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Student Library and Technology Engagement Survey Summary Report: 2012

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The Claremont Colleges Library

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Introduction

At a time of rapid and pervasive change in technology, libraries, and higher education, detailed inquiry at the institutional level is necessary to understand user needs and characteristics in order to tailor services and resources to local populations. The Claremont Colleges Library (CCL) is unique in its consortial purview, further enhancing the importance of contextual investigation. In response to these factors, in Fall of 2012 the CCL Education Services Department conducted a large-scale survey of students across the seven Claremont campuses (Claremont McKenna, Harvey Mudd, Pitzer, Pomona, Scripps, Claremont Graduate University, and the Keck Graduate Institute).[1]

This effort represents one aspect of a broader environmental scanning project intended to build insight into the characteristics of the Library's user community, an effort that had not been systematically undertaken by the organization in a number of years. Based on a framework established by two prior investigations of local academic communities to inform library operations,[2] the CCL *Student Library & Technology Engagement Survey* was designed to explore: how Claremont Colleges students use, perceive, and understand CCL and its services; academic information technologies; and information literacy[3] skills. This survey sought to investigate the following research questions:

1. *What are the library profiles (library use, skill, and awareness) of Claremont Colleges (7Cs) students?*
2. *What are the technology profiles (technology ownership, use, skill, adoption status, emerging technology receptivity) of 7Cs students?*
3. *How can student receptiveness to/ awareness of emerging technology Library services be characterized? How willing are students to integrate social/mobile library tools into their personal learning environments?*
4. *What are student perceptions of and expectations for e-books?*
5. *How do students characterize their information literacy skills, and how well do students perceive they are being supported in their IL skills development?*

The Library hopes to replicate this survey on a biennial basis for purposes of longitudinal inquiry. This report summarizes major *CCL Student Library & Technology Engagement Survey* findings from 2012 and issues recommendations that address the above research questions.

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[1] A similar 7C faculty survey will be conducted in Spring 2013.

[2] See Booth, C. (2009). *Informing innovation: Tracking student interest in emerging library technologies at Ohio University.* Chicago: Association of College and Research Libraries; Booth, C., (2011). *California Community College Student Library & Technology Engagement Survey: 2011 Pilot Final Report*, www.cclccc.org/ccl-lib-tech-surv-finalreport2011.pdf.

[3] The Claremont Colleges Library Instruction Services Department defines Information Literacy as "the ability to use critical thinking to create meaningful knowledge from information" (see Appendix C) and the Association of College and Research Libraries' *Information Literacy Competency Standards* can be found at www.ala.org/acrl/standards/informationliteracycompetency.

Executive Summary

1 - Library Engagement

Claremont Colleges students express high use of and appreciation for Library spaces, materials, staff, and services, and strongly value CCL in terms of their learning and academic development. For example, a respective 50% and 42% of respondents report accessing online articles or using library databases at least frequently, 63% of respondents use the library as a study space at least occasionally, and 34% responded that CCL resources are at the highest level of importance (*very important*) to their learning and development on a 7-item scale, with a further 50% indicating importance at levels of 5 and 6 (see Figure 20, page 27). Responses to open-ended questions emphasize these trends as many respondents expressed appreciation for a diverse range of specific CCL services such as Link+ and ILL, Chat/IM, and Drop-in workshops. Conversely, many express low awareness of the breadth of Library services and a wish for increased marketing and communication of CCL offerings. For example, 10% of respondents were not aware they could seek research support from a librarian on the phone, and 15% didn't know they could do so via IM or chat. *See pages 8-16 and 27 for fuller discussion of these results.*

2 - Technology Engagement

Claremont Colleges students tend to be receptive to emerging technologies, express positive impact of technology on their academic performance, engage heavily with mobile technology, and own a range of devices they believe are integral to facilitating academic success. Laptop ownership is virtually ubiquitous (98%), while a respective minority of Claremont students own dedicated e-readers (21%), tablets (19%), and other e-reading devices (e.g., smart phones, 71%). *See pages 17-18 for a full discussion of results.*

3 - Library Technology Receptivity

Many students already conduct academic research and access CCL resources from mobile devices such as smartphones and tablet computers, while more express interest in increased Library support and research functionality on these tools. For example, via mobile devices, a majority of respondents indicated they were at least fairly likely to want to: receive item renewal notices from the Library (78%), check their library account (77%), send calls numbers from Blais (64%), and use mobile versions of databases to conduct research (57%). At the same time, Library spaces are still heavily used and highly valued by students (see Executive Summary section 1). Students express relatively less interest in engaging with Library research services in web-based and mobile forms – for example, 47% were at least fairly likely to indicate interest in engaging with a librarian via mobile chat reference. Library social media engagement among the 7C population is still modest, but a number of the survey population

already engages with CCL via Twitter and Facebook (3% and 5%, respectively) while more indicate receptivity to Library presence in social media sites. *See pages 19-22 for full results.*

4 - Information Literacy Perceptions

Claremont Colleges students express confidence in their information literacy-related skills and abilities such as source integration and attribution (about 70% rate their abilities as high on a five-point scale with a maximum of very high), but also indicate need for development in the IL skill areas of awareness of evaluation of source materials and understanding open access resources (a relative 50% rate their abilities as high in each area). Students also report that a range of IL-related skills are emphasized in the classroom context, but that faculty tend to emphasize academic honesty over evaluation of source materials. A high level of librarian collaboration in classroom settings is evident in survey findings – at least 70% of respondents reported attending a workshop by a CCL librarian in their classroom or in the Library. *See pages 23-29 for full results.*

Methodology

The *CCL Student Library & Technology Survey* was created, adapted and revised over the summer and early fall of 2012 and administered between October 10 and November 10, 2012 using the web-based survey management platform, [Qualtrics](http://www.qualtrics.com).[4] The anonymous survey consisted of 22 content questions and 6 demographic questions, and was granted exempt status by the Institutional Review Boards of all seven Claremont Colleges (see Appendix B for the full instrument). An optional drawing for a $250 Amazon gift card was offered as an incentive to participants who fully completed the survey.

Figure 1 - *% of Total Survey Respondents by Claremont Campus*
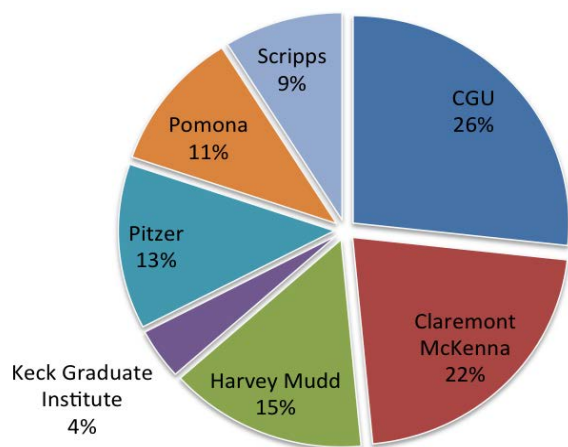
About 15% of the total student population of the Claremont Colleges completed the survey, or n=1,038 (combined 7Cs enrollment in 2012-13 is approximately n=7,000). A total of n=1,327 students began the survey, which translates to a 78% rate of completion. As shown in Figure 1, the largest portion of survey respondents were CGU students at n=276 (26%); participation by other campuses was as follows: CMC at n=231 (22%); Harvey Mudd at n=152 (15%); Pitzer at n=131 (13%); Pomona at n=117 (11%); Scripps at 89 (9%); and KGI at 42 (4%).

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[4] http://www.qualtrics.com

These figures represent a range of participation rates relative to campus enrollment, as demonstrated by Figure 2. A significantly higher proportion of KGI and Harvey Mudd students responded than Pomona and Scripps College; see Figure 3 for the number of responses per college versus the total student population of that college. In this action research project intended to inform Library operations and assessment efforts, sampling was not randomized but instead designed to capture the broadest possible elective convenience sample of 7Cs students. While it is the opinion of the investigators that the overall

Figure 2 - *Respondents as Percent of Student Population*
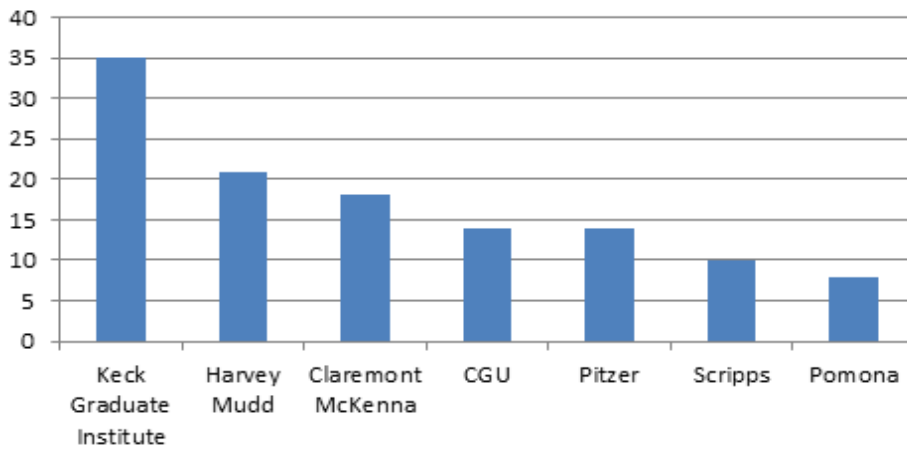
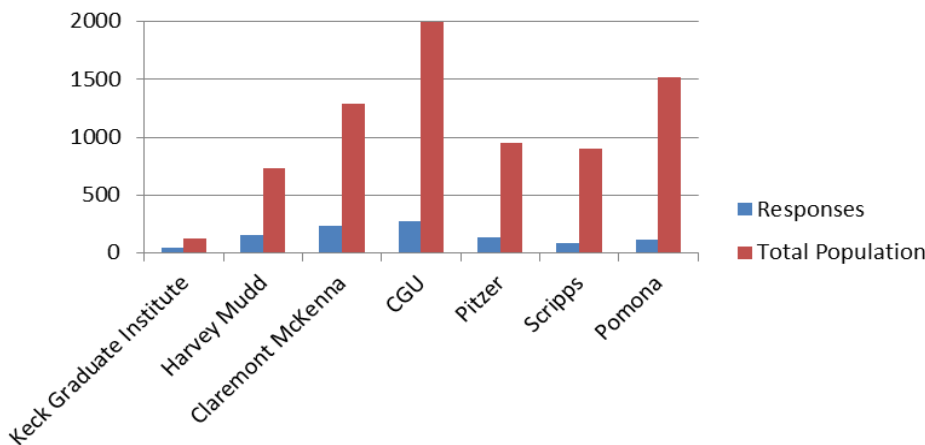**Figure 3 - *Number of Responses v. Total Student Population by College***

survey response rate is still well within the bounds of statistical significance and generalizability to the population of each College,[5] it should be noted that summary representation of findings in this document have not been weighted to balance disparate participation by campus, and therefore to some degree reflect differences in participation by Claremont campus. While responses for each campus were not large enough by themselves to be statistically significant (although in many cases close), because the overall response rate is statistically significant and because this survey is intended as an assessment tool rather than research[6] the authors feel the results can be used to characterize Claremont students and inform library planning.

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[5] This survey response rate of 1,038 for a population size of 7,000 gives this survey a 95% confidence level with 2.5% margin of error or a 99% confidence level with a 3.5% margin of error. http://research-advisors.com/tools/SampleSize.htm
[6] Upcraft, Lee M. and John H. Schuh. (2002). Assessment vs. Research: Why We Should Care About the Difference. *About Campus*, (March-April), 16-20.

The 2012 *Student Library & Technology Engagement Survey* was promoted through several all-Claremont student email list messages, CCL social media profiles (Twitter and Facebook), on-campus flyers, and via digital displays at each College. In an attempt to investigate the relative efficacy of these survey distribution methods, the first item was a multiple-response question that asked "*How did you find out about this survey*?" Email distribution reached the most students by a large margin (85%, n=1,072), while flyers reached the next largest group at 9% (n=109). Three percent of students indicated that they learned about the survey from Facebook or Twitter (n=35), while 2% learned about the survey from a friend, librarian, or the Library website, respectively (n=25, n=22, n=23). An additional 4% percent (n=49) learned about the survey from 'Other' sources, largely from Pomona College's message digest service (Chirps!).

Investigators discovered during the initial days of the survey distribution period that, due to unknown campus list distribution restrictions, only students at CGU and Pitzer received the first promotional email. In order to reach the remaining campuses by email it was necessary to contact colleges' administration to effectively distribute the promotional message,[7] thus shortening the email discovery and response period at those institutions by several days. While this contact resulted in email distribution to Harvey Mudd, Scripps, CMC, and KGI, access to the Pomona student listserv remained unavailable, and at this campus the investigators relied on Chirps!, Pomona College's student message digest service to convey survey promotional materials. This resulted in a lower response rate at Pomona relative to its total enrollment (see Figure 3).

Unequal response rates by campus and list distribution issues during administration indicate that the Library could benefit from a still more streamlined and effective way to communicate to student populations across the 7Cs. If the investigators had relied solely on the initial student email message and not taken additional measures to identify and circumvent distribution issues, returns would have skewed more heavily towards selective campuses.

Demographics

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[7] This process was greatly assisted by the 7C Faculty Embedded Librarian Program (established in 2012), which has facilitated more transparent and productive communication between the Library and the Colleges.

Due to the goal of the investigators to capture a representative sample of Claremont Colleges Students through elective convenience sampling, several demographic questions were included for purposes of comparison to available demographic information by campus.

