

Navajo Technical 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: Navajo Technical College. According to the proposal:

"It is a Tribal College located on the Navajo Nation in Crownpoint, approximately 125 miles west of Albuquerque. (Navajo Technical College was previously named Crownpoint Institute of Technology). The Navajo Nation and a Board of Trustees appointed by the tribe administer the college, which offers approximately 450 Navajo students a range of certificate and associate degree programs accredited by the North Central Association of Colleges. NTC serves 30 Navajo Chapters¹ whose 56,542 people live in remote, rural areas encompassing more than 4,396,734 acres of land. The college has open admission, meaning that any member of the Navajo Nation may attend courses tuition-free. The mission of the college expresses a commitment to nurture intellectual growth with an emphasis on the Dine² philosophy of education³, and it encourages integration of traditional Navajo culture and language into all learning experiences on campus."

¹ Chapters are local government subdivisions within the Navajo Nation. Each has a central Chapter House that holds offices for local governance and often serves as a community and education center.

² Dine is the Navajo language name that Navajo use to refer to their people.

³ The Dine philosophy of education seeks to advance student development through 4 Dine concepts that are related to the 4 directions and 4 sacred mountains; they are usually translated to English as Thinking, Planning, Living, and Assuring.

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

"NTC proposes to expand its Internet to the Hogan4 (ITTH) and Dine Grid5 wireless transmission network by connecting to the southern portion its service area and to the central education facility for the Pueblo of Zuni in Zuni, NM. NTC will add new Harris Stratex TruePoint digital microwave radio platforms to two of its existing wireless transmission towers. The first tower, located at Dezza Bluff about 50 miles West of NTC (see map), is currently under construction by the Navajo Nation as part of the Nation's Broadcast Services System. NTC's new Harris Stratex equipment will be co-located on the Dezza Bluff tower. The second microwave tower, located at Mount Powell (see map), belongs to NTC and will serve to extend the wireless infrastructure southward towards Zuni Pueblo. This tower connection also provides a redundant link back to the Albuquerque GigaPoP via connectivity to Gallup, NM. The new TruePoint radio links will provide high-speed OC3-level broadband connectivity over a 120 mile transmission path."

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

"NTC will deploy the new capabilities resulting from the proposed cyber improvements to enhance research and education programs in several strategic areas discussed below.

- Economic development. Too often, Navajo Tech's graduates leave their communities to live in urban areas, a trend that continues the pernicious cycle of poverty throughout the Navajo Nation. To counter this trend, NTC will leverage the broadband connectivity to strengthen the ITTH's economic development initiative on two projects: 1) federal and state contracting and sub-contracting, and 2) technology transfer. The government requirement that its

contractors subcontract 5% or more of their business with Minority Serving Institutions and an additional percentage with minority owned businesses. As a result of ITTH efforts, companies like Boeing and Lockheed Martin now provide jobs on the Reservation to students and graduates of Navajo Tech. In the most successful project, employees on the Reservation use a Computer Aided Design program to negotiate and manage contracts in laser scanning, three dimensional architecture and engineering design, and digital manufacturing. Encouraged by this success, the college will actively seeking additional high skill/high wage contracting opportunities.

- Education. NTC will extend its delivery of educational and community-based programs to a wider service area, including remote areas with little access to external resources.

- External engagement. NTC and the Zuni Nation have formulated plans for co-development of educational and extracurricular programs that serve the mutual needs of their two communities.

Importantly, UNM seeks to deliver distance education classes to the Pueblo of Zuni but has not previously had broadband access. The current proposal by NTC would also provide a means for UNM to access the Zuni educational center via Gallup, NM and the Mount Powell transmission tower.

- Workforce Development. Providing improved cyber services to the Navajo Nation is a strong motivating factor among the students working on the network. NTC will encourage these students to continue their education and make them aware of careers in STEM. The extension of basic telephone service, which is currently unavailable in almost half of the Navajo Chapters in the NTC service area, will greatly increase workforce development potential for people in the region.

- Economic development. NTC is working with the Small Business Administration (SBA) to develop an active technology transfer program based upon the models provided by universities such as the University of New Mexico and the University of Wisconsin. The program encourages research and development projects by faculty and students where the results can transfer into businesses operated by the college, the tribe, or Navajo individuals."

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;
- Cyberinfrastructure 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 visit included meeting with the IT director, interviewing faculty and administrators, and observing the geographical and physical challenges posed for the institution.

A campus visit to NTC was conducted on January 14, 2011. The main campus is located in Crownpoint, NM, 125 miles west of Albuquerque. It takes approximately 1 and one-half hours to reach the campus from Albuquerque. The community is on the Navajo Reservation, approximately 30 miles north of Interstate 40. There is a small branch campus in Chinle.

The evaluator met with Jason Arviso, Director of NSF projects for the campus and Jared Ribble, Information Technology Director to discuss the status of the hardware upgrades on campus. Jason is also one of the co-PIs for the C2 award. They indicated that they had not ordered the equipment yet, but had dedicated the new IT building on campus the previous day. We were not allowed to go inside the building because of ceremonial purposes, but from the outside the building looked substantial and able to handle the hardware to be purchased.

During the campus visit, the evaluator also spoke with faculty members and a teaching assistant in geographic information technology and applied computer technology. The campus has received support from NASA to map caves in El Malpais National Monument. Students take GIS and video equipment into the caves to document the environment. NASA can use this information to better understand some of the challenges of space travel and the NTC students gain hands-on knowledge of high tech equipment. It takes a lot of bandwidth and storage space for these files, so upgrades are needed. NTC students had also produced a video on climate change by interviewing Navajo elders about their experiences with the environment.

The external evaluator was not able to sample wireless connection speeds on campus because it was student orientation day. On a prior personal visit to NTC, the evaluator was not able to obtain a wireless signal in campus parking lots.

