

2012 Technology Strategic Plan

Initiatives

Infrastructure

Implement Technologies to Maintain Data Integrity

Implement Upgrades to Support Emerging Technologies

Improve Wireless Coverage Area and Capacity

Training

Develop a Strategy to Coordinate Training Resources

Instructional Technology

Improve the Usability and Supportability of Smart Classroom Equipment

Evaluate Learning Management Systems to Determine Best Fit

2012 Technology Committee Report on the State of Technology

Introduction

The Technology Committee began meeting in December of 2011 charged with creating a technology strategic plan for the college. Before such a plan can be developed it is necessary to understand the current state of technology at the college and the specific needs of the various stake holders. Then it is a matter of reconciling what is needed with what we have and the technologies that are available. The committee conducted a survey of each of the three primary constituencies groups at the college; students, faculty, and staff. A summary of the survey results are attached in Appendix A. Also attached is the 2012 Technology Committee 12 Month Implementation Plan. These documents serve to address the technology needs of the collage as identified by the survey results and the Technology Committee for the next 12 months, and as reflected in the Technology Strategic Initiatives document attached to the front of this packet.

Funding

The state of technology on campus is directly related to funding. Technology at the college is funded from various budgets that are designated for specific purposes. Some components of technology are not funded from a dedicated budget, but rather have been purchased from various one time sources.

Funding to maintain the existing infrastructure and desktop systems is marginally sufficient with a little to spare for strategic initiatives. The new Comprehensive Technology Fee implemented last year allows the college to replace all lab computer and smart classroom related technology on a predictable replacement cycle, based on industry best practices. Faculty and staff desktop system replacements are funded separately at a slightly deficient level. We are now offering faculty and staff that have a need to be mobile with the option to have a laptop computer instead of a desktop system. Laptops typically cost more and have a shorter useful life then desktop systems. Funding for faculty and staff computers will need to be increased over the next few years in order to maintain an industry best practice replacement cycle of three years.

There is no specific funding source for experimental technologies such as tablets and smartphones, or personal peripheral equipment such as printers and scanners. These devices are funded through a variety of one time funding sources and no replacement plan exists. Personal peripherals are expensive to operate and maintain and should only be deployed where necessary. Most employees have access to a high volume copier/printer/scanner somewhere near their workspace.

The wireless network has been funded primarily by the students utilizing one time funds. There is no funding source designated for wireless network upgrades, but also there is no industry best practice for the frequency of such upgrades. Upgrades are more dictated by the industries adoption of new standards.

eLearning is entirely self-supported from student technology fees. The funding level is sufficient to maintain current operations but revenues from fees are not expected to grow despite the steady increase of online offerings. This model effectively eliminates the ability for the program to grow unless another funding source is identified or fees to students are increased.

Infrastructure

IT infrastructure is the system of hardware, software, facilities, conduits, and wiring that enable the connection and transfer of voice, data, and video information from device to device. Continuous upgrades are essential to keep up with the demand to move increasingly larger volumes of data at higher speeds. The current infrastructure is adequate to maintain the status quo but some upgrades to our network backbone will be required in order to implement the next generation of technologies, which are already being implemented by some of our peer institutions (See VDI below).

Training and Skill Assessment

The eLearning Department currently is able to meet online faculty training needs with a new eLearning Instructional Designer position, a continued eLearning Faculty-In-Residence position (1/3 release time for 3 quarter/year), and faculty led learning communities. The college does not have a structured technology training program to address other technology training needs. There are many good printed training materials, online tutorials, and locally developed resources that could be leveraged to meet some of the needs of the college. The Technology Committee will pilot an initiative to assess, organize, and advertise the training resources that are currently available and follow up if additional action is necessary.

New employees will have a better chance of success if they have the necessary skills to make efficient use of the technology that they are expected to use to complete their work. The college would be well served to implement a pre-employment assessment process to verify a minimum competency level for positions that are particularly dependent on technology.

