Collaborative Assessment for Student Success: Analyzing Nontraditional Students' Library Perceptions and Usage

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Introduction

Assessing the library's impact on student success is vital for all library departments, but many assessments exclude nontraditional students. According to the National Center for Education Statistics, a nontraditional student is defined by many characteristics, such as: delayed enrollment into higher education programs, part-time attendance, working full-time, financial independence from parents, caretaking responsibilities, single parenthood, and having received a GED.[1] Since there are so many definitions and characteristics of nontraditional students, the literature tends to study a specific population within this group. Higher education libraries can provide many vital services to nontraditional students, including saving them time in their academic career, by training students on how to more effectively find, evaluate, use, and credit information in research papers and assignments. With the growth of assessing nontraditional students, it is important to use various assessment strategies on this population, as well as collaborate within your library and institution to enact change. In this paper, two librarians discuss assessing online and transfer students at the University of North Carolina at Greensboro (a mid-sized public university) through surveys, usability studies, and pre- and post-test evaluations. These assessments ultimately led to new library programs and a position, as well as future ideas for continuing to assess these important populations.

Literature Review

To better engage a broader patron base, librarians are also starting to assess the research needs of nontraditional students. Libraries have performed surveys targeting nontraditional students, showing that this population needs more attention and services than traditional students, as well as service points available during the weekend.[2] According to Branch, many nontraditional students mostly use the Internet to find information for coursework and learning more about the library through information literacy instruction and courses give these students more confidence in their research skills.[3]

Transfer students are a significant population in higher education. A report from the National Student Clearinghouse Research Center found that over one-third of all college students transferred to a different institution within six years.[4] The term "transfer students" often refers to students who move from a two-year college to a four-year institution, but transfers from a four-year institution to a two-year college are common, and there are other paths that students might take from one institution to another.[5] The transfer population at an institution can include a wide range of students with different experiences, but there are challenges. Some challenges include: difficulty with the transfer process, loss of academic credits, adjusting to new policies, feelings of being overwhelmed, difficulty connecting with university faculty, and perceived stigma (whether from a workplace, a community college, or military service).[6]

Transfer students can also miss institutional support and non-curricular experiences by entering an institution as sophomores, juniors, or even seniors. Receiving institutions try several approaches to integrate transfer students. Articulation agreements among institutions seek to make the transfer process seamless.[7] Some institutions provide an orientation and some institutions have adapted high impact practices, such as a studies seminar course or a learning community.[8] McBride et al. report that libraries at Oakland University partnered with student affairs by participating in orientations, providing handouts on library services for transfer students, and offering a "tiered program of information literacy instruction" and "expanding liaison services." Other schools offer a series of workshops or transfer-only sections of a general education course.[9]

Online students are a specific group of nontraditional students that can encompass many populations. Online learning and courses are growing at a rapid rate in America, with 42 percent of American students taking at least one online class as of 2015.[10] With this increase in flexible online programs, the demographics of online students are largely nontraditional, such as veterans and working adults returning to school after a hiatus.[11]

Since online students are a growing population, there is an increasing amount of literature on assessing library services for online students. According to the Association of College and Research Libraries (ACRL) Distance Learning Library Services, librarians and libraries must provide equal access to information literacy and research services and resources to online students.[12] Librarians are performing assessment on online and distance students in a variety of ways, such as authentic, formative, and summative assessment of online instruction[13]; interviews with online students[14]; online learning analytics[15]; and final product assessment.[16] The literature shows the importance of using multiple assessment methodologies to learn about online students and library services and resources specific to each institution.

Transfer Students: Initial Survey of Incoming Transfer Students

At the University of North Carolina at Greensboro (UNCG), librarians have offered extensive outreach and instruction to first year students but recognized incoming transfer students had differing levels of exposure to information literacy. Based on these gaps in the literature about transfer students and their information literacy skills and needs, a team of librarians at UNCG University Libraries (UNCG Libraries) surveyed all incoming transfer students in fall 2014. The survey, adapted from surveys used to assess incoming freshmen on both attitudes and skills toward information literacy, asked for basic demographic information, such as incoming grade level, exposure to previous library instruction, the transferring institution type (community college, other in-state four-year college, out-of-state four-year college), age range, and whether the student had completed a research paper. Additionally, "test" questions were created and informed by the now-redacted ACRL Information Literacy Standards to determine baseline skills in evaluating websites, proper citation, and constructing search statements. Students were also asked about their own perceived skills and where they thought they needed help. The survey was created in Google Forms and a link was embedded in the solicitation email to recipients. The research team created and applied a rubric instrument with which to evaluate responses to the search strategy question.