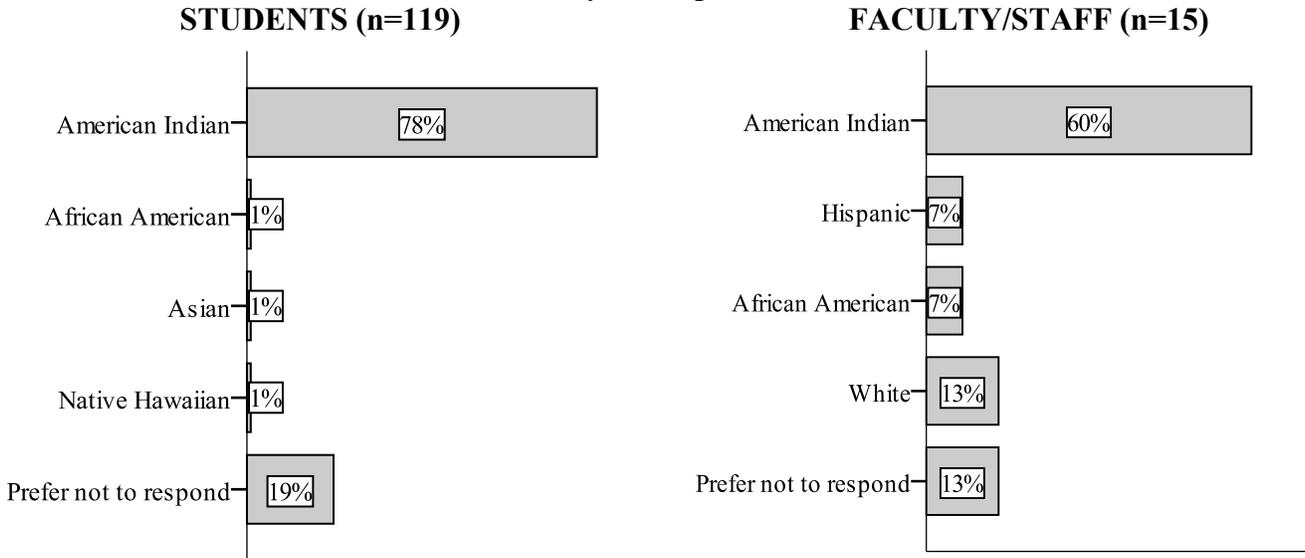
Survey of Students and Faculty

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 80 students and 56 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.

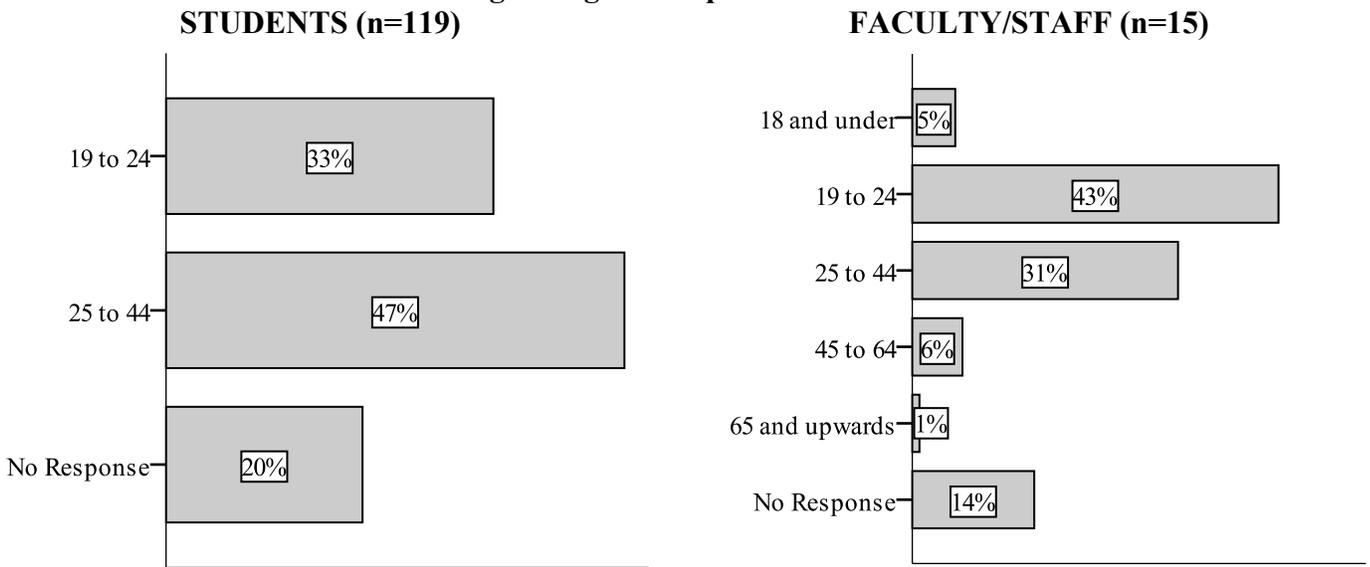
Figure 1 and 2 presents the demographics of the two groups of respondents: Ethnicity and Age.

Figure 1
Ethnicity of Respondents



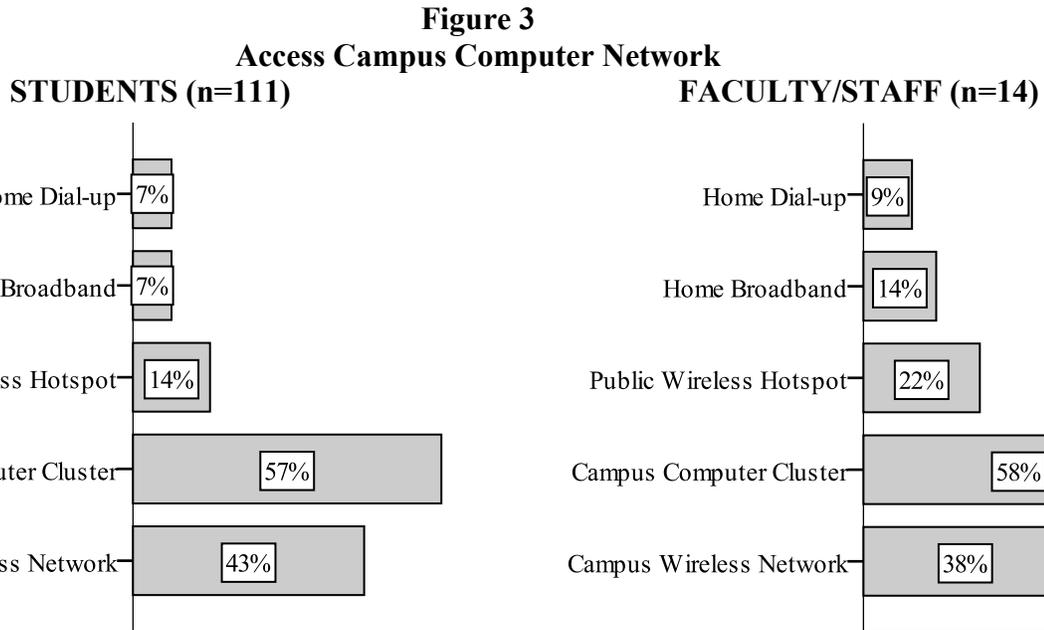
Over three-fourths (78%) of the students and 60% of the faculty/staff reported being American Indian.

