Assessment 360:

Mapping Undergraduates and the Library at the University of Connecticut

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New Positions & Changing Directions

In 2008, in line with the University of Connecticut's (UConn) new Academic Plan, the

University of Connecticut Libraries (UCL) created the Undergraduate Education Team to

oversee initiatives related to both services and spaces targeted at the University's 21,000-plus

undergraduate student population[1]. In defining itself in relation to what predated it—a

Research and Instruction Services group that offered collection development, instructional and

reference services to all library users—the Undergraduate Education (UEd) Team comprised a

group of librarians whose primary charge it was to direct library-based educational and

instructional programs targeting (non-major) undergraduates as well as oversee the scope and

function of the physical library in terms of its support of undergraduates. Key activities of the

team have included involvement in the continuing growth of the Learning Commons, a space

within the main (Storrs) campus Babbidge Library that includes both library services (research

help, IT) and "partner" services offered by the Quantitative and Writing Centers, the Learning

Resource Center, HuskyTech, and—since Spring 2011—Languages & Cultures. The team has

also continued to play a principle role in entry-level information literacy, primarily by offering

instruction, collaboration, and Web-based tools to the University's Freshman English program.

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[1] Getting an exact count of undergraduates is more difficult than one would expect. Admissions offices display enrolled numbers; whereas Full Time Equivalent (FTE) students may number less. At the time we submitted this research for approval (Fall 2009), the total enrollment (but not necessarily FTE) for undergraduates across the main campus plus the five regional campuses for undergraduates as 21,496. Undergraduates at the main Storrs campus alone were listed that semester as 17,008 (see http://uconn.edu/pdf/UConn_Facts_2010.pdf).

As a new team faced with a broad charge—"anything undergraduate"—it seemed both appropriate and necessary to undertake a fairly significant assessment project aimed at understanding our constituents in order to shape goals and best concentrate the resources of what was a small team. When the team was created in 2008, it numbered five, comprising three instruction librarians and 2 reference-administrative staff, the latter 2 being key in overseeing general reference services and outreach, including signage and publications. In the course of the study, the team's makeup shifted slightly, but remained the same size and with the same balance split between instruction-reference librarians and reference-administrative staff. Aiding the team's work, and making possible the study, were a short-term librarian and a series of interns from regional library graduate programs.

The impetus for what turned out to be a fairly ambitious undertaking for a small team with no significant assessment projects under its belt, stemmed in large part from the fortuitous attendance of the team leader and another team member at one of the Council for Library and Information Resources (CLIR) workshops on qualitative assessment practices led by Nancy Fried Foster, the University of Rochester anthropologist and co-author with Susan Gibbons of the seminal study, *Studying Students: The Undergraduate Research Project at the University of Rochester* (2007). Out of that workshop came, close to fully envisioned, the qualitative parts of the study. The quantitative piece of the project arose from another team member's interest in running at UConn a version of another seminal project, Char Booth's survey and study, published in 2009 as *Informing Innovation: Tracking Student Interest in Emerging Library Technologies at Ohio University*.

So Assessment 360, the internal title for the study, was born.[2] Using a combination of

quantitative (survey) and qualitative (focus groups, interviews and home-grown instruments),

we would investigate how our undergraduates do their work; how "work" and "non-work" are

juxtaposed in their use of University spaces (including the Libraries); what resources

(technological and other) they make use of for work/non-work; and where, in the context of

these, the Library fits in to their academic and non-academic lives. The objective of the study

was, in the simplest of senses, to get to know our undergraduates, to locate our own

undergraduates on the ever-changing plane of technology use and information seeking, and to

literally locate them in the places they choose to get work done—in dorm rooms, in study halls,

and, of course, in the library.

The Compass: Getting Bearings

What now seems almost normative in libraries—using qualitative methods such as focus

groups, observation, and interviews to ensure services remain user-centered—hasn't always

been the case. A brief look back across the library literature of recent decades shows a leaning

toward forms of enquiry such as surveys (print, then online), bibliographic analysis, pre-tests

(another form of survey) and other "back room" analyses that made conclusions about users

and their behavior without involving the users as knowingly recruited subjects of study.

Without diminishing the efforts of librarians who did engage qualitative work in the 1990s and

earlier, it's probably fair to say that qualitative research as we know it in 2011 hit the scene in a

lasting way with the work of Nancy Fried Foster, Susan Gibbons and their colleagues at the

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[2] The formal title of the study submitted to the University of Connecticut IRB was *Undergraduates and the Library: How Students Use and Engage with Spaces, Resources, and Technologies*.

University of Rochester. In 2004, Suzanne Bell, a librarian, Nancy Fried Foster, an

anthropologist, and Susan Gibbons, a librarian, collaborated on what they called an

"ethnographic" approach to redesigning their online institutional repository at the University of

Rochester River Campus Libraries (Foster & Gibbons, 2005). Basing their methodology on

traditional field research methods of immersive ethnographic observation, the researchers

visited faculty in their offices and filmed them while they spoke about their research and work

practices, gave tours of their offices/work spaces, and showed how and for what they used

their computers when working/researching. The study generated a large amount of unique

qualitative data that the group used to formulate recommendations for revising the interface

for the digital repository (see also Bell, Foster, & Gibbons, 2005).

As a result of the initial study's success, Foster and Gibbons then turned to adapting the

same techniques to evaluate undergraduates and the research process, specifically to answer

one underpinning question: "what do students *really* do when they write their research

papers?" (Foster & Gibbons, 2007). In order to answer this deceptively simple question, a

research team, lead by Foster and Gibbons, devised a series of instruments including filmed

interviews in the library, interviews conducted outside the library, and library design

workshops/brainstorming sessions. They also conducted photo surveys, which asked students

to photograph designated places or objects ranging from "all the stuff you take to class" to

"your favorite place to study." Then, in a follow-up interview (audio-recorded), the students

were asked to comment on the pictures they had taken. Finally, the researchers designed

"mapping diaries," which asked students to mark on a map where they went throughout one

day as they were actually doing it (noting locations and times). Brief follow-up interviews were

conducted, recorded and transcribed. The results of this groundbreaking library-based research were published by Foster and Gibbons in 2007 by the Association of College & Research Libraries under the title *Studying Students: The Undergraduate Research Project at the University of Rochester*.

The Rochester group ground their approach in a range of research across disciplines and techniques. For their ethnographic grounding, they drew heavily on the research of Douglas Harper (2001, 2006), whose studies of migrant labor are notable for their use of photography as a tool for eliciting information. Harper has done foundational work in the area of visual sociology (see Harper, 1984). They also drew on Gaver, Dunne and Pacenti's work on cultural probes (1999), which makes use of literal packages of visual prompts (postcards, maps, etc.) along with verbal questions/cues to elicit responses from subjects. The qualitative value of this approach was further explored by Gaver, et al., in a later essay (Gaver, Boucher, Pennington, & Walker, 2004). Additionally they cite Gross's work (1984) on time allocation as a means to discover "typical" behaviors by sampling brief periods of time and extrapolating from those samples general subject behaviors.

Equally influential on our study and on library assessment nationally was Char Booth's groundbreaking publication, *Informing Innovation: Tracking Student Interest in Emerging Library Technologies at Ohio University*. Although the center-point of the piece is the technology survey she and a team designed and conducted, the enormous power of the work is in the ground Booth laid for the survey—both through gathering together influential research and by laying out for her readership the meticulous work of crafting an effective assessment tool.

For a generation of librarians who find ourselves caught in the seemingly endless pull between the demand for technological innovation and the desire to protect quality service, Booth importantly underscores the danger of librarians responding to "technolust" (Booth, 2009, p. 1)—or the propensity to create technologies for technology's sake without first assessing current uses and needs. Behind the Ohio University survey, lies a rich body of research done on "Millenial" or "Google generation" students and their use and adoption of technology as well as a close look at the current state of "emergent" technology use in the higher education. Booth highlights the work of a group of organizations and scholars who have constructively addressed these issues, and continue to provide both the data and insights many librarians use to chart current trends in technology and its use. Notable among these are including the Digital Youth Project's Report on Digital Media (Ito, et al., 2009), Vaidhyanathan's article on the "Generation Myth" (2008), the work of the Pew Internet group (Horrigan, 2008), and the very influential reports from the EDUCAUSE Center for Applied Research (ECAR; see Caruso, et al., 2008).

Both Booth's and Foster's studies are foundational in the design of this study. In addition, we draw upon an ever-increasing body of literature that addresses the difficulty of "now," of the twenty-first century ubiquity of overlapping matrices of information, access to information and behaviors related to seeking information—and making meaning from it (just one example is Kulthau, 2008), who describes the "zone of intervention" created by this juxtaposition. Like Booth, we were and remain influenced by the Pew Internet studies, the ECAR reports, and other national studies. In the 2009 ECAR report, Smith, Salaway, and Borreson find that

eight out of 10 (80.0%) [respondents] said they are very confident in their ability to

search the Internet effectively and efficiently. Almost half (45.1%) rated themselves as

very skilled, and another third (34.9%) rated themselves as experts. Although students'

assessments of their ability to evaluate the reliability and credibility of online sources of

information and of their understanding the ethical and legal issues surrounding the

access to and use of digital information were lower, overall ratings are still high. (p. 16)

The suggestion that students may be overconfident in their seeking and finding skills also

permeates the Project Information Literacy (PIL) study by Head and Eisenberg, which also

expands and challenges our ideas about how students use technologies and use information.

Through PIL we got an honest glimpse of the average procrastinator, who "would start a

research project by inputting a few search terms in the search engine of a database that had

brought them "luck" on a previous assignment (e.g., JSTOR, ProQuest, or EBSCO)" (2009, 7).

The authors further debunk the notion of fluency with emerging technologies amongst college

students, finding that, "despite their reputation of being avid computer users who are fluent

with new technologies, few students in our sample had used a growing number of Web 2.0

applications within the past six months for collaborating on course research assignments

and/or managing research tasks" (2010, p. 3).

If these findings weren't enough, several arguments and studies have pushed even

further, as Andrew Dillon does in his contribution to *No Brief Candle: Reconceiving Research

Libraries for the 21st Century* (2008), when he asserts provocatively:

As libraries become more concerned with creating social spaces, they should also be

concerned with entering into the people space, the library as accelerator, where

information is sought, communicated, shared, tagged, and mined. Without taking this

second step, the library adds little value over a bookstore. (n.p.)