Of the 1,068 students solicited, 155 incoming students responded. The survey age ranges were chosen to reflect several stages of life that might reflect basic differences in information literacy skills and needs. In this study, 35.7% of respondents were in the 18–21 age range, 35.7% were in the 22–29 age range, and 27.9%of respondents were in the 30–59 age range. The largest percentage of incoming transfer students (55.2%) transferred from community colleges, with 14.3% of students transferring from in-state colleges and 26.6% coming from out-of-state colleges. The team presented three questions to test library-related skills. The first asked students to select keywords to search for library resources on a research topic related to smoking. The second asked students to look at two websites on quitting smoking and select which one was the best source for a paper and why. The final question asked students which of three statements needed to be cited. The first question yielded the most significant results and was used to determine knowledgeability. The created rubric scores were a three-point scale of "knowledgeable," "fair," and "poor."

Results showed that the oldest students surveyed scored the lowest on information literacy knowledgeability, as did the students from community colleges. About 73% of all transfer students who responded scored either fair or poor in terms of knowing appropriate use of search terms and 21.6% reported never having had library instruction. Of those who scored "knowledgeable," 6.1% had never had library instruction, while 54.5% of those who scored "poor" had never had library instruction. Interestingly, as age increased, the likelihood of having had library instruction decreased, which most likely reflects greater emphasis on instruction and information literacy over time. Those 30–59 age range students were more likely to have never had a library workshop as a student, more so than the 19–29 age range students surveyed.

Transfer Students: Participation in the Assessment in Action program

In 2012, ACRL was awarded close to $250,000 for the third year of a three-year project called "Assessment in Action: Academic Libraries and Student Success," a program sponsored by multiple planning grant partners. The purpose of this program was to allow librarians to learn assessment and research skills and to collaborate in these assessment projects, not only internally, but strategically across campus.

Two of the team members were invited to provide library instruction to two sections of FFL 250: Enhancing the Transfer & Adult Experience at UNCG. This optional class is targeted to transfer students and adult learners and is designed to assist these learners in developing competencies essential for academic success. The team designed a pre-test asking students to find books in the library, choose which of two articles was scholarly and why, and describe their comfort level with various research tasks. The original intention was that students would complete the pre-test outside of class before the library instruction session. Students would then attend the library instruction session, engage in hands-on exercises in all the areas covered by the pre-test, and then take a post-test very similar to the pre-test with different examples. The team imported results into Excel and analyzed using SPSS, comparing pre-test and post-test responses. Though some interesting results emerged, this study also had limitations and challenges. The pre-test links were not delivered to students prior to the class, as intended. Thus, the instruction librarians had to reallocate time to allow for both the pre-test and the post-test within the 50-minute session. To reallot time to add the pre-test, the topic of proper citation was truncated.

Librarians on the team created a rubric to evaluate answers to the three questions. Attitudinal questions were graded on a three-point Likert scale of not comfortable, somewhat comfortable, and very comfortable. What was found to be statistically significant was the increase in comfort with common research tasks. Students indicated a 25% increase in comfort with finding journal articles, and a 26% increase in comfort with finding books. Also, while several students indicated they were not comfortable with finding books and journals in the pre-test, zero indicated the same in the post-test.

