

# **A Study of Independent Access to Library Resources**

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Follow-up Study of LibQual+ Survey of Library Service Quality –  
Personal Control Domain

May 13, 2003

Prepared by

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# **A Study of Independent Access to Library Resources**

## **Executive Summary**

In April 2002 the Carnegie Mellon University Libraries participated in the LibQual+ survey, a quantitative measure of library service quality. The results indicated that participants perceived the items in the Personal Control domain to be the most important compared to other domains surveyed. In addition, participants indicated that they felt that the Libraries needed the most improvement in this area. The Personal Control domain of the survey measured the perception of participants with respect to their ability to independently access and find information in the library. Based on these results the University Libraries decided to conduct a follow-up study of the Personal Control domain. This report is a summary of that study.

### **Methodology**

In April 2003 two focus groups were conducted to gain a better understanding of the issues related to users' independent access to information. The two focus groups included one for graduate and undergraduate students and one for faculty and staff. Incentives in the form of either a lunch (for staff or faculty) or monetary award (for students) were offered to encourage and recognize participation.

Participants, five women and thirteen men, were self-selected from the targeted population of users. Each group had nine participants. Students included six undergraduates and three graduate students from Carnegie Mellon. Student majors were in Modern Languages, Electrical and Computing Engineering, Business, History, and Information Networking.

The faculty/staff group included seven faculty members and two staff members. Their departments included Psychology, Engineering and Public Policy, Graduate School of Industrial Administration, Modern Languages, Computer Science, Public Policy and Management, and Biotechnology and Health Initiatives.

Each focus group was approximately one to two hours and was directed by the same moderator. They followed a similar script. After discussing the personal control areas, participants were provided the opportunity to offer their own comments.

### **Discussion and Recommendations**

**Accessing Services.** The majority of students and faculty/staff in this study accessed the Libraries' services at least once or twice a week, and many accessed the services several times a week. Both groups used both onsite access and remote access. Participants reported that they use remote for searching and for use of electronic documents. Faculty/staff reported that they rely heavily on remote access.

#### **Item 5 - Electronic Resources and Accessibility**

**Influencing factors.** The major influence on ratings for Item 5 was the users' frustration with the Libraries' proxy server. The proxy server operated inconsistently, and participants were not aware of the alternatives that were currently available or how to set-up and use

them. Users also reported problems with Cameo, the Libraries' online catalog. Problems with Cameo are addressed in a later section.

**Remote access.** Carnegie Mellon University has recently implemented an alternative to the proxy server, IP Address Extension. A new Libraries' Web page provides information and assists with set-up. Other alternatives are also available. This should alleviate many of the problems reported by participants.

### **Recommendations**

- Inform users of the new remote access system and Web page and alternatives via liaison librarians, the Libraries' Web site, and a newsletter.

### **Item 6 - Modern Equipment**

**Influencing factors.** The Libraries' rating on item 6 suffered chiefly from problems with library workstations, software, equipment and maintenance, and facilities. Participants cited the following:

1. Slow operation and poor placement of the Libraries' public workstations
2. Lack of adequate software to support research activities, e.g. Word, Endnote, and email.
3. Printers, copiers, and scanners often required long waits, were in need of paper or toner, and some were not available in all libraries.
4. Too few electrical outlets and weak wireless signal for using laptops and handheld computers.

Currently the computers are on a three-year cycle for replacement, and the slow computers are scheduled for replacement. Maintenance to equipment is routinely completed at least twice a day. The copiers have recently been replaced and should operate more efficiently. This should help to alleviate many of the problems associated with maintenance of equipment.

### **Recommendations**

- a. Add more electrical outlets to support use of laptops and handheld computers.
- b. Explore the feasibility of improving the wireless signal in the Libraries.
- c. Disperse the Libraries' workstations throughout the buildings to maximize convenience and meet traffic needs.
- d. Include software that supports users' research needs and enables access to email. This might include Word or Notepad for note taking, Endnote, and email
- e. Provide the same facilities and services in all libraries
- f. Develop a means of communicating to users about the equipment and services available and the location.
- g. Increase the number of printers in areas identified by users.
- h. Monitor equipment performance at public terminals. Check the fourth floor computers to determine if a temporary fix can be used to speed up computers.

### **Item 7 - Libraries' Web Site**

**Influencing factors.** The Libraries' ratings on Item 7 were primarily influenced by the following factors.

1. The home page was cluttered, the site had little consistency and was not directed toward a specific audience.
2. The databases were too difficult to use independently; the lists were too long to determine appropriate sources

### **Recommendations**

The new portal technology will allow users to create their own version of a Web site and might address the problems voiced by the participants. However the following might help to alleviate the problems for now and in the future on the Web site.

- a. Conduct usability testing of specific pages in the Libraries' Web site using focus groups, think aloud protocols or other methods. Incorporate suggestions into the Library Portal as well as the Libraries' Web site.
- b. Explore the possibility of adding a simple search function to the databases.
- c. Create two online guides to the libraries, one each for students and faculty. Guides will include key links tailored to each group.

### **Item 12 - Easy to Access Tools**

**Influencing factors.** The Libraries' ratings for Item 12 were influenced chiefly by problems with the Libraries' online catalog, Cameo

1. The login in the User Self Service section in Cameo was confusing and difficult to use.
2. Cameo had some problems, especially when viewing long lists of items, Cameo sometimes shows the same display regardless of which item is selected.
3. Students would like to view and print a search history in Cameo. They suggested adding page numbers to the list of results.

### **Recommendations**

- a. Revise the User Self Service page in the Web site to simplify the login. Include the redesigned pages in a Usability Study.
- b. Share the problems in Cameo described in the body of this report with the appropriate department.
- c. Explore the possibility of adding page numbers to assist in navigation.
- d. The Libraries have already added the search history to Cameo, though printing the history is not something that can be added by the Libraries' technical staff. Alert users to the new functionality in Cameo in the "What's New" section of the Web site.

### **Item 16 - Making Information Easily Accessible**

**Influencing factors.** According to the participants in these groups, the major influences on the rating for Item 16 were the following.