Figure 4 - *Responses by Student Status*
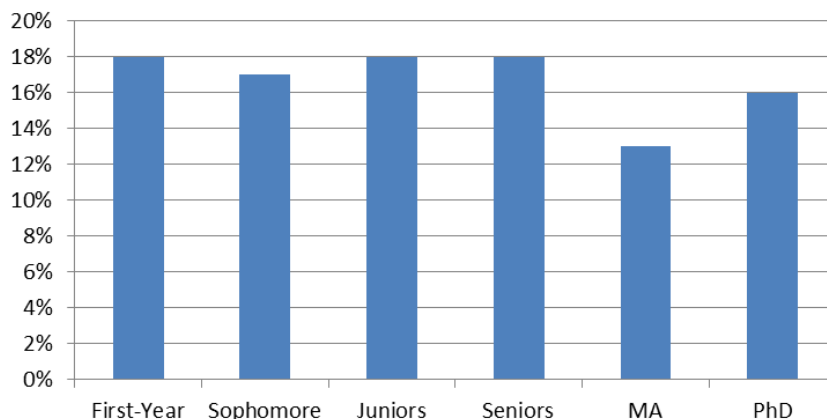
Respondents by Student Status, Age, and Gender

Figure 4 indicates survey respondents were quite evenly distributed by student status: first-year undergraduates represented 18% or n=188 of the respondent population; n=178 were sophomores (17%); n=187 were juniors (18%); n=185 were seniors (18%); n=135 were Master's candidates (13%); and n=165 were PhD candidates (16%). By age, 31% (n=325) were under age 19; 46% (n=474) between the ages of 20-24; 23% were 25 or older (25-29, 9% (n=95); 30-34, 6% (n=63); 35-39, 4% (n=38); 40-49, 2% (n=25); over age 50, 2% (n=18). By gender, 66% (n=684) of respondents identified as female, 32% (n=328) identified as male, 1% (n=3) identified as transgender, and 2% (n=17) preferred not to say. While this is a skewed distribution in comparison to the Claremont campuses population (reported gender distribution for combined 7Cs is 42% male, 58% female),[8] it follows patterns consistent with research into web-based response rate distribution by gender.[9]

Respondents by Subject Affiliation

Respondents indicated their subject affiliation out of a list of 43 departments or subject areas. Of the 43 subject divisions presented to respondents in the survey, *Other* comprised the largest share, or 11% (n=111) of responses. Rounding out the top ten subjects with the highest number of responses:

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[8] Gender breakdown aggregated from data on the following sites: for CMC, Harvey Mudd, Pomona, Pitzer, and Scripps http://colleges.usnews.rankingsandreviews.com/best-colleges; and CGU http://www.cgu.edu/pages/162.asp. No KGI data.
[9] See Sax, L, S. Gilmartin, & A. Bryan. (2003). Assessing Response Rates and Nonresponse Bias in Web and Paper Surveys. *Research in Higher Education*, (44), 4, 409-432. DOI: 10.1023/A:1024232915870.; Underwood, D., H. Kimand, & M. Matier. (2000). To mail or to Web: Comparisons of survey response rates and respondent characteristics. Paper presented at the *40th Annual Forum of the Association for Institutional Research*, Cincinnati, OH, May 21–24, 2000.; Hunt-White, T. (2007). The Influence of Selected Factors on Student Survey Participation and Mode of Completion*, Center for National Education Statistics*, http://www.fcsm.gov/07papers/Hunt-White.III-C.pdf

Table 1 – Subject Affiliation	n=	% of Respondents
Psychology	99	9.5%
Economics	72	6.9%
Biology	71	6.8%
Education	55	5.3%
Engineering	53	5.1%
Political Studies/Politics/Government	53	5.1%
Computer Science	49	4.7%
International Relations	39	3.8%
Religious Studies	39	3.8%
Environmental Analysis	38	3.7%
Mathematics	38	3.7%
English/Literature	37	3.6%
Neuroscience	30	2.9%
Business	23	2.2%
History	23	2.2%
Physics/Astronomy	23	2.2%
Community & Global Public Health	19	1.8%
Sociology	18	1.7%
Chemistry	16	1.5%
Media Studies	16	1.5%

Psychology (9.5%, n=99); Economics (6.9%, n=72); Biology (6.8%, n=71); Computer Science (5.3%, n=49); Education (5.1%, n=55); Engineering & Political Studies (5.1% each, or n=53); Religious Studies & International Relations (3.8% each, n=39); Mathematics & Environmental Analysis (3.7% each, n=38); English/Literature (3.6%, n=37); and Neuroscience (2.9%, n=30) (see Table 1 for the top twenty subject affiliations). These subject affiliations can be grouped broadly into: humanities[10], social sciences[11], sciences,[12] and undeclared/undecided.
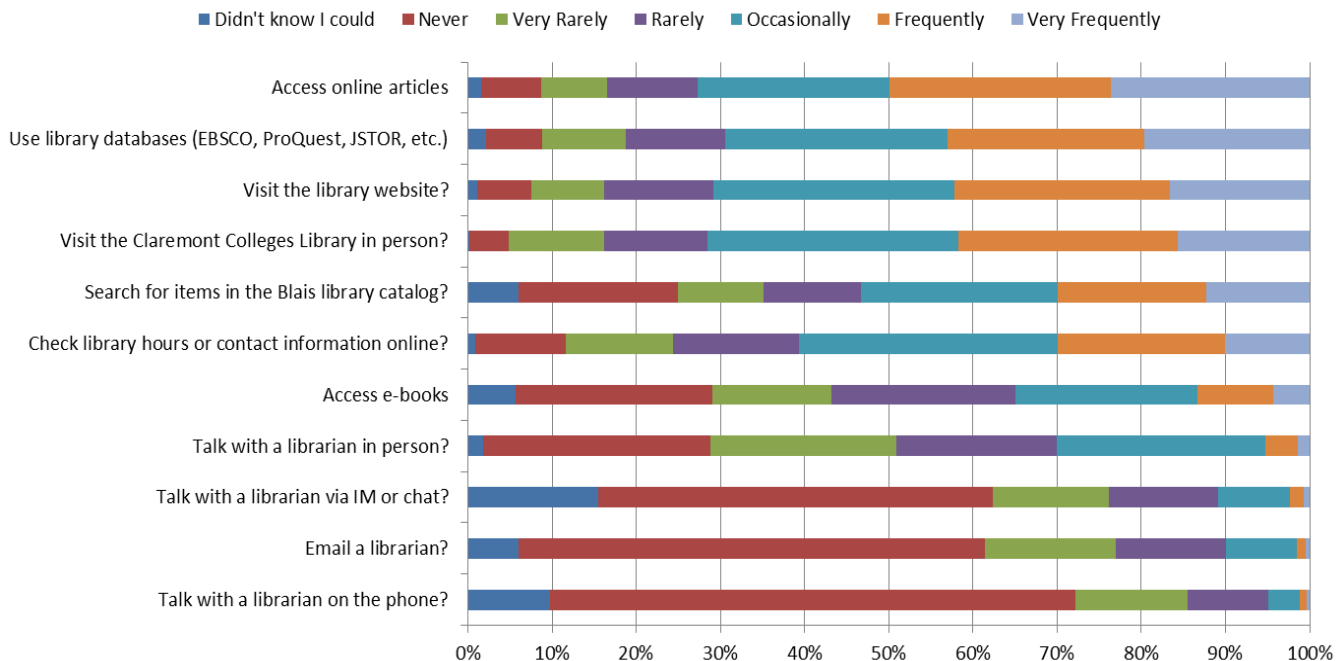
Findings

1 - Library Engagement

The *2012 Library and Technology Engagement Survey* included several closed-response and open-ended questions that investigated student engagement with various aspects of the Claremont Colleges Library, including its building (Honnold/Mudd), website, librarians, and online resources. Question 2 inquired, "*During the semester, about how often do you...?*" and listed a series of response choices including information access methods and librarian research assistance (Figure 5). The response array ranged from *Never* to *Very frequently*, including a response choice of *Didn't know I could* to investigate overall awareness of CCL services versus informed non-participation.

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[10] Humanities includes Art & Art History, Classics, Dance, English/Literature, History, Languages, Music, Philosophy, Religious Studies, and Theater.
[11] Social Sciences includes Africana Studies, American Studies, Anthropology, Asian American Studies, Business, Chicano/a & Latino/a Studies, Computer Science, Economics, Education, Environmental Analysis, Financial Economics, Gender Studies, Information Science, International Relations, Law/Legal Studies, Linguistics & Cognitive Science, Management, Media Studies, Middle East Studies, Political Studies, Psychology, Public Policy Analysis, Russian & Eastern European Studies, and Sociology.
[12] Sciences includes Biology, Chemistry, Community & Global Public Health, Engineering, Geology, Mathematics, Neuroscience, Physics/Astronomy, and Science, Technology & Society.

Figure 5 - *Use and Awareness of Library Resources*

Legend: ■ Didn't know I could ■ Never ■ Very Rarely ■ Rarely ■ Occasionally ■ Frequently ■ Very Frequently

Categories (top to bottom):
- Access online articles
- Use library databases (EBSCO, ProQuest, JSTOR, etc.)
- Visit the library website?
- Visit the Claremont Colleges Library in person?
- Search for items in the Blais library catalog?
- Check library hours or contact information online?
- Access e-books
- Talk with a librarian in person?
- Talk with a librarian via IM or chat?
- Email a librarian?
- Talk with a librarian on the phone?

Ask Us Services

While use of "Ask Us" services is significantly higher at the Claremont Colleges than in the two prior institutional library engagement studies conducted by one of the investigators,[13] responses indicate that CCL could do more to raise awareness of its research support services, such as in-person, 1-1 subject librarian appointments, and chat reference. For example, 15% (n=184) of respondents didn't know they could *communicate with a librarian via IM or chat*, while a further 10% (n=116) didn't know they could *contact a librarian via phone*. Despite the development of many digital research support options, in-person interactions still comprise the highest proportion of student-librarian contact. Whereas 41% of respondents had *talked with a librarian in person* at least rarely (14%, n=227) and almost 25% (n=294) did so occasionally, 47% (n=557) responded they have never *used the IM/chat* system. Patterns of research help need from librarians merit further investigation: while only 5% (n=71) of respondents didn't know they could email a librarian, 55% (n=657) had never emailed a librarian.

Online Resources

Responses indicate students engage heavily with online Library resources such as article databases like JSTOR and LexisNexis; 50% indicated that they *accessed online articles* frequently or very frequently (n=311 and 281 respectively), whereas 42% used Library article databases frequently or very frequently (n=278 and 234, respectively). Forty-two percent of respondents *visited the library website* frequently or very frequently (n=303 and 197, respectively) - interestingly, the exact rate at which they *visited the*

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[13] See Booth, 2009 for a comparison to librarian contact rates at Ohio University; and Booth, 2011 for librarian contact rates in a sampling of California community colleges.
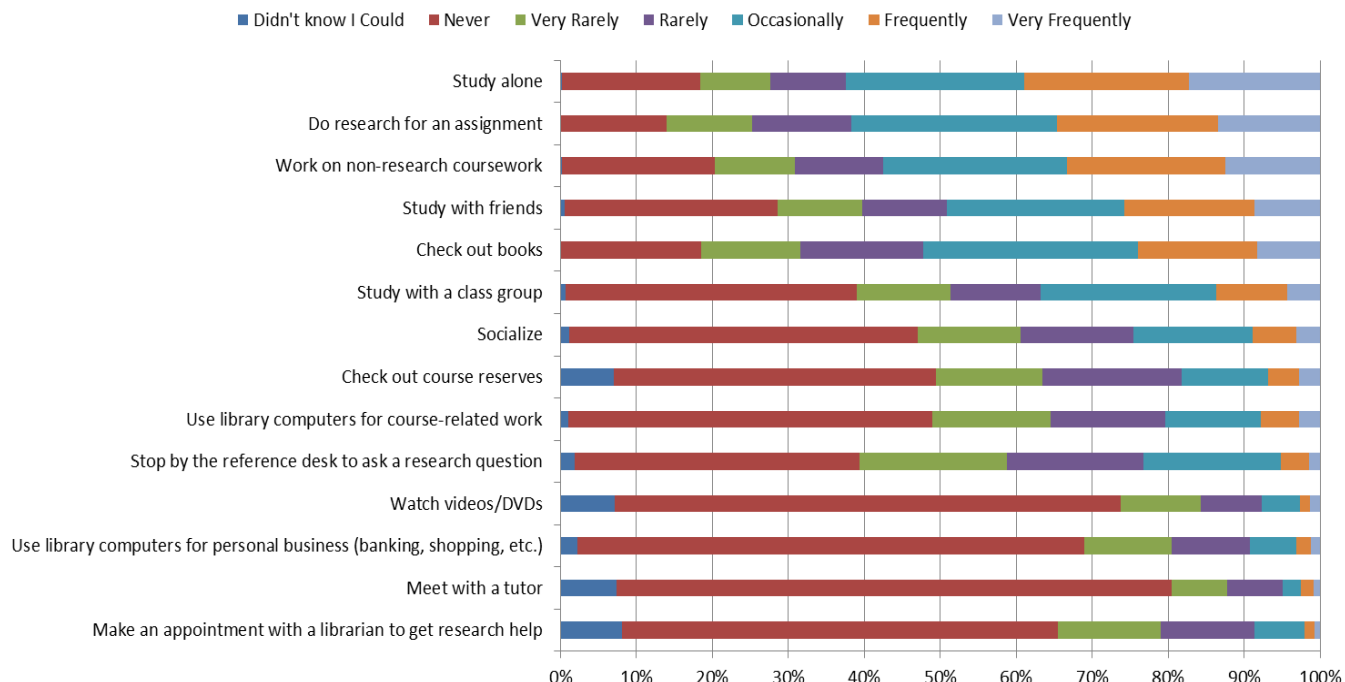
library building (frequently n=311, very frequently n=186). Relative to other CCL online resources, respondents were somewhat less engaged with Blais, the online catalog - 30% *searched for items in Blais* frequently or very frequently (n=209 and 145, respectively), and 23% (n=278) did so occasionally. Users *accessed e-books* at lower rates, with 23% (n=277) never accessing e-books, and an equal percentage (21% each) doing so rarely or occasionally (n=258 and 256, respectively) and 13% doing so frequently or very frequently (n=107 and 51, respectively). It should be noted that e-books are an emerging technology and rates of e-book access can be reasonably expected to rise given adequate collection development support, as well as education and marketing efforts to raise awareness and understanding of e-book collections among Library users.