Figure 1: Comfort level finding journals in the library, pre- and post-tests.
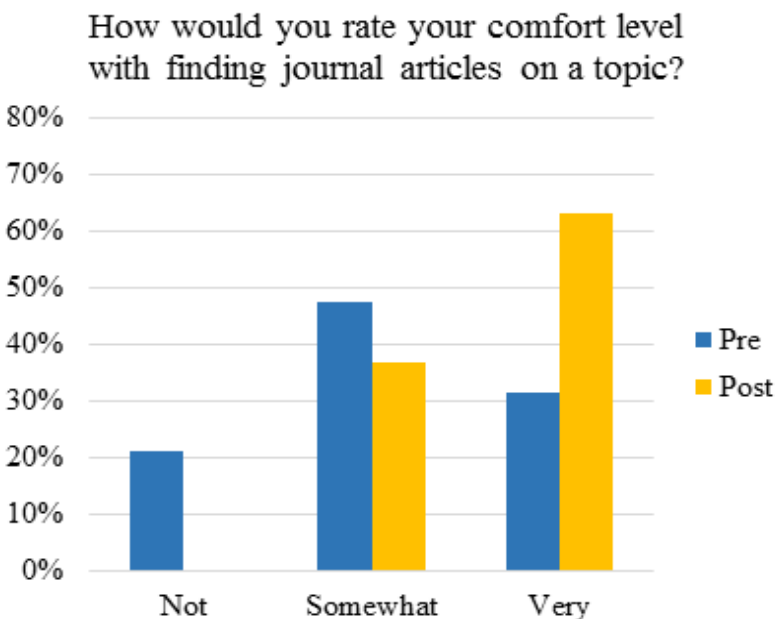
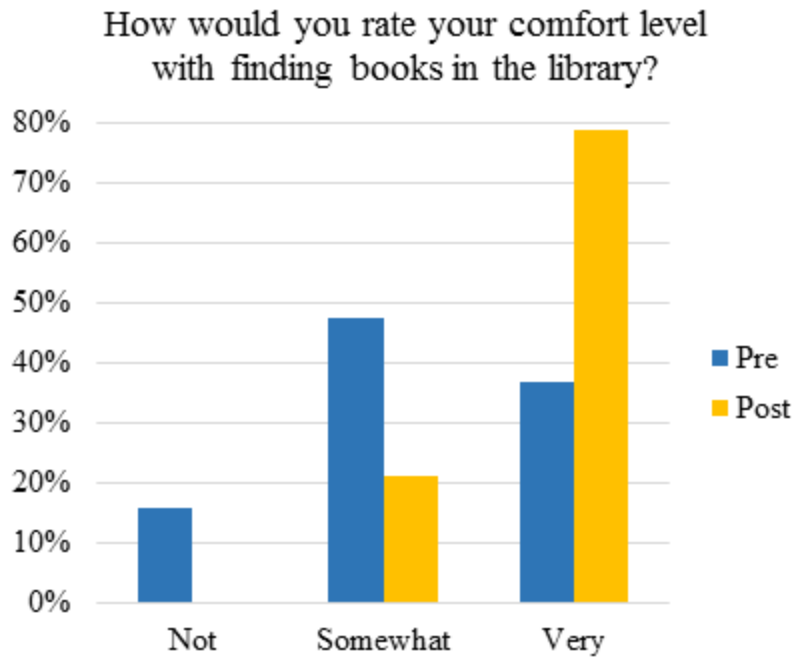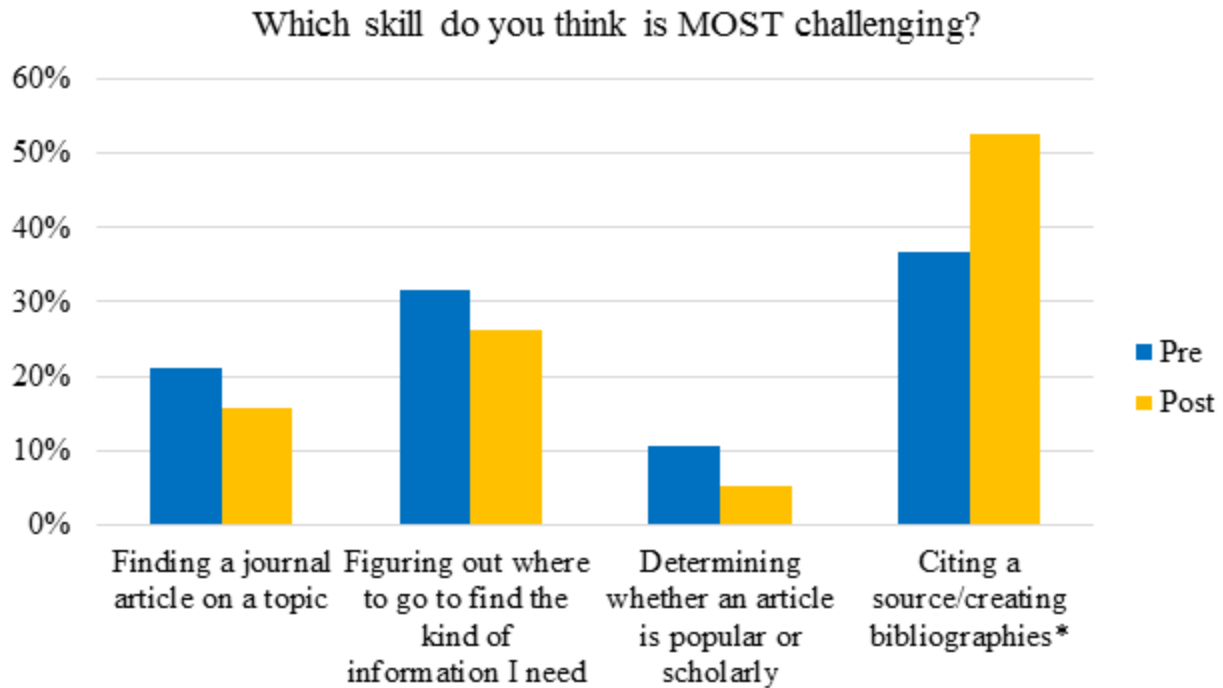**Figure 2: Comfort level finding books in the library, pre- and post-tests.**