1. Lack of knowledge of the available services, resources, and equipment.
2. Dissatisfaction with communication system that notifies users of available and new resources and services.

Of significance is that all of the information that is desired by participants is currently available either in print or online, however this information is located at various places in the

Libraries or on the Web Site. And though liaison librarians routinely inform faculty of new services through email, a standard method of informing all users is not currently in place.

### **Recommendations**

- a. Create a print directory or guide to the library that describes services, equipment, and access to information. This might include such things as floor plan, list of services and equipment, borrowing guide, etc. Provide this in prominent places throughout the libraries and distribute to all faculty and to all incoming students.
- b. Create an online guide to the library that includes all that was mentioned in (a) and making use of hyperlinks.
- c. Revise the current print list of facilities and services that is available on every floor. List them alphabetically, by category (services, equipment, and resources) and increase the size of the print display to make it more visible. Use a standard heading for all print information sheets.
- d. Create a map of the floor plan that can be available near the print directory and online.
- e. To facilitate information sharing, create a newsletter that can be distributed twice a year at the beginning of each term. Include new information and key contact information.

### **Item 25 - Convenient access to library collections.**

**Influencing factors.** This item was late in the discussion and many participants reported that their previous discussion also applied to this item. The chief factors that influenced the rating on this Item 25 included the following.

1. Lack of convenient access to information about the Libraries and services
2. Problems associated with electronic access to the collection; primarily lack of availability of specific resources (back issues, *Nature*, *JAMA*, *AND JNEMS*).
3. Problems searching in Cameo for videos using limitations that were included in the video database.

Recommendations for improving access to information about the Libraries and services were included in the previous section.

### **Recommendations**

- a. Poll faculty to determine their priorities for electronic databases.
- b. Explore options to expand access to databases that were previously available through the University of Pittsburgh and those that are most desired by faculty.
- c. Explore the possibility of making online access to the video database using the limitations that were included in the video database that is currently accessible only in print form.

### **Additional comments - Library as a place.**

Library as a Place was a separate domain in the LibQual+ survey and not part of the Personal control domain that was the focus of this study. However, it featured prominently in the discussions with both groups during requests for additional comments.

**Influencing factors.** The Libraries function as more than simply a resource for research and scholarly activities. The Libraries also are used for individual study as well as group study. As such the appearance, atmosphere, layout, and provisions can all support these activities.

1. Students responded that a more stimulating environment, more appealing group study areas, availability of food and beverages, a place to use phones, and improved functionality of the layout would create an environment that supports their research activities.
2. The faculty/staff commented that promotion of the Libraries' services might encourage people to use the Libraries

### **Recommendations**

- a. Develop a program of special events in the Libraries. Consider such things as special occasion lectures, readings, book signings, and displays by faculty authored books.
- b. Promote the Libraries' activities including workshops about resources and services.
- c. Use creative methods of alerting the Carnegie Mellon community about the Libraries' activities, for example the Web site, electronic bulletin boards, Blackboard, and print and online newsletters.
- d. Create a more pleasing atmosphere in the Libraries, integrating tables and computer workstations in the stacks, improving the lighting throughout the libraries but especially in the basement, adding a study area to the basement, and painting it a livelier color.
- e. Add a café or offer food and beverages including coffee.

### **Summary**

The goal of this study was to determine methods to improve the users' ability to independently access the Libraries' resources either onsite or remotely. Based on a previous quantitative study, participants rated independent access as the most important domain.

Results from the same survey indicate that independent access to services was the domain that was also in need of the most improvement. In order for remote access to operate efficiently and effectively, users need to access resources at any time of day or night with or without the services of a librarian

Though the Libraries provide help to remote users by offering Live Chat services with reference librarians or specialists, this service is only available during select hours. Providing services and help that can be accessed independently or providing services such that independent access is intuitive support remote access to the Libraries.

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### **Introduction**

In April 2002 the Carnegie Mellon University Libraries participated in the LibQual+ survey, a measure of library service quality. The Association of Research Libraries and Texas A&M University developed the survey and also analyzed and compiled the results<sup>12</sup>. The survey was offered to a random sample of Carnegie Mellon students, faculty, and staff with the exclusion of library faculty and staff. Based on the results, the University Libraries decided to conduct a follow-up study of the Personal Control domain. This report describes and summarizes this follow-up study, which was conducted in April 2003.

The Personal Control domain of the survey measured the perception of participants with respect to their ability to independently access and find information in the library. The items are:<sup>3</sup>

- Item 5 – Making electronic resources accessible from my home or office
- Item 6 – Modern equipment that lets me easily access the information I need
- Item 7 – A library website enabling me to locate information on my own
- Item 12 – Easy-to-use access tools that allow me to find things on my own
- Item 16 – Making information easily accessible for independent use
- Item 25 – Convenient access to library collections

Participants were asked to rate these items with respect to the minimum level of service that they find acceptable, the desired level that they want, and the level that they perceive is currently provided.

Based on the results of the survey, participants perceived the items in the Personal Control domain as the most important. All six of the items were rated in the top ten when ranked with all survey items by the desired service level. Participants also perceived these areas to fall short of expectations or desires. When compared with ratings of all other items in the survey, all six personal control items, when ranked by the gap between desired service level and perceived service level, showed the greatest desired need for improvement. The goal of this study is to determine what users view as problems related to the Personal Control domain and how the Libraries can improve users' ability to access resources independently.

### **Methodology**

In April 2003 focus groups were used to generate feedback about the Personal Control domain listed previously. Focus groups might be described as group interviews. They involve five to ten participants and a moderator to guide the discussion. The group discussions are transcribed thus creating the data for the study.<sup>4</sup> Focus groups are used to

discuss concepts and issues relative to specific areas. Though they might appear unstructured to the participants, focus groups follow a preplanned script.<sup>5</sup>

The value of a group discussion is the spontaneous reactions and ideas that result from the interaction of the members. Because focus groups involve only a few members of the targeted population, the views in this study might not be consistent to those of the population. However, given that results of the previous quantitative survey indicated a need in this area of study, these results can produce insights and specifics regarding how to improve services. Participants are representatives of the targeted population of users. To record the discussion, focus groups are usually audio taped and often include a note taker.