Library Building

Question 3 asked, *"During the semester, about how often do you use the Honnold/Mudd Library building to...?"* (Figure 6). Results confirm the primary use of the building as a study space. Respondents indicated they use the building most heavily to do the following: a combined 39% *study alone* frequently or very frequently (n=247 and n=196, respectively), while 24% do so occasionally (n=268.). Thirty-five percent of students *do research for an assignment* at least frequently (n=395), while 27% do occasionally (n=309) and 33% *work on non-research coursework* at least frequently (frequently at n=237 and very frequently at n=142), whereas 24% did so occasionally (n=275). Respondents indicated they used the Library building less heavily to *check out books* (15% frequently (n=178), 28% occasionally (n=321), 16% rarely (n=184), 18% never (n=211). Respondents occasionally *study with friends* (17% frequently (n=194), 23% occasionally (n=266), and 28% never (n=319)). Students less frequently *stop by the reference desk to ask a research question* (18% rarely and occasionally, n=204 and 206, respectively), 37% never do so (n=426) and 19% do so very rarely (n=211). Few *study with a class group* (38% never (n=436) and 23% occasionally (n=263)). Students responded they rarely use the library to: *meet with a tutor* (73% never (n=833)); *use library computers for personal business* (67% never (n=760)); *Watch videos/DVDs* (67% never (n=757)); *use library computers for course-related work* (48% never (n=545)); and *socialize* (46% never (n=522)).

As with Question 2, student patterns of research help engagement with librarians warrant further study. While 8% (n=93) of respondents didn't know they could *make an appointment with a librarian to get research help* and 57% (n=654) have never made an appointment, 35% (n=357) of the respondent population had pursued an appointment-based interaction with a librarian.
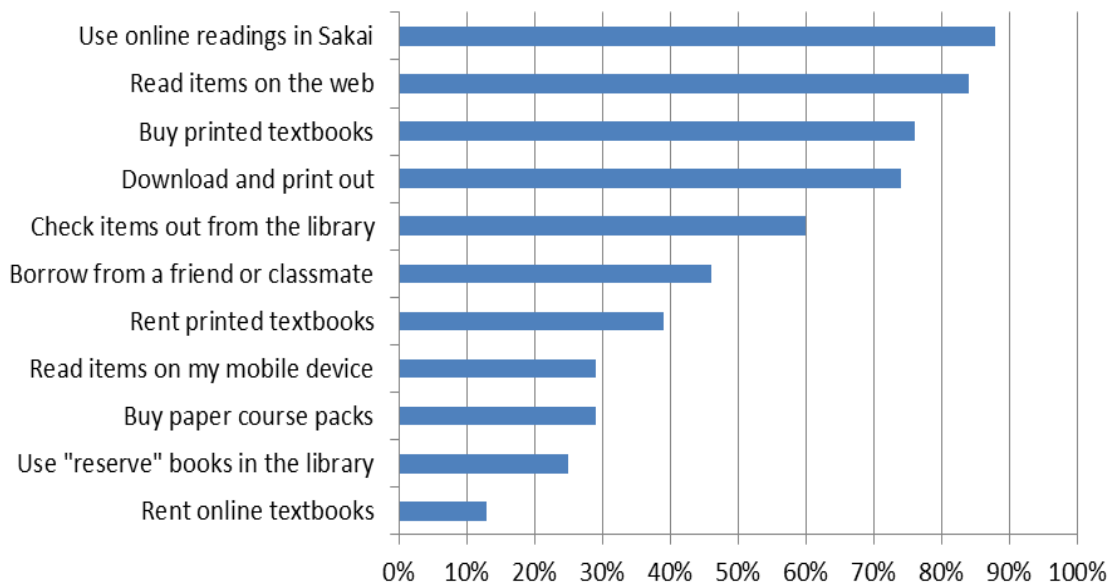
Figure 6 - *Use of Honnold/Mudd Building*

Legend: ■ Didn't know I Could ■ Never ■ Very Rarely ■ Rarely ■ Occasionally ■ Frequently ■ Very Frequently

Categories (top to bottom):
- Study alone
- Do research for an assignment
- Work on non-research coursework
- Study with friends
- Check out books
- Study with a class group
- Socialize
- Check out course reserves
- Use library computers for course-related work
- Stop by the reference desk to ask a research question
- Watch videos/DVDs
- Use library computers for personal business (banking, shopping, etc.)
- Meet with a tutor
- Make an appointment with a librarian to get research help

Question 4 (n=881) was an optional open-ended item that asked, "*What influences how frequently you use the Library?*" of the responses, the most common were *workload* (31%, n=273); *research assignments* (13%, n=111); *library hours* (6.5%, n=58); and *availability of space in the library* (5.5%, n=50).

Course Readings

Question 5 (see Figure 7) asked respondents to "*Check all the ways they have access course readings, textbooks, or other school related materials during the past year.*" Responses

Figure 7 - *Accessing course readings*

Categories (top to bottom):
- Use online readings in Sakai
- Read items on the web
- Buy printed textbooks
- Download and print out
- Check items out from the library
- Borrow from a friend or classmate
- Rent printed textbooks
- Read items on my mobile device
- Buy paper course packs
- Use "reserve" books in the library
- Rent online textbooks

show that students engage in many concurrent course materials access methods during their student experience. Although web-based methods such as *Use online readings in Sakai* and *Read items on the web* were the most common (88%, n=984 and 84%, n=941, respectively), results showed that print course reading formats are still heavily used by students. Many still *buy printed textbooks* (76%, n=843); *download and print out* readings (74%, n=821); and *check items out from the library* (60%, n=664), or *borrow from a friend or classmate* (46%, n=509). Fewer but still significant numbers of respondents *rent printed textbooks* (39%, n=435), *buy paper course packs* (29%, n=318), *read items on their mobile device* (29%, n=321), *use "reserve" books in the library* (25%, n=283), and comparatively few *rent online textbooks* (13%, n=142).

As an aside, copyright issues are raised by the high use of Sakai for course readings. It is important that CCL communicate with faculty to raise awareness of the copyright implications of this access method and fair use strategies for sharing course materials.

Library Instruction

From an Educational Services perspective, the insight provided by Question 6 is quite important (Figure 8). It asked: "*How many times have you attended a workshop or presentation from a Claremont Colleges Librarian?*" Fifty-three percent (n=590) of respondents had attended no librarian-led information literacy (IL) instruction in a classroom setting, whereas 50% had not attended instruction in the Library (n=565); Thirty nine percent (n=439) and 41% (n=466) reported they attended in-classroom and in-Library instruction 1-2 times respectively; 6% had attended in-class and 7% had attended in-Library IL instruction at least 3-4 times (n=65 and 74, respectively).

When cross-tabulated, these findings indicate 70% (n=701) of total respondents had interacted with a librarian in a classroom or workshop-based educational capacity at least once during their tenure at the Claremont Colleges. Of those who responded they had never (53%) attended a workshop in their classroom, 36% (n=213) of those individuals had attended 1-2 times at the library. Of those who have never (50%) attended a workshop or instruction session at the library, 35% (n=197) have attended in their classroom 1-2 times. The picture painted by these figures is one of considerable librarian engagement in course-related settings across the 7Cs. That said, given targeted efforts and sustainable levels of staffing, deeper inroads can be made into course-integrated IL instruction across the 7Cs.

Figure 8 - *Library Workshop or Presentation Attendance*
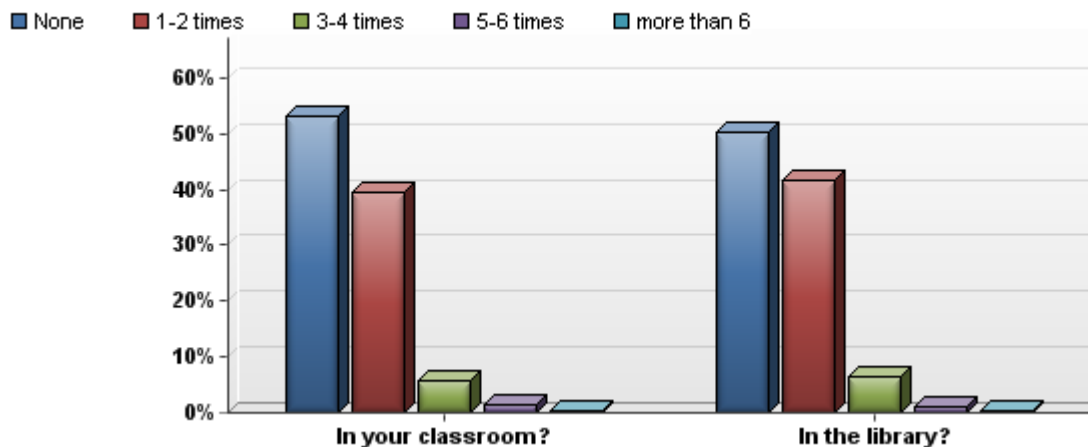
Figure 9 - *% of Students Reporting Never Attending a Library Workshop by Class Level*
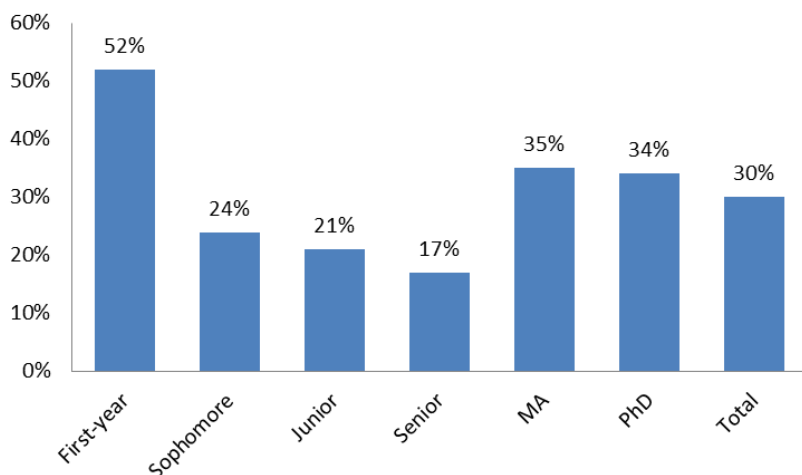
Interesting results emerge when Question 6 is analyzed by student status (Figure 9). As expected, the percentage of undergraduates responding they have never attended a workshop or presentation from a librarian decreases as they get closer to graduation. [14] When cross tabulated by grade, those respondents who stated they had neither attended a workshop *in their classroom* nor *in the library* decreased by student status across the undergraduate years (first-year students 52% (n=98), sophomores 24% (n=41), juniors 21% (n=39), seniors 17% (n=31). Percentages of graduate students not engaging with librarians in classroom settings are higher than for every group except first-years, indicating far less programmatic coverage by librarians in information literacy and research skills instruction at the graduate level. Thirty-five percent of MA students (n=46) and 34% (n=55) of PhD students responded that librarian(s) had provided instruction neither in their classroom nor in the Library.

Students responding they had encountered librarians *in their classroom* or *in the library* one or two times: first-year 28% and 28% (n=52 and 52), respectively; sophomores 45% and 56% (n=78 and 100); juniors 39% and 50% (n=71 and 93); seniors 55% and 49% (n=100 and 91). Again, the graduate students,

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[14] It should be noted that the number of first-year students in this figure is inflated due to the early October timing of the survey, when a significant proportion of beginning undergraduate students still had not yet engaged with library instruction in their first-year foundations courses.

especially PhD candidates, skew away from this trend. MA 47% and 24% (n=63 and 32); PhD 29% and 36% (n=48 and 60). Happily, a fair percentage of juniors and seniors report having 3-6 class sessions with librarians over their tenure at the Claremont Colleges. In the classroom, 6% (n=11) of juniors and 12% (n=21) of seniors report having done so. In the Library, 13% (n=25) of juniors and 10% (n=19) of seniors have received instruction from a librarian 3-6 times.

These responses demonstrate that, although librarians are reaching the majority of students through course-related or other types of instruction, CCL should increase its efforts to collaborate with faculty and administration to provide information literacy instruction and support for targeted, research-oriented 7Cs classes, especially at the middle undergraduate years and the graduate level. Because, while only 30% (n=337) of respondents had never had any library instruction either in their classroom or in the library the majority reported attending a total of only one or two library sessions. In order to graduate students with robust IL competencies, librarians need to reach students more than once or twice in their four years at Claremont.

Perceptions of the Library

Several optional open-ended questions gave students the opportunity to tell us what they did and did not appreciate about the Library.[15] Question 7 asked "*What do you APPRECIATE about the Claremont Colleges Library?*" (n=768). Question 8 asked "*What would you change about the Claremont Colleges Library?*" (n=764). Responses to these open-ended items were coded, and trends are summarized below. Happily, in response to Question 8, 10% (n=68) responded they wouldn't change anything. One quote summarizes these sentiments well; "*Not much, the library is pretty badass.*"

In the comments that specifically discussed *personnel*, in Question 7 respondents expressed *appreciation for librarians and library staff* (mentioned in 20% (n=151) of comments). A number of CCL librarians were mentioned positively by name, including Alex Chappell, Adam Rosenkranz, Char Booth, Meg Garrett, and Special Collections staff. *Research help* was also mentioned positively (2%, n=13). However, in Question 8 *better emphasis of and publicity for the help research librarians can provide* was requested at least twice (.5%). A number of respondents also indicated that would like to see *friendlier staff on "front line" service points* such as entrance and services desks (.5%, n=4).

In comments discussing *resources/collections*, in Question 7 students appreciated the *availability of and selection of resources* (32%, n=246). In Question 8, those who discussed what they would change about resources/collections most frequently mentioned: *more up-to-date collections* and *more e-books* (n=7

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[15] This section provides coded highlights and major themes of the open-ended questions and is not intended to be comprehensive.

each); *more collections in general* (e.g., a larger selection of popular fiction was mentioned multiple times); a *better, more intuitive arrangement of collections* (e.g., folio art books closer to the rest of the art collection; call number layout that doesn't jump throughout the building); and *better management of collections* (e.g., more shelf readers, quicker pick-up and shelving of books left on tables, and updated collections map on website).