Figure 2
Age Range of Respondents



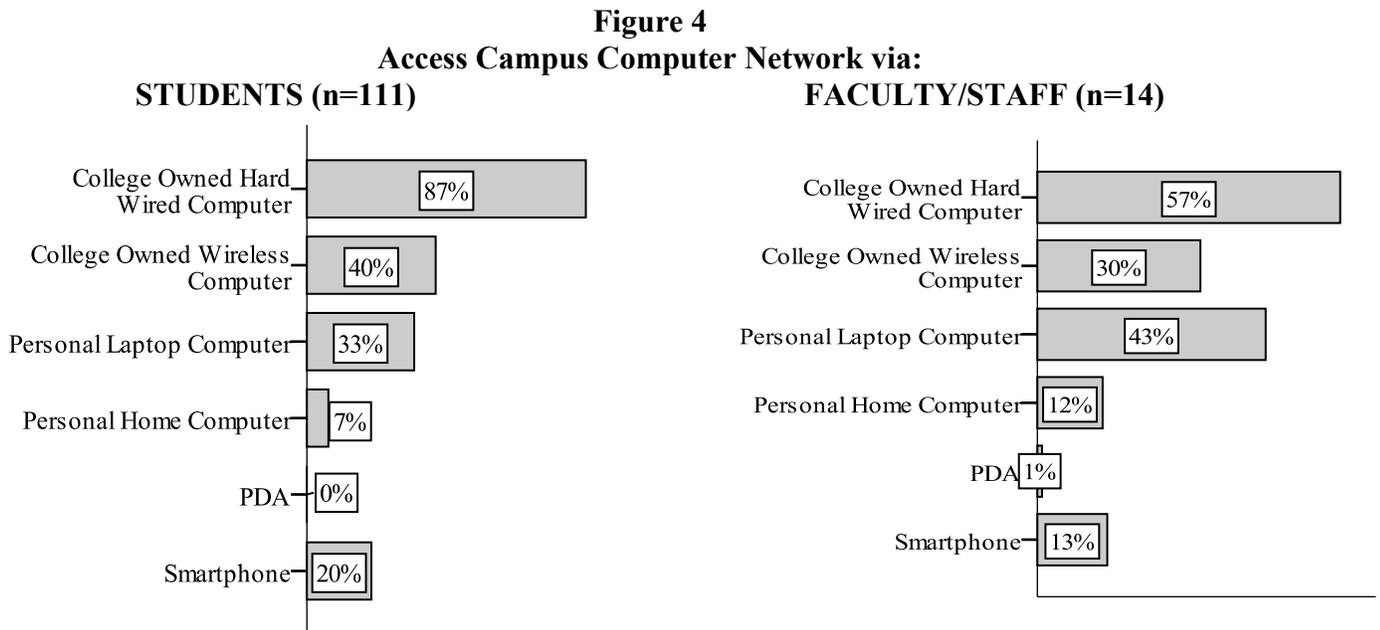
Student and faculty/staff respondents were in a variety of age ranges. Almost half (47%) of the students reported being 25-44, with 33% reporting being in the age range of 19-24. Less than half (43%) of the faculty/staff respondents reported being 19-24, while almost one-third (31%) were 24-44.

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. Over half (57%) of students reported accessing it using a 'campus computer cluster', and 43% use 'campus wireless network'. More than half (58%) of the faculty/staff reported using 'computer clusters' and 38% use the 'campus 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: 'college owned hard wired computer' (87%), 'college owned wireless computer' (40%) and 'personal laptop' (33%). Faculty/staff use a similar array of devices to access the campus network, although in a slightly different order: 'college owned hard wired computer' (57%), 'personal laptop'

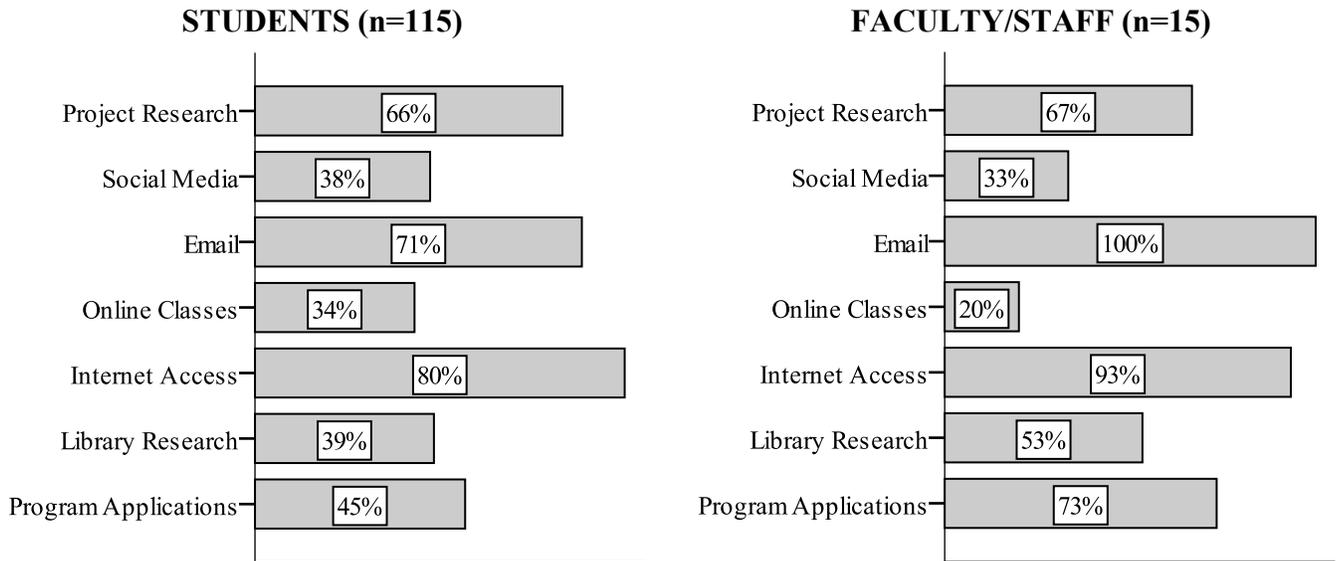
(43%) and 'college owned wireless computer' (30%). One-fifth (20%) of the students and 13% fo the faculty/staff reported using a 'Smartphone' to access the campus network.