**Participants.** This study included two focus groups, one for faculty/staff and one for graduate students and undergraduate students. Participants were self-selected from the targeted population. Several methods were used to contact prospective participants. Names were randomly selected from a list of graduate students, undergraduate students, faculty, and staff who had received the LibQual+ survey. This group was sent email invitations to participate. A total of 978 email invitations were sent out. Email invitations were also sent to people who were referred by employees of the Libraries. A message was posted to a University electronic bulletin board announcing the focus groups and asking for volunteers. An announcement was also posted on the University Libraries' Web site asking for volunteers.

Eighteen people were available for the times scheduled for the focus groups, and all were accepted. They included six undergraduate students, three graduate students, seven faculty members and two staff members; five women and thirteen men. Student majors were in Modern Languages, Electrical and Computing Engineering, Business, History, and Information Networking. Faculty and staff departments included Psychology, Engineering and Public Policy, Graduate School of Industrial Administration, Modern Languages, Computer Science, Public Policy and Management, and Biotechnology and Health Initiatives. Two had polled their departments for input. Incentives in the form of either a lunch (for staff/faculty) or monetary award (for students) were offered to encourage and recognize participation.

**Procedure.** Each focus group was approximately one to two hours, was directed by the same moderator, and followed a similar script. Student groups met in the Libraries' Fine and Rare Books room and the Faculty/Staff group met at a University meeting room. The group discussion followed a predefined script, though it allowed for spontaneous comments that were not directly related to the script. A copy of the script can be found in Appendix A.

After discussing the personal control areas, the moderator asked for additional comments. This provided an opportunity for participants to discuss concerns that might fall outside the main topic of the discussion. Each group discussion was audio taped and recorded by a note taker. In addition to the focus groups, one undergraduate student was interviewed. This student was unable to participate due to a scheduling conflict and requested a one-to-one meeting. These responses are included in this report.

## Results

### Accessing services onsite or remotely

Both students and faculty/staff use the Libraries' resources remotely and onsite. All participants who use the Libraries agreed that they searched remotely for resources at least some of the time. Many searched remotely most of the time. Faculty/staff rely heavily on remote use of the services primarily from their offices, though sometimes from their homes. Most faculty/staff accessed the services from one to two times a week and some were daily users. Only one faculty/staff commented that they didn't use the Libraries at all.

All students used the Libraries' services either remotely, onsite, or both. Several students commented that they rely on remote use for searching with one saying that it "would be a waste of time to come in if the item is not there." Conversely, another prefers to use the Libraries onsite, saying that they can check the shelves and have employees nearby for assistance. This student lives and works on campus. Students commented that they work onsite if they are near the Libraries, on-campus, or to check out materials, though based on the later discussion, many students relied on the Libraries as a study area or for equipment use as well.

### Item 5 - Electronic resources and accessibility

Participants suggested that electronic resources referred to such things as course reserves, databases, the Libraries' Web page, and e-books. Also mentioned were Cameo, the Libraries' online catalog, and access to resources using the proxy server along with other remote access alternatives. Feedback from participants indicated that ratings on Item 5 were primarily influenced by frustration with the proxy server, lack of awareness of alternatives, and problems with Cameo, the Libraries' online catalog. The discussion related to Cameo will be included in a later section of this report.

**Proxy server.** A major problem mentioned by many students and faculty/staff was remote access using a proxy server and lack of awareness of alternatives to the proxy server. They responded that the proxy server functioned inconsistently; that the login procedure should be simplified, and that information on alternatives should be made available with instructions on use and set-up. A few felt that the operation of the proxy server was inconsistent, "it's up and down"; it was so frustrating that "I gave up on it". Another student mentioned that they wouldn't even know where to find it or how to use it. Students indicated that they would like one login for everything. One student suggested that it should be more like WebISO.

When alternatives to the proxy server were mentioned, some students and faculty/staff commented that they were not aware of the alternatives or how to use them. They wanted better communication regarding the alternatives to the proxy server. They also wanted a brief overview of the methods and step-by-step instructions on set-up and use. One faculty/staff member suggested that the information page (about remote access) should be kept on the Web site and should be updated as needed.

"What you should do is keep the information up-to-date on the Library Web page in an easy place where they can go and look for information like how to do it."

Others suggested that we make certain that the remote access worked with every database. One student had problems accessing Hoover's Online database remotely and had no opportunity to ask for help.

**E-books.** One student mentioned that e-books are pretty slow to download. This student uses the online books for previewing and will then check out the print book. Others commented that they were unaware that e-books were available and wanted to know how to find them.

**Non-authenticable users.** Other concerns were about making the Libraries' resources available to non-authenticable people. More and more people will be accessing our resources and who do not have a current Andrew ID, for example alums. Shibboleth will help to address this problem as will the Portal, but the Libraries will have to consider how to address the problem before the Portal is available. Also suggested was the need to provide guest access for prospective students and the need to consider cross-registered students.

"Is it possible to have an anonymous access capability for prospective students, for instance, who want to access the Library, to see if there's a decent library?"

### **Item 6 - Modern equipment that lets me easily access the information**

This item generated the longest discussion among the students and moderate discussion among faculty/staff. Participants suggested that modern equipment was described as the computers, storage media, copiers, power outlets, wireless capabilities, scanners, printers, and self-check machines. Also discussed was the software on the computers. The major factors influencing the rating on this item were problems with library workstations, available software, issues about other equipment, operation and maintenance, and the facilities provided by the Libraries.

**Computers.** The students' major complaint was with the computers. They were dissatisfied with the speed, the software, and the location of computers. They wanted more computers that were placed conveniently to the stacks, dispersed evenly among the floors, and, at least for the ones that were identified as running slowly, they wanted faster computers. One participant commented that the ones near the Fine Arts reference area and near the music listening areas are very slow.

"Some of the computers are a bit slow, especially those next to the music listening. You could spend days before it even moves with a search to the next page. ... I could say the same thing about these computers here on the fourth floor."