Or as John Rowlands and the CIBER[3] research team in a study commissioned by the British

Library and Joint Information Systems Committee (JISC) rather bluntly concludes: "Power

browsing and viewing appear to be the norm for all (ages). The popularity of abstracts among

older researchers rather gives the game away. Society is dumbing down" (p. 19). This study is

perhaps the bleakest of the large-scale studies in decrying libraries for

> Not keeping up with the demands of students and researchers for services that are
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> integrated and consistent with their wider internet experience (including Google and
>
> other tools). Information consumers – of all ages - use digital media voraciously, and
>
> not necessarily in the ways that librarians assume. Any barrier to access: be that
>
> additional log-ins, payment or hard copy, are too high for most consumers and
>
> information behind those barriers will increasingly be ignored. It is increasingly clear
>
> that a one-size-fits all policy towards library or system design is not going to be
>
> effective: there is as much (albeit, largely unacknowledged) diversity in today's
>
> scholarly population as is likely to exist between today's scholars and tomorrow's.
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> Without a detailed handle on these issues, it becomes impossible to target services
>
> effectively. (p. 30)

But even the authors of this report provide a glimpse of hope when they offer a way forward by

"moving from counting hits to watching users" (p. 31).

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[3] The acronyms for this study, if one expands them all, impedes comprehensibility. CIBER stands for the Centre for Information Behaviour and the Evaluation of Research, which was based at University College London.

Here is the common theme emerging from this body of research taken collectively: the way forward is through looking at users in ways that move beyond describing them statistically (e.g. number of smartphone users)—although this is essential information—to describing them in ways that make them come to life as undergraduates (in our case) who do and don't conform to national statistics, who do and don't want, need, find, and access information in ways we can quantify. Despite all of the broad, national (and international) findings, Assessment 360 was born out of the desire to get to know *our* users, not everybody else's. Nancy Fried Foster and Susan Gibbons (2007) write:

> Our aim is to understand how students work and how they might work better so that they can reach the standards set by the faculty and so that the university can work toward its mission. Once we understand this, we set about to support the work practices that will help our students, and the library and the university, succeed. This, for us, is user-centered design. (p. 82)

Or as Char Booth (2009) puts it:

> Rather than assuming that every library needs a blog, a wiki, and a podcast series, librarians who develop social and/or dynamic services should preface their efforts with local research in order to create a clearer perception of actual, rather than imagined, library and information needs of their immediate campus microcosm. Every institution must investigate the factors that shape its own landscape. (p. 9)

Parallel Trails

Following this confluence of evidence regarding the crucial role of user-based research,

librarians and their academic partners, including anthropologists at other institutions, have

been replicating, modifying or expanding upon the qualitative techniques shared in Foster and

Gibbons' work. However, the explosion of these new techniques in the library world is still

relatively recent, and although it is evident[4] that researchers have projects underway around

the country, only a handful have reached publication. In fact, nearly half of the studies in this

section have appeared since the completion of Assessment 360, although they reflect work that

was in many cases coincident with our own.

In 2006, MIT librarians used a "photo diary," as their principle assessment instrument in

the goals, tasks, and methods that comprised "information seeking" for MIT students. They

required students to take unscripted photographs of their movements over a week and provide

written narration for each picture. After the week was up, student participants met individually

with groups of librarians who asked follow up questions and took notes on the interview. The

objective was to use this data to improve information delivery and access systems at the

library. As the researchers note, the importance of the nontraditional approach (the photo

essay) was to capture the "broader context of the daily research life of students" (p. 510)—data

that could not be easily collected through traditional quantitative surveys and other

instruments (Gabridge, Gaskell, & Stout, 2008).

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[4] Nancy Fried Foster, author of the groundbreaking Rochester study, moderates a Rochester-hosted Listserv entitled ANTHROLIB, where librarians across the country are sharing their progress in designing and conducting quantitative research building on the Rochester studies.

Eisenhart (2009) has studied how college students come to view themselves differently in college as they "take meaning" (she draws the phrase from Heath, 1982) from culture and contextualize themselves in that culture. Although this may seem distant from studying students and how they do research/use spaces, in fact they aren't so different: modern academic libraries are interested, not only in what technologies students own and use and what spaces they frequent, but also more importantly in how students understand themselves to have information/space needs and what steps they take to meet those needs. In other words, understanding how students see themselves as "students" and learners (and individuals) may help us best provide them with the services and spaces that most effectively match that self-identification.

Mizrachi's study (2010) parallels my own in using a multi-part study to "triangulate" data about both *where* undergraduates do academic work and *how* they approach and accomplish that work. Using a combination of interviews, space tours and a free-essay tool, Mizrachi was able to identify themes in students' approach to academic work, including their identification of a need to strategize/structure work to avoid distractions.

Delcore, Mullooly, and Scroggins study of the library at Fresno State University also parallels the UConn study in using a multi-pronged approach to determine "how might [our university] better adapt its services to student practices while still accomplishing the educational mission of an academic library?" (p. 5). Also working off of the work done by Nancy Fried Foster at Rochester, Delcore, et al.—all anthropologists by training and education— used a variety of qualitative instruments to capture when students used the library and library services and the environments they created (physical/virtual) to get work done. Some

important findings resulting from their study included their debunking of the "multi-tasking" myth regarding students. They argue from their findings that despite common belief, students do not in fact multi-task but focus on a variety of activities (social, academic, work, other) in sequence (a sequence that may happen in quick succession).   This study is a very important contribution to this area of study in being so encompassing—and also in introducing a range of new study techniques, including having students make drawings in response to questions such as "how do you feel when you write a paper?"

In fall 2011, Duke and Asher published[5] the analysis of their ongoing ERIAL project at the University of Illinois, results from which had appeared in part in various places—including their "Academic Commons" blog. In the blog, Asher, Duke and David Green described the ERIAL project as attempting to "obtain a holistic portrait of students' research practices and academic assignments," primarily using interviews with students about research assignments, process and paper-writing. Additionally, the researchers made use of photo journals and mapping diaries to get a general sense of student life.

As Hewitt and Hewitt (2010) have shown, assessment of library services and students has become an integral part of academic library strategic planning and day-to-day function; however, a majority of library directors do not see their staff strong in recognizing the need to assess their work. Hobbs and Klare (2010) employed a qualitative, user-driven process to redesign student study space at Wesleyan University. Washburn and Bibbs, a librarian and anthropologist (respectively) at Brigham Young University, have recently reported on their use

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[5]Lynda M. Duke & Andrew D. Asher, *College Libraries and Student Culture: What We Now Know*. American Library Association, 2011.

of both surveys and user-centered design practices to redesign a space within the library

(2011). Washburn and Bibb's work is unique in their extensive use of undergraduates as both

subjects and researchers in the study, suggesting the potential of integrating this kind of

research into the curriculum of applied social science courses, thereby significantly increasing

the value of such projects beyond the library.

Relevant to UConn's study, which made use of two kinds of film-based data collection

methods, are recent studies in the social sciences that speak to new understandings of video as

an enabling method of visual data-gathering. Shrum, Duque, and Brown argue that the

"convergence of digital video technologies with practices of social surveillance portends a

methodological shift towards a new variety of qualitative methodology" (2005, p. 1). Citing the

history of ethnographic films, the authors argue that filmed interviews in the digital era mark

not just the imposition of technology on the traditional interview but an "innovation in research

practice." Not only do cameras create a "fluid wall" between participant and participant-

observer (and thus blur lines between observed and observer in new ways), the data collected

via film is newly rich: the "visual artefacts and behaviours become as prominent as the words

that the subject utters" (p. 17). John Grady argues that "visual sociology" has become a multi-

faceted field that encompasses the act of *seeing* (and assigning meaning), the deliberate

construction of social meaning through images and—lastly, what he calls "doing sociology

visually," the methodologies that include visual data-gathering techniques and their later

analysis. In other words, sociological study by means of visual recording is a field that includes

the act of seeing (assigning meaning to visual input), the control over meaning through

manipulating images, and finally the method of study by which we gather narratives about

people, objects and environments by filming or photographing them. Certainly studies in visual

investigative methods date back decades, but what is striking about recent work is that they

shift the focus from film/film-maker as problematic methodologically to the *value* of filmic (for

example) techniques as themselves transformative in valuable ways.

Charting Our Course: Methods

To investigate, in Booth's words, the factors that shape the UConn landscape, we chose

four instruments: focus groups, online survey, filmed interview, and student-created short

films. Balancing tried and true quantitative methods (the online survey) with a range of

qualitative tools, including two film-based "ethnographic" methods (á la Foster and Gibbons),

seemed to us essential to getting a nuanced picture of undergraduates.   Each instrument was

chosen on one hand to bring in unique data and on the other hand to produce data that would

become meaningful in the context of the cumulative data gathered by the entire study.

However, mixing anonymous assessment tools such as survey with user-centered tools

that included audiovisual components featuring undergraduates added a hitherto uncharted

territory to the Libraries, namely the Institutional Review Board (IRB) process. Outside of some

large-scale survey-based work including the ARL LibQUAL+, a home-grown User Survey, and

some usability studies—all done with either Exempt status or outside of IRB purview (i.e. not

qualifying as research in the strict IRB sense), no one in the Libraries had any experience

crafting and submitting a research project to the IRB.

What made the process somewhat overwhelming for a first-time IRB submission was

the fact that, upon the recommendation of the IRB office, the Assessment 360 project was

submitted *in toto*, rather than breaking it up into distinct pieces. Thus the online survey piece

of the study, which as a standalone project would almost certainly have been Exempt from IRB

oversight, had to be incorporated into a study description and rationale that included the

weightier instruments (from a research on human subjects point of view), especially those that

involved filming students and spaces.

The learning curve for this first stage of the process was tremendous, and has well-

served the team in subsequent work. All members of the UEd team, including graduate student

interns (from other institutions), part-time team members, and a couple of librarians outside

the team, went through the human subjects certification process and were listed as

investigators on the study. The UEd Team Leader was the study's Principal Investigator (PI).