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

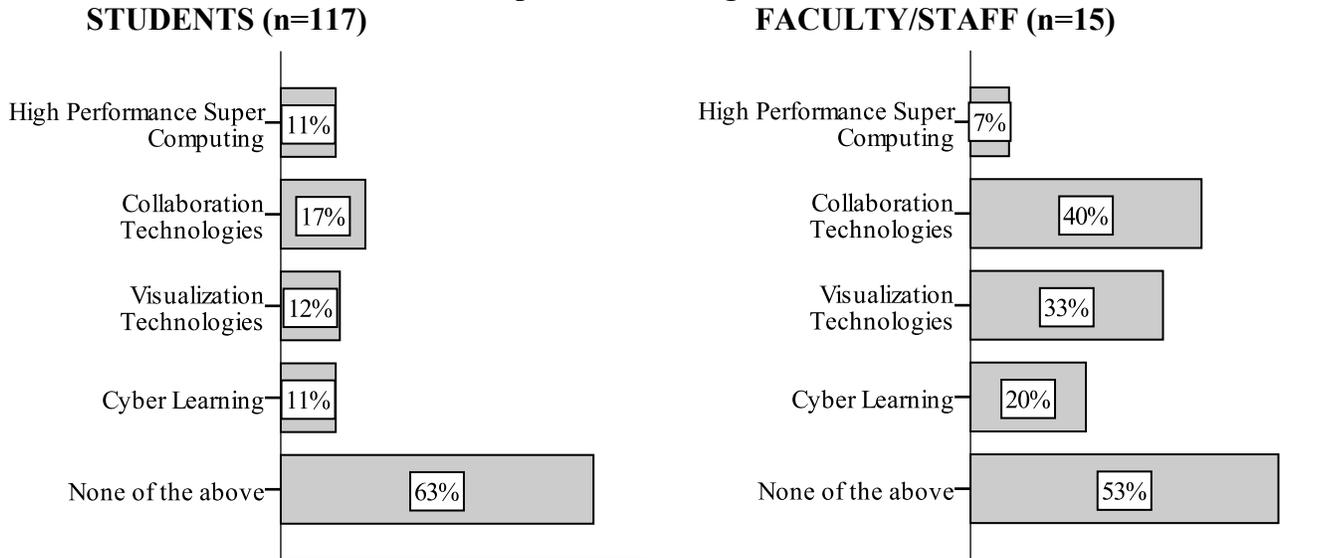
Use Campus Computer Network for the Following:



About three-fourths of the students reported using the network for 'internet access' (80%) and 'email' (71%); while 100% of the faculty/staff reported using it for email and 93% for 'internet access'. Two-thirds of both groups (Students: 66%; Faculty/staff: 67%) use the campus computer network for 'project research'; while almost three-fourths (73%) of the faculty/staff use it for 'program applications' compared to less than half (45%) of the students. About one-third (Students: 38%; Faculty/staff: 33%) 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

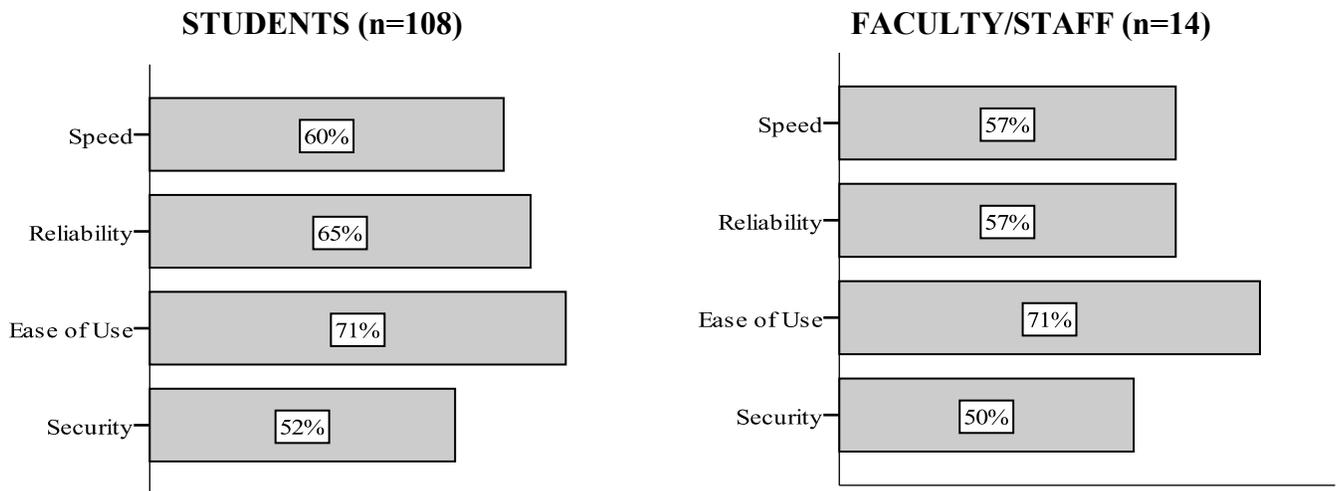


Of the computer technologies presented to respondents, 'Collaboration technologies' was reported the most used by both groups (Students: 17%; Faculty/staff: 40%).