The students suggested including software on the Library workstations to help them with their research. They explained that they would like to check their email when studying at the library for longer periods of time. If they could check their email in the library, they wouldn't have to leave the library and disrupt their work. They mentioned the need for the Office Suite, Word, Endnote, and e-mail.

"I don't know if we need more, but we need more on them. Most of them have Web browsers and Search Cameo, that's about it, like as far as like for the ability for a simple Word document, that can be a little tough."

Responses from students indicated that the computers were not distributed well throughout the Libraries. Some floors had too few, for example the third floor. Another student suggested that they were not well placed. It would be helpful if they were distributed throughout the stacks, especially on the second floor.

"Computers are in the wrong places; not enough on the third floor; people are always waiting; the first floor has enough, but the third floor needs more."

"The second floor, too. There are only two computers. There are some computers, but they aren't next to the books and stuff, so if you're looking for anything, you look it up, you go to the stacks, if you forget where it was, or if there's something more you have to check, you keep going back away from the books."

**Laptops and handheld computers.** Students also were having problems using their laptops or handheld computers. They mentioned problems with shortage of electrical outlets and also with poor wireless connections. They needed more outlets placed throughout the library. Also, in certain places in the library, especially behind rooms or partitions, they lose the wireless signal.

"For some reason the signal strength or the wireless access is really low. And maybe you need more access points. Sometimes when there are lots of people using the signal is weaker. I guess there are some areas that are shadowed where the wireless signal doesn't go there."

"About wireless signal: "...fourth and second floor are definitely a problem."

**Copiers, printers, scanners.** Participants described problems with equipment in general and specifically, copiers, printers, scanners and storage disks. Suggestions by various participants included increasing the number of copiers, printers, and scanners. Make certain that the equipment is well maintained. Another suggestion was to provide storage media, for example, disks, for purchase at the library. Others commented that they didn't know where the equipment was located, and they would like signs to indicate the location. Some suggested that the Libraries place the information in a prominent place such as inside the front door

"And, I know a lot of people have trouble printing to the printers down by the reference desk. I don't know why. I think a lot of times they're out of paper or out of toner. Having a couple more printers around would cut down on that. When I try to print something, normally you have to try a couple of printers to get something that works."

[copiers] "Lot's of times people are lined up. ...And there's always a big line"

"They could put it [information sign] right by the front door so you know where to find the copiers on the first floor and the second level."

Many participants didn't know that a color scanner was available in Hunt Library. This led to a discussion about the need to provide information that would detail the equipment that is available in the libraries and give the location.

“Like the fact of the scanner, I didn’t know there was one here, but, you know, if you knew how to find out about one, you could find out where the scanners are.”

The faculty/staff group was not as concerned about the computers. Most used the equipment in their own offices, and as one member said, "We have modern equipment in our offices."

They did mention that they liked the self-checkout machine in Hunt Library and would like modern equipment, such as the self-checkout machine and the scanner, available in all of the libraries. One mentioned that they thought that Engineering and Science had neither a scanner nor a self-checkout machine.

As with the students, the faculty/staff were unaware of some of the equipment that was available in the libraries. They also suggested that the Libraries provide the information both online on the Web site and in print in the libraries. They suggested that we promote what we have and alert users to what is new in the libraries.

“You talked about having new signs up and maps. It seems to me that should have some basic information about at least some basic services. If you need to do x, here’s what you need to do. That would be something that is there for everybody.”

#### **Item 7 - Libraries’ Web site**

Appearance and functionality of the Web site, usability of the databases, and listing of course reserves were the primary influences on the rating for this item. The faculty/staff suggested using the Web site as a means of communicating to users. One participant felt that we should move towards personalizing the site. This would be helpful when the Libraries wanted to share information with users.

“You could push what you want to push, and then each individual can get what we want to get.”

“That’s much easier than looking back through 10,000 emails.”

Again, students had more to say about the Libraries’ Web site than faculty/staff. One student commented that the Web site was “pretty easy to use”. This student accessed the journals through the databases and used the Interlibrary loan. This student’s only suggestion was that some journals that are available in the Libraries are not actually listed online. Others had suggestions about the use of the databases. Some of the discussion focused on the appearance of the Web site, consistency among Web pages, target audience, databases and course reserves. Also included was discussion about ILLiad and Palci.

**Frequency of use.** Most students commented that they use the Web site about once or twice a week and some used it daily. They entered through the Libraries’ Home page or through the Carnegie Mellon Web site. However two students commented that they usually don’t use the Libraries’ Web site. One prefers to use the Web resources (versus the Libraries’ resources) because it’s quicker and the sources are more current. This student felt that the Libraries’ seem to have very old books. The other student who doesn’t use the Libraries’ site uses Blackboard to access reserves. Her professor has provided a link to Cameo for the

reserves. This student also prefers to use Google for information saying that it's faster and easier.

**Design.** A few students commented that they felt that the design of the site could be improved. One said that the Web site was too cluttered; it had too many links and you can get lost. Another student commented that there was no real consistency among the Web pages. A third said that the Web page has no real audience; it's not geared to a specific group.

"In terms of appearance, there's no real consistency as you're going through their pages, like, the home page looks nothing like Cameo, looks nothing like the database index."

"It seems like the home page doesn't really have an audience. If I'm a student, I'll be over here, if I'm faculty, I'll find like administrative information, I'll look here. It's kind of all there. You have to look at all of it."

**Databases.** Three students were dissatisfied with the listing of the databases using the Web site, and others agreed. All three felt that the list of databases, as they are currently displayed, was too long to be used independently. One felt that the list was so long that "it's overwhelming – hard to know where to start. It can't be used independently." Another commented that if they were using it at home, with no reference assistance, they have problems. One suggested that the databases list needs to be annotated, they don't want to search through them individually. Another suggested that they wanted to search for relevant databases by using a key word search.

"I come in here and go to the reference librarian and they've been very helpful in showing me which databases are going to be useful for my particular project. But when I'm at home looking things up, it often takes me a very long time to find what I'm looking for, to find anything useful for my project. I really have no idea which databases are going to have something."

"If there was a paragraph that has a lot of keywords in it, something like a page where you can do a search. If you were looking for psychology stuff, you would know, you know, you type in search."