IT Staffing

Staffing levels for desktop computing support and auxiliary staff are adequate but we do not have a sufficient number of senior technical staff that are capable of system integration or application development work. Highly skilled technical people are necessary if we are to be successful at anything that is truly innovative, like the Virtual College. We are moving forward on some initiatives but the pace is slow due to workload issues and we do not have cross trained backup staff at this level, making the college vulnerable to downtime when primary support staff are unavailable. One additional senior technician and one additional application developer are needed to support current demands.

Classroom/Instructional Technology

Many of the faculty have found the smart classroom equipment to be difficult to use for a variety of reasons. A sub-committee of the Technology Committee is working on a set of design principles to improve the usability and serviceability of smart classrooms. Most importantly, the faculty that use the equipment need to be involved in the design process. There is no "one size fits all" solution that will address the pedagogical needs of every program or classroom. The equipment needs to be accessible (ADA compliant) for the instructor, and the displays need to be visible from every seat in the classroom, and the equipment cabinets must provide easy access for support personal. The design principles will be used to improve existing smart classrooms where possible and for all future smart classroom implementations.

Online Teaching/Learning/Support Services

The eLearning Department supports faculty and students in online, hybrid, and web-enhanced classes and the eLearning tools they use: Blackboard (Bb) Learn, a learning management system (LMS), as well as many tools integrated into the LMS such as Bb Learn Mobile, Bb Connect Learn, Bb Collaborate (a web conferencing system), Respondus Lockdown Browser, and Tegrity (a lecture capture system).

Survey results show that both the faculty and students are dissatisfied with Blackboard's LMS. The college selected Angel as our new LMS back in 2009 but instead elected to stay with Blackboard after it was announced that Blackboard acquired Angel. The State Board for Community and Technical Colleges recently selected Canvas as the new learning management system for WashingtonOnline. eLearning will initiate a selection process involving faculty, students, and other stake holders beginning fall quarter 2012 to determine if the college should also move to Canvas. Our current Blackboard LMS contract is in effect until December 31, 2013.

Wireless Mobile Technology (Smart phones, tablets, and eReaders)

The demand for wireless network connectivity continues to grow rapidly. Many network users now have two and sometimes three devices connected to the wireless network simultaneously. This puts a heavy load on our wireless infrastructure, necessitating the deployment of additional wireless access points (WAPs). The underlying wireless network management system solid and well-designed but the coverage area and density of WAPs is still a work in progress due to a lack of reliable funding. The results of the recent Student Technology Survey make it very clear that our students desire a more complete and reliable wireless system on campus.

Virtual College Initiative

A number of innovative technologies have been implemented as a result of the Virtual College Initiative established by President Lambert in late 2010. These include, MySCC, the first mobile app to be deployed in the Washington State community college system, an associate app that links to the college's learning management system, and a multi-modal communications system that also links to the college's LMS. An improved Shoreline branded college admissions system is currently under development as a result of the Virtual College Initiative.

The Virtual College Leadership Team recently recommended to President Lambert that the College create a leadership position accountable to the Virtual College initiative, a position that also has the ability to develop a support structure devoted to the VC initiative. This support structure would include web design / development staffing or services to develop a VC brand and to provide a seamless online experience for prospective and current virtual college students. It also would include services or staff to market the VC online offerings as a true "college within a college" and target and recruit students for the instructional programs to be piloted in Fall Quarter 2012.

VDI – Virtual Desktop Infrastructure

VDI technology utilizes the processing power of modern server systems to drive applications to the desktop. Because the processing power resides in the server, desktop computers do not need to be replaced as often or can be eliminated altogether in favor of lower cost thin or zero client desktop systems. There is some debate as to whether or not VDI will cost less than traditional systems over time but the real benefit of VDI is the ability to rapidly deploy applications essentially to any device, anywhere. VDI technology enables the deployment of a greater variety of applications to more people by leveraging existing concurrent licensing agreements. It also has great potential for eLearning by allowing the deployment of a standard desktop and application suite to remote students. Currently technical support staff are unable to effectively support the wide variety of computer problems that our students encounter on their personal devices. By delivering a consistent desktop that we control, support becomes much simpler. Several of our peer institutions have already begun deploying VDI technology on their campuses. Shoreline will require additional senior technical staff and infrastructure upgrades in order to deploy, support, and maintain this technology.