Regarding the *services* the Library provides, to Question 7 respondents noted they appreciated: *Link+ and ILL* (8% of total, n=63); *Chat/IM* (2%, n=16); *Drop-in workshops* (2%, n=15); and *Graffiti* (n=2). Several other efforts around CCL's Love Your Library outreach and marketing theme were mentioned positively in this and an open item that invited additional comments, such as Love Your Library pins and "*I also really enjoy the love your library cart that rolls around.*" One of the most common responses to what respondents would change about Library services was the wish for improved publicity for those services (1%, n=9). For example, one respondent asked for better publicized Library orientation options and others mentioned better publicized services in general. Open-ended and closed-response questions throughout the survey indicate that many students feel they are not well informed about the range of services the library provides.

With *logistics*, not surprisingly, *library hours* was the most common response to both questions 7 and 8. Students appreciate library hours, especially *24/7 during finals* (7%, n=51). However, in Question 8, students indicated overwhelmingly they want Honnold/Mudd *open 24/7* (24%, n=162). Other common logistics issues mentioned were: *more printers and a better printing system* (2%, n=15); *more electrical sockets* (2%, n=12); and a *quieter closing bell* (1%, n=6). Other issues mentioned at least once were: *better signage for locations*; *change some of the paintings*; *have book drops on every campus*; *more up-to-date technology on the computers*; and *revert the library to only CC access*.

Finally, regarding the *physical space* of the library, and confirming the idea of the library as, above all else, a space to study, in Question 7, 68% of the respondents appreciated the library *study spaces* (50% (n=383) noted the library in general, 18% (n=138) specifically mentioned the cafe). Respondents also appreciated the *different types of study spaces* (i.e., quiet on the 4th floor, loud in the cafe). The *cleanliness of the library* was also noted (2.5%, n=20). In Question 8, students mentioned several things about the physical space they would change. In the cafe, students mentioned *providing a microwave for student use*; making available *better, healthier food options*; and *removal of the flat screen televisions*. For the library as a whole, respondents requested: *more seating* (e.g., study rooms, carrels, individual study spaces) (19%, n=128); *better lighting* (2%, n=15); and *more space for Graduate students* (.5%, n=3). A number of respondents also encouraged remodeling the Library building.

Question 9 (n=754) was an optional item that asked participants to "*Describe the study/academic environment where you are most productive.*" The features most often mentioned were: *quiet* (49%, n=373); and *natural light* (5%, n=34). These responses indicate that the zoning currently in place in the library (ranging from loud in the cafe to quiet on the 4th floor) help meets the study needs of different user populations.

2 - Technology Engagement

In Question 10 (see Figure 10), respondents selected the statement that best represented themselves along a five-point rating spectrum based on a new technology adoption scale developed by *Diffusion of Innovations* author Everett Rogers.[16] While responses fell somewhat within a natural Bell curve (roughly 50% identified most with average technology adoption), half as many students characterized themselves as unreceptive to or late adopters of emerging technologies relative to

Figure 10 - *Receptiveness to New Technologies*

those who characterized themselves as in favor of and early adopters of new technologies (17% compared to 35%). This differential indicates a student body that more often self-identifies as technologically engaged than technologically unengaged.
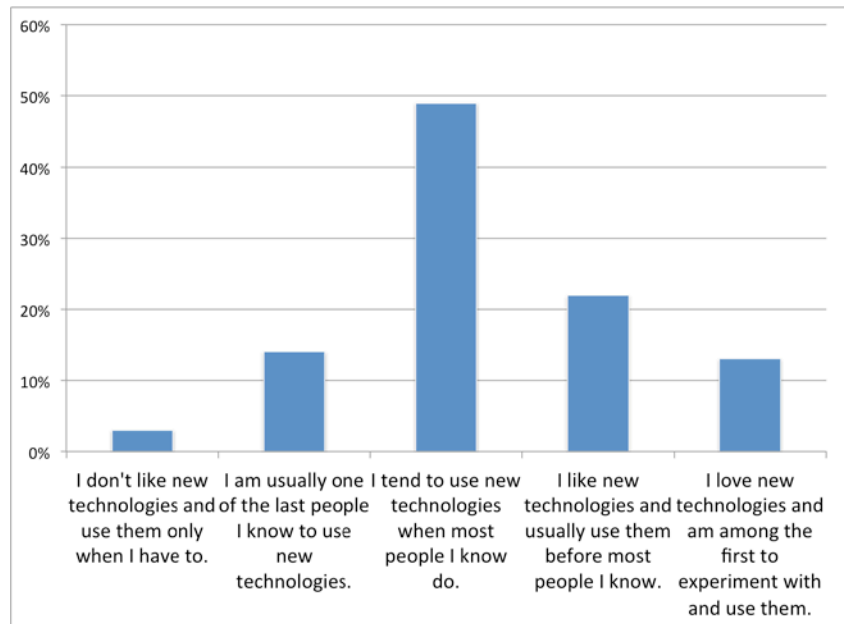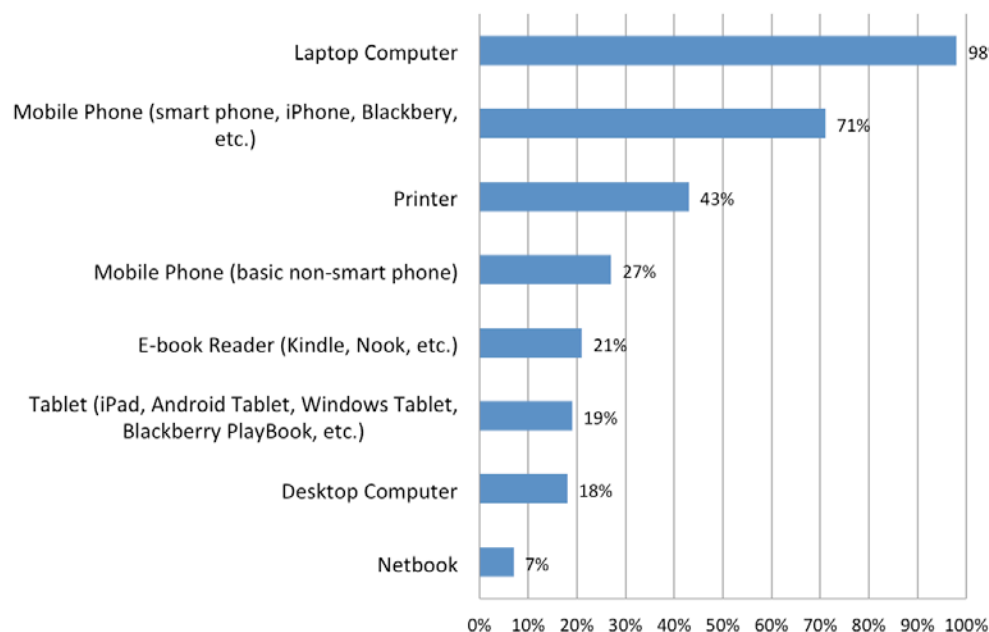
In Question 11, respondents indicated their ownership of various academic technology devices, from laptops to smartphones to desktop computers (Figure 11). Laptop ownership was virtually ubiquitous among respondents (98%, n=1082), followed by smartphone (e.g., web enabled device such as an iPhone or Android) ownership by almost three-quarters of the respondent population

Figure 11 - *Technology Device Ownership*

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[16] Rogers, E. (2003). Diffusion of innovations. New York: Simon and Schuster.

(71%, n=787). High relative tablet computer (19%, n=205) and e-reader ownership (21%, n=229) reflect growing national averages reported by the Pew Internet and American Life project in 2012.[17] It should be noted that desktop computer ownership has fallen substantially behind mobile device ownership, and only 43% (n=475) of survey respondents own their own printer.

The 71% of participants who owned a web-enabled phone such as an iPhone answered an additional question that investigated their engagement with common smartphone features and activities (Figure 12, n=787). Many smartphone users reported their devices didn't support many of the features listed. Predictably, the most frequently used activities in descending order included *texting*, *finding specific information*, *using search engines*, *sending email*, and *checking social media sites.* Interestingly, but perhaps not surprisingly, despite the relative difficulty of navigating many research tools via mobile devices almost 38% of survey population smartphone users use their devices to *conduct research for assignments* at least occasionally (very frequently n=136, frequently n=92, occasionally n=168), while 30% *read e-books* on their smartphone at least occasionally (very frequently n=80, frequently n=86, occasionally n=146). These figures indicate that CCL would be well served to pursue mobile-optimized resources and platforms in its future collection development, instruction, and research support efforts.

Figure 12 – *Smartphone Use*

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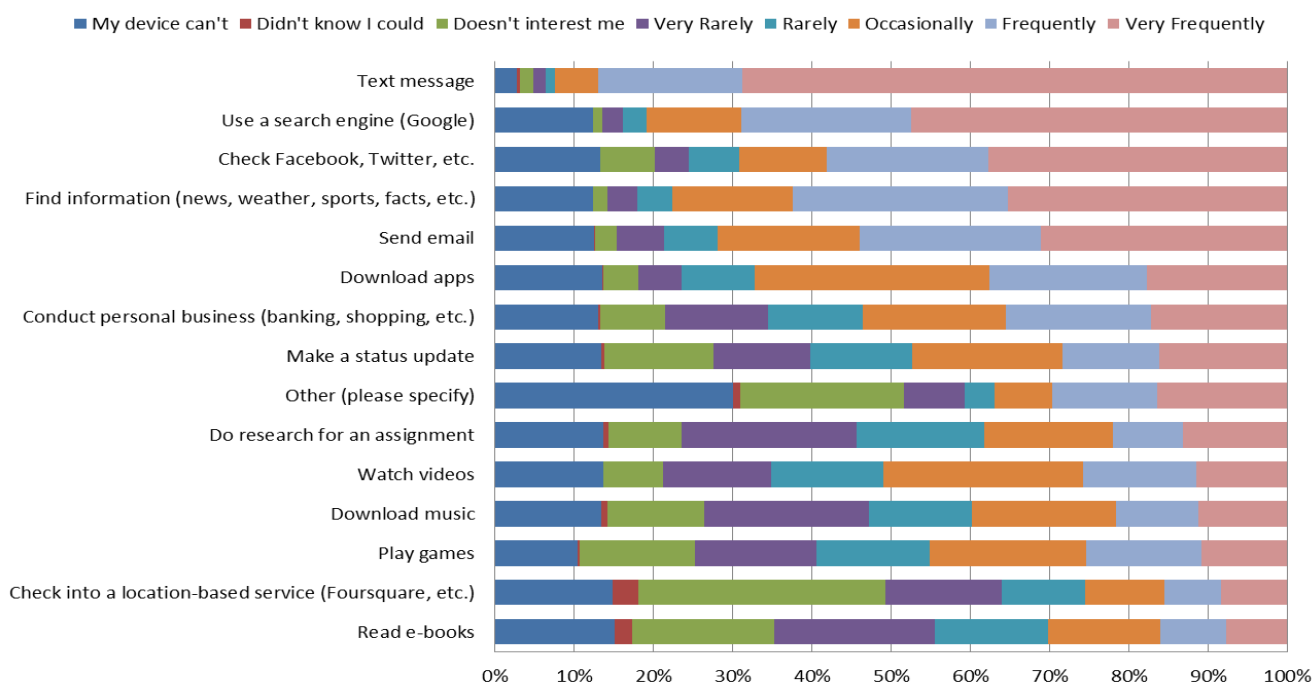
[17] See L. Rainie, "Tablet and E-book reader Ownership Nearly Double Over the Holiday Gift-Giving Period." *Pew Internet & American Life Project*, 23 January 2012. Accessed January 2013 from http://libraries.pewinternet.org/2012/01/23/tablet-and-e-book-reader-ownership-nearly-double-over-the-holiday-gift-giving-period/.

3 - Library Technology Receptivity

Two questions on the survey gauged student receptivity to library technologies, such as e-books and the Library's presence on social media sites (e.g., Twitter and Facebook).

Question 13 asked: "*If your mobile device(s) supported the following Claremont Colleges Library services, how likely would you be to use them?*" (Figure 13). Respondents were very or fairly likely to *receive renewal or overdue notices* (56% very likely (n=595), 22% fairly likely (n=233)), *check their library account/renew books* (54% (n=568) and 23% (n=248)), *find library hours, locations, or phone numbers* (48% (n=507) and 31% (n=325)), *send a call number for a book from the catalog* (35% (n=367) and 29% (n=311)), and *use mobile sites of databases to do research* (33% (n=354) and 24% (n=255)). These responses indicate a population very receptive to mobile research. The library should investigate expanding its mobile site to accommodate this avenue of research.

Respondents were more evenly split between very likely and unlikely about whether they would *search for e-books in the catalog* (28% very likely (n=296), 32% fairly likely (n=341), 20% unlikely (n=216)), *access online reserves* (25% (n=271), 29% (n=304), and 24%) (n=255), r*ead e-books* (24% (n=255), 24% (n=256), 27% (n=283)), and *use library research guides, course guides and tutorials* (21% (n=226), 30% (n=322), 26% (n=276)). As library e-book collections grow, these areas are likely to expand.

Respondents were unlikely or very unlikely to: *ask a librarian for help or advice via text message* (15% very likely (n=163), 30% unlikely (n=319), 23% very unlikely (n=247)), and *ask a librarian for help or advice via chat* (15% very likely (n=165), 32% unlikely (n=343), 23% very unlikely (n=242)). Again, responses illustrate the necessity of the library to promote itself more effectively.

Question 14 asked: *"For each web tool and social site, would you 'friend,' 'follow,' or 'add' the Claremont Colleges Library?"* (Figure 14). Responses provide a window into popular and unpopular social media tool usage across the 7Cs, and the interest of participants in engaging with the Library via these platforms. Responses indicate that Library outreach efforts should be focused towards our existing Facebook account, as only 7% (n=71) of total respondents do not use Facebook and 35% (n=373) responded they would definitely like the Library, while 31% (n=330) responded they might do so. However, while a promising 5% (n=53) of respondents indicated that they have already liked CCL (Honnold/Mudd Library) on Facebook, increased marketing efforts could ensure that a greater proportion of Facebook users willing to like the Library will do so in the future.