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'

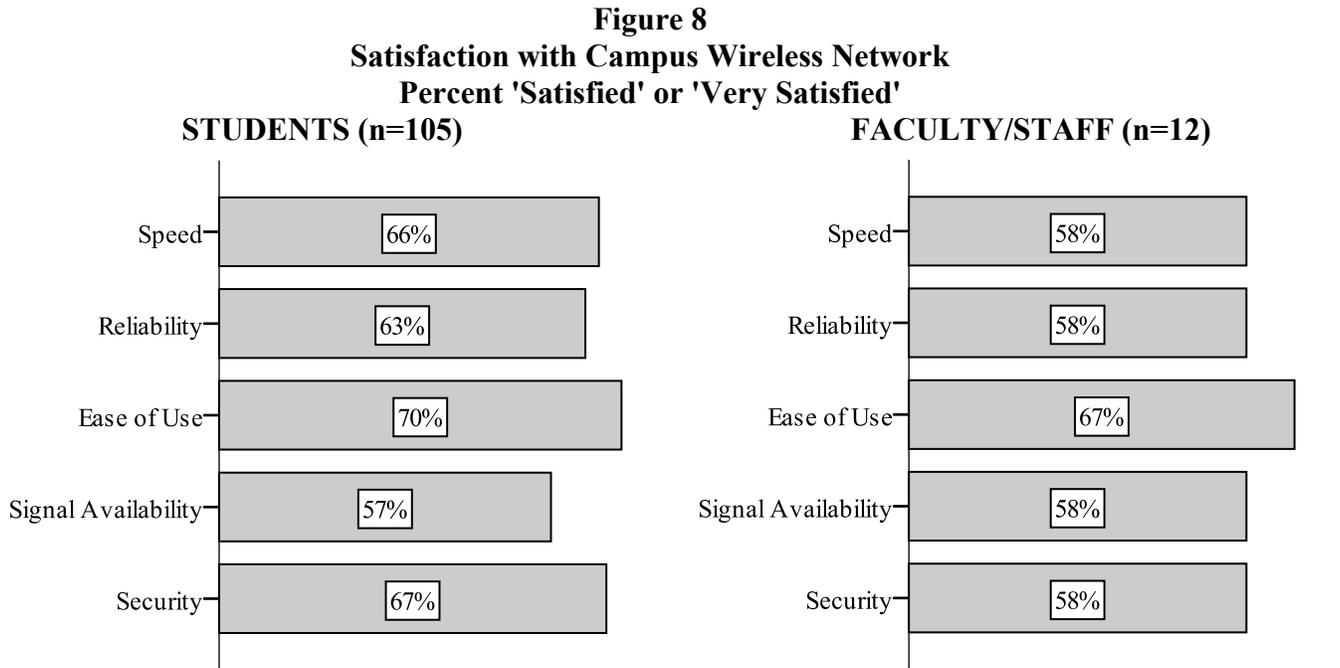


Ratings of satisfaction are subject to a person's interpretation of what satisfaction means to them. It is not necessarily based on objective criteria, but it is still meaningful to them and should be considered when making upgrades to the campus computer network. The ratings of the campus hard wired network were very similar between the two groups of respondents. The highest degree of satisfaction was for 'Ease of use' (Students: 71%; Faculty/staff: 71%). Less than two-thirds (Students: 65%;

Faculty/staff: 57%) were 'satisfied' or 'very satisfied' with the 'Reliability' of the hard wired campus network. Network security received the lowest satisfaction ratings with only half (Students: 52%; Faculty/staff: 50%) of the respondents being 'satisfied' or 'very satisfied'.

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"



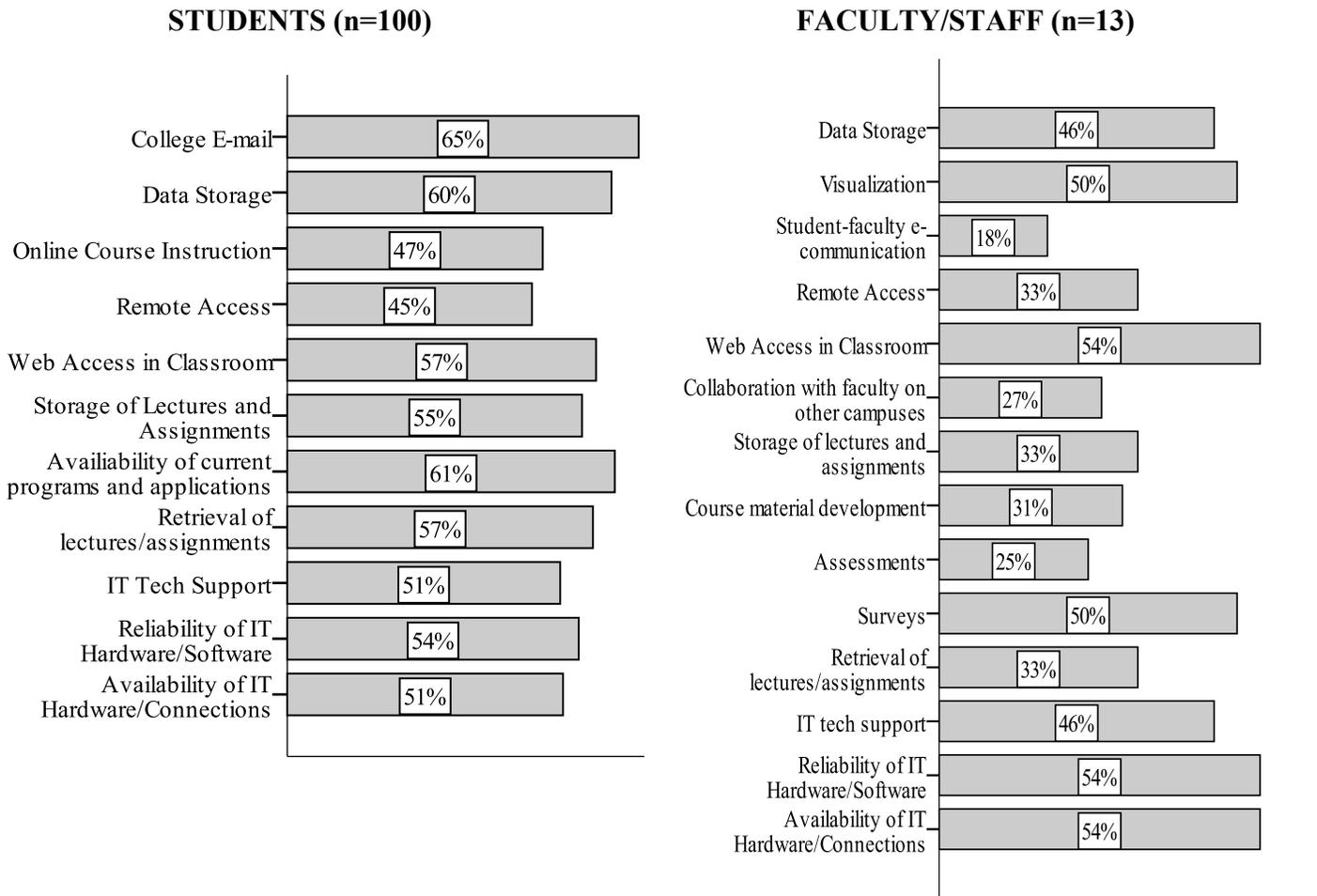
The ratings of the campus wireless network were again very similar between the two groups of respondents as the ratings of the wired network. Again the highest degree of satisfaction was for 'Ease of use' (Students: 70%; Faculty/staff: 67%). Less than two-thirds (Students: 63%; Faculty/staff: 58%) were 'satisfied' or 'very satisfied' with the 'Reliability' of the wireless network. The wireless network perceived 'Speed' (Students: 66%; Faculty/staff: 58%) and 'Security' (Students: 67%; Faculty/staff: 58%) were rated lower by the faculty/staff than the students..