**Course reserves.** One student noticed errors in the listing of course reserves. This student pointed out spelling errors and course number errors. He commented that it could be a problem when searching for materials. However, based on the initial review by this department, the course numbers were entered as given by the professor.

**ILLiad and Palci.** Several students and faculty/staff commented that ILLiad is used frequently and is a great service. They like the convenience offered by automatic data entry. Another faculty/staff added that they thought ILLiad and Palci were great.

"And the Interlibrary Loan is really good. They've improved the system. So you used to have to type in everything, now you just get Interlibrary Loan right from the databases, so it's a lot easier."

## **Item 12 - Easy to access tools**

Most faculty/staff did not know what Item 12 was asking. One faculty member commented that tools are software rather than hardware. This comment stimulated some discussion.

Students were quick to define tools as ILLiad, online renewals (especially the user service link), Cameo, databases, journals, and Cameo user services. The rating on this item was chiefly influenced by users' frustration with the User Self Service in Cameo, problems using Cameo, and functionality suggestions for Cameo.

**User Self Service.** Students were frustrated by the User Self Service in Cameo. Several students commented that the pin number on the login page confuses people, and that it should be better defined. One student questioned why the pin number was needed, and that it was redundant. Another student added that he had to try different combinations until he finally got it right.

“In terms of renewals and self-service, a lot of people have no idea how to use it, the pin number. I don't think it actually says on there anywhere what the pin number should be.”

Students continued the discussion to include security logins. They suggested that Cameo could have a login like the Andrew password, but others commented that it would shut out outside users. They wanted it like WebISO or wanted to add a library tab in Blackboard and use the services through Blackboard. Students were not in agreement on how to solve the problem, only that they were frustrated by the login process and would like one login for all services.

**Cameo.** Also mentioned were problems with Cameo. Faculty/staff mentioned “weird behavior through the browsers”. One suggested that we make sure it works with Safari, Opera, and MACs. One questioned why there was still an automatic redirect. “It's been there a year; it seems like we [the Libraries] don't care.” Participants indicated the inability to get back to the Libraries' home page from Cameo as a drawback.

Two users found a bug in Cameo that keeps displaying the same record no matter what number you hit in the result list. This user said that hitting the refresh button sometimes helps, but often they lose their search results and must start over. This user felt that it occurred when searching long lists of results.

Students had some suggestions for added functionality in Cameo. They suggested adding a search history in Cameo and providing a method of printing the log of searches. They said that it is helpful to have a log so they could reproduce the search (or not duplicate it). Others commented that it would be nice to have page numbers in Cameo, like they have in Google. A user could hit a page number to move from page to page. It would help to reduce the number of clicks needed to use Cameo.

One participant wanted more information on putting a hold on a book and suggested that it would be convenient to add a link to Cameo with the option. He also suggested that additional information in Cameo might explain when a book would be available (e.g. on order books). Another participant suggested that a key to the abbreviations used in Cameo should also be available, so when looking for an item, the information about location would be readily available.

“...when you search for something, it will come up with, um, there's a little abbreviation to where the book is. It will say, stacks 2 or stacks 4 or something like that. That's easy to find, but a lot of the abbreviations, ...we have no idea where those are. And it would be good if there was some sort of index to where in the libraries [it is].”

They wanted more information in Cameo about the availability of on order books and items recently received, for example, when they are expected to be available. In addition they wanted to easily place a hold on a book.

### **Item 16 - Making information easily accessible for independent use**

Several factors influenced the score on this Item 16. Faculty/staff mentioned that they would like to have more acquisitions available electronically. They would also like problems with electronic access addressed. Several participants wanted more information regarding the use of materials from other libraries. Also mentioned was the need to make the class textbook available on reserve and the need to address problems with Cameo. Cameo was discussed in an earlier section of this report. However, the major influence on the rating that was discussed throughout the discussion of many of the previous items and by both groups was that the Libraries could improve their methods of communicating to users about new and currently available services.

**Providing information about services.** Both groups were unaware of many of the services that were available, for example, some new services like the alternative to the proxy server, and some existing services like the color scanner. Discussion led to suggestions about how to keep users informed of services. One suggestion mentioned many times during the discussion and related to many of the items was to explain and summarize information about the Libraries in a directory or guide.

Participants suggested that the guide should be available in a printed form and also online. It might include information about the Libraries' services, policies, materials, equipment and collections. It might also include such things as a floor plan or a map of the libraries, locations of study areas, procedures for borrowing and requesting materials, procedures for accessing the libraries remotely, and how to use the interlibrary loan services.

**Electronic access to materials and services.** The faculty/staff comments were primarily about providing more materials and services electronically. Two commented that they wanted access to electronic dissertations online. They wanted to be able to download the copies. Currently they rely on Iliad, which can only provide print copies, or UMI, a for-profit service.

Another commented that when using SFX, some publishers required a password and they didn't know the password. Others suggested that e-reserves servers were often down, and another wanted to check the status of his Iliad request online. The Iliad service is currently available, so the problem is more a lack of knowledge of services.

**Access to other Libraries.** Several students suggested a way to expand the services of the Libraries by making accessing materials from other libraries easier. For example, they wanted an explanation about borrowing policies for Pittsburgh Libraries and links to their Library Web. Another student added that we could negotiate a uniform card that can be used at various libraries.

"I think that in order to expand the ability to get different books, it would be interesting to have the page of the university links to the different libraries of the other Universities, like from Pitt and from Duquesne. And I don't know how the association with CMU libraries with those libraries, but it would be

interesting it they can have a template on how to find different books on those libraries."

One student was surprised that they didn't get an email notice from SEI Library when their book was due. This student didn't understand that SEI was not part of the University Libraries and therefore might have different policies. He expected the same behavior at SEI as at Hunt, for example, an email message as a reminder to a book that was due. They suggested that a guide provide a place for this information.

**Access to textbooks.** One student would like textbooks to be available in course reserves.

"...it would be nice if faculty knew they could keep the textbook on reserve here. I guess it's usually the students who push the faculty to put books on reserve, but it could be like a different thing that the books from the courses are right here."

