faculty: 32%); and 'Visualization Technology' (Students: 56%; Faculty: 29%). For many of these items, faculty rated their satisfaction 30 percentage points lower than the students.

Survey respondents were also asked to respond to four open response questions. Those questions and selected responses from both survey groups are presented in the following pages.

Is there a particular area on campus where you would like to see Wireless access added or enhanced?

Students	Faculty/Staff
I would like for it to be in the Cafeteria by the big window and you might think on putting up the walls all the way up to the roof and put shades on those big windows so we could use it for a study room and now the way it is it is to loud	Massage therapy room and office, very sporadic connection for wireless
Everywhere!	Instead I would like to have internet access/tv/dvd in classrooms, rather than haul a hundred year old tv and dvd player on a cart down the hall.
Student Success Center and GE building	Yes. VE building for all laboratory and didactic courses.
I think the wireless network should be accessible in all parts of the campus.	Library
All over campus	Student Senate Area
In the High Tech Building. The wireless is always cutting off or has a weak signal.	AD-111 Enhanced
Always have difficulty in Admin classes downstairs	Bio Envi wireless works in a very limited area at the east end of the GE building.
Everywhere on campus that a student decides to sit and do work on their laptops.	In the Seledon Martinez Building. Wireless goes up and then down. Signal strength is always low
All of the HT Building. There are some spots that are really hard to get reception.	Gymnasium as visiting teams often need to access the internet in order to compile and report game statistics.
I like to use it in the library or in the cafeteria area. It would be nice if we could some how access it in class rooms	TEC
I don't even know where most of the wireless nodes exist - NNMC focuses on exclusion of student access to wireless nodes, not on availability.	EI Riot Campus
Business Dept downstairs (enhanced)	ALL OVER SINCE WE PAY FOR IT IN OUR STUDENT BILL.
	The campus wireless network should have a password so bandwidth isn't so congested
	Nursing,
	atrium
	Business Office
	I would like to be able to reliably access the wireless connection from any location on the campus. It seems especially weak in the nursing department.
	We frequently have issues with the wireless access in the library. There are locations in the building where it is unavailable.

What is the one thing IT Services could do that would make it easier for you to work or study?	What is the one thing IT Services could do that would make it easier for you to work or teach?
Students	Faculty/Staff
Nothing other than keep the equipment updated and in good working conditions	Reliability of Microsoft Exchange and Banner Oracle Server.
More open source software	Tech support for instructors in the classroom-someone to set up prolite projectors, etc and trouble shoot problems.
allow access to the library	Improve wireless internet connection in VE bldg, massage room and VE 101
Have more wireless access.	Keep computers and equipment up to date and serviced regularly and "cleaned."
not sure. maybe not having to use a flashdrive to save things.	IT services should be a lot more friendly and customer oriented.
Have more computers with programs like Solid Works, Auto Cad, Matlab, and other programs that are similar to these and make them accessible to the students.	Easy navigation. Orientation of new programs for all students, so that they can access it on their own without any hassles.
Collaborate/Share knowledge/experience with dept regarding online classes and vendor issues.	Wireless access in VE building
Took the orientation class and that was sufficient	Maintain email and internet through the weekends.
Better internet access in the classrooms.	Functional Campus wide email system.
Have a help session for online classes.	Put out an IT manual in plain language that might help head off urgent calls from idiots -- it could start out with the words "Is your computer plugged in?"
	Better response time when there are problems with computers or hardware.
	have more people working in IT. Oftentimes, I do not call because I know it will be a long time before people get to me. I just get frustrated, or sit and try to figure it out without breaking anything.
	Promptly responding to requests for software issues or updates. Follow up on outstanding work orders.
	Provide smooth wireless everywhere on campus.
	A complete Wireless campus
	more support/employees
	Response time too slow when requesting support. Still waiting for computers in office to get updates and making sure they do not lose the wireless signal. An ongoing problem.
	Insure that necessary software such as Google Earth and Java are available on every computer on campus.
	Respond in a timely manner
	Ensure that the server or Banner system do not "go-down" during periods of high use.
	Have someone who does not have a 9-4 job. Would be nice to have someone available after hours (i.e., later than 4 pm.

What is the one thing IT Services could do that would make it easier for you to work or study?	What is the one thing IT Services could do that would make it easier for you to work or teach?
Students	Faculty/Staff
	BE CERTAIN THAT ANY S/W USED IN CLASS IS UP-AND-RUNNING
	Provide more IT technicians so that work orders are completed in a more timely manner.
	Let me know who(m) to contact when I have an IT issue. I usually e-mail & sometimes they answer really fast & other times not so much.
	Upgrade the campus computers with a secure internet connection
	Give us reliable, portable access to email services, including support.
	Response from IT. I've emailed various members numerous times without response.
	We seem to lose email service often and as a result do not receive email when the server is down. Lost email impacts our program and our clients and partners perceive our college in a negative way.
	Help me network my laptop with my desktop (in a way that is SIMPLE to use and STABLE day to day) and the ability to print from both.
	Fix computer problems/issues quicker.
	Allow the Business Office to have a server or <whatever> where we could store communal documents. Get all Sr business Office personnel equipped with Adobe Acrobat Pro integrated with their MS Office applications. Fix MS Outlook so that we can use the Out of Office notifications from the desktop client, instead of having to go over to the web client to set it up and remove it. OK - that's the first thing...<smile>
	Upgrade equipment and allocate resources fairly among departments
	Currently satisfied
	The presence of a WebMaster.
	<ul style="list-style-type: none"> - Respond to tickets and communications in a timely manner - Communicate more effectively (eg giving people and staff fair warning when you plan on enacting something like a complete change in library login procedures) - Staff the help line, or redirect it to a line that will reach a staff member who will answer a call - Provide departments with share drives