Summary

Technology funding will need to be increased over the next few years as the college moves forward with its strategic initiatives, specifically in areas relating to the Virtual College, technology resources for faculty and staff, wireless networking, eLearning, and senior technology support staff. The attached 12 Month Implementation Plan addresses many of these issues utilizing the funding sources that are available. The Technology Committee will begin work on a new 12 month plan next fall, and will continue to work on smart classroom technology design principles as an ongoing project.

2012 Technology Committee 12 Month Implementation Plan

Item	Description	Cost	Timeframe	Comment/Funding
1	Server Room Stabilization	\$17,000	0-3mo	TSS Infrastructure budget - Assessment and redesign of virtual server systems to improve system stability
2	Technology Security Audit	N/A	0-3mo	All TSS staff are involved in this process. Must be completed in June.
3	New Tape Backup System	\$20,000	0-3mo	TSS Infrastructure budget - Upgrading to newer technology to keep up with increased time and capacity demands
4	Streaming content system	~\$35,000/year	0-3mo	eLearning reserve fund; integrates with and improves the functionality of the Blackboard learning management system
5	High capacity FTP data storage and retrieval system -	~\$20,000/year	0-3mo	VCT program - supports large files in support of instructional programs
6	Admissions module & mandatory student e-mail	\$12,500/year	0-3mo	Technology Strategic Initiative fund; PSET approved funding for Virtual College Initiative and paid first year of contract for 2011-12 and \$33,500 start up costs; CampusCE is vendor
7	Implement Advisor tracking and early warning system	N/A	0-3mo	Developer time; part of Virtual College Initiative
8	Expand wireless network coverage	\$40,000	0-3mo	Technology Strategic Initiative fund and Student Tech Fee budget (Proposed) - Increase wireless coverage area capacity
9	New college web site design	\$22,000	0-3mo	Technology Strategic Initiative fund & Developer time
10	Deploy remaining Blackboard Mobile Central Apps	N/A	0-6mo	TSS Developer time
11	Develop a technology training plan for the campus	N/A	0-12mo	Technology Committee will pilot an initiative to identify, organize, and advertise existing training resources
12	Network access control system	~\$40,000 + 10% annually	3-6mo	Technology Strategic Initiative fund; protects the integrity of college systems and networks
13	Develop smart classroom standards that are easy to use and effective	N/A	ongoing	Subcommittee is working on this
14	Real-time chat advising system	~\$10,000/year	3-9mo	Technology Strategic Initiative fund; part of Virtual College Initiative
15	Pilot VDI (virtual desktop technology)	~\$10,000 for pilot	3-9mo	TSS Infrastructure budget - Provides greater flexibility for the deployment of user interface and software
16	Increasing bandwidth both on campus and to the Internet	\$40,000	3-6mo	TSS Infrastructure budget & Technology Strategic Initiative fund - Double Internet Bandwidth and upgrade campus infrastructure for future VDI deployment
17	Develop an energy conservation program for computing equipment	N/A	3-6mo	
18	Move email to hosted Office 365	???	3-6mo	Efficiency Study directive
19	Implement technologies that reduce the use of paper on campus	???	3-9mo	
20	Develop and foster meaningful partnerships with 5-Star partner colleges and other institutions	N/A	ongoing	
21	Implement CampusOU mobile website and LDP	\$17,500 + \$7,500 one-time \$2,000 annually	3-9mo	Proposed funding source Technology Strategic Initiative fund for one-time costs - PIO for ongoing costs
22	Blackboard Mobile Central - Ongoing funding	\$29,900/year	ongoing	Technology Strategic Initiative fund for ongoing expense. MySCC app; PSET approved implementation as part of VC Initiative and funded first year for 2011-12 and set up fee of \$7,500.
23	Firewall to protect the integrity of college systems and networks	\$15,000 - \$30,000 + 10% annually	6-9mo	This is for compliance with SBCTC enterprise architecture standard. Technology Strategic Initiative fund for one-time expense; TSS Infrastructure budget for ongoing maintenance expense
24	2012/13 Server replacements & upgrades	\$30,000	3-12mo	TSS Infrastructure fund
25	Multi-modal communication system (Blackboard Connect)	\$13,500/yr	ongoing	PSET approved implementation as part of VC Initiative and funded 1st year of contract for 2011-12 and start up costs of \$14K.
26	Financial Aid FAQ and web ticketing system (Parature)	\$9,120/yr	ongoing	PSET approved implementation as part of VC initiative and funded first year for 2012-13 and set up cost of \$6,000
Totals By Funding Source				
Strategic Initiative Fund (\$165,000 one-time, \$75,020 ongoing)			\$240,020	
Technology Support Services Infrastructure Budget			\$94,000	
Student Technology Fee (Proposed)			\$20,000	
eLearning			\$35,000	
VCT			\$20,000	
PIO			\$2,000	
Total			\$411,020	