How would you rate your comfort level with finding books in the library?

(Bar chart with y-axis from 0% to 80% in 10% increments; categories: Not, Somewhat, Very; legend: Pre (blue), Post (yellow))

- Not: Pre ~16%, Post 0%
- Somewhat: Pre ~47%, Post ~21%
- Very: Pre ~37%, Post ~79%

Figure 3: Most challenging skills identified in pre- and post-tests.

Which skill do you think is MOST challenging?

(Bar chart with y-axis from 0% to 60% in 10% increments; legend: Pre (blue), Post (yellow))

- Finding a journal article on a topic: Pre ~21%, Post ~16%
- Figuring out where to go to find the kind of information I need: Pre ~31%, Post ~26%
- Determining whether an article is popular or scholarly: Pre ~11%, Post ~5%
- Citing a source/creating bibliographies*: Pre ~37%, Post ~53%

Team members designed the second study to follow up with the cohort of 2014–2015 incoming transfer students one year later. Some of the same demographic questions were asked, with a few additional ones to address gaps identified previously. Again, these students were asked to complete a few questions to determine their information literacy skills and then asked what types of interactions they had experienced with librarians, including visiting the reference desk, using chat, having a librarian provide instruction in one

of their classes, and having a consultation with their subject librarian. Though we sent out emails to the same list we consulted the year before, almost half of the emails sent bounced back. It is assumed that most of these emails bounced because the student was no longer enrolled. The team could not determine why so many students had left UNCG, but this could speak to issues with retention of transfers. Because of the smaller number of available email addresses, the number of respondents had dropped, this time to 58.

The smaller sample size made it more challenging to find differences between demographic groups. While direct comparisons between the 2014 study and the 2015 study are not meaningful, it is interesting to note that, in the initial study, about 73% of respondents scored as either fair or poor in keyword searching skills, leaving only 27% as knowledgeable. Our second study used a four-point scale, rather than a three-point, as we were able in the 2015 study to give extra credit to respondents who demonstrated knowledge of Boolean search strategies. If we combine the results for those who scored 1 and 2, we could say that roughly 57.7% scored "fair" or "poor," a 15.3% improvement over the 2014 survey results. The 2014 study found significant differences were found in knowledgeability based on age, transferring institution type, and previous exposure to library instruction. Unexpectedly, the 2015 study showed no significant differences found by any demographic factors.

One year later, 59.3% of respondents reported that a librarian delivered an instruction session in one of their classes over the previous year. The most significant finding was that students who had received library instruction had sought and received consultations from subject librarians more often than what would be expected if there were no relationship. The bar plot in Figure 4 shows that, of those that did receive instruction, a greater proportion received help from a subject librarian. Therefore, this is evidence of a relationship between a student attending a class at UNCG in which library instruction was provided and receiving help from a subject librarian.