Despite the challenge of being new to the IRB process, the application was completed and

approved in December 2009. Assessment 360, formally titled *Undergraduates and the Library:*

How Students Use and Engage with Spaces, Resources, and Technologies, was officially

launched.

The four components of the study comprised the following:

Learning Commons Focus Groups

Building on a survey conducted in Fall 2009 by a member of the UEd Team, on how

students were using the still-new Learning Commons in the Babbidge Library, the focus groups

were designed to elicit from undergraduates information about what they knew—if anything—

of the Learning Commons, and more generally how they spent their time in the Commons—and

the Library generally. The focus groups were structured around 15 open-ended questions

intended to draw student comments without prompting. The Appendix lists all 15 questions,

but a sense of the intent of the questions can be gained from the first question, which asked

"How would you describe the Learning Commons in the Babbidge Library?" We predicted a

significant portion of our participants might have no idea what we meant by "Learning

Commons"—which was exactly the point.

The focus groups were designed to involve 3-6 undergraduates and two

facilitators/librarians. We had permission to audio-record the groups, which freed up the

facilitators to help create a conversational environment for the participants. One facilitator

oversaw the consent process and asked the questions. Both facilitators took part in keeping

conversation moving without suggesting answers. For example, if students hesitated to answer

the first question because they didn't know what the Learning Commons was, a facilitator

might encourage them to answer in any way that made sense to them, perhaps by conjecturing

what the Learning Commons *might* be, and so on. After focus groups were complete, the

audio-recordings were manually transcribed by study investigators for further analysis.

Recruiting for the focus groups was done through an all-undergraduate email combined

with emails to targeted departments/programs, visual displays (in-library TV monitors) and

small posters. For the time they would give up to take part, student participants were awarded

$10 gift cards to the UConn Co-op, the campus bookstore.

Online Technology Survey

The online technology survey was an adaptation of Booth's survey at Ohio University.

Both Booth's study and a template survey instrument adapted from her original are available

for free at the ALA site, specifically for use by other libraries. Because alone of study's 4 parts,

the survey was directed at undergraduates across UConn's six campuses[6], the UEd member who designed and oversaw this part of the study worked closely with colleagues at the Regional Campuses in customizing the survey for our use.

Advertised through an all-undergraduate email, the survey was hosted at Survey Monkey Pro, which enabled us to add IRB-required security measures such as blocking IP addresses. The survey itself, following Booth's model, asked both demographic (gender, major, year) questions and ones designed to ascertain what technologies students owned and used, and what library services they used or would consider using via various technologies. Questions included asking students general technology questions such as how long they spent using mobile phones to text, IM, search the Web, etc. and specific questions regarding library services such as how often they asked a librarian for help, used a laptop in the library, studied alone in the library, etc. The Appendix contains the full text of the survey instrument.

Following Booth's lead, the incentive for taking the survey was one of three $100 gift cards to the UConn Co-op[7]; students could choose to enter the drawing by submitting their email addresses at a site outside of (and therefore not traceable to) the survey itself. Survey results were analyzed both using built-in Survey Monkey tools and by exporting the data to an Excel spreadsheet and using that software's table and chart tools.

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[6] The six University of Connecticut campuses comprise the main campus at Storrs and five other regional campuses: Avery Point, Greater Hartford, Stamford, Torrington, and Waterbury. Most of these campuses have one or more academic programs unique to them, including Marine Biology (Avery Point) and Social Work (Greater Hartford).
[7] Booth actually offered three $100 cash prizes; due to financial rules at UConn, we were restricted to offering gift cards in lieu of cash.

Filmed Interviews

The Filmed Interviews were the first of two instruments which relied on film, although the instruments use them rather differently. In the interviews, students joined two investigators/librarians in a classroom. After the consent process, the entire interview was filmed, including the more informal follow-up section. One investigator operated the camera and the second ran the interview, including the consent process and all questions. The staff person operating the camera was encouraged to ask questions that might occur to him/her during the informal follow-up period. The interviews had two formal parts: during the first, the students sat at a table and answered general questions about technology use and how they get help, find information and do research. These opening questions overlapped with questions asked in both the focus groups and the technology survey. For example, students were asked what technologies they *needed* to get classwork done, to write papers, to do research, and to find information (these were separate parts of the same question). To some degree, this first part of the interview was simply intended to relax the student and get them used to answering questions on camera. For the second part of the interview, the student was asked to move to a workstation and answer a series of questions about *how* they found information and did research. The key to this section was encouraging the students to actually *show* how they did these tasks by opening windows and applications, running searches, logging into sites, etc. For example, students were asked to show us their "home page" when opening their browser on their own computer (so long as that site was non-private). Another question asked them to create, if possible, their virtual desktop by opening Web sites/pages and applications they'd have open while working on a typical assignment.

The final, unscripted, part of the interview gave both investigators a chance to ask new questions or follow up on topics that came up earlier in the interview. During the formal part of the interview, investigators restrained from offering advice, sharing information, or otherwise steering the students with regard to their answers and/or actions. During the final, informal section, investigators were free to be directive, as in "I noticed you used the search box in the corner when you were looking for articles—did you see the Articles link? Did you not see it, or did it not seem the best way to get to what you wanted?"

Like the previous two instruments, the interviews relied on an all-undergraduate email to solicit participants. Additionally, a boxed blurb on the final page of the technology survey advertised the upcoming interviews. Because the interviews required a greater commitment than the focus groups, students were offered $20 UConn Co-op gift cards for their time and participation. As with the focus groups, the audio from the interviews was manually transcribed for further textual analysis.

Work-Space Monologues

This final piece of the study had no exact precedent that we knew of, although it draws in many ways on the photo mapping/journaling instrument as used by Foster/Gibbons and others. This instrument overlapped the least with the previous ones in focusing specifically on the characteristics of spaces students use, and don't use, to do work. However, as the data came to show, technology and technological infrastructures affect how students choose spaces for different tasks.

This instrument was the most complex, having three distinct phases and requiring students to meet with investigators twice. During the first meeting, students went through the

consent process, signed off on IRB-approved filming guidelines, and were issued a digital video camera and a set of filming instructions or "prompts." The prompts were a series of simple questions they were asked to answer out loud (the "monologue") while they filmed each of 3+ spaces they selected. They were told to choose several spaces they use regularly for doing academic work, and at least one space they would *never* choose for doing work. The Library was never mentioned in their instructions and appeared as a location only if a given student chose it as a regular work destination.

The choice of *moving* pictures for this piece of the study was an experiment to see if bringing pictures to life (camera movement, lighting, peripheral noise) could provide information that still photographs could not. Although students weren't required to visit locations at the times they normally would, they did have to indicate their usual usage of the space (when, with whom, etc.) in the narration.

The final part of the space monologues required students to return to the library and have a debriefing during which they and two investigators would view the footage they'd taken and have an informal debriefing/follow up conversation about the process and the spaces. This follow-up discussion was entirely unscripted, although this conversation was audio-recorded.

The filmed monologues were again advertised via a blanket email. Because this activity required the most significant amount of time and effort from students, participants were offered a $50 UConn Co-op gift card as an incentive. Both the audio portion of the films students took and the final debriefings were manually transcribed for further analysis.

Soundings: What we Found

Assessment 360 was ambitious to begin with; it was only perhaps as the data was finally in hand that we realized quite how ambitious, for better or for worse, we had been. Devoting the time to developing and implementing four distinct assessment instruments across several months was challenging enough for what was at the time a fairly small team with a hefty list of responsibilities including solely staffing the reference desk, teaching first-year information literacy courses, and taking part in various outreach activities, not to mention the day-to-day demands of library teams, university committees and, for at least half of the team's members, liaison activities. Implementing the study was challenging; analyzing the bulk of data we ended up with—a full range of numerical, filmed, and textual data—was even more so.

Truth be told, over half a year after finishing the very last Filmed Work-Space Monologues, we are still processing and making meaningful what we discovered. Nonetheless, there are of course "findings," and the following attempts to summarize the key findings, not only of each instrument singly, but also of the aggregate study.

Learning Commons Focus Groups

We set out to conduct 2-4 focus groups of 3-6 students each. We held enough focus groups to ensure a range of class year, but let gender participation be random (although we noted it). In the end, we held 8 focus groups, ranging from just 1 participant (who was willing to participate in a focus-group-cum-interview) to 7 participants in the largest group.   35 students, 9 male and 26 female, took part, setting up a trend that would continue through all four instruments of women outnumbering men in participation. We had a wonderful spread in majors represented, ranging from Actuarial Science to Healthcare Management, Pharmacy,

Biology, and English—24 distinct majors in all. We also had a good spread in class year: 8

freshmen, 7 sophomores, 10 juniors, and 10 seniors.

The fourteen questions we asked (see the Appendix) ranged across questions about the

"learning commons" as a place to questions about what technologies students used to what

students did in the Commons, including non-academic activities. Tellingly, but not

unexpectedly, one of the clearest findings of the focus groups was that the Learning Commons

meant very little to students under that name. Encouraged to "describe the Learning

Commons" without help/prompting from the two staff members hosting the focus group, a

number of students stated outright that they had no idea what the learning commons was.

Several remarked that they had "never referred to it as the Learning Commons," although they

could guess that we meant Level 1 of the Babbidge Library. Regardless of name, students were

fairly consistent in describing the Commons as a place that brought together computer

workstations, printers and help—notably help in the form of the Writing (W) and Quantitative

(Q) Centers. Students recognized it as an area made up of various seating options (tables,

comfortable chairs, computer workstations or cubicles). When asked to describe the *purpose*

of the floor, students spoke of "resources" and "help," again focusing on the key tutoring

centers (Q and W), the computer labs/printers, and the array of individual and group study

spaces. A number of participants described having a routine that led them to only one or two

locations on the floor (a computer lab, a tutoring center); these students were unfamiliar with

services/area beyond these familiar places.

A pair of questions tried, with incomplete success, to elicit from students what they

thought was the Commons' most *important* feature vs. what they thought was the *best* feature.