Appendix A – 2012 Technology Survey Summary

Summary of 2012 Faculty Technology Survey

Full survey available at: <http://goo.gl/cdIPZ>

1. Participation

Thirty Eight faculty took the survey with the greatest number (13) identifying from Humanities, HOPE (9), Social Sciences (8) and Science (5).

2. How would you rate technology?

58.3% of respondents indicated that technology at Shoreline is adequate while 22.2% say it is poor.

3. Rate Specific areas of technology

51.4% consider technology infrastructure as poor while 52.8% find classroom technology to be adequate. There appears to be room for improvement in training (48.6% rate as poor) and campus offices where 60% indicate that it is adequate to poor.

4. Classroom Needs

Narrative summaries for classroom technology focused on the lack of standardization in smart rooms (different controls and set ups) and the lack of faculty consultation in the design and placement of equipment. This appears to be especially difficult for those who teach in more than one room. In particular there were several issues raised about difficulties with sound systems and the small non-standard keyboards available in many rooms.

5. Office Needs

Several comments about network/Outlook reliability as there were serious technical issues leading up to the week of the survey. There were several comments about the need for integrated voice mail and e-mail. Shared voice mail is difficult for part-time faculty. Printing and copying issues were also raised.

6. Training Needs

Many responses indicate the need for training but note the lack of staff to conduct sessions and time available to attend sessions. Several suggested that there should be more online tutorials so that users can access instructions on their own.

7. Other Needs

More comments related to recent network issues. General improvements in Wi-Fi access is a common request. A few responses discuss the need for Cloud based storage or access to software / files etc. for home use or away from campus. One request for a summer institute focused on technology and learning.

8. The role of technology in education

Concerns about the increasing role of technology and also some comments on network reliability. "Technology should be considered a tool and not an end in itself," said one commenter. Concerns about the adequacy of our systems and abilities with increased demand by new programs such as the Virtual College.

9. What projects should the College undertake?

Greater access for students and faculty to streaming video, software, library resources. Several express doubts that we will have funds beyond infrastructure needs in the near future.

10. SCC compared to other college

65.4 % of respondents said we are somewhat to severely lacking in technology. This includes concerns about technology placement in the classrooms and access to programs for grading. A sense that faculty are not included in the planning and implementation of technologies.

11. Other Comments

Need for faster access to technology help in classrooms. Need for more faculty and staff input into equipment installations.

12. Mobile and Tablet technology

There does not appear to be much interest in using tablets in the classroom. Several responses suggested that students seem to use mobile phones more than tablets.

13. Large File and Data Storage

Need for a more seamless method of file storage outside of Blackboard. This is an issue both for faculty posting large files and students who want to submit photos, videos, etc., for class use.

One comment noted that we have access to storage at multiple sites but it would be better if we could have one integrated storage solution.

14. Current Smart Classroom configurations

Lack of faculty input into planning and implementation of smart room technology is a common response. Problems include lack of standardization, access to controls, locks, and keyboard problems (wireless not working, others too small). Several references to sound problems and accessing classroom controls.