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: 60%; Faculty/Staff: 46%); 'Remote Access' (Students: 45%; Faculty/Staff: 33%); 'Web Access in Classroom' (Students: 57%; Faculty/Staff: 54%); 'Storage of Lectures and Assignments' (Students: 55%; Faculty/Staff: 33%); 'Retrieval of lectures/assignments' (Students: 57%; Faculty/Staff: 33%); 'IT Tech support' (Students: 51%; Faculty/Staff: 46%); 'Reliability of IT hardware/Software' (Students: 54%; Faculty/Staff: 54%) and 'Availability of IT Hardware/Connections' (Students: 51%; Faculty/Staff: 54%).

The two items that were unique to the student survey both had satisfaction ratings below two-thirds: 'College E-mail' (65%) and 'Online Course Instruction' (47%).

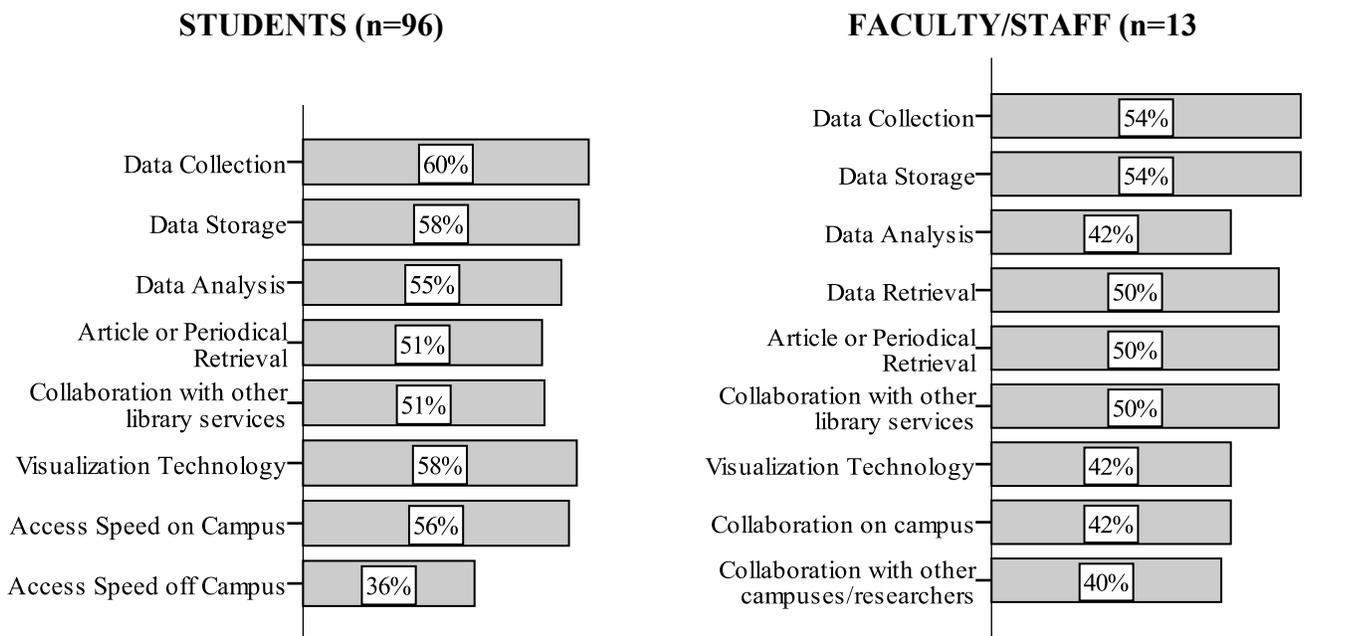
The faculty/staff survey included the following additional items with respect to satisfaction of IT support for: 'Visualization' (50%); 'Student-faculty e-communication' (18%); 'Collaboration with faculty on other campuses' (27%); 'Course material development' (31%); and 'Assessments' (25%).

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: 60%; Faculty: 54%); 'Data Storage' (Students: 58%; Faculty: 54%); 'Data Analysis' (Students: 55%; Faculty: 42%); 'Article or Periodical Retrieval' (Students: 51%; Faculty: 50%); 'Collaboration with other library services' (Students: 51%; Faculty: 50%); and 'Visualization Technology' (Students: 58%; Faculty: 42%).