### **Item 25 - Convenient access to library collections**

This item was late during the focus group. Participants commented that they had discussed related problems earlier; therefore this item generated little new information. However, the chief factors that influenced the rating on this item included the lack of convenient access to information about the Libraries and services, electronic access to the collection, and the availability of resources.

**Information about the libraries.** Both groups suggested that improving access to the library collections would require improved access to information about libraries and services. The groups mentioned the need for a directory and mapping of the library to indicate where the resources are located. They again mentioned that placing the information in prominent places on every floor would be convenient. The directory or guide was discussed in previously in this report.

**Electronic resources.** Both groups suggested that electronic access to resources would improve access to collections. One specific example was access to the video collection. Providing the electronic database for the video collection online would be helpful.

"They have a very good catalog downstairs, which is not online, which lists all of the titles. You can probably access the titles if you were looking for the name of the actors, the characters, the name of the movie, or something...But they have a catalog separating them by nation, by scene, which we don't have online."

Though the student has used the complex search with videos, he wasn't able to search with the limitations that the video catalog allows him. This restricts his searching abilities when working off site. Regarding a similar issue, a faculty member said that students reported not being able to find videos that he is certain are part of the collection.

One faculty member who polled his faculty had a couple of issues to discuss. One referred to the changes in license with respect to the publications offered by the University of Pittsburgh.

"Many of the publications that we need are from Elsevier, and so we do not have access to back issues, [they] aren't available."

Regarding SFX, the E-journal list is incomplete and will need to be completed and have links. This faculty member also suggests that you "shouldn't have to call reference to see what we're authorized to access".

Faculty members, who were polled, responded that they wanted more online resources and access to further back files. They said they couldn't go back very far in their searches and that was a problem. The bio department really was badly affected by the changes at Pitt.

"Clearly in the past, the bio community has gone to Pitt for a lot of its resources, and of course there's less access. That has caused some real consequences."

They especially would like *Nature* and the whole set of *Nature* publications. For medical resources they needed JAMA and JNEMS. They said that Penn State's PDFs are poor quality and would like more access to Pittsburgh. More Carnegie Mellon faculty will be assuming adjunct faculty positions with Pittsburgh and that might ease the problem of access to resources.

### **Additional concerns - Library as a place**

Library as a Place was a domain of its own in the LibQual+ survey and not part of the Personal Control domain that was the focus of this study. However it featured prominently in the discussions with both groups during requests for additional comments. Both groups offered suggestions on how the Libraries could become a more inviting place for students, faculty and staff. Comments related to the appearance, functionality, and promotion of the Libraries.

**Appearance and functionality.** Students had several suggestions or complaints about the appearance and functionality of the Libraries. They said the libraries had poor lighting, that they were congested, that the atmosphere was not lively and was aesthetically unpleasing.

"I think the libraries are ugly. I think the libraries' atmosphere is very gray, there's a lack of light, poor lighting. ...So if it was a little more classy or something like that."

"The library seems very congested. It's probably because we have a lot of books, but there must be a way to make it look inviting. ...But somehow making it a cozier appearance.":

Another suggested that we integrate the tables and computers in the stacks for more convenient access.

Students wanted more group study areas where they could use their laptops and handheld computers, use their cell phones, and have access to food and beverages. This student suggested that we let students eat in the "ugly" basement, but spruce it up. Another would like a lounge in the basement.

"The library is open from 8 in the morning to 3 at night and there is not a coffee machine. I can't believe it. And it's in Pittsburgh, Pittsburgh has a long winter."

"If there was a place in that ugly basement, for example, if there was a place which was nice with red and yellow lights inviting you to have something to

eat and then go upstairs without it, I mean you can finish your food downstairs and go upstairs and work."

"It seems like the basement, if you're going to fix it up, needs a lounge where people can, you know, obviously you're not going to have a restaurant in here, so if for lunch, they went to the trucks and go something. They could sit down there and eat and read. That would be nice."

The faculty/staff also had some opinions about how to make the libraries a more inviting place. One suggested that we add a café in the library. It can be localized so that food and beverages are kept in one place. Others agreed that this would be a good idea.

**Promote the libraries.** Others suggested that we should promote our recreational reading, add more special occasion lectures, readings, book signings, and have special displays for faculty authored books. Planning for such events would be helpful if students were added to the committee.

They asked if we offered workshops very often for faculty, staff, or students and if these were about resources and services. Some indicated that they missed the Libraries' book sales, and one suggested that many faculty would be willing to donate their extra textbooks.

### **Discussion and Recommendations**

The goal of this study was to determine methods to improve the users' ability to independently access the Libraries' resources either onsite or remotely. Participants' responses indicate that several major factors influence their ability to access resources independently.

One major influence was the Libraries' ability to communicate to users regarding new and existing services. At various times throughout both group sessions, participants reported an unawareness of new and existing services, difficulty finding resources, and difficulty understanding how to use services.

A second influence was the availability of electronic resources and the ease of accessing these resources. Participants reported a strong desire for electronic resources including books, articles, and theses. In addition they wanted easier access to these resources. They expressed a desire to conduct as much activity online as possible.

A third influence was the equipment and facilities available for use onsite. This included modern workstations equipped with software that supported research, sufficient and well-maintained equipment, adequate facilities to operate their own computers, and a comfortable and pleasing environment that supports research and study.

The following summarizes the results by item and includes recommendations. The recommendations are intended to present ideas for discussion. Input from library faculty and staff will help to develop the recommendations into a feasible plan for improvements.

**Accessing Services.** The majority of students and faculty/staff in this study accessed services at least once or twice a week, and many accessed the services several times a week. Both groups used both onsite access and remote access, though faculty/staff commented that they rely heavily on remote access. Students often searched remotely and then used the materials onsite. Many students found that accessing the services was more convenient if they lived or worked on campus.

## **Item 5 - Electronic Resources and Accessibility**

**Influencing factors.** The major influence on ratings for Item 5 was the users' frustration with the Libraries' proxy server and problems with Cameo, the Libraries' online catalog. Cameo will be discussed in a later section. The proxy server operated inconsistently and participants were not aware of the alternatives that were currently available or how to set-up and use them.