Overall concerns seem to focus on resources (not enough) and the need for more training opportunities and venues. There is common thread between the lack of faculty input into classroom design and the problems of functionality in those classrooms. A common concern is that our basic infrastructure is inadequate for our future needs and there will need to be substantial investment to keep up with other institutions (Bellevue College frequently mentioned).

Summary of 2012 Student Technology Survey

Full survey available at: <http://goo.gl/yK9vy>

212 respondents

1. Which technologies do you use?

The wireless network was the most often cited technology used by the students, with 86% reporting usage. 55% make use of the computer lab located on the ground floor of the library while 33% make use of the library reference computers. Of the smaller, subject-related labs, the Math Learning Center was most often cited (19%), followed by TWLS (8%) and the Business Study Center (4%)

2. Which type of computers or mobile devices do you own?

59% of our students have some type of smart phone and 84% have laptops at their disposal. Almost half (47%) have access to a desktop computer. The rest are split among iPads/Tablets (20%) eReaders (15%) and Notebooks (10%)

3. How important are the following services to you?

4. How satisfied are you with the following services?

Access to a computer on campus

Access to a wireless connection (1) anywhere on campus (2) the Pub (3) the library and (4) classrooms

Access to computers on campus was viewed as important by 55% of the students. Access to a wireless connection was rated even higher by the majority of respondents, with "anywhere on campus" (76%) and "in the library" (74%) being mentioned most frequently. More than 50% rated wireless access in the Pub and in individual classrooms as very important.

Students were appreciative of the college's efforts to provide wireless access but the comments reflected a very real dissatisfaction with connectivity issues in classrooms and other areas of the campus. On the 5 point scale used to measure importance in question #3, scores fell between 4.1-4.59.

Although students rated these areas as important, the scores for their satisfaction with these same services (question #4) were lower, ranging between 3.03-3.094. Again, lack of wireless coverage, weak signals and connectivity issues were mentioned frequently in the comments section.

5. Please rate your experience with the following:

(1) Technology support when and where you need it

(2) Blackboard classes accessed on mobile devices

Tech Support: Very few students commented on tech support issues, with those that did remarking on the difficulty of receiving technical support in the open computer lab. In general though, it did not seem to be an issue with them.

Blackboard: Although the question was about the new mobile app for Blackboard, students seemed to interpret it as asking about Blackboard itself as a total learning management system. It received an overall rating of 3.25. Comments concerning the system were uniformly negative -- clunky and not intuitive, difficulty of taking tests, slowness of response, etc. were all mentioned frequently. Several comments about the effectiveness of the mobile application were split between negative and positive, with the latter rating it somewhat helpful at best but still needing improvement.

6. If the college were to create an Internet Café on campus, how likely would you be to use this service?

There seems to be no strong desire for an Internet Café on campus. 62% were either not likely, or at best, somewhat likely to make use of this service, while only 37% were likely (17%) or very likely (20%) to use it.

7. If the college were to implement a quarterly laptop rental program, how likely would you be to use this service?

63% of those surveyed were not likely to use this service and only 13% were somewhat likely. The rest of the responses were split equally between likely and somewhat likely to use.

8. Please let us know which software applications you use in the labs; check all that apply and how important they are.

As would be expected, the Microsoft Office Suite (Word, 73%, PowerPoint, 48%, and Excel, 40%) received the highest number of "very important" ratings. The remaining programs (Matlab, Access, Project, Sharepoint, Visual Basic and Peachtree) were each considered very important by approximately 10% of the respondents.

9. What kinds of software would you like to see in the following computer labs?

(1) Bottom floor of the library (2) Library reference computers (3) Math Learning Center (4) TWLS (5) Business Study Center

Most respondents mentioned Microsoft's Office Suite, which is already installed in all of the labs. Outside of that, the 2 most frequently mentioned software packages were Photoshop and the Adobe Creative Suite. Many of the students also took the opportunity to ask for more Mac computers in the two Library/Tech Center computer labs.