What is the one thing IT Services could do to improve the way it communicates about its services?	
Students	Faculty/Staff
Educate the students who are accessing the machines	Frequent Emails.
Use some sort of intranet or portal.	When issues develop that affect the campus network,- accessibility, speed, security e.g., immediately alert the campus as to what is being done and continue updates.
stop sending spam e mails	Make it clear what your message is about, using layman's language.
Allow a way of adding your personal email address to receive information instead of it going directly to the eagles account. I rarely remember to check the eagles account.	Be more approachable.
maybe an 800 number for IT support.	Broadcasts Orientations Seminars
Doing great job notifying me vie email	Nothing....great support in our building.
Help students figure out how to get to their Northern e-mail.	Get a mimeograph machine. It's so historically romantic. The smell of the ink, the warmth of the paper.
	Functional Campus wide email system.
	Assign IT person to each department.
	Communicate numbers for help, online requests, etc. Who do we call, if we can't email. Is there an office where we can leave a message? How do we get help?
	Communication is fine... need more people.
	When call , which is hard to get hold of IT people(Staff), maybe get cell phone numbers for each staff in case we have problems with our computers.
	Notify us when work orders are complete or as to the status of a work order.
	Have just-in-time (possibly chat) access to IT.
	more staff
	phone texting
	I learned that a phone call is less effective than a Eagle IT service request through the Eagle IT website. Why is anonymous interaction more effective than talking to an actual person?
	Respond to help desk e-mail Respond to help desk phone calls Make it easier to find contact number for help
	Set up a tracking system on-line so that we can follow our request status. Right now we will ask an IT person what the status of a work order is and get "attitude" for an answer.
	Availability - Would be nice to a least speak with a real person or are you just "hiding?" Like a phone number....
	Make it E-A-S-Y to remember who to call (or e-mail)...then advertise it everywhere!!!

What is the one thing IT Services could do to improve the way it communicates about its services?

Students	Faculty/Staff
	Inform the college what infrastructure upgrades are being looked at, get input on what the end users want.
	Answer the phone.
	Customer service, appearance of website (pics stay the same, not of students but only of handful of faculty)
	I would like to know what is available. New technology that we can use to improve our work production, etc.
	Regular broadcasts could help (say every two weeks). OR a news item on the home page of the website.
	Let people in the department what they have done to the computers or the college server when they work on them or impose other commands such as filtering on them.
	Provide education
	Currently satisfied
	Communicating, in general, would be a vast improvement.

Anything else you would like to add with respect to accessing or using the campus computer systems?

Students	Faculty/Staff
Needs to be secured network, controlled access.	Better security would be a plus for all sensitive data through the network and database.
hire new people that work hard	Good job with limited resources
Keep up with anti-virus, spy-ware, etc. efforts in a consistent manner throughout campus.	I always get a quick and satisfactory response from IT, no complaints
Support is quick!	Single logon is needed.... Forced individual login are lacking - people going on the network should be required to use their own individual logon to any computer on campus.
There is a noticeable difference in the internet speed between the library and the student success center; the computers in the student success center seem to operate at a much lower pace than the library computers.	Frankly, I avoid accessing campus computers because they are rather old in many cases, clumsy to use and often physically "unclean."
If possible, just less server problems. The NNMC Server had a tendency of going down when I need it the most.	The current system is antiquated and not available to students; the computers faculty use are unreliable.
Big improvement for a few semesters ago.	Thanks for all the help!
	Third party email service will be nice.
	Functional Campus wide email system.
	I think you guys are doing a great job with -- at least in my department -- antiquated equipment and even more antiquated (and clueless) faculty. Keep up the good

Anything else you would like to add with respect to accessing or using the campus computer systems?	
Students	Faculty/Staff
	work
	More tech support. Where are you folks? Let us know how to contact you.
	Remote data storage and follow through on password requirements on computers.
	It seems that NNMC is not a member of JSTOR, a website devoted to accessing journals.
	I get 2 or 3 e-mails a day trying to sell me Viagra Other spam is getting trur on e-mail You block an e-mail address and tomorrow the spammer uses another one
	Please make our system responsive and prone to less crashes.
	should really get the "smart classrooms" up to speed. Fix banner so you don't have to know the "secret" login method.
	Web site needs improvement!
	Every computer in every classroom needs to be configured the same way. A student should actually have access to Institutional Resources (Bb, Student e-mail, Web Site) from any computer intended for student use. If a computer is broken there should be a way to identify that computer and request it's repair, with a tracking system that allows issues to be verifiably resolved.
	It would be great to have automatic backups daily, and if possible to a cloud, accessible from anywhere.
	Technology resources do not seem to be fairly distributed among departments.

Findings & Recommendations

The campus visit and the surveys have provided a lot of information which can be used to make improvements in campus cyberinfrastructure. Many of the survey respondents offered specific suggestions for improving the campus network and other IT services. Many also complemented IT for what they have accomplished with their limited budget and personnel. However, the campus IT director and staff are the only ones who will be able to allocate their budget in ways that best meet the needs expressed by students and faculty on their campus to enhance the learning environment provided by the technology available.

I recommend that the IT Directors from each C2 campus discuss with each other the survey results and possible ways to address student and faculty needs. They may benefit from each others' experience and expertise and develop innovative solutions for their own campus as a result of this collaboration.