Figure 4: Correlation between students who have had library instruction and have sought help from a subject librarian.
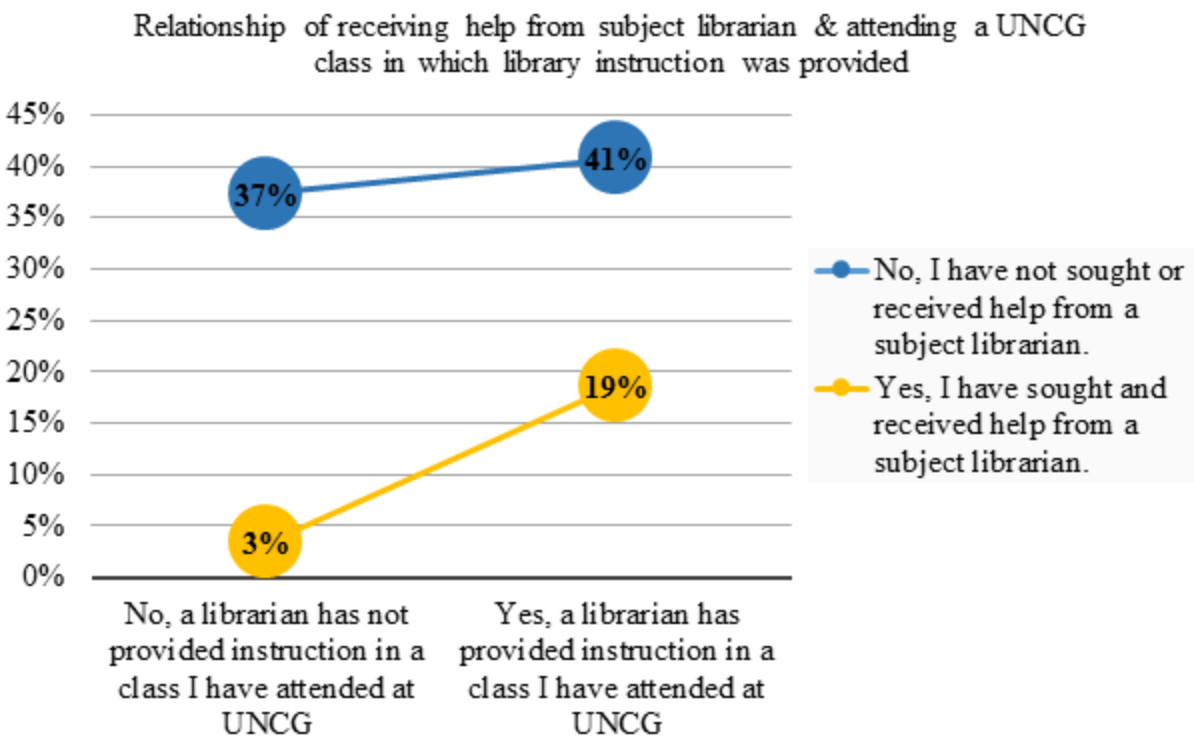
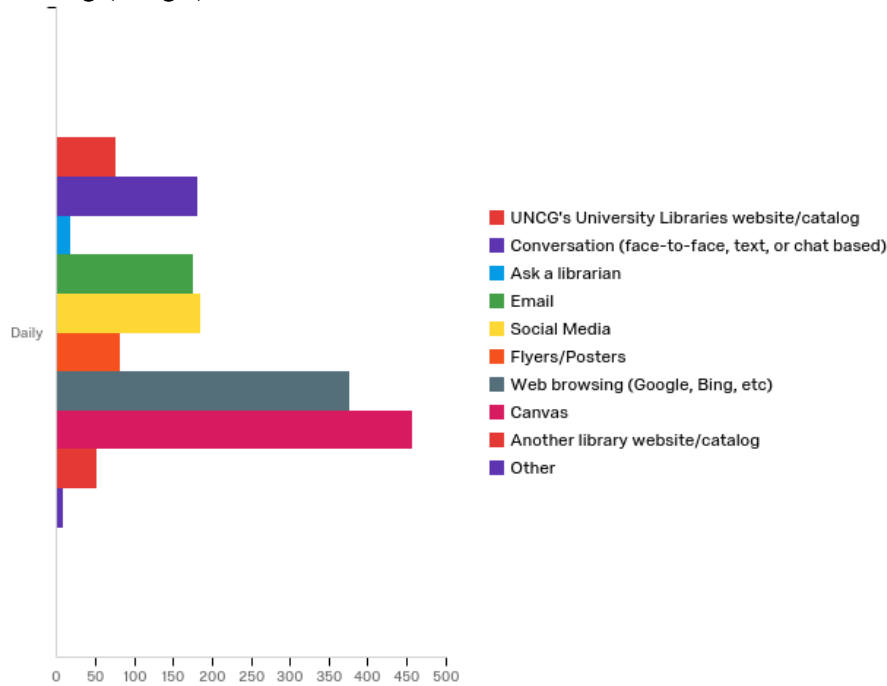## Online Students: Surveys to Online Students and Instructors Teaching Online

The online learning librarian and e-resources librarian at UNCG Libraries designed surveys to learn about the information needs and perceptions of online students and instructors. In fall 2017, two surveys were sent out to any student taking an online course and to any instructor teaching an online course at UNCG. These surveys were a combination of Likert scale, multiple choice, and open-ended questions. A gift card incentive was offered if students and instructors entered their email, disconnected from the responses. Around 8,300 students received an email with the survey, with a little over 700 students completing the survey, whereas 333 instructors were emailed the survey, and around 75 responded.