Figure 13 - *Likelihood of Using CCL services via Mobile Devices*
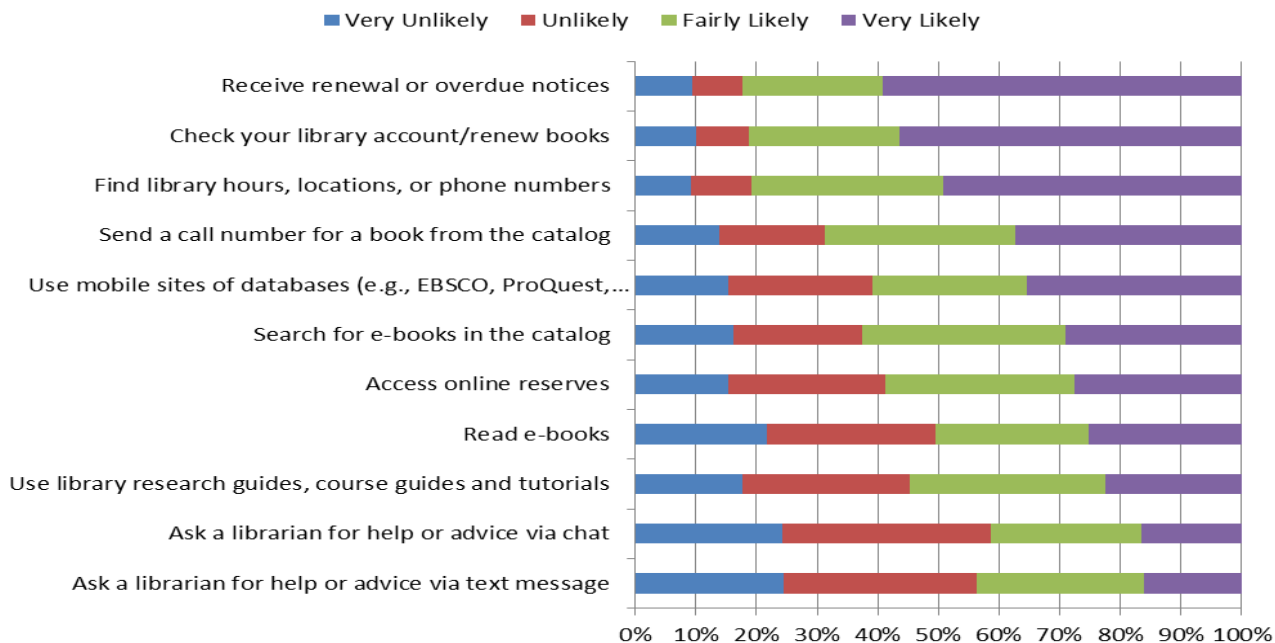
CCL also maintains a Twitter account (@honnoldmudd). However, 59% (n=621) of respondents don't use Twitter but about 11% each (n=111 and 124, respectively) of respondents stated *yes* or *maybe* that they would follow the Library. National data suggests Twitter use is on the rise,[18] so maintaining and promoting the Library's account would be advantageous.

CCL should consider developing a presence on LinkedIn, as 15% (n=158) of participants responded that they would definitely friend or follow the Library, while 15% (n=155) indicated they would potentially do so (the second highest receptivity level among social software). Although 46% (n=492) responded they don't use this professional networking site, national usage has been trending upwards.[19] Although it wasn't asked in the survey, CCL may benefit from exploring another trending social media site, Pinterest.[20] Low returns are likely to result from pursuing Library outreach in MySpace (78%, n=833 of respondents don't use it), Tumblr (64%, n=683 don't use it), Foursquare (62%, n=662 don't use it), and Yelp (54%, n=570 don't use it). Library personnel resources dedicated to marketing would help the library stay on top of social media trends and better meet users where they are.

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[18] "Facebook #1 but new social media sites are growing," http://www.hypebot.com/hypebot/2012/12/facebook-1-but-new-social-media-sites-are-growing-chart.html?cid=6a00d83451b36c69e2017c343ca1ec970b .

[19] National Notary Bulletin, "LinkedIn The Fastest-Growing Social Media For Professionals," http://www.nationalnotary.org/bulletin/bulletin_articles/linkedin_the_fastest_growing_social_media.html .

[20] Pinterest usage was up over 1000% in 2012, http://www.hypebot.com/hypebot/2012/12/facebook-1-but-new-social-media-sites-are-growing-chart.html?cid=6a00d83451b36c69e2017c343ca1ec970b.

Figure 14 – Receptivity to *Friending or Following the CCL on Social Networking Sites*
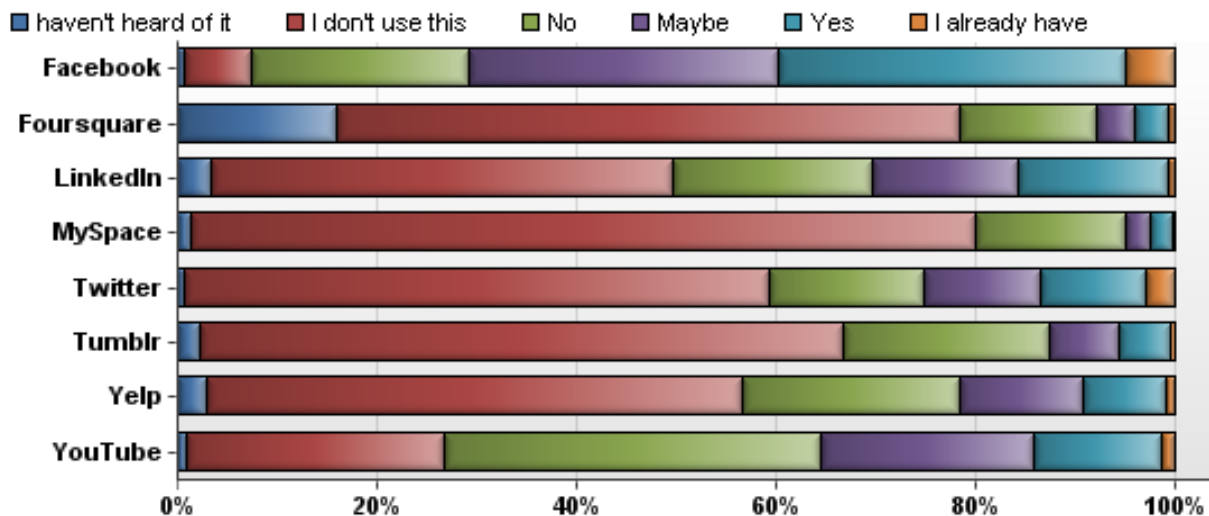
A third library technology receptivity question (Question 15) asked respondents to choose the best answer for statements related to technology and academic productivity, success, learning, and collaboration (Figure 15). Perhaps not surprisingly, along the scale of strongly disagree, disagree, neutral, agree, and strongly agree, the mean for the majority of these statements was 4 (agree) or above.

Results indicate Library Educational Services should sustain and, if possible, increase its efforts to remain up-to-date on trends in technology to help students in instruction and research/reference appointments. A high majority of students strongly agreed or agreed with technology statements: *Technology helps me learn* (37% strongly agree (n=391), 50% agree (n=529)), *Technology helps me be more productive* (33% strongly agree (n=350), 42% agree (n=437)) and *Technology helps me collaborate* (32% strongly agree (n=338), 50% agree (n=530)).

Happily, 83% agreed or strongly agreed (n=546 and 330, respectively) with the statement *The Claremont Colleges Library supports my college experience*. An equal percentage agreed or strongly agreed (n=533 and 338, respectively) with *The research skills I am learning at college will benefit me in my future career.*

A majority either agreed or strongly agreed with the following: *My instructors tend to have reasonable expectations of my research-related skills and abilities* (59% agree (n=624), 21% strongly agree (n=225) and *My instructors tend to have reasonable expectations of my technology-related skills and abilities* (61% agree (n=650), 23% strongly agree (n=238).

Lower responses were again received for understanding what services are offered by the library. *I am aware of the services the Claremont Colleges Library offers*, only 13% strongly agreed (n=138), 48% agreed (n=510), 25% were neutral (n=270), and 11% disagreed (n=113). Perhaps not surprisingly, when analyzed by grade, these numbers skewed lower for first-year students compared to the average (31% agree (n=59), 34% neutral (n=64), 25% disagree (n=46)).

At present, the library should carefully analyze the pros and cons of making laptops, tablets, e-readers, etc. available to students by checkout. For the statement *I would check out technology from the library if it were available*, 17% strongly agreed (n=181) while 22% disagreed or strongly disagreed (n=192 and 44, respectively), 27% were neutral (n=290). This distribution likely reflects the high rates of technology ownership shown in previous sections of this report. However, as stated earlier, adoption of various emerging mobile technologies is on the rise, so these sentiments may change in the future.

For the statement *I am able to afford the technology I need to succeed as a student*, the results showed a marked difference between the perceptions of undergraduate and graduate students. Overall, 50% agreed (n=522) and 16% strongly agreed (n=164) while only 10% disagreed (n=110) and 22% were neutral (n=228). When broken down by grade, however, while only about 5% each (n=8, 13, and 10, respectively) of sophomores, juniors, and seniors disagreed with this statement, 18% (n=24) of MA students and 19% (n=31) of PhD students disagreed. This is understandable as most graduate students are paying their own way through and perhaps do not have as robust a financial support network as undergraduate students.

**Figure 15 – *Colleges and Library Support of Student Technology Needs***
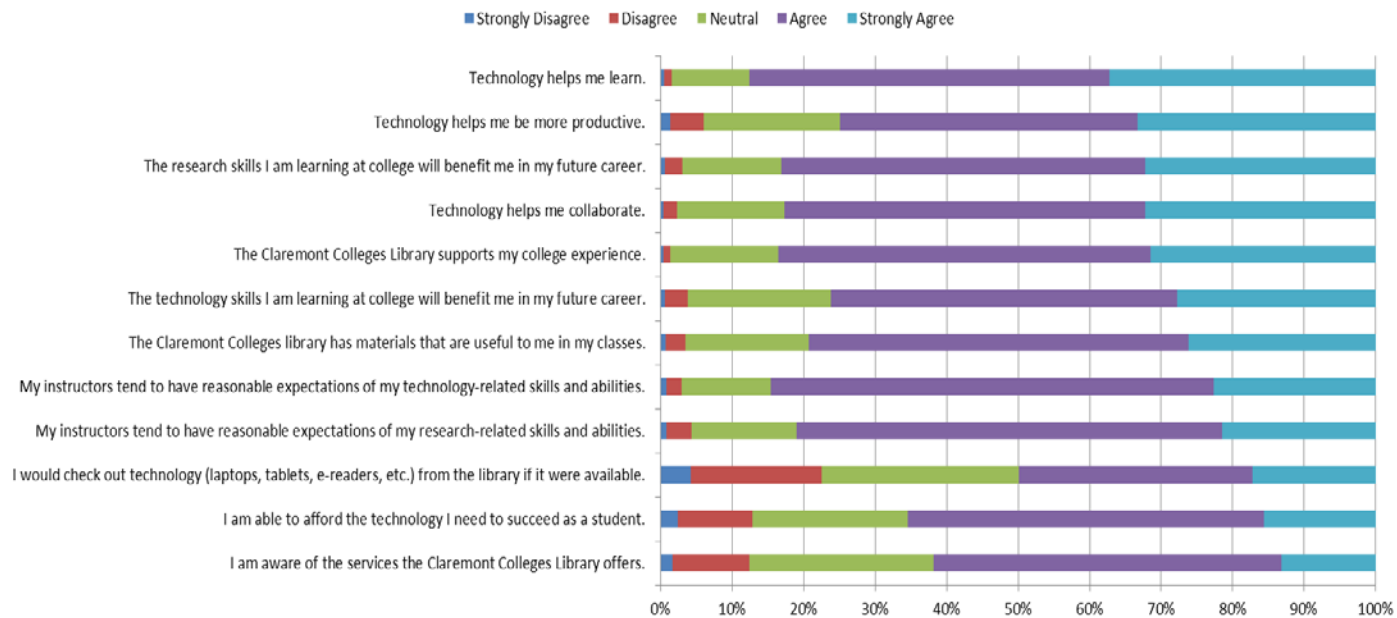
4 - Information Literacy Perceptions

Survey questions 16 through 21 examined a range of activities and skill areas that fall under the heading of *information literacy* (IL), defined as the capacity to "recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information."[21] The Claremont Colleges Library characterizes IL as consisting of five core "habits of mind"; *inquiry, evaluation, communication, attribution,* and *insight.*[22] The Library has a vested interest in supporting the IL skill development and assessment of 7Cs students, through in-person and digital learning experiences and objects as well as faculty collaboration in and out of the classroom. Establishing a baseline of self-perceived skills and needs in regards to IL habits of mind can directly inform educational programming and student support.

Question 16 asked, "*Over the past year, about how often have you done the following*?" in respect to a series of specific IL and Library related activities including working on research assignments that consisted of multiple stages, creating annotated bibliographies, using Library physical and digital resources, revising research topics based on new academic perspectives, integrating external sources, and more (Figure 16).