The two questions were intended to distinguish between personal preference and a kind of objective view of the Commons—but most students treated the second question as a repetition of the first. As with the descriptive questions, what was best/most important about the Commons were its computer labs, its tutoring centers (Q/W), and its mix of work spaces. The theme of convenience appeared here: the labs are convenient alternatives to lugging around a laptop, the library is a convenient stopping point between classes because of its central location.   As this latter example illustrates, students had difficulty maintaining any distinction between the Commons *per se* (whatever we/they called it) and the library as a whole. Students fluidly shifted between making comments about what they understood to be the Commons (Level 1) and other areas of the library or the library as a whole.

One key finding that emerged was that students have a fairly consistent pattern of using the Commons: casually, in-between classes during the day and for extended, focused lengths of time in the evening. In other words, much of the use of the busy Commons witnessed by the Library staff during normal work hours is short-term use: finishing up a homework assignment, printing something, checking Facebook/email, or simply killing time. Interestingly, these daytime in-transit uses of the space overlapped a great deal with the kind of activities they listed as what they'd do when taking a break or not doing academic work: Facebook, email, socializing, Web-surfing, napping and eating.

Unsurprisingly, students were least consistent in their evaluations of the Commons' environmental characteristics. Some described Level 1/the Commons as too loud for doing serious work; others described the noise level as appealing because it allowed them to work in groups without worrying about disturbing others. Still others praised the quietness of the floor,

particularly in computer areas. Some students appreciated the lighting on the floor (in areas of natural or artificial light), while others spoke of certain areas as being too dim. Generally, the students praised the fact that the Commons offered choices in furniture: tables, lounge areas, computer workstations, group study rooms, study tables, and collaborative tables that feature large-screen monitors. Participants were unanimous is complaining that the floor (and Library as a whole) lacked sufficient power outlets for their laptops. One might balance this against the fact that students were almost equally unanimous (when they mentioned it) their appreciation of there *being* computers available for their use in the Library on a campus that offers almost no open labs (what labs exist are often for the use of certain schools/departments only and students must authenticate their right to use a lab by logging in with their UConn ID number and password). Many students also commented on or suggested ways of improving means of determining when tables or workstations were available for use, as the floor is known for being crowded.

Perhaps the most striking thing about the focus groups was that they didn't produce a long list of things that students were crying out for in terms of services or infrastructure. Beyond power and issues relating to finding available free space, students most often mentioned a desire for better signage indicating what was in the Commons. Students were offered two "magic wand" questions, one asking what would improve the space and the final one asking them to name the one thing they would change in the Commons—in neither case did they mention improvements that weren't extremely practical such as more power outlets, more tables, more lounge areas, or free printing. Only one student out of 35 jokingly said (with a laugh) he'd like to see a rainforest climbing the stairs, complete with giant tree animals.

The other notable topic *not* mentioned was reference help. Students spoke generally of the Commons as providing help/assistance. As one student put it, the other floors [in the Library} are Learning Commons-like too, but "here's where [there's] help. As others put it: the Learning Commons is "to help direct students," "to provide students with resources to help with study habits," "to receive help they need outside the classroom" –or "if you [need] assistance …it's all in one place and convenient." However, the concrete mentions of where they get this help refer to the Q and W Centers or, less often, IT assistance. Of the very few mentions of reference, several come from the mouth of a self-proclaimed library student worker, who remarks that the Learning Commons main desk (housing reference and Library IT) should have a better sign—perhaps simply "Help Desk" so that students know they can ask questions. Two other mentions refer to library "information": "[It's] good this is in the library; [it] would be a hassle to have another building to have to go to...I've gotten gotten help finding certain books…you need that at some point in the library…[it's] good it's on this level…the information center." The single "conversation" about information and (possibly?) reference occurs at the point in the focus groups students get the chance to view a map of the Learning Commons/Level 1 to help them answer questions. The comments are notable:

> I feel like not a lot of people use the information desk I …borrow stapler, I don't really know what the purpose of the information desk is like I know they have a purpose but—

> I'm sorry—

> We don't know it—

> Yes…good question I don't know either—

They just sit there—

I went over there and I was like where is electronic classroom 1 and he was like showing me these maps and he was like asking the senior assistant and she was like oh figured it out to him and I was like so I was like ok thank you—

And like once I had I was looking for a book or something and they sent me up here from like downstairs and like the girl had no idea what I was talking about and she was like no like they don't even make that—

There's a couple time I've gone to information desk and like you need to go to the information desk on different floor and I go up there and they're sending me back downstairs and I usually just give up and like figure it out on my own—

The single mention of the word "reference" is in the context of publicizing text/chat help and is made by a library student worker. The word "librarian" is not mentioned once. The idea of informational help appears only rarely and, as the above conversation suggests, when it does appear it is in the context of frustration and/or confusion, as in the case of a student who, looking at the floor plan, asks "what does the information desk do?" Another interchange in a different focus group may be telling:

One of my friends, she's trying to do a research paper and she's a Junior now…She still doesn't know how to use the computer system on her laptop…She asked me, and I've never really used the online computer resource system, so I didn't even know how to do it…I just use Google, so—

I have to do a project for my Communications class where I have to do research, and my TA said we can look up things from the library…I don't know how to do that—

I remember I learned in my English class how to do that…If I didn't take that…We

had to go to that room and she taught us…It was boring and stuff, but then I had to do it

for other classes…Probably should have listened…There's a website or something—

Yea I didn't remember—

But even these overt references to the library's role—or librarian's role—in the research

process don't mention this role in the context of the Commons as a service point. "I don't know

what this [the reference/Learning Commons] desk is for or anything," remarks another student.

Interestingly, several comments specifically mention the desire for help, so long as it's

unmediated. "I know there's information desks," says a student, "but I don't expect the

information desk personnel to say we have this, this, and this…that sort of thing**.** Just a quick

and easy way to make yourself aware…." Or as another student puts it, "[you need] more signs

to where everything is so I don't have to ask someone."

Undergraduate Technology Survey

The survey comprised six demographic questions, sixteen technology preference

questions, and four questions about students' use of library technologies. Many of the

questions asked participants to rate a series of activities, technologies, etc. (for example: How

frequently do you do the following?—followed by 17 activities, from "text message" to "receive

search alerts"), so the survey in its entirety was somewhat lengthy, although still doable by our

test audience in under 10 minutes.

The purpose of the survey was to get the kind of "hard" data that would help accurately

describe our undergraduates in terms of technology use. It was also meant to be a

complement to the three qualitative instruments, with the hope that the concreteness of

statistics would confirm or perhaps clarify the spoken and visual data we were gathering. As

with all surveys, one could spin the numbers in innumerable interesting ways. In fact, it is not

the intention here to unpack the many subtleties in our survey findings, which are worth their

own report. It is worth noting, however, the "big picture" the survey gave, which is in keeping

with the intention of the project overall to begin to map the undergraduate experience in terms

of technology, research habits and use of space.

The survey got approximately 800 respondents[8]. An average of 798 answered

demographic questions, an average of 753 answered the 15 basic questions about technology

use and preference, and an average of 724 answered the final four, multi-part questions about

library technologies (awareness of, use of, and preference for). Students could enter to win

one of three $100 gift cards to the UConn bookstore upon completion of the survey, which was

constructed in SurveyMonkey Professional in order to block IP addresses and ensure the

anonymity required by the IRB. Of participants, 65% were female and 1st through 5th year (and

beyond) students were represented with good parity[9].

General technology use questions well echoed the findings coming in nationally: 17%

said they went online 6-10 hours per week, the largest number of students (31%) said they

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[8] "Approximately" because no question was required, once they had passed the initial "I am 18 years or older" and "I am currently enrolled as an undergraduate at UConn" questions. Just under 800 answered demographic questions, about 750 answered basic questions about technology use and preference, although one question for reasons we'll continue to ponder, had only 484 responses, although it was one of the briefer questions and asked about use of technologies such as wikis and blogs in classwork (perhaps because they considered the appropriate answer to be "non-applicable"?). The final four, lengthy, multi-part questions about technology at the library (their awareness of and preference for various technologies) got decent responses (between 712 and 730).

[9] To be precise, 29% were in their 1st year of study, 26% 2nd year, 21% 3rd year, 19% 4th, and 5% in their 5th year or beyond.

were online 11-20 hours, 26% put that number at 21-30 hours, and a solid 11% and 12% said

they were online 31-40 or more than 40 hours/week respectively. A small 3% put their online

activity at under 5 hours a week. Interestingly, although a sold third (33%) of students said a

quarter or less of their time online was dedicated to schoolwork, almost half (45%) said that

they were dedicating 26-50% of that time to academic work, and 21% of students put that at an

even higher 51-75%. As time spent online inevitably grows, these will be particularly interesting

numbers to watch.

At the time of this survey (February 2010), only 33% of students were using their cell

phones to access the Web,[10] although over 75% were text messaging. But when asked how

likely they'd be to ask a librarian a question via text/SMS/MMS/Web, 37% said they'd be

"extremely unlikely" to do so, 21% said it was unlikely. However, cumulatively 34% said they'd

be "fairly likely," "likely," or "extremely likely" to do so—so it wasn't a closed door by any

means.

Occasionally, qualitative explanations helped clarify the survey findings. When offered a

text box to expand on their answer to the question "would you use a library extension in your

browser," 52% responded with a qualified "maybe" and of the 32% who added comments, 14%

of the maybe's emphasized that it would "depend" on the quality of the technology. (Of the

24% who outright said "no" to the question, 6% were worried about browser "clutter" and one

said succinctly that "they'd probably suck," another indication that quality mattered a lot.)

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[10] This was also in line with the national data of the time. A January 2010 report from the Pew
Internet showed only 29% of respondents (1919) checking email on their phones "or other
device" and only 32% accessed the internet from these devices. These numbers have, of
course, changed dramatically in the past 2 years, as our own second technology survey
illustrated in 2011. See Lee Rainie (2010), "Internet, Broadband, and Cell Phone Statistics."

Other data helped characterize our undergraduates in general terms. Relatively few of our students saw themselves as true early adopters (those who typically used new technologies "before anyone else")—only about 6% (although, interestingly, there's a jump from freshmen in this category—just over 3%--to the more 6% of 2nd-4th years). A decent 17% or so use technologies "somewhat before" others (pretty even across academic year), but the bulk of our students either adopt technology "at the same time" as others (53%) or they admit to taking "a while" to use technologies (22%). Knowing that the bulk of our undergraduates wait a bit to jump on technologies is useful information to an academic library that is often caught between pushing out quickly anything "new" and holding off to further develop or fine-tune products before releasing them.