10. Do you feel that there are other technologies required for school not covered by the questions above?

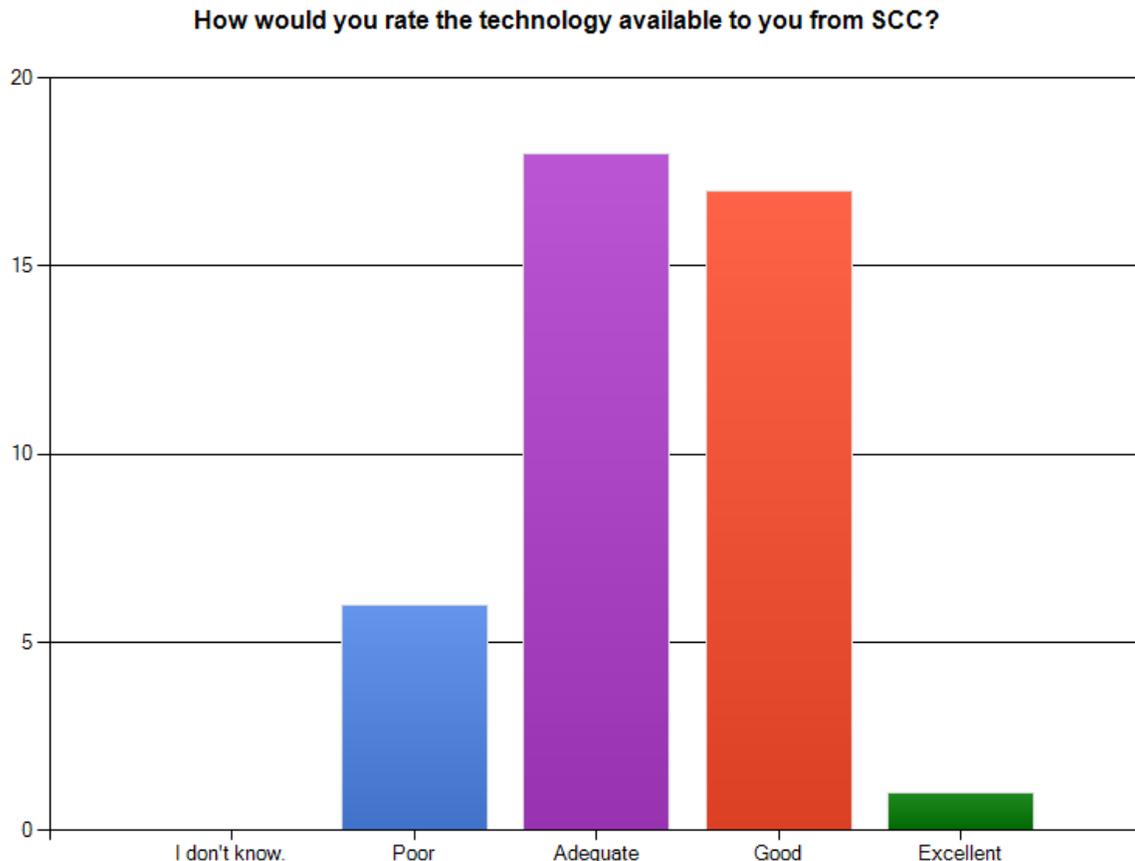
Many students took this opportunity to comment again on the problems with Blackboard, wireless connectivity and the need for more Mac computers in the labs. Several also commented on the problem of noise and game playing in the lower library floor lab.

Summary of 2012 Staff Technology Survey

Full survey available at: <http://goo.gl/wSdME>

38 respondents

1.



2. How do you use technology in your job?

This open question resulted in listing virtually every job function performed on campus. The typical response was "I use it in everything I do."

3. What improvements in technology would help you in your job?

The overwhelming concern here was "reliability" of email and network connections and consistency of software versions deployed, even within an office. Several response also made mention of the need for "training".