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
The campus pretty much has it in every area	Chemistry classroom/lab and office.
Residential Apartments	Every classroom and every teacher's office. Students should be able to sit around campus anywhere on campus and enjoy wireless access on their lap tops.
Family/student housing and the student dorms	Yes, everywhere where it is not working currently, including family housing and some of the modular units and Student Services.
The dorms and the tech building.	In the Administration Building
The library	Faculty housing - it is supposed to be there, but it never works. For the students it should be at married student housing. Certainly, with Technology in our name, this campus should be bathed in wireless network that works.
Nursing room, cafeteria.	We need more space for our hardwired computers in the STEM Lab, we have more computers that are stored due to lack of space.
Every where on campus needs the wireless access it would help	All departments/buildings (within reason), staff offices, study labs, presentation/meeting rooms and cafeteria would all be ideal areas of receiving wireless connectivity. The college continues to use OC3, data storage capabilities and technological advances as selling points, but, the college has yet to see that work consistently with reliability.
The residential dorms	
Student support services programs such as residential services, counseling, student activities after hours including study halls.	
Where ever there is no connection.	
Accounting classes	
family housing	
nope its all good	
residential areas	
The Library.	
Efficiency dorms for those that do research after class.	
more computer access in library on campus	
Mod 5. There are no computers in the classroom right now...so having wireless internet in the mod would be very helpful because we can just use our laptop.	
where ever its needed	
in the dorms the network is very slow, and take a long time to finish my work.	
YES YES YES, FAMILY HOUSING NEEDS INTERNET CONNECTIVITY!!!!!!!!!!!!!! Hook us up!!!	
Everything it good here!	
At the NTC dorms.	

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

Students	Faculty/Staff
In the law and Nursing building.	
It would be nice in almost every class and a new Tech. building.	
at family housing units	
The student dorm, all the computer classes and all classrooms that do have computers.	
The G.E.D classrooms.	
The multi-purpose room	
In the parking area	
The library needs more computers and right now it hard to get on an available computer.	
in the law lab, most the computers there are slow and keyboards are getting old, hard to type	
THE LIBRARY!!!!!!!	
the dorms	
Everywhere!	
dorm, library, and all over the campus	
in the lunch room because we can do are homework	
It would be nice if the dorm had wireless and great speed when it comes to the online access. Also new type buttons for the STEM Lab....	
the dorms	
in the tech building, some areas still do not have wireless internet access.	
Law Advocate Building	
the library and stem lab needs more computers for weekend usage.	
better access	
Dorms	
parking-lots	
I'd like to see it be faster on other than the library and tech lab	
In the student housing areas	
In the dorms and everywhere	
Enhanced at the residentals for the student living! It is too slow due to how many people are online at the same time!	
I would say the family housing....	
In the classrooms also the library and the stem lab facility.	
The Family housing currently does not have internet access and although we stress time and time again to get internet at the apartments, so far, nothing has been done. I have lived there for almost two years now and ended up having to buy internet from an outside source.	
Electrical Trades, Residential Housing, in more classes	
Family housing, on school campus only with good internet speed.	
More enhanced network speed in the STEM Lab	
every where is covered, but not the dorms	

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
Have access connection at home	Make sure they are available when needed.
Not sure, I'm satisfied with it so far	Convert MS 2003 Office Suite applications (on chemistry classroom desktops) to 2010 versions. Some instructor already have the MS Office 2010 formats. Also, update virus protection software on chemistry office and classroom desktops and instructor laptops.
to get more computers	Make sure we have the latest software applications.
Have more study groups	Upgrade our office computers to the level of everyone else in United States. We need new computers and new updated software.
so far everything is good	Get the Internet to the Hogan Project completed and stop finding excuses not to get people out on the towers.
One thing the IT Services could do that would make it easier is to provide more computers to work with. it would make it easier if they were there all the time.	Provide VPN connection to the network
Have not use the internet from the school.	have lcd monitors wireless connected to laptops for inclass presentations.
nothing, I am pretty satisfied with how the technology is at school and the help of online classes.	Be more fair to all the campus needs and projects for students. Not just the computer room and building..
be a little more helpful.	I can never find them when I need them.
	I think that IT Services does the very best they can with the limited number of employees that they have and the needs that they have to try to meet. I am fortunate that I am located close to the IT office and therefore when I have a problem, I just run into their office. I can only speak for myself, but I believe IT Services to be staffed with dedicated, sharp individuals. They are also always polite and pleasant and do their best to assist me with whatever I need.
More labs and more paper	Be more available.
more computers	Provide feedback of what they cannot get to immediately. They all have cell phones and yet they don't answer they're calls, texts or email messages. All technicians should be certified IT technicians, otherwise, not much gets repaired, maintained or tended to in the amount of time that others believe a technical issue needs to get repaired.
Being a regular user of IT services in administration, some technical assistance have been provided to learn more about the technology and the areas which would make it easier to work or study would be on-site (work station) briefing on changes in software development and evolution.	it would be nice if any of them could be found when you need them--they seem to be very elusive and difficult to contact for help or questions.
more communication	
fast connection.	
make a bigger stem lab or more computers.	

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
bring up the internet speed	
have more computers available for work and not just social internet.	
Have head phones hooked onto each hard drive so that we could listen to some music with doing our work....	
Get more computers and laptops. So you do not have to wait!	
make faster internet available to the entire school.	
have more computer or access to computers without time limits	
Access availability	
Get a Bigger building.	
Fix every computer in the Library	
High speed internet... Every time I try to play a video regarding school or a tutorial, the net always freezes up and I would have to wait a long time to view a video.	
make the connection speed faster	
Have internet at the family housing	
on hands help.	
Have more updated hardware.	
having a phone number where they can be reached. having a useful appointment making.	
Not all computers can open or read each others data	
keep doing what their doing	
To have a bigger room or building to work in.	
good as is	
Help me understand the technology.	
to make the internet faster?	
give more laptops.	
Provide each student with own personal account when login into other computers across campus other than the computers in the IT classroom with unique username and password.	
More ideas	
Get faster Internet Access and more computers	
Perhaps do a one on one session at least once a week.	
easy to upload assignments onto computer because not all computers have access to them, it will just download with the funny wording or typing	
maybe more computers	
i really get help by my friends	

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
Do what they do best and keep at it.	
faster wireless internet	
get the entire campus online and finish in timely manner.	
Need weekend hours to study on weekends and use computers	
their not that much computer on campus so it make it hard for me to completed to finish my homework.	
more help	
Ethernet access	
more computers	
faster computers	
not mess with the internet	
satisfied right now	
have a room for work or study itself	
Pretty satisfied	
TALK MORE TO EACH INDIVIDUAL	
provide access to internet on all of campus grounds!	
Having the wireless internet at the family housing and also speeding up the wireless.	
more research sight that are easy to asses	
high speed internet would be effective to the campus.	
Have the highest speed available in all class rooms and labs throughout the entire campus and not limited to one building.	
We need a larger study area. Most students are shy to go to places where there is congested areas.	
Some computers are slow to a point where it makes it inconvenient to work with.	
STUDY AT HOME WITH INTERNET HAVEING THE WIFI CONNECT AT HOME	
Fix and update all the computer hardware and software.	
put a password on the wireless internet and have only the college student get the password from a instructor or Adviser, so only students can have access.	