Some data specifically backed up the findings of the focus groups. When asked what activities they did while they were studying, a 37% checked Facebook, MySpace, etc., and 33% texted—not at all a surprise. When it came to Google use, 99% used the engine for basic searching, about half used it for mail, 24% used Google docs, 20% each used Google Books and Google Scholar, Google Image was used by 56%--there was decent usage of most Google tools, excepting Google Talk, Labs, Reader, Groups, and search alerts, which is again not surprising.

Another useful finding was that, although a library toolbar was of only possible interest, there was more interest in accessing library resources and help in via UConn's course management system, HuskyCT (then a WebCT/Vista system, now in transition to Blackboard). Although 28% were "extremely unlikely" to use an Ask a Library chat widget in HuskyCT, a combined 41% said they'd be "fairly likely", "likely," or "extremely likely" to use such a tool there. Other tools they seemed at least fairly likely to use were an article search box (33%

"fairly likely, "25% "likely," 14% "extremely likely"), library/research tutorials (30% "fairly

likely," 20% "likely," 9% "extremely likely"), and a catalog search box (32% "fairly likely," 24%

"likely"—and a decent 12% "extremely likely").

Overall findings were that UConn undergraduates were using many technologies with

no trend toward one brand or device. Students were open to the idea of getting help or using

resources via the Web or mobile devices, but only if such help was uninvasive and of high

quality—although they were generally more open to such help/resources embedded in their

courseware than freestanding. The majority of students who responded, while open to the

idea of getting library help virtually (via phone/device/Web), do not currently seek face-to-face

help from librarians. Whereas 89% were aware that such service was available, 45% said they

"never" did that when in the library, and smaller numbers said they did so only occasionally

[13% said "once a year," 22% said once a semester, 14% said once a month, and even smaller

numbers said weekly (3%), several times a week (1%) or daily (1%)].

Filmed Interviews

The interviews produced rich data, although also the thinnest data in terms of

participant numbers. Because the Assessment 360 instruments were planned to occur

sequentially, we gave each our best shot, and then moved on. The interview, like the following

Filmed Work-Space Monologues, were logistically more complex than the focus groups and

survey. In the process of recruiting, scheduling, and confirming, our pool of participants quickly

shrunk to the six who actually took part. The interviews were the most staff- and technology-

intensive of the methods, requiring two staff members, a camera/tripod and a prepared library

classroom workstation.

In the end, five women and one man took part: two freshman, two sophomores, and two seniors—it was the only of the instruments not to include juniors/third years. Despite the small number, as a group they represented a range of departments, including psychology (2), Math (1), Education (1), Physiology and Neurobiology (1), Sociology (1), Communication Disorders (1), and Public Health (1) (the math is right—two of the students were double-majors). Only the humanities were missing in this group in terms of discipline.

Like the focus groups, the interviews required much work after the fact in the form of transcription and textual analysis. The two parts of the interview—general questions (asked at a table) and research questions (asked with student at computer station) had their own character, which is borne out by the results. Students use cell phones, which they mention alongside computers/laptops immediately when asked what technologies they use. When asked *how* they use technologies, students show some confusion at the question, which is interesting in itself, but when cued/prompted, they list communication (social), organization, and academic work. One student's words nicely sum up what we heard from all six: "…fun, personal email and chatting with friends. And my academic work—that's about it."

When we moved the conversation from what technologies they had to what they *needed* to get class work done, write papers, do research and/or find information, they identify computers and the internet as the essential tools. Asked what they would *like* (in addition to what they've identified as essential) to help them do this work, the answers are more varied: scrap paper, "public private" spaces (where one can work in a group, but in one's "own" area), "something that could tell me if my paper is good"—or the off-hand "a personal assistant." One student mentions the idea of "direct help": "I'm back at my dorm or something during

when I have a question but I don't know who like could answer it right away so probably like more direct help. I could do without it but that would help me."

The following questions honed in on the idea of "help" when doing research—whether students found it when they sought it, how good the help was, how they contacted the person/people who helped them, how they would have preferred to contact the person/people, and how they get help in general (for non-academic purposes).

The answers to these questions were varied and sometimes lengthy. One student has shied away from seeking help with research because of what he felt was inadequate assistance—the same student hates email, but states that generally they'll seek help from anyone they've come to trust.

Others mentioned academic figures—especially professors/advisors—as their primary source of help. Several mentioned librarians, at the information desk or in an information literacy (not called that!) class, but one notes her frustration at the obstacles to getting this help: "when I wanted to see the librarian [my teacher recommended], I had to make an appointment, and it made me...I know it's not that convenient but if they were more readily available?"

More like email than not. Most rely on friends and family for help generally—or the Internet. When librarians appear as helpers it is in all cases but one through the mechanism of a course and the active "push" of an instructor: a professor who recommends a specific librarian (subject librarian/liaison) or a class visit to the library for a session on general library tools or specific databases.

When we ask by what means librarians should convey valuable information to them, the students were all over the board: by email, never by email, in the student newspaper, dining hall table tent advertisements, posters in dorms, phone calls, friends, the website and quick in-person intervention.

We asked students whether they'd received formal instruction (in a classroom) from a librarian as a part of a class, and students seemed either confused by the question (perhaps the phrase "formal library instruction from a librarian") or unsure whether they had or hadn't. One student remembers the first (of two) sessions being "more scary" because the web site was new:

> you're not sure if you should be writing the steps. You really don't know how many steps there are gonna be so by the time he gets to step five, you're like oh, I should of wrote, I should have started writing them down [laughs] from step one and then um you're lost anyway but usually the second time around …you get a feel for it and um, if you're not, you know have heavy articles, have heavy papers to do your first year you really don't use those sites a lot but once you get into those English classes and stuff you need research and um …the big thing's just practice. Get on there and do it.

Before taking students to the workstations, we asked them finally if the notion of "personal touch" was meaningful. The answer to this, read through the array of different responses, is a pretty clear "yes!" although it's often qualified. As our most eloquent student put it, "I don't want to have [help], there is no need for them to put themselves out there all the time, but when I do ask for help I do like that personal touch, yeah." "That's great if the

opportunity is available" says another student. "It's more personal like direct relationship

contact...you feel like you can ask questions" says a third. Another concurs:

> I remember it better if some person comes and shows me how to do something...I'd
>
> probably remember something much more if someone comes and says 'oh well if you
>
> click here and click there you get to this place.'

If the initial part of the interview provided us with a swirl of overlapping but never

identical themes, the second part at the computers was much more consistent. The intent of

the hands-on part of the interview was to get a sense of how students used computers in

academic work: what they're "virtual desktops" looked like when they were engaged in work.

Although there the students used different specific tools, there were clear commonalities:

- Students worked back and forth between Web and desktop applications, the latter

  usually including a Microsoft Office program. Occasionally the other applications

  include something specialized like Minitab (for statistics)

- Students used multiple windows for key Web pages: HuskyCT (courseware) was usually

  one and the others usually included UConn email, search engines (Google/public or

  scholarly/proprietary) and often a third Web application helped either with the

  academic work or the quality of the work environment. One student used Pandora for

  music, several mentioned Facebook and or YouTube as a "background" applications,

  and one student frequently turned to the Wolfram Alpha site for help with complex

  math

Google was present but not dominant in the interviews. Although one student used

Google almost exclusively for almost all searching, academic or not, most of the students used

it moderately or dependent on context. Google Scholar was a significant research tool for one student, but others were clear about it's place: "I do not trust Google for anything that's scholarly, academic, anything, unless it's something like a fast definition of whatever…I always start on the library homepage because I now that it gets me into the whatever thousands of articles that the library owns and UConn owns." Several students mentioned databases by name—PubMed or PsycInfo, for example. Google was often used in lieu of browsing—as a way of locating a site or page, even in the same domain (i.e. they would search for the library's home page rather than hunting for links to it on the UConn site). Google helped with quick answers such as definitions or simple information such as conversion calculators, dates and the like.

When asked about UConn-level web "anchors," pages frequently used or consulted, the student portal go.uconn.edu was hands-down the primary reference point for students, as it provided in one place quick links to student email, the StudentAdmin system, the bursar's e-bill system, HuskyCT and other core tools. The Library, incidentally, has only recently been able to get a presence on this page, in part resulting from the data we collected. Before this addition, the Library could only be found two-thirds of the way down one of two long drop-down menus titled Academics and Student Resources (as noted, students searched more often than they browsed/clicked to find pages).

Filmed Work-Space Monologues

The monologues were the single instrument uniquely designed for this study. They are the least "led" and most student-driven of the methods in that, after an initial meeting to go over consent and instructions, students were turned loose to film/narrate the spaces they used

most for accomplishing academic work (and an additional one filmed to illustrate a space they'd *never* use). The instructions were simple: film these spaces while briefly narrating why you like a space, what you use the space for, when you normally use the space, whether you normally use the space alone, and what could be done to improve the space for your purpose (for the space they'd never use, they answered the same questions: what *don't* you like about the space, etc.). After filming, the students met once more with the investigators, during which the footage was viewed and students could elaborate on any of the spaces/their comments (these "debriefings" were audio-recorded). Thus the monologues produced a wealth of both visual and verbal data to analyze.

The aim was to conduct a fairly small number of monologues (about 5), but the response to this instrument was huge compared to the number who volunteered for the interviews[11]. Logistics meant that, although there were over 60 volunteers, we could only complete 5 monologues before the semester ended. Because they were student-driven, the monologues were also student-timed. We had two flip cameras, purchased for this study. If one student took longer than anticipated to complete filming (2 or 3 weeks rather than one), one couldn't schedule a consent/information meeting with another recruit until a camera came back. By the time cameras were returned, some students who had been available were now unavailable.

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[11] This might have been due to the larger $50 incentive for participating, but it's worth noting that students for the interview could earn $25 for one 1/2-hour meeting (the longest ran around 45 minutes), whereas monologue participants had to meet with researchers twice as well as do the actual filming, a significantly larger investment of their time.