The survey was created and distributed on Qualtrics, which was also used for analysis. The demographics of the survey matched UNCG's online population. Many of the questions were about methods of information retrieval, what library resources and services they use or had never heard of, and rating the frequency of use and importance of using online library services and resources. The librarians also analyzed the open comment responses in the surveys through Atlas TI with the code groups of: barriers to access; feelings and emotions; finding information; library resources; library services; marketing, promotion, outreach; student population; and usability.
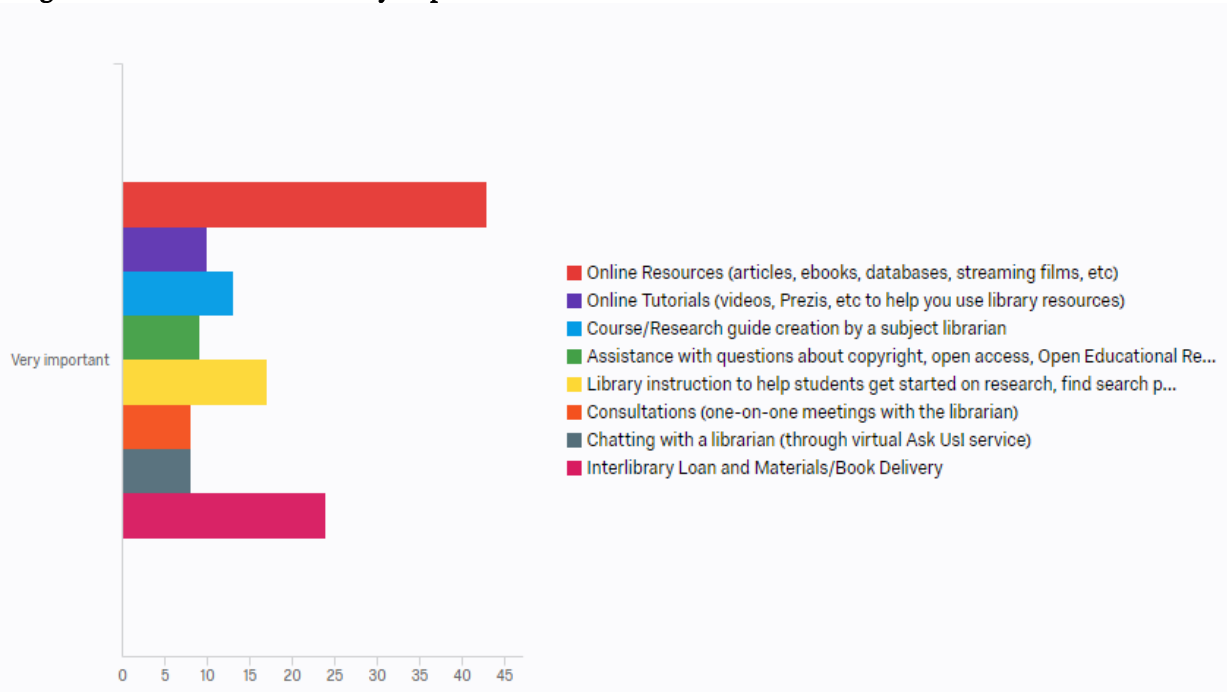
When looking at results from instructors, many instructors are finding online resources for their courses through recommendations from fellow researchers and UNCG Libraries. For online library resources and services, instructors listed access to resources as the most important service they wanted, with interlibrary loan being second. Many instructors were not familiar with UNCG Libraries streaming films, chat service, online course guides (Springshare LibGuides), and consultations with librarians. While instructors mentioned that they recommended library resources to students, it was rare for them to mention or select specific library databases, LibGuides, or even a librarian to help students find resources. Students responded that they rely heavily on their instructors and the UNCG Learning Management System (LMS) Canvas to get information for school, but they did list UNCG Libraries as a place for information retrieval. Most students who responded had never used the library's virtual chat and interlibrary loan. Like instructors, students listed online resources such as articles, eBooks, and streaming film as the most important service that the library provided, and a little over half were satisfied with these online resources. Almost 30% of students responded that their classes did not require them to use library resources to be successful, and almost half of the students who responded were not aware that the library provides access to streaming media.

