

Information Habits of Computer and Information Systems Students

Remi Castonguay, *Library*

A core commitment of an academic librarian is to engage students in exploring the wealth of accessible and reliable information. Often unaware of the richness of library resources, students wander in the open web, clicking through Google and Yahoo and accumulating information that is often inaccurate, biased, or simply false. Contributing to this problem is the technological speed with which questionable sources are located and transmitted. But equally plentiful are credible and substantive library databases. With off-campus connectivity, these resources are more easily accessed than ever before.

As a new librarian who is also a relatively new member of the faculty, I am curious about the possibilities of developing more usable and friendlier technology. More specifically, my interests lean toward improving the efficiency of library websites as digital communication tools. However, in the field of web usability the first step is to assess the user population. Before we can make our library website more accessible, academic librarians need answers to a range of questions about the expertise, expectations, and information-gathering patterns of the students who come to us. In other words, for what purposes do students use information? Where do they find it? How much do they know about the library? What do they use the library for? Each of these questions assumes great importance for the new faculty member who wishes to learn about his or her community.

In an effort to address some of the questions above, and to satisfy curiosity about my new environment, during Fall 2004 I conducted a test case survey in the Computer and Information Systems (CIS) Department, for which I serve as library liaison. My primary aim was to assess CIS students' information and technology usage habits, career expectations, and library knowledge. Further, I wanted to identify the library services CIS students expect.

Ultimately, as part of an ongoing effort to develop instructional resources for faculty and students, my long-range objective was to develop ideas for a CIS Web/Library information portal that would help tailor the library's website to student needs.

My first test case focused on approximately 85 CIS students about whom only limited deductions can be made. This small sample is not representative of the College's student population as a whole, nor can it effectively present high level conclusions. Yet some trends about CIS students may be observed.

Demographics

According to my demographic data, 31% of students in the study were female and 69% male. The largest age group was 20–24 years old, representing 36.5% of the sample. With the exception of the very low representation in the 40–65 age category, the other age groups were almost equally divided. Although these numbers align closely with LaGuardia's Institutional Profile 2004, I would caution against extending this survey's results to LaGuardia students in general.

Age Distribution of Students Surveyed

Age range	Number	Percent
15-19	18	21.2%
20-24	31	36.5%
25-29	16	18.8%
30-39	16	18.8%
40-65	4	4.7%
Total	85	100%

Not surprisingly, English is a second language for 54% of these students. Finally, wanting to survey as many "experienced" CIS students as possible, I targeted potential second-year classes, ending up with a good sample of students, 94% of whom declared Fall 2004 as "not their first semester." Of these, 88% declared CIS their major.

Professional Expectations and Awareness

Positive results demonstrate that most CIS students want either to “Finish the degree and transfer to a 4-year college (45%)” or to “Finish the CIS Associate degree and find a job (33%).” One of the most interesting aspects of the survey is the relation between career expectations and high educational aspirations. While programming was the career preferred by most of the respondents (22%), other career goals included networking and systems (15.6%), Web design and development (11.4%), as well as careers involving computer hardware and troubleshooting (10.4%), multimedia (5.2%), databases (5.2%), and business owner/administrator (3.1%). A relatively low number of respondents reflected uncertainty about career orientation (6%). The remaining responses (18%) covered a variety of professions ranging from broadcasting and telecommunications to office assistant, computer lab administrator, etc.

The library can learn a great deal about students from answers to several key questions: How informed are CIS students about their chosen profession? Through what means do they keep abreast of their future career? More specifically, what sources of information do CIS students use to accomplish these tasks? Predictably for this particular population, the World Wide Web (33.7%) is by far the most prevalent means of keeping informed. However, more traditional means such as word of mouth/asking professors (15.6%), magazines (14.3%), newspapers (9.1%), TV (5.2%), and books (2.6%), were also mentioned. Other results – news (6.5%) and reading (3.9%) – are more difficult to interpret. The number of miscellaneous responses amounted to 9.1%.