In order to extend the reach of what turned out to be a successful and really interesting means of study, we conducted an additional four monologues the following fall, bringing the total up to 9. In this study it was the seniors who fell out; one freshman, four sophomores, and four juniors took part in the monologues—again the scales leaned heavily to one side in regard to gender: we had eight woman and one man participate. Departmental affiliations had a nice spread; students were majoring (or intending to major) in fields as diverse as Family Studies, Acting, Philosophy, Physiology-Neurobiology, and Spanish.

Unlike the interviews and focus groups, which were both conducted in a library classroom, the monologues were much less influenced by the "librarian" context. The interviews had the additional drawback that, rather than watch them use their own computers in a typical location, we had them "stage" their virtual workplace on a library computer. In the work-space monologues, the students had complete control over location and to some degree over presentation as well.   Each of the nine students had a distinct voice and approached the narration in his/her own way. Some were more eloquent, some less. Some did more with the camera, some less—but they all provided valuable and irreplaceable data. There are memorable visual/narrative moments, but there are also, much more so than in the interviews, some readily identifiable themes, including the following (note that some of these are pretty low-hanging fruit in terms of "findings," but it is one thing to assume something and another to find out it's true—or not):

- Beds are comfortable, but they induce sleep

- We like to work alone, or we like to work with others

- Sometimes computers are essential; other times they're not

- Students like to work alone, but "alone" might mean alone-in-a-crowd with other people close by

- Alone-in-a-crowd is nice until it becomes, well, crowded

- Similarly, we like having our friends around when we do work, but sometimes they're too distracting

- Students depend on the advice of friends when finding a spot to study

- Lighting (or lack thereof) matters

- Being able to spread out when doing most academic work is very important

- Students work late—very late

- All students identify their dorm room/bedroom as a space they use to do academic work, but when they do use the library, they're not looking for a bedroom-like space (they already have one)

Comfort is important, but equally important is good lighting and (for most activities) access to power. Not all of the nine filmed spaces in the Library. Those who did gave us a fairly representative sampling of library study/work spaces: large tables in the stacks, a group study room, traditional carrel-style desk on various levels of the library, a cubicle workstation in the Learning Commons, and the lounge seating in the Leisure Reading room. Two of the nine liked the Leisure Reading room because of its comfortable chairs and the proximity of wall outlets. They're direct in both their praise and critique: a padded bench area is mocked for its seeming comfort (it's actually hard and uncomfortable and no one ever sits there), a carrel is called "a great place to study… if you want to study alone, if you really want to focus and just get some work done, this is a great place to study." And a computer workstation in a semi-private cubicle

is seen as "a great place" for checking and reading assignments and lectures on HuskyCT. One

student, whispering as she films in a group study to avoid angering students on the Quiet Study

floor, pointedly asks "what's the point of getting a group study room if you can't talk?" Further

emphasizing the perhaps uninviting character of the quiet floor, a student during her admits

she would have chosen the quiet floor as her "never use" space, had she not worried she'd

"cause…problems."

Another unforgettable image is that of a student walking through the Library stacks on her way

to a large study table.   "This is a very popular floor," she narrates, especially during exam week.

"So what I would do," she continues, "is maybe get rid of some of these large stacks of books

[she pans across rows of stacks] and add a couple more tables, so that way people have more

places to study because *it gets crazy here*."   In her debriefing, the same student elaborates:

> I would get rid of all those stacks of books up to the third and fourth floor and put more
>
> tables there. Or even how you know they have the single cubbies, I feel like that is more
>
> indicative of the fourth floor, someone who is studying by themselves, wants to be quiet
>
> rather than on the second floor where you can talk. Its kind of wasting space on
>
> someone that isn't talking and just doing something by themselves… So you know kind
>
> of more seating, or tables where people can work together on projects or you know,
>
> studying for exams rather than just a single—cause there are a lot of those single spaced
>
> things but on a floor where you can talk and work together I feel like it's kind of wasted.

Outside the library, students often use bedroom/dorm rooms as their base. An off-

campus student raves about her bedroom at home, which she calls "the best place in the entire

world to study," noting its comfort and nice atmosphere (she has a view of a lake through the

window and her own furnishings), as well as the utility—plenty of room to spread out on the bed. She notes that

> obviously it isn't at UConn but what we can take away from it is definitely the comfort level which I've spoke about a little bit before [when describing the Library's uncomfortable bench seats]. I think we need, obviously we can't really have beds, but really comfy couches, comfy seating areas, because when people spend a long time in the library, the last thing you want to be in is a hard wooden chair. It's kind of nice to be able to stretch out, to lean back, you know… just be more comfortable.

The sense of the dorm room/bedroom as home base comes through when one student remarks "I always go to this place. This is the place where I do most of my studying. I get all of my work done." One student, who wedged a small portable chair in the corner between two beds, describes the corner she has created:

> "This is my room and I love sitting in this chair right here and studying or generally writing a paper um because I like the lighting coming from the window and the chair's really comfortable and it's a little nook and it's kind of secluded away from everything else um and it's also kind of hard to get of there so it encourages me to sit there and do what I have to do until I'm done with it so I really um enjoy sitting in this chair right here."

Most students remarked on the importance of nearby food to doing work ("I cannot study without food"), usually one of the draws to their apartments, homes or dorms. Or "all my stuff is here and I like having all of my pillows, blankets, and snacks on hand." However, dining

halls and food courts per se are identified as spaces they'd *never* study because of the noise level and crowds.

Although encouraged to go to any space they used frequently, no non-university spaces (coffee shops, etc.) appear in the monologues. One student in student government uses the special access that status gave her to use certain Student Union offices after hours. Another goes with a friend to a large, modern lecture hall after hours where they become one of three or four groups spread out in the huge space. This student zeroes in on the social aspect of this space, in contrast to parts of the library:

> I'm either by myself or with two or three other friends so when I come here it's with me
> and my friend that I usually study with for my science classes so we just come here
> together, and we study instead of going to the library because we can't really talk as
> much as we would like to or, yeah as we would like to… So we come here and we study
> and it's a lot better. It's a lot more relaxed. I don't feel like I'm invading somebody's
> privacy when I'm here.

Perhaps the most unique spot is a grouping of chairs against the wall of a lobby in the drama-music building. But although the space itself is unremarkable, it is the fact that, as a drama major, the student spends the majority of her time in that building, which makes the space ideal for her.

Dorm study lounges (open to all students in a dorm) have a niche as the *not*-library. In one student's words:

> What's good about this space is that it's comfortable… There are a bunch of different
> spaces, so you can sit on a couch, you can sit in a chair, there are desks where you can

face the wall, where you aren't distracted by anything. There are other desks where you can bring your computer. I like it because it's not as formal as the library.

The lounges are desirable for their tables, their outlets, their flexibility (table vs. lounge seating), and their proximity to their dorms. A student, describing the lounge area inside his dorm suite itself, emphasizes the importance of location: "I really like this space for studying because it's close to where I live, because it is where I live. I don't have to spend time going to the library or anything like that. It's also comfortable without being super comfortable like a bed." Or as a female puts it, raising safety issues: "At night I'm more inclined to leave the library and come [to the dorm lounge] regardless of how full it is. Just because I will study very late into the night and I don't like walking back, you know, at one in the morning by myself."

A couple of comments highlight the importance of controlling one's environment, particularly with regard to privacy and atmosphere: [In my dorm room] "it's just me, or it's just me and my roommate and that's fine. In the lounge you can't really control other people's talking." Elsewhere this student remarks that the appeal of the lounge in the Library's Leisure Reading Room is the boundary it maintains between shared and private space:

> I liked that there weren't a lot of tables. I liked that there were two, and I like the setup of the four chairs being close to the tables. So like, you'd have to share—and I know it sounds bad but I think it's a little bit of a deterrent if you're at one of those chairs for somebody else to come in and have to sit next to you and fight for your table. So you get that sense of closeness but you get that sense of isolation too. And it like keeps strangers from coming over and invading your space.

In the words of another student:

So I think it'd be better if maybe half the tables [in the Library] were broken up like that so you have the option, so you're not inconveniencing someone if you're like "Hey do you want to push this table together?" But at the same time if you needed your own space and you really didn't want to sit with somebody else you would have that option.

Perhaps the best summative statement comes when a student remarks during her debriefing: "I think that all students like consistency. So once you find a place, most likely you're always going to go to it. If you like your first experience, then you're going to keep on going there. So these places I probably will keep on going to until I find like I can't, it won't work, then I'll search for other places."

Logging the Voyage: Conclusions, Lessons Learned and New Soundings

This was an ambitious study. On one hand, it was probably too ambitious for a first, major study by a new team that was still finding its role in the Library. On the other hand, the intention of the study was to begin to chart the waters our undergraduates tread with regard to technology and space—and to begin to articulate for ourselves how the library, and specifically how and where (and who, and when) the Undergraduate Education Team, fits in relation to both. In this latter sense, the study was a great success, despite its many imperfections.

The challenges to this study were many--staffing, time, funding, and inexperience to name just the obvious ones. Excepting the focus groups and technology survey, the findings would have been stronger with larger participant numbers. We did what we could given limited resources (including staff availability), but it's clear that the interview in particular might

have shown more trends among students had we drawn a greater sample, perhaps twenty-five student-participants or more.

More problematic even than a methodology impacted by limited resources and experience was the fact that we underestimated the time needed *after* the study was complete to analyze and make meaningful the data. Without the participation of part-time employees and several interns, we would never have gotten through the task of transcribing the many audio and audio-visual files. Once the transcriptions were done, there was a significant lapse of time before we could come together as a team to read through and do clustering work to identify themes. So the analysis took much longer than anticipated, which delayed gaining quickly as a team any unifying sense of "here's what we've learned" beyond sample data shared at conferences or internal Library meetings.

Having said that, we did in fact come away "knowing"our undergraduates better than we had before. We learned that our undergraduates are technology adopters, but not necessarily early adopters. We learned that, at a large school like UConn, they are bombarded by complexity in everything from their choice of research tools to their preferred study spots. They are bombarded by choice, and although their professors may act as their primary academic guides, there are seemingly no guides—or no consistent ones—when it comes to learning how to *be* a student, whether that means finding research tools (resources, technologies) that work (which may simply mean they've worked so far), or it means selecting spaces to study that will best support their work. For these choices they rely on their peers, perhaps on their families, but more often than not they rely on themselves to weigh the choices and make appropriate decisions.