**Remote access.** The problem of remote access using the proxy server has been addressed. Carnegie Mellon University has recently implemented an alternative to the proxy server. A new Libraries' Web page has been designed to provide information and assist with set-up. This should alleviate many of the problems associated with the proxy server.

In addition another alternative is currently being tested. The University is exploring systems that will require users to login only once. However, for the immediate future, several systems will be used.

### **Recommendations**

1. Using a variety of methods of communication, inform users that a new system is replacing the proxy server. Liaison librarians can alert their patrons and a message can be placed on the Libraries' Web site. If a newsletter is developed, this information can be included in the newsletter.
2. Inform users of any new alternatives to remote access using the Libraries' Web site, messages by liaison librarians, and informational newsletters. Inform users of the new Remote Users Web page.

## **Item 6 - Modern Equipment**

**Influencing factors.** The Libraries' score on Item 6 suffered chiefly from the slowness and poor placement of our public workstations and lack of adequate software to support research activities. Printers and copiers were also identified as a source of dissatisfaction as well as poor facilities to use personal laptops and handheld computers.

A minimal requirement for independent access to resources is equipment that operates well and a space that provides for use of personal equipment. The participants, especially the students, felt strongly that the hardware, software, and equipment currently offered onsite not only could be improved, but also, indicated that some were less than sufficient.

**Computers.** Students suggested providing additional electrical outlets and increasing the power for the wireless signal to support use of laptops and handheld computers. They recommended that all computers are fast enough for them to complete their work (some currently are), and that they are dispersed evenly throughout the libraries.

**Software.** Students suggested including software that assists them with their research. In addition they wanted to access their email from the Libraries' workstations.

**Equipment and maintenance.** Students suggested adding more copiers on the first floor. Participants also wanted more printers and color scanners in all libraries. They suggested better maintenance on equipment (they stated that lack of paper and toner are often a problem). They felt that the same equipment and services should be available at all libraries.

Currently the computers are on a three-year cycle for replacement. The slow computers mentioned by students are scheduled for replacement in the near future. Maintenance to equipment is routinely done at least twice a day. The copiers have recently been replaced. This should alleviate many of the problems associated with maintenance of equipment.

### **Recommendations**

1. Add more electrical outlets to support use of laptops and handheld computers.
2. Explore the feasibility of improving the wireless signal in the Libraries.
3. Disperse Libraries' workstations throughout the buildings to maximize convenience and meet traffic needs.
4. Include software that supports users' research needs and enables access to email. This might include Word or Notepad for note taking, Endnote, and email.
5. Provide the same facilities and services in all libraries, for example color scanners and self-checking machines.
6. Develop a means of communicating to users about the equipment and services available and the location.
7. Increase the number of printers in areas identified by users.
8. Monitor equipment performance at public terminals. Check the fourth floor computers to determine if a temporary fix can be used to speed up computers.

### **Item 7 - Libraries' Web Site**

**Influencing factors.** The Libraries' ratings on Item 7 were influenced by a number of factors. Participants were dissatisfied with the appearance and usability of the Web site. They suggested that the Web site should be less cluttered, have more consistency, and be directed towards a specific audience. They also wanted a means to search the databases by keyword.

Access to the Libraries' electronic services as well as relevant information, whether users are onsite or using remote access, is often through the Libraries' Web site. A well-organized and usable site will facilitate use. Participants had some suggestions about improving the site, as well as elements on the site.

The new portal technology will allow users to create their own version of a Web site, and might address the problems voiced by the participants. However the following might help to alleviate the problems for now.

### **Recommendations**

1. Conduct usability testing of the Libraries' Web site focusing on key problem areas. Testing might include focus groups or think aloud protocols to test specific sections. Incorporate suggestions into the Library Portal.
2. Explore the possibility of adding a search function to the introduction page of the databases.
3. Create two online guides to the libraries, one each for students and faculty. Guides will include key links tailored to each group.
4. Initial investigations show that course listings match what instructors turned in. Continue to check for entry errors in course reserves.

## **Item 12 - Easy to Access Tools**

**Influencing factors.** The Libraries' ratings for Item 12 were primarily influenced by problems with the Libraries' online catalog, Cameo, and User Self Service found in Cameo. The faculty/staff were uncertain about what was meant by tools and had few comments. The students, however, defined tools as such thing as Illiad, Cameo, and User Self-Services in Cameo.

**Cameo User Self Service.** The current login system for the User Self Service section in Cameo is confusing especially regarding the pin number. Participants suggested a simplified login. They also wanted easier access to the Libraries' user services, possibly through Blackboard.

**Cameo problems.** When viewing a long list of items, Cameo sometimes shows the same record no matter what item is selected. Also mentioned were some spelling and course number errors in the listing of course reserves.

**Cameo functionality** Students suggested that they would like to view and print a search history in Cameo. They also suggested adding page numbers to the bottom of the list of results.

### **Recommendations**

1. Revise the User Self Service page in the Web site to include better directions for entering information. Explore methods of simplifying the login. Include the redesigned pages in a usability study.
2. Share the problems and functionality requests in Cameo described in the body of this report with the appropriate department.
3. Explore the possibility of adding page numbers to assist in navigation.
4. The Libraries have already added the search history to Cameo, though printing the history is not something that can be added by the Libraries' technical staff. Alert users to the new functionality in Cameo in the "What's New" section of the Web site.

## **Item 16 - Making Information Easily Accessible**

**Influencing factors.** According to the participants in these groups, the major influence on scores for Item 16 was lack of knowledge of the services, resources, and equipment that was available in the Libraries. Participants were not only unaware, but exhibited frustration about methods of learning about what was available.

**Directory of resources and system of communication.** Both groups suggested creating a directory of services, resources, and equipment and making this directory available online and in print. They felt that the directory should be placed in a prominent place. They also suggested better communication regarding new services and resources.

Of interest is that all of the information that is desired by participants is currently available either in print or online, however this information is located at various places in the Libraries or on the Web Site. The various pieces of information are currently disjointed and not contained in either one place (onsite or online) or in one document. And though liaison librarians routinely inform faculty of new services through email, a standard method of informing all users is not currently in place.