Information Sources

The findings revealed two key pieces of information about CIS students. First, they have high career expectations; second, they want to remain informed about their profession. To answer these needs, the library asked a follow-up question: Where exactly do CIS students locate this career information on the Web? That

is, which websites do they use? As expected, Google (25%) and Yahoo (20.3%) were cited as the most frequently visited sites. Other popular websites include MSN.com (7.8%), Microsoft.com (6.25%), AOL.com (4.7%), and LaGuardia.cuny.edu (3.9%). The remaining responses were divided among other websites (26.5%), while seven individuals (5.5%) indicated that they did not use a specific website or any website at all. This information demonstrates that many CIS students are not familiar with specific websites that would make their work easier, depending heavily instead on search engines to find information. Clearly, these results point a role for the library in making students aware of exemplary or best practice websites. As information professionals linked with CIS faculty, librarians can identify authoritative websites to help students and make them available through a web portal dedicated to CIS students.

In a complementary question, students were asked if they read magazines frequently. A large majority (63.6%) said they did not. Of those who did, *PC Magazine* and *PC World* were mentioned most often. Survey results also indicate that 46.4% of respondents do not know the library owns computer books and magazines, once again identifying a direction for the library. In this case, librarians could more effectively inform students of available print resources by promoting their availability.

Library Usage

We might ask ourselves if the lack of awareness of a range of resources is due to low library frequentation. A little more than 70% of students said they had used the library in the preceding semester, hence showing that students do use the library. Out of those who had used the library, 72.7% had checked out books; however, only 40.5% checked out books related to computer science. In fact, many CIS students appear to use the library for other classes (59.5% had checked out books about other subjects, mostly English and Literature). In other words, a relatively low number of those who frequent the library borrow computer books or read com-

puter magazines, suggesting again that promotion of these resources should be increased.

Our survey also yielded interesting information about usage of the library's website. Asked if they had used the library's website before the survey, 60.9% of respondents said yes. However, out of this group, 71.4% used it less than twice a week, 18.4% used it 2–3 times a week, and 10.2% used it daily. In other words, a large percentage of CIS students are likely to use the library's website only a few times each week. Worse, 39.1% responded that during their time at LaGuardia they had never used the website at all. Once again, marketing and customization might be effective. Like most Internet consumers, students will use and return to websites that reflect their interests and personal identities.

Any college library website that wishes to engage more directly with students' general expectations must understand that the students are seeking information relevant to their classes and research. Our findings suggest that students choose resources that relate to assignment-specific information needs and provide clear instructions on how to accomplish basic tasks, such as locating books or articles:

Information sought	Number	Percent
Finding information for your paper	45	17.51%
Finding the books for your class	44	17.12%
How to find an article	36	14.01%
How to find a book	32	12.45%
Library hours	28	10.89%
How long you can borrow a book	21	8.17%
How to renew/reserve books	17	6.61%
Other	34	13.20%
Total # answers	100	100%

The final survey question concerned the services CIS students think the library should provide. Most often cited was "More books/textbooks" (23.8%). Many would also like the library to provide free and current software for loan (19.4%), although this would create copyright problems. CIS students also advo-

cated for more computers (13.4%), tutoring services (7.5%), a special CIS section in the library (4.5%), web updates on computer science (4.5%), and more magazines (4.5%).

Observations

The CIS survey suggests that its students are often unaware of key library resources – the books and magazines and websites that can help them accomplish work in their disciplines. The essence of librarianship increasingly lies in understanding or even forecasting our patrons' needs and expectations. To a large extent, we do this successfully at LaGuardia through our growing library instruction programs, reference services, and technology. The website is the library's main instructional tool and as such is one of the best avenues to enhance our communication with students. Whether in the context of face-to-face faculty/student interaction, or as a stand-alone tool, our website must engage students by meeting their expectations. What can the library do to reach these goals?