Figure 16 – Frequency of IL-Related Activities

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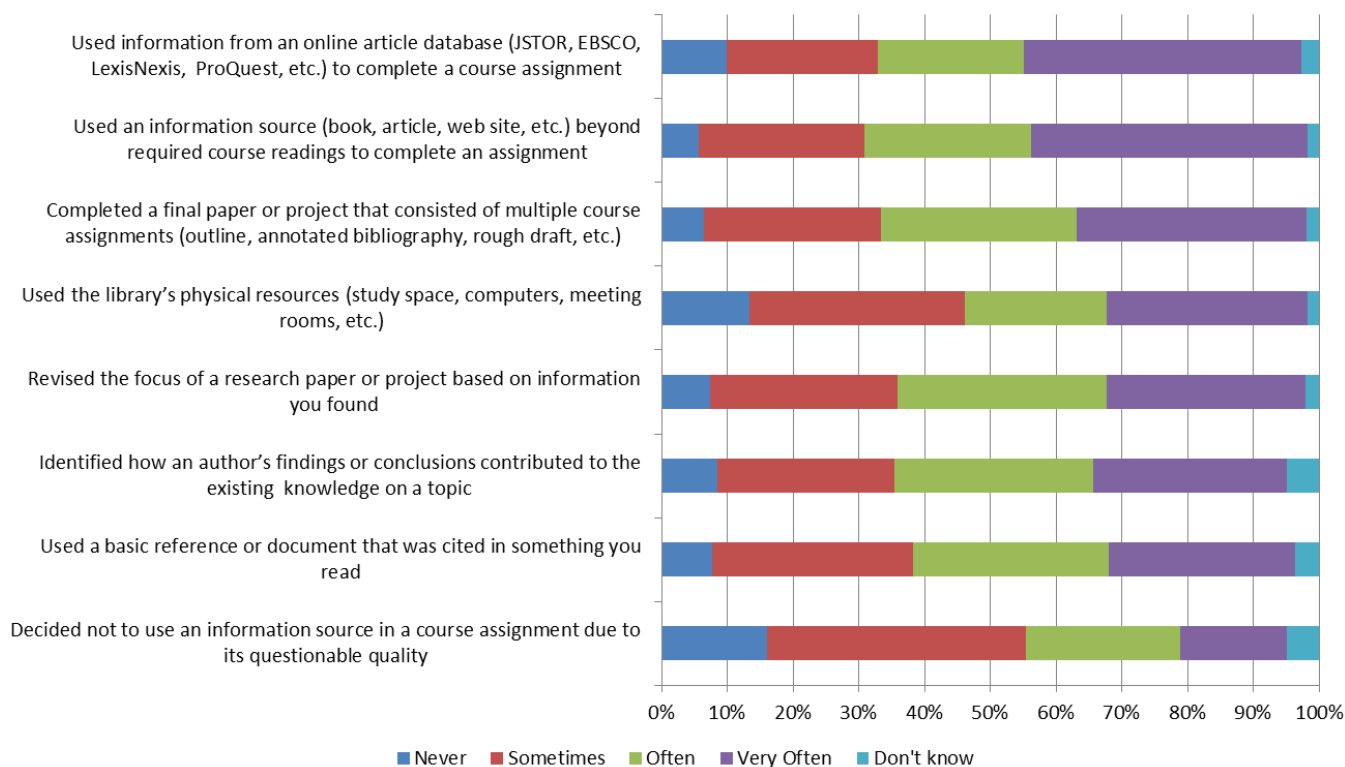
[21] American Library Association. Presidential Committee on Information Literacy. Final Report. (Chicago: American Library Association, 1989.)

[22] See Appendix C, CCL's *Information Literacy Habits of Mind Definition and 1st Year/Capstone Learning Outcomes.*

On the whole, responses to this item indicate that 7Cs students already engage in behaviors associated with high-quality inquiry, research, and information literacy, but that gains can still be made in several specific task areas. Students *use Library online article databases* and *integrate source material beyond course readings into their assignments* frequently, with over 60% in both categories responding doing so often (n=229 and 262, respectively) or very often (n=435 and 434, respectively). *Multi-phase research assignments* were quite common among respondents, with less than 10% indicating that they either never completed a multi-phase assignment or were unsure of whether they had done so over the last year (never n=66, don't know n=20). One area of potential Library instruction outreach is in regards to information evaluation; fully 16% (n=166) of respondents had not *decided to reject an information source in a course assignment due to its questionable quality*; this finding may indicate that instruction in the evaluation of source materials may be needed on a wider scale through the 7Cs. The 10% (n=103) of respondents who indicated they never *accessed Library database resources* and the 13% (n=138) who did not *use physical Library facilities* could be engaged by Library marketing and increased 7Cs/course integration through avenues such as IL instruction and the faculty Embedded Librarians program.

Question 17 inquired, "*Over the past year, how much have your instructors emphasized the following*?" to which students responded on a four-point scale: 1 = *very little,* 2 = *some,* 3 = *quite a bit*, and 4 = *very much* (Figure 17). Survey participants indicated their instructors tended to most frequently emphasize *not plagiarizing another author's work* (3.27), *appropriately citing sources in a paper or project* (3.07), and *using scholarly sources in their course assignments* (2.93). Instructors somewhat less frequently emphasized *questioning the quality of information sources* (2.46) and *following the practices and terminology of a specific major or discipline* (2.79).

Figure 17 - *Frequency of Instructor Emphasis of IL Concepts*
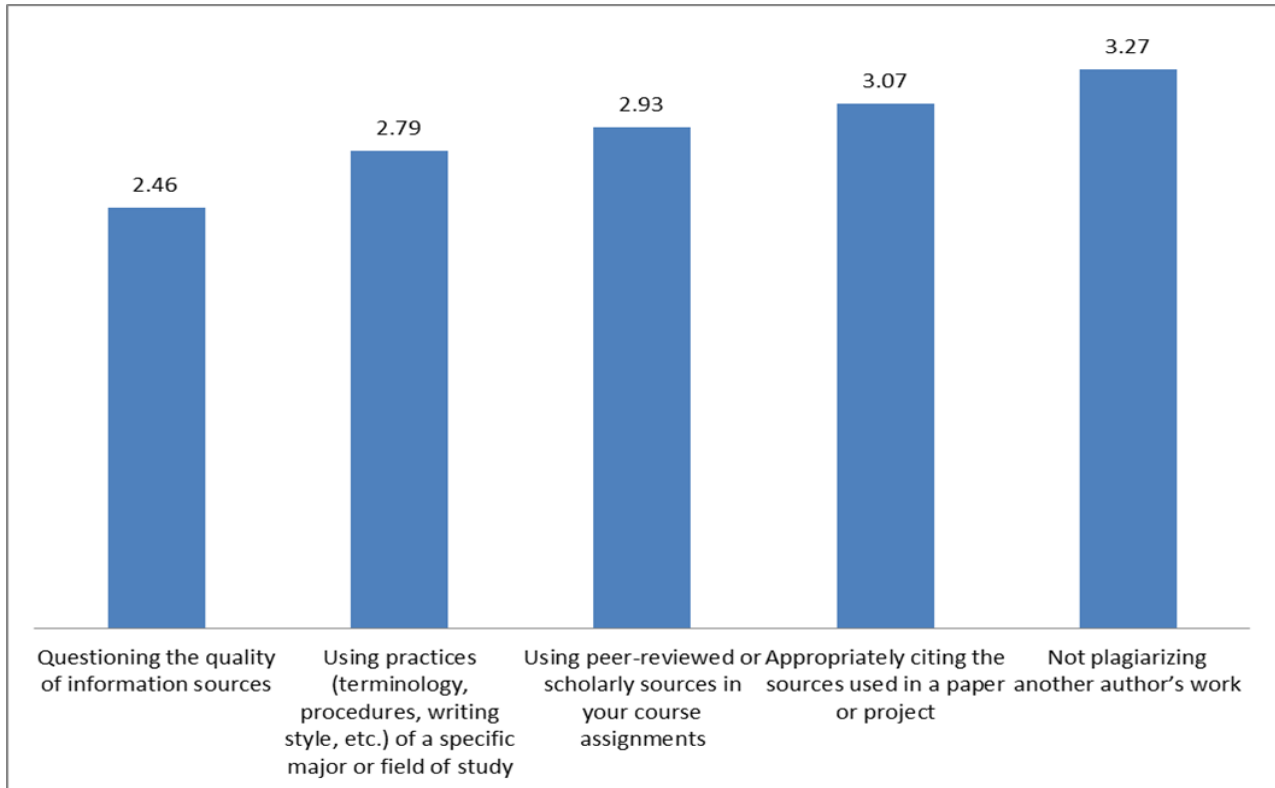
In response to question 18, students rated their self-perceived abilities in a range of IL skill areas, from high to none (including an option to indicate *I don't know what this means*) (Figure 18). Students overwhelmingly rated their abilities as between moderate to very high in all areas, but rated their abilities most highly in *differentiate between scholarly and popular literature*, *use sources to further an argument/thesis*, and *provide proper attribution to sources*, with roughly 70% of respondents in these three areas rating their abilities as high or very high. Areas in which students tended to rate themselves relatively less skilled were *using Library databases to find relevant sources* and *evaluating sources to determine if they are authoritative* (56% high or very high), also *writing an annotated bibliography* (54% high or very high). These three lower perceived skill areas can be supported by increased emphasis on the areas of *inquiry*, *evaluation*, and *attribution,* preferably scaffolded throughout the 7Cs curriculum to build and support skills over time.

Figure 18 – *Self-Perceived IL Skills and Abilities*
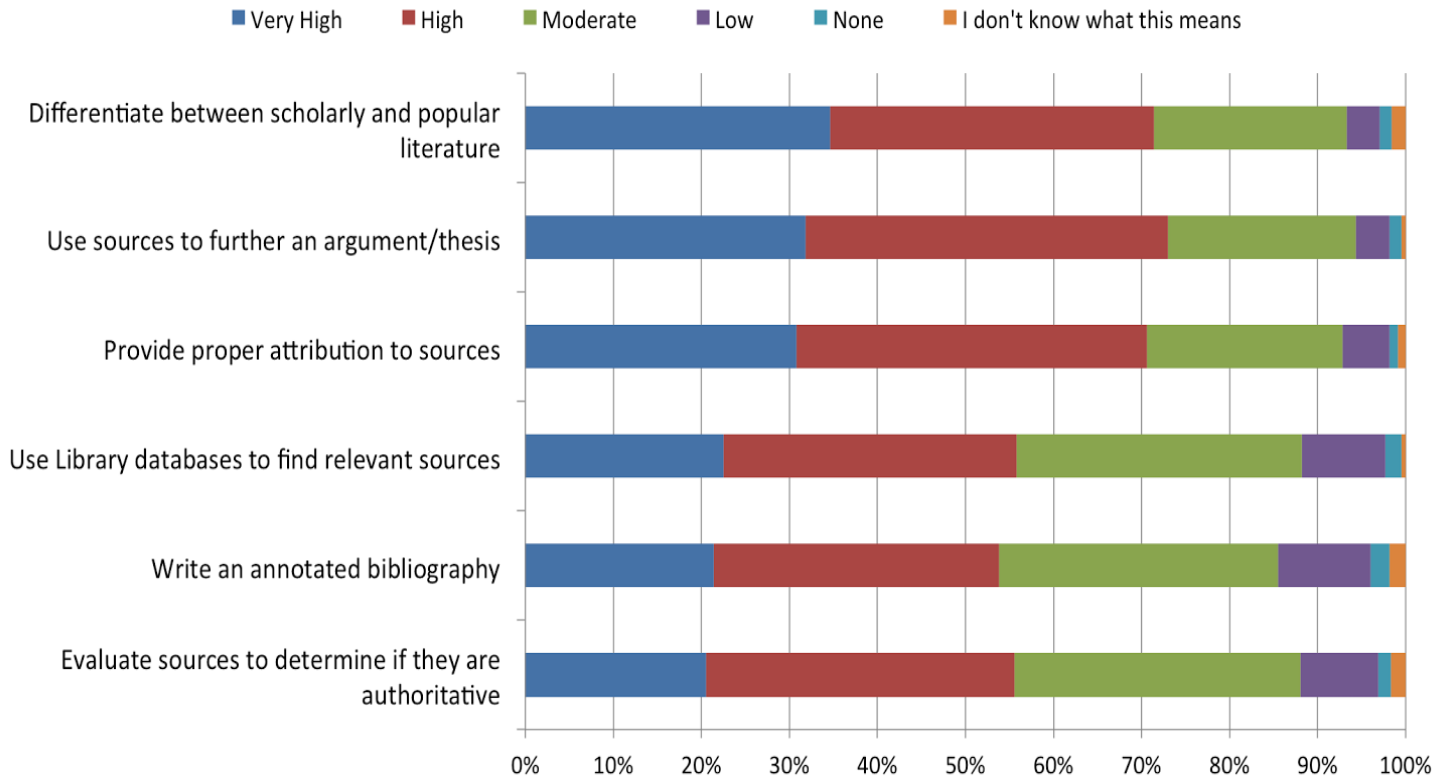
Question 19 asked students to indicate their level of agreement on a five point scale (1 = Strongly disagree, 5 = Strongly agree) with the statement, "*My Claremont Colleges education is giving me the skills to"* followed by a series of IL-specific abilities, such as "synthesize and articulate the ideas of others in my work" (Figure 19). The related concepts of open access and post-graduate resource use (3.19) represents the lowest perceived IL skill support area provided by a 7Cs education, followed by two key principles of attribution; u*nderstand when, and when not to, cite* (3.61) and *paraphrase sources in my work* (3.89). The strongest agreement in regards to IL skills provided by a Claremont Colleges education is in *synthesizing and articulating the ideas of others in my work* (4.02), and effectively *evaluating and analyzing resources* (4). While students tended to agree that their 7C education is supporting IL skills development (mean=3.81), that no response area trended toward strong agreement indicates that increased support for IL throughout the curriculum is likely warranted, as well as authentic skills assessment to determine actual student performance in related competency areas.

Figure 19 - *Perceptions of Claremont Colleges Educational Support for IL Skills*

	Understand open access and what research sources will be available to me after graduation	Understand when, and when not, to cite	Paraphrase sources in my work	Develop an effective research question or thesis	Locate appropriate resources for my research question/thesis	Properly cite sources	Effectively evaluate and analyze resources	Synthesize and articulate the ideas of others in my work
Series1	3.14	3.61	3.89	3.95	3.96	3.97	4	4.02

Figure 20 - *Importance of CCL Information Resources to Learning and Development*
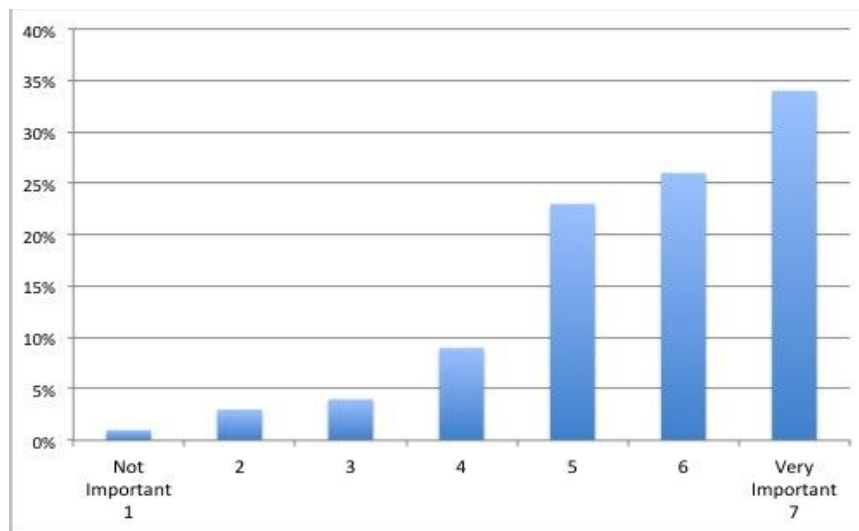
In response to Question 20, participants rated "*How important are the Claremont Colleges' information resources (books, online article databases, guidance from librarians, etc.) to your learning and development?"* on a scale from 1 (not important) to 7 (very important). Responses indicate CCL information resources are viewed as an important aspect of 7Cs student learning and academic development: 34% (n=357) responded that CCL resources are very important to their learning and development, with a further 50% indicating significant importance at levels of 5 and 6 on the 7-item scale (see Figure 20).