Instructors also listed web browsing (Google) as the most frequent method of retrieving content for their courses. Many of them also listed that they get all the information they need for their courses on the Internet (13%) and that their classes or research do not require the use of library materials (17%). Though many instructors commented that they have a lack of knowledge about library online resources and services, most of them listed online resources (articles, e-books, databases, and streaming media) as very important in terms of UNCG Libraries virtual services and resources. Many instructors commented on the services which they had never heard of, such as, "I see there's a lot more I can and need to take advantage of" and "I wish I had known about the possibilities."

Figure 5: From 2017 survey to students, asking "How often do you use the following methods to learn about new information for school?" The Daily response shown here shows that Canvas and web browsing (Google) are the most used.


- UNCG's University Libraries website/catalog
- Conversation (face-to-face, text, or chat based)
- Ask a librarian
- Email
- Social Media
- Flyers/Posters
- Web browsing (Google, Bing, etc)
- Canvas
- Another library website/catalog
- Other

Figure 6: From 2017 survey to instructors teaching online asking, "How important are the following UNCG Libraries virtual services and resources to your teaching and research?" Many instructors thought online resources are very important.

- Online Resources (articles, ebooks, databases, streaming films, etc)
- Online Tutorials (videos, Prezis, etc to help you use library resources)
- Course/Research guide creation by a subject librarian
- Assistance with questions about copyright, open access, Open Educational Re...
- Library instruction to help students get started on research, find search p...
- Consultations (one-on-one meetings with the librarian)
- Chatting with a librarian (through virtual Ask UsI service)
- Interlibrary Loan and Materials/Book Delivery

The comments in both surveys were coded and analyzed in Atlas TI and brought up similar themes to the question responses; UNCG instructors and students continued to mention that they were unaware of many

of the online library resources and services. Some suggestions about improving student and teacher awareness from the comments are: the library being better integrated with Canvas, more orientations for online students, email campaigns, and a one-credit required library information literacy course. Online graduate students mentioned the importance of hearing from their liaison librarian early in their academic careers to stay on track for writing their dissertation. Most comments were positive about the library and the services provided (particularly those that had contact with their liaison librarian). Some comments did complain about the library interface and the number of logins required to access materials when off campus.

Figure 8: Amount of student comments made about "barrier to access" from the 2017 survey to online students and instructors. "Lack of knowledge" was commented on the most in this survey.
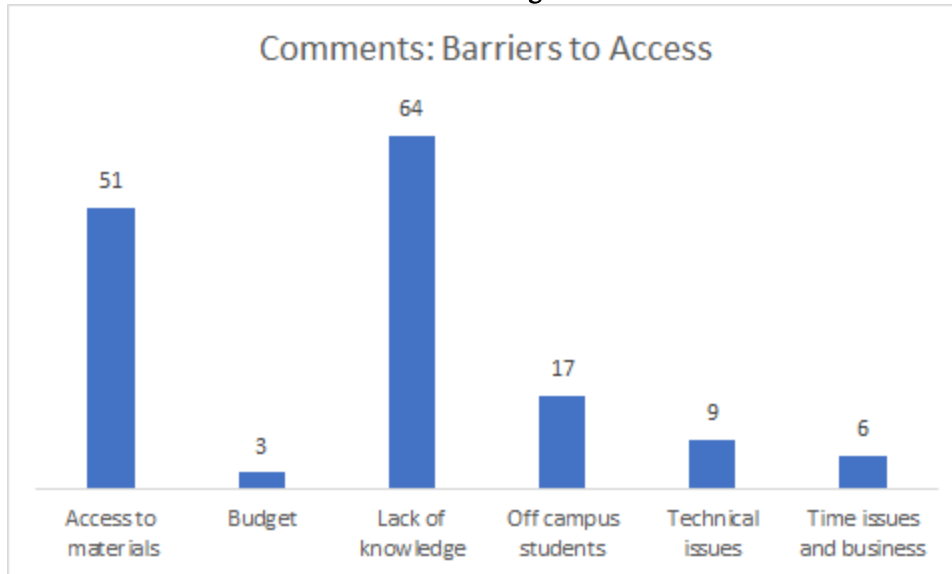
Online Students: Usability Study

The online learning librarian, e-resources librarian, and information technology librarian performed a usability study in spring 2018 by recording students using library online websites and guides on a laptop using Camtasia (face-to-face students) or the virtual meeting tool Webex (with online students). The librarians had the students answer a series of questions before the session about their library experiences and instruction. Students then performed tasks such as finding the library database Project Muse and a database for their subject from the UNCG Libraries database page. And lastly, they were asked some questions about their department LibGuide (based on their major). This study was performed on ten face-to-face students (all undergraduates) and two online students (both graduate students).