First and foremost, as the CIS survey suggests, library and departmental collaboration will help us promote our resources. Within the disciplines, faculty can guide their students to greater awareness of library resources. In turn, librarians must also keep faculty aware of what the library has to offer. We should also work together to select the best resources and present them concisely, in ways tailored to students' needs. As librarians, we must predict needs, but we must also acknowledge actual levels of student knowledge about the library. By providing students with quality examples of different types of materials (books, journals, websites, databases, etc.), we can teach primary levels of information literacy. Presented with such examples, students will be closer to retrieving reliable information on their own and building their research skills. CIS students expect an engaging web presence that fulfills their academic needs and offers instruction in the basic skills of finding books and articles. In response, the library has started to build an information portal that gathers together CIS resources of different types by subject.¹

Second, for many individuals the library is a foreign land, a sort of parallel universe, and library discourse is not particularly user friendly, especially for ESL students. Librarians should address this gap in approachability by making the website's vocabulary more accessible and developing aids for finding books and articles. It is also crucial that we continue to learn about our population. For example, in Spring 2005, as part of a Statistics class assignment, Mathematics Professor Prabha Betne and I piloted a much larger survey of students enrolled in Mathematics classes at LaGuardia. Additional examples of the library's commitment to learning are currently underway. We have initiated a college-wide survey of our population (LibQual Survey, Spring 2005), and we have also designed a web usability study. With the latter, our goal is to test students' ability to accomplish certain research tasks using the library's website; from this information, we hope to learn about how students read information on the web. Interestingly, the

number of libraries engaging in usability studies is constantly increasing.²

As mentioned earlier, the CIS survey's limited sample cannot supply conclusive information about the college as a whole. But as a new faculty member wanting to know more about the larger college community, I found conducting the survey and talking directly to students and faculty to be a powerful learning experience. In my view, department-specific surveys provide the library invaluable information about specific portions of its user population. Ultimately, the library needs to think on two planes. On one level, we must assume the perspective of the student trying to access information resources. On another, we must be objective examiners of the information environment itself. It is my hope that the integration of these two perspectives will yield new data that will further clarify the library's understanding of the ways we can promote use by LaGuardia's diverse population of learners.

NOTES

1. The portal is now available on the library website. For more information, see bibliography. I would like to acknowledge the collaboration of Professor Avis Anderson in that endeavor as well as thank my colleagues at the library for their invaluable suggestions and contributions.
2. The professional literature shows evidence of that trend. As recently as Oct. 2005 for example, the library journal "Computer in Libraries" dedicated a whole issue to the subject of web usability in libraries.

WORKS CITED

- "Computer & Information Systems Guide." *LaGuardia Community College, Library Media Resources Center, Guides and Publications*. Fall 2004. LaGuardia Community College, Long Island City, NY. 11 April 2004 <http://www.lagcc.cuny.edu/library/pt3/Resources_gateway.htm> .
- Fichter, Darlene. "Designing a Better Subject Page to Make Users' Searches More Successful." *Computer in Libraries* 25.9 (Oct. 2005): 6–8, 54–6.
- Gardner, Susan, and Susanna Eng. "What Students Want: Generation Y and the Changing Function of the Academic Library." *Portal: Libraries and the Academy* 5.3 (2005): 405–20.
- Garrett, Jesse James. *The Elements of User Experience: User-Centered Design for the Web*. New York: AIGA, 2003.
- Krug, Steve. *Don't Make Me Think: a Common Sense Approach to Web Usability*. 1st ed. Indianapolis: New Riders, 2000.
- Nielsen, Jakob. "Lower Literacy Users." *Useit.com* 14 March 2005. 23 March 2005 <<http://www.useit.com/alertbox/20050314.html>>.
- Norlin, Elaina. *Usability Testing for Library Websites*. 1st ed. Indianapolis: New Riders, 2000.
- "The Student Body Profile, Age." *Institutional Profile*. September 2004. LaGuardia Community College, Long Island City, NY. 11 April 2004 <http://www.lagcc.cuny.edu/facts/facts03/PDFs_profile/03.pdf>.
- Weiler, Angela. "Information-Seeking Behavior in Generation Y Students: Motivation, Critical Thinking, and Learning Theory." *The Journal of Academic Librarianship* 31.1 (Jan. 2005): 46–53.