When cross-tabulated by student status, the same item reveals interesting if not predictable patterns in the perception of CCL information resource importance to learning and academic development over the

course of the Claremont learner experience (see Figure 21). As students advance in their academic careers, they tend to perceive greater importance of information resources to their learning and development. For example, whereas 23% of first year respondents indicated that CCL information resources were very important to them, 36% of seniors did so and 71% of PhD students did so. Lower-division undergraduates were more likely to rate information resource importance at moderately high levels (4-6 on a 7-point scale), whereas upper-division undergraduates to graduate students were more likely to rate them in the 6-7 importance level range. An exception can be seen in the sophomore year at the highest importance level (14%), which may be attributed to a decreased research focus in this year subsequent to the required first-year experience courses across the 5Cs that often include a research-focused paper and/or information literacy instruction component. This may indicate a need for additional scaffolding in IL skills instruction in the middle undergraduate years.

Figure 21 – *Perceived Importance of CCL Information Resources by Student Status*

	First-Year	Sophomore	Junior	Senior	Graduate Master's	Graduate PhD	Total
Not Important 1	0%	1%	1%	1%	1%	1%	1%
2	2%	3%	4%	4%	4%	0%	3%
3	4%	9%	6%	3%	3%	0%	4%
4	14%	14%	7%	6%	6%	3%	9%
5	34%	33%	24%	19%	19%	9%	23%
6	24%	26%	33%	31%	28%	17%	27%
Very Important 7	23%	14%	26%	37%	40%	71%	34%
Total	100%	100%	100%	100%	100%	100%	100%

Students rated self-perceived skills in several technological and information-seeking areas on a 5-point scale (1 = very low, 5 = very high) in Question 21 (Figure 22). Mean scores reveal that students express lower confidence in their advanced technical skills such as *creating and maintaining web pages* (2.23), *using graphics software* (2.66), and *troubleshooting computer problems* (2.94), whereas they expressed higher self-perceived skills with less advanced academic technologies such as *spreadsheets* (3.64), *presentation software* (4.09), and *Sakai* (4.1). *Word processing software* was the highest self-perceived software skill area (4.42 on a 5-pt scale).

Figure 22 - *Self-Perceived Skills in Technology and Information-Seeking Areas*
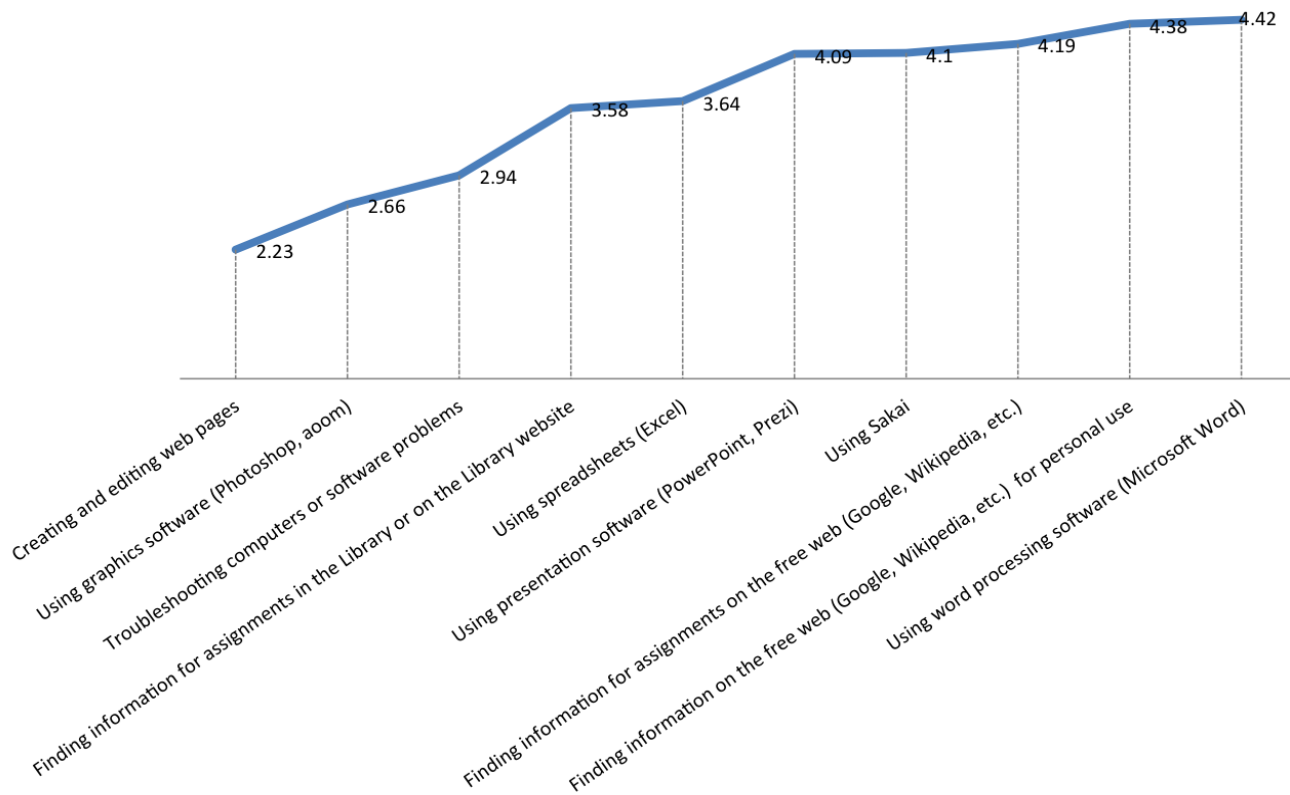
In information-seeking behaviors, students rated their ability to *find information for assignments in the Library or on the Library website* (3.58) much more moderately than their abilities to *find information for assignments on the free web using tools such as Google and Wikipedia for assignments* (4.19) or *personal use* (4.38). This implies Library information resources are less frequently used for assignments, as well as perceived as entailing greater difficulty of use than information tools accessible on the open web. These insights are corroborated by other survey findings - see discussions of Question 5 (*Accessing Course Readings*) and Question 18 (*Self-Perceived IL Skill*s).

Recommendations

Based on our initial set of research questions, the authors make the following characterizations and recommendations for CCL services:

1. What are the library profiles (defined as library use, skill, and awareness) of Claremont Colleges students?

Responses to several questions[23] show that students express high use of and appreciation for Library materials, staff, and services, but at the same time many express low levels of awareness of Library services. Throughout the survey, students expressed the desire for increased marketing of Library services, and many of the comments and concerns raised in the open-ended survey responses could be addressed by better advertising and more consistent procedures (for example, making all Library policies available via the website). Both of these issues could potentially be solved by dedicated marketing staff given support from Library administration as well as a Library-wide understanding of the importance of this work. In areas specifically under Educational Services purview (e.g., Ask Us), although students are highly engaged with librarian research support options relative to other campuses, more could be done to make students aware of the nature and benefit of these services. Again, better marketing of the services Educational Services provides is needed.

2. What are the technology profiles (defined as technology ownership, use, skill, adoption status, emerging technology receptivity) of Claremont Colleges students?

Claremont students are receptive to emerging technologies, express positive impressions of technology on their academic performance, are heavily engaged in mobile device use, and own a range of devices they believe are integral to facilitating their academic success. Based on this profile the CCL should aggressively prioritize the development and maintenance of its tech-equipped spaces, materials, and interfaces to meet the high expectations of the CCL student population.

3. How can student receptiveness to and awareness of emerging technology Library services be characterized? How willing are students to integrate social and mobile library tools into their personal learning environments?

Regarding technology, while the library should be aware of emerging social networking sites, minimal survey discovery rates via Twitter and Facebook indicate that Library social media engagement among

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[23] E.g., questions 2, 3, 13.

the 7C population is still relatively small. Growing rates of mobile device and e-reader ownership indicates that the Library consider student use of handheld devices to make sure we meet their research needs via mobile devices as well as know how they work for effective classes and research/reference interactions.

4. What are student perceptions of and expectations for e-books?

A substantial minority of Claremont students own dedicated e-readers, tablets, and other e-reading devices, and considerable numbers access CCL resources from these mobile devices. While print collections are still very much utilized and valued (as expressed in open-ended comments), the CCL should continue to strategically build its e-book collections to satisfy growing student demand. It will be useful to see how respondents answer these questions in subsequent years to establish what trends are present at the 7Cs.

5. How do students characterize their information literacy skills, and how well do students perceive that they are being supported in their IL skills development?

While Claremont students' express relative confidence in their information literacy-related skills and abilities, these results are not being validated in separate projects at the 5Cs evaluating student papers using a CCL-developed Information Literacy rubric. In these separate studies, students demonstrate poor attribution skills and difficulty finding authoritative sources. Taken together, results show that much can be done to support student skill development in these areas by librarians directly and in collaboration with faculty in curricular-level planning, implementation, and assessment. Regarding IL instruction, as more structure and cohesion is being built into the CCL program and attempts are made to meet increasing demand, librarians could be reaching students more effectively in classroom settings and doing more to support key IL skill areas through targeted efforts such as curriculum mapping, which highlight how IL can be better scaffolded into departments.

Conclusion

The final non-demographic item (Question 22) of the survey was a simple, open-ended "*Do you have any comments or suggestions*?" Participant responses (n=222) provide an excellent overview of the challenges and opportunities facing the Claremont Colleges Library. Many positive comments were received, including numerous responses along the lines of, "*I love the library! Thanks for being there!*"

However, there were also multiple frustrations expressed that CCL should work to improve. The research support and information literacy instruction provided by librarians is vital to the academic success of students. Responses indicate this is especially true for the graduate student population at the Claremont Colleges, some of whom perceive themselves to be struggling with the research process. Librarians should redouble their efforts to connect with CGU departments in order to prevent students from responding: "*I feel as if while at CGU I haven't really been taught how to research, analyze, or use certain technologies*"; or, "*There was one section of questions asking about how my claremont [sic] education contributed to all these things having to do with writing research papers. This was difficult to answer because CGU hasn't really helped me learn this compared to what I learned in undergrad*"; or, "*an introduction to the library should be available for new CGU students. We are expected to know things and we don't.*"

As discussed at the beginning of the report, although students report high levels of engagement with librarian research services and in academic settings, the Library should do more to publicize its services overall, including the academic and research help provided by librarians. Many respondents replied to this final question by encouraging CCL to do take these measures. Not uncommon were comments like "*Maybe make the librarians more noticeable. I don't know who they are or where they reside in the library.*"; "*More access to librarian[s],*" and "*I wish more classes went over how to ask the librarians for research help.*" This communication needs to continue throughout students' tenure at the Claremont Colleges, which is a responsibility shared by the Colleges as well as Library stakeholders. Multiple students also responded to the final open-ended question by asking what library privileges they would have after graduation, indicating we need to do as good a job communicating with students about what resources will be available to them after their tenure at the 7Cs as those that are available during it.

Our findings indicate that, despite high student engagement with and appreciation for Library services and resources, there is still a disconnect between CCL and its Colleges. This is likely due in large part to the unique structure of the Claremont Colleges Library (e.g., one library for seven colleges), which creates an increased need for a shared sense of ownership among all Colleges stakeholders. One student summarized the gap that can occur when this shared investment is not emphasized: "*Integration*

is key. Professors NEED to emphasize that the library should be at the forefront of students' minds when they need to do research. A library is the heart of a College. Ours is physically, but it has a ways to go before it becomes mentally." Recent developments in governance and administrative support for the diverse work of the CCL will help us to continue to make strides toward this goal of deeper and more meaningful integration with the 7Cs. Above all, we should take to heart the words of the student who advised: *"Stay cool, Library of the Claremont Colleges. Stay cool."*

Appendices

Appendix A: Promotional Language

Student Survey E-mail (Educational Services)

Hello,

We need your opinion!

The library has developed a survey in order to better understand and meet your technology and learning needs.

There are questions related to reference & research, instruction, and technology.

The survey can be found at http://bit.ly/ccl-fallstudentsurvey and will be open from October 10 – November 10. All Claremont Colleges students are eligible to take the survey. Only one survey entry per person. Please note that your responses will be anonymous.

After completing the survey, you will be entered into a drawing to win a $250 gift certificate!

Thank you for your participation!

Regards,
Sara Lowe and Char Booth

Twitter/Facebook Posts

Claremont College's Students! Let your voice be heard. Take the library survey at http://bit.ly/ccl-fallstudentsurvey. Oct 10-Nov 10.

Appendix B: Survey Instrument

Claremont Colleges Student Survey (Fall 2012)
This survey was designed to understand how Claremont Colleges students use, perceive, and understand the Claremont Colleges Library, academic information technologies, and Information literacy skills. It was developed by Sara Lowe and Char Booth based on a survey Char Booth created and administered with the Council of Chief Librarians of California Community Colleges. The survey is about 25 questions long and should take you less than 20 minutes to complete.

Your participation is voluntary and anonymous, and your honest, thorough responses will help the Claremont Colleges Library provide you with better services and better meet your research and education needs. If you want to enter the optional cash prize drawing for $250, at the end of this survey you will be taken to another form and asked for basic contact information. You may only take the survey if you are a currently enrolled student at one of the Claremont Colleges, and you can only enter the drawing once.