More than anything, we learned that there is no "UConn undergraduate," other than in general terms. We can group them by the browsers they use and their preferences for operating system, but when we turn to assessment strategies that focus on them as individuals, it is individuals we get, with all their multi-faceted differences. Which isn't to say that we can't use the general data. We have to, or else we will find no means by which we can make decisions regarding how best to serve our students with regard to the Library as Place and the Library as Repository of both technologies *per se* (kindles, laptops, virtual PC's, Mediascapes, iPads, etc.) and technologies as the portals (to databases, to chat reference, to Web based discovery tools, to digital archives, to patron-driven acquisition, and so on).

Some findings were so loud and clear we've acted on them as quickly as funding has allowed: we've added power via poles or pillars on several floors. We've recalibrated our research help so that on-call (face-to-face) is secondary to our primary means of offering help, live chat. We've been "branding" our Learning Commons with a new name (Homer One), and are increasing the visibility (and findability) of its services through color and new signage. We have replaced carpet in the Commons and are in the process of bringing down even more power poles from the ceilings.

Throughout the library, we are looking at old furniture that doesn't match the use and needs of 21st-century students. We're investigating new table and carrel designs that, on one hand, give our students room to spread out, while on the other hand maintain a sense of contained, semi-private space. We're trying to identify furniture and layouts that offer the public-private (alone in a crowd) balance students seem to desire. Furthermore, we have a

clear understanding that any new furniture must include easy access to power outlets to be useful to our students.

More than anything, we take away from this ambitious study the sense of having, indeed, drawn a baseline for ourselves. Being a baseline, however, it will only become meaningful over time if we can use it as a point of reference. The greatest challenge to assessing both technology and undergraduates is that they are both rapidly moving targets. As the Pew Internet group has illustrated, once you begin asking such questions, you must continue to ask them. In 2011, we ran another technology survey, so we have begun to build an annual "picture" of our undergraduates that is already serving us.

But the other questions—about how our students do research and how they use space—have only just been touched. For all that we learned, this study has made us all the more aware of what we still don't know. Influential studies like that of Project Information Literacy at the University of Washington have provoked us to wonder to what degree our students match theirs in research and information habits. Recent participation by some team members in another Nancy Fried Foster workshop have made us curious to get a closer look at how, exactly, our students approach research projects by conducting retrospective interviews. The need to quickly spend allocated funds on new furniture in the Learning Commons led us to quickly run an almost spontaneous design exercise with willing students (they drew; we provided paper, pens, and candy).

Bottom line: we're asking more questions more often. What was a huge capital "A" assessment has morphed into ongoing, smaller assessments. We're becoming more nimble (and less ambitious) in planning smaller-scope studies with immediate objectives. No doubt, in

conducting Assessment 360, we missed a few points on the compass. But we did create a kind

of compass for ourselves that has been guiding our work ever since.

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Appendix: The Study Instruments

Learning Commons Focus Groups

1) How would you describe the Learning Commons in the Babbidge Library?

2) What do you believe the purpose of the Learning Commons is?

3) What is the most important feature/space/service in the Learning Commons? Follow up: is the "most important" feature also the "best" feature of the Commons? (Why or why not).

4) What resources and/or services do you use when visiting the learning commons? When? (time of day, days of week and/or how often)

5) Within the Learning Commons, how do you use the space itself? (do you go to one spot/frequent the same spaces/use many or any space/use spaces for different purposes?) If you're comfortable doing so, please sketch your movement(s) or use of space on this map of the Learning Commons [at this point in this question, we would put out a "blank" map that simply indicates Level 1 of the Babbidge Library and the location of principle services/spaces on the floor]

6) When taking a break from studying, what do you do?

7) What technologies/devices do you use when you're in the Learning Commons, both ones provided by the Learning Commons and ones you bring with you.

8) How could the learning commons space be improved? If you're comfortable doing so, feel free to use the map to illustrate your ideas [at this point in this question a "fresh" map would be laid on the table].

9) What initiated you to visit the learning commons for the first time?

10) If you could change or add just one thing to the learning commons what would it be?

11) Describe any *non-academic* activities you do when in the Learning Commons?

12) Is Learning Commons a fitting name? Could you suggest a better one?

13) Describe how the furniture/layout/equipment/etc. of the Learning Commons does or doesn't help you do what you want to do when you're there.

14) Do you have any other comments/ideas you'd like to add about the Learning Commons?

15) Do you have any questions you'd like to ask about the Learning Commons or the Library?

Online Technology Survey

To participate in this online survey, you must be at least 18 years old and a currently-registered undergraduate at the University of Connecticut (Storrs, Avery Point, Greater Hartford, Stamford, Torrington, or Waterbury).

1) I am 18 years of age or older:
   ○ Yes
   ○ No

2) I am currently enrolled as an undergraduate at the University of Connecticut
   ○ Yes
   ○ No

3) Let's begin

The survey is in three parts and has 26 questions. You may choose to skip any question that you do not want to answer. After completing the survey, you may enter the drawing for one of three $100 gift certificates to the UConn Co-op by following a link that will take you out of the survey, thus breaking any link between your survey responses and the drawing.

Part I: Demographic Information

1. How old are you?
   ○ 17-19
   ○ 20-22
   ○ 23-36
   ○ 27-30
   ○ 31-40
   ○ 41-50

○ 51-60
○ 61-70
○ 71-80

2. What best represents your major or concentration?
   ○ Agriculture
   ○ Busines/Economics
   ○ CLAS (Liberal Arts)
   ○ Continuing Studies
   ○ Education
   ○ Engineering
   ○ Fine Arts
   ○ Humanities
   ○ International Studies
   ○ Nursing
   ○ Pharmacy
   ○ Sciences
   ○ Social Sciences
   ○ Undecided

3. Which of the following best describes you?
   ○ First-Year Undergrad
   ○ Second-Year Undergrad
   ○ Third-Year Undergrad
   ○ Fourth-Year Undergraduate
   ○ Fifth-Year Undergraduate
   ○ Non-Degree

4. During the semester, do you live on campus or commute?
   ○ I reside on campus
   ○ I commute

5. Your primary UConn campus is:
   ○ Avery Point
   ○ Greater Hartford
   ○ Stamford
   ○ Storrs
   ○ Waterbury
   ○ Torrington

◯ Distance Student

6. What is your gender?
◯ Male
◯ Female
◯ I'd prefer not to say

4) Technology Use and Preferences

Part 2: Technology/Library Technology Use and Evaluation

1. How many hours per week do you spend online?
◯ Less than 5
◯ 6-10
◯ 11-20
◯ 21-30
◯ 31-40
◯ More than 40

2. How much of this time is spent on school-related activities?
◯ 0%
◯ 1-25%
◯ 26-50%
◯ 51-75%
◯ 100%

3. What kind of Internet connection do you have where you do most of your academic work?
◯ Dial-up
◯ Broadband
◯ High-Speed wireless
◯ High-speed wired
◯ None
◯ Not sure

4. Which of the following best describes you?
◯ I usually avoid using new technologies.
◯ I generally take a while to use technologies.
◯ I use new technologies at the same time other people do.

○ I tend to use new technologies somewhat before others do.
○ I usually use new technologies before anyone else.

5. Which of the following do you own? Check all that apply.
   ○ Laptop computer
   ○ Desktop computer
   ○ Netbook/mini-laptop
   ○ PDA
   ○ Portable media player (iPod, etc.)
   ○ Digital camera
   ○ Digital video recorder
   ○ Digital voice recorder
   ○ iPhone
   ○ Blackberry or other smartphone
   ○ Apple Touch
   ○ GPS

6. Do you access the Web via your mobile phone, e.g., check email, search the Web, or view YouTube videos?
   ○ Yes
   ○ No

7. When you are researching, studying, or completing assignments, how often do you do the following at the SAME TIME?

	Never	Infrequently	Sometimes	Usually	Always
Facebook, MySpace, etc.	○	○	○	○	○
Instant Messaging	○	○	○	○	○
Online gaming	○	○	○	○	○
Text messaging	○	○	○	○	○
Mobile phone	○	○	○	○	○
Other (please specify)					

8. How frequently do you do the following?

	Never	Once a year	Once a semester	Monthly	Weekly	Several times a week	Daily	Several times a day
Text message	○	○	○	○	○	○	○	○
Instant message	○	○	○	○	○	○	○	○
Play online games	○	○	○	○	○	○	○	○

Play games on a console (PS3, XBOX, 360, Wii, etc.)	○	○	○	○	○	○	○	○
Play handheld games (PSP, Nintendo DS, etc.)	○	○	○	○	○	○	○	○
Download music or videos	○	○	○	○	○	○	○	○
Listen to podcasts	○	○	○	○	○	○	○	○
Watch videos on YouTube	○	○	○	○	○	○	○	○
Use Skype or other web calling program	○	○	○	○	○	○	○	○
Use Facebook, MySpace, etc.	○	○	○	○	○	○	○	○
Post to a blog	○	○	○	○	○	○	○	○
Comment on a blog	○	○	○	○	○	○	○	○
Read a blog	○	○	○	○	○	○	○	○
Post to twitter	○	○	○	○	○	○	○	○
Edit a Wikipedia article	○	○	○	○	○	○	○	○
Read Wikipedia articles	○	○	○	○	○	○	○	○
Receive search alerts	○	○	○	○	○	○	○	○

9. IF you own a mobile phone, how frequently do you use it to do the following? (If you don't own a mobile phone, skip ahead to item #11)

	Never	Once a year	Once a semester	Monthly	Weekly	Several times a week	Daily	Several times a day
Text message	○	○	○	○	○	○	○	○
Instant message	○	○	○	○	○	○	○	○
Use a search engine	○	○	○	○	○	○	○	○
Send email	○	○	○	○	○	○	○	○
Download music	○	○	○	○	○	○	○	○
Play games	○	○	○	○	○	○	○	○
Listen to podcasts	○	○	○	○	○	○	○	○
Watch videos	○	○	○	○	○	○	○	○