## **Recommendations**

1. Create a print directory to the library that describes services, equipment, and access to information. This might include such things as floor plan, list of services and equipment, borrowing guide, etc. Make this available in prominent places throughout the libraries, for example, near the door and distribute to all faculty, to all incoming students.
2. Create an online guide to the library (similar to the Faculty Guide) that includes all that was mentioned in (1) and use hyperlinks to link to relevant information. Link to such information as a guide to the Dewey numbers and their meaning.
3. Increase the size of the current print list of facilities and services that is available on every floor. List alphabetically, by category. Include categories such as services, equipment, and resources.
4. Create a map of the floor plan that can be available near the print directory and online.
5. To facilitate information sharing, create a newsletter that can be distributed twice a year at the beginning of each term. This can be a one page, two-sided with new happenings on the front and information sources on the back (phone numbers, email addresses, and URL's).

## **Item 25 - Convenient access to library collections.**

**Influencing factors.** This item was late in the discussion and many participants reported that their previous discussion also applied to this item. The chief factors mentioned as influencing the rating on this item included lack of information about the Libraries and services, problems with electronic access to the collection; primarily lack of availability of specific resources (back issues, *Nature*, *JAMA*, *AND JNEMS*). Also mentioned were problems searching in Cameo for videos using the limitations that were included in the video database.

Recommendations for improving access to information about the Libraries and services were included in the previous section.

## **Recommendations**

- d. Poll faculty to determine their priorities for electronic databases.
- e. Explore options to expand access to those that were previously available through the University of Pittsburgh and those that are most desired by faculty.
- f. Explore the possibility of making online access to the video database using the limitations that were included in the video database that is currently accessible only in print form.

## **Additional Comments – Library as a place**

This was a domain of its own in the LibQual+ survey and not part of the Personal control domain that was the focus of this study. However, it featured prominently in the discussions with both groups during requests for additional comments.

**Influencing factors.** The Libraries function as more than simply a resource for research and scholarly activities. The Libraries also are used for individual study as well as group study. As such the appearance, atmosphere, layout, and provisions can all support these activities. Students felt that a more stimulating environment, better and more appealing group study areas, availability of food and beverages, a place to use phones, and functionality of the layout could be improved to support their activities.

The faculty/staff also suggested a café or coffee area. They commented that more promotion of the Libraries' services might encourage people to use the Libraries and might support recreational reading as well as scholarly pursuits.

### **Recommendations**

1. Develop a program of special events in the Libraries. Consider such things as special occasion lectures, readings, book signings, continuing book sales, and special displays by faculty authored books.
2. Promote the Libraries' activities including workshops about the Libraries' resources and services.
3. Use creative methods of alerting the Carnegie Mellon community about the Libraries' activities, for example the Web site, electronic bulletin boards, Blackboard, and print and online newsletters.
4. Create a more pleasing atmosphere in the Libraries, integrating tables and computer workstations in the stacks, improving the lighting throughout the libraries but especially in the basement, adding a study area to the basement, painting it a livelier color, and making it more inviting, or as one student said, cozier. Consider adding a café or offering food and beverages.

### **Summary**

The goal of this study was to determine methods to improve the users' ability to independently access the Libraries' resources either onsite or remotely. Based on a previous quantitative study, participants rated independent access as the most important domain. Results from the same survey indicated that independent access to services was the domain that was also in need of the most improvement.

In addition, the Libraries' are moving towards increasing electronic access to services and resources. In order for remote access to operate efficiently and effectively users need to be able to access resources at any time of day or night with or without the need to seek the services of a librarian.

Though the Libraries provide help to remote users by offering Live Chat services with reference librarians or specialists, this service is only available during select hours. The best alternative is to provide services and help that can be accessed independently or provide services such that independent access is intuitive.

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<sup>1</sup> Webster, D. Association of Research Libraries; Heath, F. M. Texas A&M University Libraries. (2002). *Libqual+ Spring 2002 Survey Results – Carnegie Mellon University Libraries*. June 2002.

<sup>3</sup> Webster, D. Association of Research Libraries; Heath, F. M. Texas A&M University Libraries. (2002). *Libqual+ Spring 2002 Survey Results – Carnegie Mellon University Libraries*. June 2002.

<sup>4</sup> K. M. Drabenstott. (1992). Focused group interviews. In *Qualitative research in information management*. Eds. J. D. Glazier & R. R. Posell. Englewood, CO: Libraries Unlimited, Inc.

<sup>5</sup> Nielsen, J. (1994). *Usability Engineering* San Francisco: Morgan Kaufmann. (originally published by AP Professional, Boston), pp. 214 – 215.

## Appendix A - Focus Group Discussion Script

1. How often do you use the library either on-site or off-site? Let's go around the group starting at my right.
2. How do you access the resources, on site, by remote access or both?
3. Which do you use more often and for what reason?.
4. Tell me what this statement means to you:  
**Making electronic resources accessible from my home or office**  
What do you think of as electronic resources?  
How do you connect to the Libraries when off campus?  
Have you experienced problems with accessibility? What type?  
How can the library make electronic resources more accessible?
5. What do you think this means:  
**Modern equipment that lets me easily access the information I need, what do you think of as equipment?**  
How can the library improve the equipment? If funding were unlimited, what would you like?  
Which is most important to you?
6. How can we improve the Libraries' **web site** to make locating information easier?  
How often do you use the Libraries' web site?  
Do you bookmark resources you use often?
7. Tell me what you think this means:  
Easy-to-access tools that allow me to find things on my own  
What do you consider tools and what make them easy to access?  
How can the library improve services in this area?
8. Tell me what you think this means.  
**Making information easily accessible for independent use.**  
Have you had any problems accessing materials either on site or remotely?  
How can the library improve in this area?
9. Tell me what you think this means:  
**Convenient access to library collections**  
How can the library make their collections more convenient?  
Is this different for print versus electronic collections?
10. If funds were unlimited, what would you like to see in the library to improve your ability to access the information either remotely or on site? Would you like to add anything?