What is the one thing IT Services could do to improve the way it communicates about its services?	
Students	Faculty
data storage, and faster connection	Schedule office suite and virus protection updates via email messages and memos.
set up fliers	How it is planning on improving or upgrading older parts of the network.
have more computers.. like a lab	Meet more and pay attention during the meeting rather than working on cell phone or computer.
they could have workshops and other classes to help make their jobs easier	Define its services on a dedicated web page that serves the IT office. Implement a service request system
Have not communicated with them	Availability to resolves issues campus wide.
if more teachers allowed students to turn in assignments online or let them know what they missed online.	Is to communicate with all departments on projects but not to talk like a sells man on what they can do but what we do now..
newsletter..	We don't know what it is they do.
Put more info about the services	I think that it would be helpful if someone from the school was willing to assist IT in producing materials that would itemize how IT can and cannot help faculty regarding IT issues. A brochure would be an information tool and maybe a quarterly newsletter that just let the rest of the school community know what they are doing. There is some mystery surrounding IT and a sense by some of the faculty that there is blatant favoritism for the IT Department. I believe if the school was kept informed about their successes and failures there would be more of a feeling that we are all in the same boat.
keep doing what they are doing	Have an IT Meeting for staff detailing all the services they deliver if needed.
Make sure that any sweeping changes are consistent and reported in a timely fashion including re-training and/or refresher training.	Provide feedback - make follow up appts when meeting times are missed or conflict with other meetings, for example. Don't say you can fix the problem when you can't or if it's going to take months to get to.
keep up to date with everyone one campus	
more info on IT, and communications.	
faster computer	
give free instructional SHORT classes to the students.	
can educate the staff who is supervising the computers	
doing good so far	
Make wireless on campus	
Wireless internet all over campus, and not only in designated areas such as the stem lab or library... We need wireless internet all over campus..... Because not everyone sit in the stem lab where there is hardly any room, and the library is always crowded....	

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

Students	Faculty
if there is problem then fix it	
Have more wifi connections.	
knowing where they are at.	
keep doing what their doing	
Send out e-mails, leave note on board.	
good as is	
connect wireless internet services to the family housing.	
to just keep me on the computer and keep helping me wit my research?	
more survey's	
Open the computer labs at both dormitories giving students.	
I think it's already been improved and i can't think of anything to better improve it.	
Put up notices	
emails	
idk maybe newsletters via emails	
Answer the phone.	
i think it is working ok	
the is working very to me	
have high speed wireless internet	
there not a many people on line to work with	
Schedule appointments if too busy?	
faster servicing	
get out of their shell	
satisfied	
mass emails	
TO FIND AWAY TO TELL ALL STAFF AND STUDENTS ABOUT IMPORTANT INFO	
be there for every individual in need of assistance!	
Actually doing their job instead of walking around with their personal mobile devices, also getting it done.	
there should be a daily up date of what is going on on campus, also a daily up date on what going on around the world.	
Respond to the needs of students and answer their questions in a timely manner.	
Computer usage is important; on the other hand there is theft.	
Have more accessible services such as advise, troubleshooting and latest software available	
HAVE MORE WIFI AROUND LOCATION OF THE FMAILY HOUSING	
They can be a lot more helpful and friendly	

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

Students	Faculty/Staff
wider reception of wifi around ntc area	Would like to access office computer off-campus.
Not sure because I use the internet from work	Nothing at this time.
It good I like what it is	Students need computers because we give them a lot of homework/assignments which has to do with research, development of powerpoints, and written assignments on computers in accordance with APA.
its going good keep the work up	Excellent overall, but could use improvement in specific areas. The advanced work being done is phenomenal.
The implementation of the IT Policies and Procedures is a good beginning whereby all personnel should treat it as "required reading".	Provide users with capable cloud services.
more wi-fi area. I mean this is suppose to be a technical college	more technically usage of equipment campus wide since this is a technical college, and it is not readily available.
more accessible	Campus is not word that I.T. does not cover..
do something about facebook access. Students should access through their own media to access this. When one needs the computer usage, you usually have to wait.	If only they would not take days to answer our request for assistance.
a little more security.	In general we are very lucky. We have computer systems that are far and away better than most. The people who work in the IT Department, need additional help to handle all that they are trying to do. For me, I just wish the wireless system worked all the time in our housing area. Thanks for asking.
more AVAILABLE laptops to the students that need to complete homework assignments.	More computers in the STEM Lab.
thanks	If the technicians were as IT savvy as some say, why are they usually found "fixing" things in pairs or groups? There are enough IT technicians to cover the whole campus if 3-4 departments needs their assistance if called upon all at the same time.
Need scanners! Nobody in the school has it.	
Thank you for the great job you all are doing on campus and making sure you get the student's input on the services.....	
more computers	
Everything is really gud. I think we just need more room.	
good as is	
thankful for having the access available to me and my family	
thank you for the internet... it helps me alot faster with my homework?	
nothing else everything is good...	
Limit the usage of social network sites during academic semester.	
Uh! Probably just request for more computers so it wouldn't be so congested.	

Anything else you would like to add with respect to accessing or using the campus computer systems?	
Students	Faculty/Staff
Just more internet access	
No comment at this time just the library.	
it is very helpful when you need it and know what you are doing	
it is very good to use when u need to.	
it help me do and finish my homework so yeah	
I enjoy the systems, maybe more antivirus software/updates and internet access for ALL computers on campus in ALL classes.	
In the Dorms	
i think viruses are on ever other word and ever other images	
satisfied	
I LIKE USING THE INTERNET AND WANT TO COUNTINUE AT THIS SCHOOL	
better service of internet at residential dorms	
Family housing needs internet services and the entire campus needs the fast OC3 network so students can do homework and research anywhere.	
Security is the big issue. Keep that in mind for the long term. Not just about today or tomorrow.	
Computer software is improving and would like to see computers more updated and more funding for these software purchases	
Have access to the internet all around campus and the student dorms as well as the student family housing. Faster connections and easy access.	
only have students work on the computer on outsiders	

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 complimented 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.