Note on privacy and confidentiality: All of your responses and personal information will be kept confidential, and you will not be contacted for follow-up surveys. If you provide your email address for the prize drawing, it will not be shared, stored, or associated with your survey responses in any way.
Thank you for taking the time to respond. This survey will be open between October 10 – November 10.
If you have any questions or concerns, please email Sara Lowe, at sara_lowe@cuc.claremont.edu.

Library Use/Perceptions Items
1.   How did you find out about this survey? (Check all that apply)*
      a.   Sakai
      b.   Email
      c.   Facebook or Twitter
      d.   Flyer
      e.   Friend/Classmate
      f.   In class
      g.   Faculty Member
      h.   Librarian
      i.   Library Website
      j.   Other (please specify) _____

2.   During the semester, about how often do you…….
      a.   Visit the Claremont Colleges Library in person – *didn't know I could, never, very rarely, rarely, occasionally, frequently, very frequently*
      b.   Use the Library website
      c.   Use Library databases (EBSCO, ProQuest, JSTOR, Web of Science, etc.…)
      d.   Access online articles
      e.   Access e-books
      f.   Talk with a librarian via IM or chat
      g.   Talk with a librarian on the phone
      h.   Talk with a librarian in person
      i.   Email a librarian
      j.   Text message a librarian
      k.   Search for items in the Blais library catalog
      l.   Check Library hours or contact information online

3.   During the semester, about how often do you use the Honnold-Mudd Library BUILDING to….

a.   Do research for an assignment – ***Didn't know I could, Never, very rarely, rarely, occasionally, frequently, very frequently***
b.   Work on non-research coursework
c.   Check out books
d.   Check out course reserves
e.   Use Library computers for course-related work
f.   Use Library computers for personal business (banking, shopping, etc.)
g.   Stop by the Services Desk to ask a question
h.   Make an appointment with a librarian to get research help
i.   Meet with a tutor
j.   Study alone
k.   Study with a class group
l.   Study with friends
m.   Socialize
n.   Watch videos/DVDs

4.   OPTIONAL: What influences how frequently you use the Library?

5.   Check all the ways you have accessed course readings, textbooks, or other school-related materials during the past year.
a.   Use "reserve" books in the Library
b.   Use online readings in Sakai
c.   Check items out from the Library
d.   Read items on the web
e.   Read items on my mobile device
f.   Download and print out
g.   Buy paper course packs
h.   Buy printed textbooks
i.   Rent printed textbooks
j.   Rent online textbooks
k.   Borrow from a friend or classmate
l.   Other (Please specify): _____

6.   How many times have you attended a workshop or presentation from a Claremont Colleges Librarian?
a.   In your classroom? ***None, 1-2, 3-4, 5-6, more than 6***
b.   In the Library?

7.   OPTIONAL: What do you APPRECIATE about Claremont Colleges Library?

8.   OPTIONAL: What would you change about the Claremont Colleges Library?

9.   OPTIONAL: Describe the study/academic environment where you are most productive.

Technology Items

10. Which of the following statements is most accurate?
a.   I don't like new technologies and use them only when I have to.
b.   I am usually one of the last people I know to use new technologies.
c.   I tend to use new technologies when most people I know do.
d.   I like new technologies and usually use them before most people I know.
e.   I love new technologies and am among the first to experiment with and use them.

11. Which of the following do you own? (Check all that apply)
    a. Desktop Computer
    b. Laptop Computer
    c. Netbook
    d. Mobile Phone (basic non-web enabled phone)
    e. Mobile Phone (smart phone, iPhone, Blackberry, etc.)
    f. Printer
    g. E-book Reader (Kindle, Nook, etc.)
    h. Tablet (iPad, Android Tablet, Windows Tablet, BlackBerry PlayBook, etc.)

12. If you have a web-enabled mobile phone, smartphone, or other handheld mobile device (iPad, iPod Touch), how often do you use it to do the following?
    a. Text message – *my device can't, didn't know I could, doesn't interest me, very rarely, rarely, occasionally, frequently, very frequently*
    b. Download apps
    c. Use a search engine (e.g., Google)
    d. Do research for an assignment
    e. Send email
    f. Download music
    g. Play games
    h. Watch videos
    i. Read e-books
    j. Find information (news, weather, sports, specific facts, etc.)
    k. Conduct personal business (banking, shopping, etc…)
    l. Check Facebook, Twitter, etc…
    m. Make a status update
    n. Check into a location-based service (Foursquare, etc…)
    o. Other (please specify)

13. If your mobile device(s) supported the following Claremont Colleges Library services, how likely would you be to use them?
    a. Find Library hours, locations, or phone numbers – *very unlikely, unlikely, fairly likely, very likely, not sure*
    b. Ask a librarian for help or advice via chat
    c. Ask a librarian for help or advice via text message
    d. Use Library research guides, course guides, and tutorials
    e. Search for e-books in the catalog
    f. Read e-books
    g. Send a call number for a book from the catalog
    h. Access online reserves
    i. Receive renewal or overdue notices
    j. Check your Library account/renew books
    k. Use mobile sites of databases (e.g., EBSCO, ProQuest, JSTOR) to do research

14. For each web tool and social site, would you "friend," "follow," or "add" the Claremont Colleges Library?
    a. Facebook – *haven't heard of it, I don't use this, no, maybe, yes, I already have*
    b. Foursquare
    c. LinkedIn
    d. MySpace
    e. Twitter
    f. Tumblr
    g. Yelp

h.   YouTube

15.   For each of the following statements, choose the best answer:
       a.   My instructors tend to have reasonable expectations of my technology-related skills and
             abilities – ***strongly disagree, disagree, neutral, agree, strongly agree***
       b.   My instructors tend to have reasonable expectations of my research-related skills and
             abilities
       c.   The Claremont Colleges Library supports my college experience.
       d.   I am aware of the services the Claremont Colleges Library offers.
       e.   The Claremont Colleges library has materials that are useful to me in my classes.
       f.   The technology skills I am learning at college will benefit me in my future career.
       g.   The research skills I am learning at college will benefit me in my future career.
       h.   I am able to afford the technology I need to succeed as a student.
       i.   I would check out technology (laptops, tablets, e-readers, etc.) from the library if it were
             available.
       j.   Technology helps me collaborate.
       k.   Technology helps me learn.
       l.   Technology helps me be more productive.

IL/Tech Skills Assessment Items

16.   Over the past year, about how often have you done the following?

17.   Over the past year, how much have your instructors emphasized the following?

18.   Please rate your abilities in the following areas:
       a.   Differentiate between scholarly and popular literature - ***Very high, High, Moderate, Low,
             None, I don't know what this means***
       b.   Use Library databases to find relevant sources
       c.   Evaluate sources to determine if they are authoritative
       d.   Use sources to further an argument/thesis
       e.   Provide proper attribution to sources
       f.   Write an annotated bibliography

19. My Claremont Colleges education is giving me the skills to:
    a. Develop an effective research question or thesis - *strongly disagree, disagree, not sure, agree, strongly agree*
    b. Locate appropriate resources for my research question/thesis
    c. Effectively evaluate and analyze resources
    d. Synthesize and articulate the ideas of others in my work
    e. Paraphrase sources in my work
    f. Properly cite sources
    g. Understand when, and when not, to cite
    h. Understand open access and what research sources will be available to me after graduation

20. How important are the Claremont College's information resources (books, online article databases, guidance from librarians, etc.) to your learning and development?
    Not Important   Very Important   1 – 7 scale

21. What is your skill level with the following items?
    a. Finding information for assignments in the Library or on the Library website – *very low, low, fair, high, very high*
    b. Finding information on the free web (Google, Wikipedia, etc.) for personal use
    c. Finding information for assignments on the free web (Google, Wikipedia, etc.)
    d. Using Sakai
    e. Using word processing software (Microsoft Word)
    f. Using presentation software (PowerPoint, Prezi)
    g. Using spreadsheets (Excel)
    h. Using graphics software (Photoshop, aoom)
    i. Troubleshooting computers or software problems
    j. Creating and editing web pages

22. OPTIONAL: Do you have any comments or suggestions?

Demographic Items
23. What college do you attend?*
    a. CGU
    b. Claremont McKenna
    c. Harvey Mudd
    d. Keck Graduate Institute
    e. Pitzer
    f. Pomona
    g. Scripps

24. Department/Subject
    a. Africana Studies
    b. American Studies
    c. Anthropology
    d. Art & Art History
    e. Asian American Studies
    f. Biology
    g. Business
    h. Chemistry
    i. Chicano/a & Latino/a Studies
    j. Classics
    k. Community & Global Public Health

l. Computer Science
m. Dance
n. Economics
o. Education
p. Engineering
q. English/Literature
r. Environmental Analysis
s. Financial Economics
t. Gender Studies
u. Geology
v. History
w. Information Science
x. International Relations
y. Languages (Arabic, Chinese, French, Japanese, Spanish, etc.)
z. Law/Legal Studies
aa. Linguistics & Cognitive Science
bb. Management
cc. Mathematics
dd. Media Studies
ee. Middle East Studies
ff. Music
gg. Neuroscience
hh. Philosophy
ii. Physics/Astronomy
jj. Political Studies/Politics/Government
kk. Psychology
ll. Public Policy Analysis
mm. Religious Studies
nn. Russian & Eastern European Studies
oo. Science, Technology & Society
pp. Sociology
qq. Theater
rr. Other

25. What best represents your student status?
    a. First-Year
    b. Sophomore
    c. Junior
    d. Senior
    e. Graduate Master's
    f. Graduate PhD

26. How old are you?
    a. 19 or under
    b. 20 to 24
    c. 25 to 29
    d. 30 to 34
    e. 35 to 39
    f. 40 to 49
    g. 50+

27. What is your gender?
    a. Female

     b.   Male
     c.   Transgender
     d.   Other
     e.   Prefer not to say

28.   What best represents your ethnicity? Check all that apply
     a.   Black or African-American
     b.   American Indian or Alaska native
     c.   Asian
     d.   Hispanic or Latino
     e.   Native Hawaiian or Other Pacific Islander
     f.   White
     g.   Prefer not to say

Appendix C: CCL's Information Literacy Habits of Mind Definition and 1st Year/Capstone Learning Outcomes

Information Literacy at the Claremont Colleges:
Critical Habits of Mind & First-Year/Capstone Learning Outcomes

Claremont Colleges Library Educational Services - Booth, Burrow, Chappell, Lowe, Stone, & Tagge

Information Literacy at the Claremont Colleges: Engaging Critical Habits of Mind

Information literacy is the ability to use critical thinking to create meaningful knowledge from information. The information literate Claremont Colleges student:

- Engages in a process of **inquiry** in order to frame intellectual challenges and identify research needs;
- Strategically accesses and **evaluates** information;
- **Communicates** information effectively;
- Provides clear **attribution** of source materials used;
- And develops **insight** into the social, legal, economic, and ethical aspects of information creation, use, access, and durability.

Critical Habits of Mind
1 **Inquiry** - interpreting assignments; determining information needs; developing a research strategy, question(s), and/or thesis to facilitate strategic information discovery and access; preliminary research tool and source selection
2 **Evaluation -** resource analysis, inference, and revision of research strategy
3 **Communication -** synthesis, integration, contextualization, and presentation of evidence in scholarship and creative work
4 **Attribution -** providing clear documentation of source materials; perceiving and engaging in a scholarly conversation; understanding copyright regulations, fair use, and when to seek permissions
5 **Insight** - critical understanding of the social, legal, economic, and ethical aspects of information creation, use, access, and durability

Information Literacy Learning Outcomes

First-Year Outcomes
At the culmination of their initial year at one of the five undergraduate Claremont Colleges, the information literate student is able to:

1 **Inquiry**

- understand and interpret assignment parameters
- clearly define a research or information need
- conduct basic information search strategies
- develop a bibliography using resources beyond web-based or popular media sources

2 **Evaluation**

- conduct preliminary research to inform a research question or information need
- engage with, understand, and draw inferences from scholarly work

- select sources that are broadly appropriate to a research topic
- distinguish between categories and types of information (e.g., fact v. opinion, scholarly v. popular, primary v. secondary)

3 Communication

- paraphrase arguments and provide basic summaries of information sources
- clearly distinguish between their own ideas and those of others
- provide a limited original synthesis of information sources

4 Attribution

- convey a preliminary understanding of why, when, and how to give attribution
- understand the criteria of academic honesty and how to avoid intentional and unintentional plagiarism
- cite basic information sources based on a specified style format in-text as well as in bibliography/endnotes/footnotes

5 Insight

- distinguish between institutionally provided and open web resources
- begin to recognize the universe of scholarship related to academic disciplines
- possess an emerging critical understanding of the social, legal, economic, and ethical aspects of information creation, use, access, and durability

Capstone/Senior Outcomes

At the culmination of their capstone/senior year at one of the five undergraduate Claremont Colleges, the information literate undergraduate student is able to:

1 Inquiry

- clearly articulate an information need, define appropriate keywords and revise them as necessary, and discover/access specialized information resources
- explore multiple contexts of information creation
- identify and articulate the limits of the information that is available to them
- employ source materials in a way that demonstrates sophisticated independent thought

2 Evaluation

- effectively analyze information from multiple advanced sources into a project that represents significant new or novel information in their field of interest
- show an understanding/knowledge of scholarship related to topic
- choose appropriate resources for scope of information need

3 Communication

- organize, synthesize, and articulate a complex array of sources in a way that is accessible to the intended audience

- integrate and synthesize evidence expertly to support claims

4 **Attribution**

- develop a thorough bibliography with multiple and diverse sources of information that indicates a clear grasp of the 'scholarly conversation' in a discipline or disciplines
- exhibit proper use of paraphrasing, citations, footnotes, etc. in advanced original work.
- demonstrate sophisticated understanding of why, when, and how to give attribution

5 **Insight**

- demonstrate a grasp of where, why, and how to obtain open access versus institutionally-affiliated research resources and articulate their institutional access privilege beyond open web resources
- understand the various social, political, and cultural factors that affect information creation, use, access, durability, and openness
- perceive how these factors may affect the ability to obtain information post-graduation and form an alternate access strategy based on subsequent information need and context (e.g., interlibrary lending, information in the professions)
- clearly recognize the universe(s) of scholarship related to academic disciplines and interdisciplines

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