Read e-books	○	○	○	○	○	○	○	○
Check Facebook, etc.	○	○	○	○	○	○	○	○

10. On your mobile phone, how likely would you be to use the following library services via TEXT/SMS/MMS/Web?

	I own a cell, but I don't text	Extremely unlikely	Unlikely	Fairly likely	Likely	Extremely likely
As a librarian a question	○	○	○	○	○	○
Send a call number from the catalog	○	○	○	○	○	○
Receive renewal or overdue notices	○	○	○	○	○	○
Renew library materials	○	○	○	○	○	○

11. Which of the following Google tools do you currently use? Check all that apply.
   ○ Google Search
   ○ Gmail
   ○ Chrome
   ○ Google Book search
   ○ Google Documents
   ○ Google Reader
   ○ Google Labs
   ○ Google Maps
   ○ Google Calendar
   ○ Google Groups
   ○ Google Scholar
   ○ Personalized home page (iGoogle)
   ○ Google Search alerts
   ○ Google news
   ○ Google Video
   ○ Google Image search
   ○ Google Talk

   Other (please specify): _____

12. What web browser do you prefer
   ○ Mozilla Firefox
   ○ Internet Explorer

- ○ Safari
- ○ Opera
- ○ Google Chrome
- ○ Not sure
- ○ No preference

Other (please specify): _____

13. Do you customize your web browser with add-ons, extensions, and/or toolbars?
   - ○ Yes
   - ○ No
   - ○ Not sure

14. If they were available, would you use library Web browser extensions and search
   toolbars?
   - ○ Yes
   - ○ No
   - ○ (Maybe)

Why or why not? _____

15. How likely would you be to use the following library services in HuskyCT?

	My classes don't use HuskyCT	Extremely unlikely	Unlikely	Fairly likely	Likely	Extremely likely
As a librarian chat	○	○	○	○	○	○
Article search box	○	○	○	○	○	○
Library/ research tutorials	○	○	○	○	○	○
Catalog search box	○	○	○	○	○	○

16. Which of the following have you used in your classes or coursework? Check all that
   apply.
   - ○ Blogs
   - ○ Wikis
   - ○ Twitter
   - ○ Podcasts
   - ○ Webcasts
   - ○ Online screencast tutorials
   - ○ Virtual worlds (Second Life, etc.)

5) Technology available at the Library

Part 3: Library Use and Evaluation

1. How many of the following options do you think the library currently offers? Check all that apply.
    ○ Full-text online
    ○ Talk with a librarian IM or chat
    ○ Research and library help classes and workshops
    ○ Online tutorials
    ○ Online article databases
    ○ Research guides for different subject areas
    ○ Talk with a librarian in person
    ○ Scanners and multimedia software
    ○ Request items from other libraries (Interlibrary Loan or Intercampus Express)
    ○ Full-text books online
    ○ EBSCO article search
    ○ Off campus access to electronic journals, ebooks, etc.
    ○ Library news blogs
    ○ Get help writing a paper with trained writing coaches
    ○ Movie viewing rooms
    ○ Online library catalog
    ○ DVDs for checkout
    ○ Laptops for checkout
    ○ Q Center tutoring help
    ○ Class Guides for specific classes
    ○ Assistance with software application (e.g. PowerPoint, Word, HuskyCT, Video editing, Etc.)
    ○ Group study rooms

2. How often do you use the library website to do the following?

	Never	Once a year	Once a semester	Monthly	Weekly	Several times a week	Daily	Several times a day
Ask a librarian for help or advice	○	○	○	○	○	○	○	○
Use research guides and tutorials	○	○	○	○	○	○	○	○
Find e-books	○	○	○	○	○	○	○	○

Search for articles	○	○	○	○	○	○	○	○
Search for books and journals	○	○	○	○	○	○	○	○
Access online reserves	○	○	○	○	○	○	○	○

3. When you are at the library, how often do you engage in the following?

	Never	Once a year	Once a semester	Monthly	Weekly	Several times a week	Daily	Several times a day
Use library computers	○	○	○	○	○	○	○	○
Use your laptop	○	○	○	○	○	○	○	○
Do research for an assignment	○	○	○	○	○	○	○	○
Search for items in the catalog	○	○	○	○	○	○	○	○
Use the library website to find articles	○	○	○	○	○	○	○	○
Use Bookworms Café	○	○	○	○	○	○	○	○
Ask a librarian for help	○	○	○	○	○	○	○	○
Check out DVDs	○	○	○	○	○	○	○	○
Check out books	○	○	○	○	○	○	○	○
Use a group study room	○	○	○	○	○	○	○	○
Study alone	○	○	○	○	○	○	○	○
Study with friends	○	○	○	○	○	○	○	○
Pull an all-nighter	○	○	○	○	○	○	○	○
Socialize	○	○	○	○	○	○	○	○
Sleep	○	○	○	○	○	○	○	○
Listen to music	○	○	○	○	○	○	○	○

4. When you use a COMPUTER in the library how often do you do the following?

	Never	Once a year	Once a semester	Monthly	Weekly	Several times a week	Daily	Several times a day
Find books/articles	○	○	○	○	○	○	○	○
Use HuskyCT	○	○	○	○	○	○	○	○
Use software	○	○	○	○	○	○	○	○

not available on your own computer								
Use graphics software (Photoshop)	○	○	○	○	○	○	○	○
Use presentation software (PowerPoint)	○	○	○	○	○	○	○	○
Use word processing software (Word)	○	○	○	○	○	○	○	○
Use the library website	○	○	○	○	○	○	○	○
Check email	○	○	○	○	○	○	○	○
Use IM	○	○	○	○	○	○	○	○
Play video games	○	○	○	○	○	○	○	○
Watch online videos/DVDs	○	○	○	○	○	○	○	○
Check Facebook or MySpace	○	○	○	○	○	○	○	○

You have completed the survey—thank you for your time!

Filmed Interview Questions

1. For the following question, please interpret the word "technologies" however you wish!
   a) What technologies do you use?
   b) *How* do you use technologies?
   c) What's your technologies wish list? (For yourself? For the university? For the library?)

2. What do you *need* (what is essential) to help you...
   · Get your classwork done?
   · Write papers?
   · Do research (if you do research)?
   · Find information?

3. Beyond what you *need*, is there anything you'd *like* to help you do any of these things (get classwork done, write papers, do research, find information)

4. If you've ever wanted help with research, what did you do/whom did you talk to/seek help from?
   Follow up:
   · If you sought help, did you find someone? Were they helpful? (how?)
   · If you sought help, how did you contact this person/these people?
   · Would you have liked to be able to contact them in some other way?
   Follow up:
   · How do you like to get help in general (in your personal/business/other life)?

5. Let's assume Librarians have some good, helpful information (smile). We want to share this information with you. How's the best way to reach you and convey the content of what we have to share?

6. Have you been to a formal library instruction session (led by a librarian)? How would you describe it?
   Follow up:
   Have you had "library instruction" from someone other than a librarian? How was that?

7. Does the "personal touch" in terms of getting help from someone like a librarian mean anything to you?

Hands-On:

8. Do you use the computer regularly?

9. Do you use the computer regularly for academic work? Do you use the Internet regularly?
   a) Can you describe and/or show us computer-based technologies you use regularly?
   b) Can you describe and/or show us your "home page" when you open your browser (if it's publically viewable/non-private)
   c) If you wanted information (in general), how would you get it? If it involves using a computer, can you show us how you would go about getting information?
   d) If you need "academic" information (for a class-related assignment, perhaps), would you go about getting this information differently? Can you show us?
   e) Can you show us UConn Web pages (if any) you open regularly?
   f) If you needed help while you were doing academic research/work, would you seek help on the online? Can you show us how? (where you'd go?)
   g) Are you familiar with the Libraries' Web site?
   h) Follow up: [if so…] can you show us what parts of the Web site you use? What parts of the Web site have you never used? (Can you show us?)

10. If we asked you to "show us how you usually work" (do academic work), could you show us in this room? Is there anything missing (that you'd need)?

a) If it involves the computer, can you show us how you might "set up" your computer to do work –and whatever else you do while you work?

b) If it doesn't involve the computer, can you describe/show us how you do work?

c) Can you verbally describe your typical "work environment"? (if there is one). If you move around, can you explain why you move?

11. We've asked a lot of questions about doing academic work, using a computer, where you do work…have we left anything out? What else should we know about how you work, use technologies, get help—or anything else?

12. Would you like to tell us anything else?

13. Do you have any questions for us about this interview, the study, library services—or anything else?

Filmed Work-Space Monologue Instructions

1) <u>Go to 2-4 spaces/places</u> that you habitually/regularly go to in order to study, do academic work—place you frequent either alone or with one or more other people.

Film this place from all perspectives/angles—imagine you are filming in order to make a visual "record" of the space (pretend you're filming so that an animator at PIXAR or some other company can recreate the space, using only your film to guide them). During or after you finish filming perspectives, please focus your camera on the space and tell us, generally, what makes this space good (or bad) for doing your work. Specifically, we'd like you to answer the following questions about the space:

1. What time is it now (while you're filming)? What day of week is it?
2. When do you usually go to this space (what time of day, days of week, etc.)
3. What makes the space good for getting work done? (furniture, lighting, noise, lack of noise, proximity to something else—food, for example—etc.)
4. By "getting work done," do you have a particular kind of work (studying, research, writing) in mind? Would this space be "good" for certain kinds of work and "bad" for others?
5. What isn't ideal about the space (this might be particularly relevant in regard to spaces you've described as "good")
6. Whether you've described the space as good or bad (or something in-between), what could be done to improve the space (if anything)? In other words, what would you change about the space if you could?
7. Do you usually work alone here or in a group (at least one person other than yourself)?
8. If you work alone, are there other people usually nearby? Is this a plus or a minus in regards to the space?

Please let the camera run for at least 1 minute from one perspective, without narrating, so that we can really "see" the space (and, perhaps, hear the space!)

2) The following questions are particularly aimed at spaces you label "bad" (or something less than "good"). If you haven't filmed a "bad" space, could you please do so…<u>find at least 1 space</u> that you would describe as being "bad" for doing work, studying, or doing research and then answer the following:

   9.   What time of day is it now (while you're filming)? What day of week is it?
   10. You've described this space as "bad": would it be bad on all days, at all times?
   11. Is this space "bad" for doing all types of work, or only certain kinds? (specify, please)
   12. Could this space be improved (if you had a magic wand) so that it turned into a good work space—or is it simply "bad" and not worth changing?