4. What are the challenges facing SCC in regard to technology?

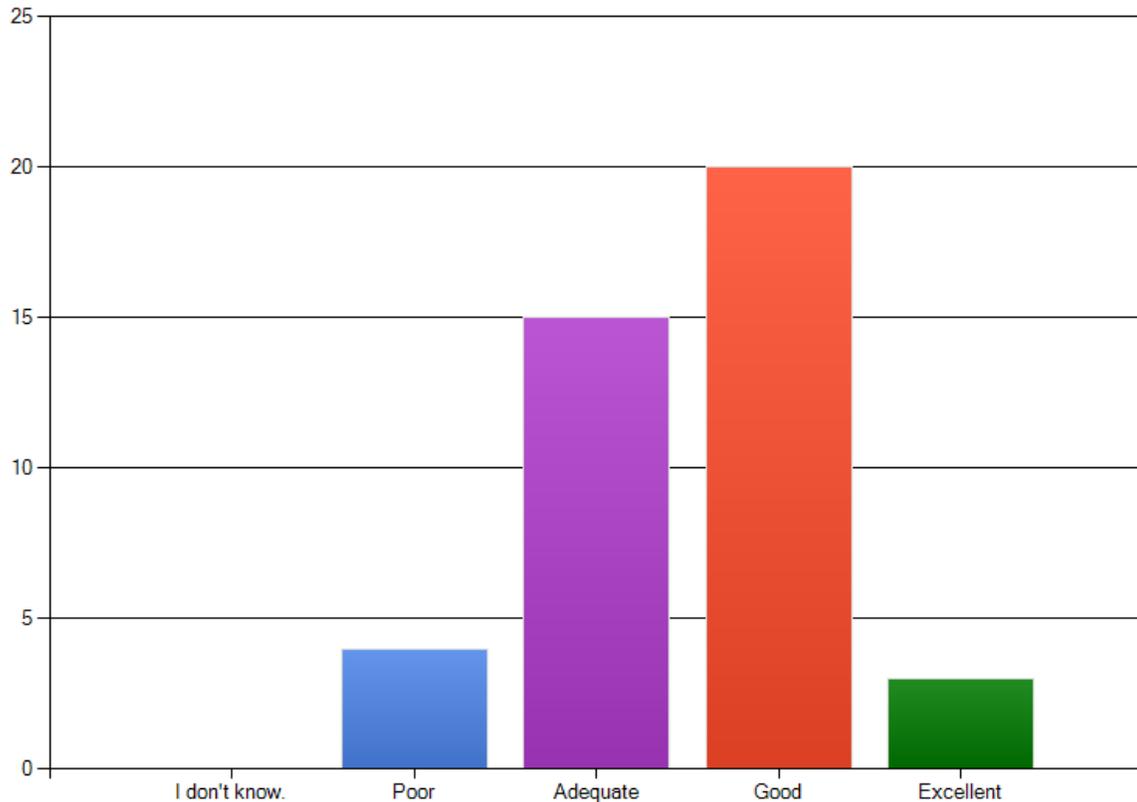
Much of the sentiment here revealed great skepticism that a "virtual college" is a feasible goal when the physical college's infrastructure and tools appear to be unreliable and difficult to upgrade, fund, staff or get trained on.

5. When you are helping students, do they express frustration with a specific technology?

Three areas of concern were predominating: Blackboard, downtime of email/networks and inability to navigate student services when looking for info online.

6.

How would you rate your own knowledge of and use of technology?



7. What do you see as the most effective technology training strategy for the college?

Virtually every response mentioned some form of training, be it a voiceover video, hands on, class etc. The only other notable mention was a couple suggestions to improve infrastructure.

8. What technologies are being deployed at our peer institutions which serve as examples of how we are falling behind?

Most responses were "I don't know", but some listed comprehensive student services portals and getting more into "the cloud" to make infrastructure more robust. Some frustration was expressed with our "piecemeal" collection of cobbled together solutions, primarily with regards to serving current students.

9. Please add other comments or suggestions.

Statements here were quite varied, but several respondents expressed that we are not well positioned to advance technologically, at least not in our current state.