Though UNCG Libraries was only able to recruit two online students to participate in the usability studies, the entire study contains interesting results that can help the library improve services to online students. Both the face-to-face and online students mentioned being overwhelmed by some of the information presented on the website, database site, and LibGuides. Many of the undergraduate students did not know the definition and purpose of a library database and many were confused about where to start searching for resources for a research project. Some of the undergraduates had a database they used often, even if it was not a relevant database to their major or research. Many students had never used their department or course LibGuide, but when presented with the guide, they were impressed. Both online students mentioned that LibGuides were hard to find, with one mentioning the importance of bookmarking these guides. One of the online students expressed frustration at having to constantly login while researching off campus.

Both studies show that online students and instructors teaching online have a lack of awareness about many of UNCG Libraries services and resources in an online environment. New conversations and committees have been formed on marketing since this survey and usability study, with more collaborations on how to

implement email campaigns by working with the UNCG Libraries director of communications and marketing. Based on these surveys, UNCG Libraries has also implemented some new initiatives for online students and instructors. In August 2018, Online Library Orientations were offered to undergraduate and graduate students, as well as instructors (both face-to-face and online), with the incentive of being entered to win a gift card for attendance.[17] Over 40 instructors and graduate students came to these orientations and no undergraduates attended. In January 2019, UNCG Libraries will integrate in the LMS Canvas through the SpringShare LibGuides LTI, meaning that a Library Resources tab will be turned on in every academic course at UNCG within Canvas. This will link students and instructors to either a specific course, department, or general library LibGuide. UNCG Libraries Research, Outreach, and Instruction (ROI) department is currently working on revamping the online library research tutorials to more closely align with the ACRL Information Literacy Framework and UNCG Libraries new student learning objectives. This tutorial revamp also provides the opportunity to improve the research tutorials based on these assessments, as well as provide education about library resources to nontraditional and online students, who might otherwise not get the opportunity for face-to-face library instruction.

Future Directions: Nontraditional Student Assessments and Programming

In late 2017 and early 2018, a series of focus groups were offered to transfer students to determine what some of their greatest challenges were in school, how they preferred to study, and their overall impressions of the library. The research team believed that more general information is needed about the lives of transfer students so that UNCG Libraries can provide targeted outreach and marketing. The results of this study are currently being analyzed and coded, but early analysis found common themes of feeling strained for time, having difficulties getting to know other students as transfers, and wanting and appreciating a variety of study spaces in the library for different needs. Other outcomes of the transfer student studies are increased collaboration with entities across campus that work with transfer students, inclusion in transfer student orientations and information fairs, and more targeted instruction and outreach. UNCG hosted a half-day meeting in 2017 for librarians from our largest feeder community colleges to find ways to collaborate and will be working with community college students participating in a new dual admissions program.

Since online students are growing at a rapid rate, UNCG Libraries would like to find more ways to include online students in all library assessments and create more targeted assessments to online students. In the future, the online learning librarian will collaborate with groups across campus to run Distance Education Advisory Groups, where undergraduate and graduate online students will meet virtually once to twice a semester to answer questions about UNCG services and resources. Currently a group of various university staff, librarians, and instructors has formed, created questions, and is participating in training on how to effectively facilitate focus groups.

Looking at services that online students are using—such as chat—is another way we can analyze the research needs of online students. The online learning librarian and the health science librarian are currently conducting a study of chats from UNCG nursing students. There are four online graduate degrees and certificates available in nursing, designed for professionals already in the nursing field that want to continue their education.[18] From this analysis, a guide and FAQ list will be made to help train librarians, interns, and student workers on how to best handle health science research questions. Though the results are still being analyzed, there are similar patterns as other student assessments, such as confusion about resources and using Google for research.

Conclusion

Nontraditional students come to or back to school with many challenges, and libraries can help ease many of their research issues; but the library cannot help if nontraditional students do not receive contact, instruction, or information about researching online. Nontraditional students are an important population for libraries to serve, and assessing this student population ultimately improves library services and resources to all students. These assessments from two university librarians on transfer and online students show the importance of library instruction, reaching out at the start of student programs, effectively promoting and marketing materials and services, and proving the value of library resources to improve

assignments and research. Ultimately these studies are just the beginning; more analysis on nontraditional students will continue with focus groups and a virtual chat analysis to see further into the needs of nontraditional students.

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