Implementing ACRL's Assessment in Action Program at UNCG Libraries to Meet the Information Literacy Needs of Incoming Transfer Students

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Abstract

In the fall of 2014, a team of librarians at University of North Carolina at Greensboro (UNCG) Libraries surveyed incoming transfer students to determine their information literacy skills and needs. Based on demographic questions as well as questions designed to gauge information literacy skills, initial results indicated that older transfer students and students transferring from community colleges were least knowledgeable about basic information literacy concepts, and that students from all educational backgrounds who had attended library instruction sessions were more knowledgeable. Based on the results of this study, members of the UNCG Transfer Student Research Project submitted a proposal for further research on incoming transfer students to the Association of College and Research Libraries (ACRL)'s Assessment in Action: Academic Libraries and Student Success program. The team for this project included stakeholders from the libraries and other campus units. Two research studies were implemented in order to study the research skills and needs of incoming transfer students: a pre-test, intervention, and post-test assessment in a course designed for transfer and adult students and a follow-up survey of second year transfer students that assessed information literacy skills. The follow-up study compares students who had librarian interventions during their first year at UNCG with those who did not, and also compares the skills of students from a variety of transfer institutions, majors, age ranges, and time lapse between educational experiences. In the two Assessment in Action studies, there were fewer significant links between library instruction and information literacy skills, but both studies indicated a significant gain in comfort with library research and with contacting subject librarians for consultations.

Introduction and Literature Review

We began our study of transfer students and their information literacy skills and needs in fall 2014. According to the National Center for Education statistics, almost 1.5 million college students were "transfer-in" students (IPEDS) that semester.[1] Though this was actually a lower number of transfer students compared to prior years, these students still represented 7% of the more than 20 million students enrolled in higher education institutions that fall (IPEDS).[2] We became interested in researching transfer students because we saw a gap in the library literature—there has been quite a bit of scholarship on information literacy and first-year college students, but much less focused on transfer students.

Research on transfer students is much more prevalent in the broader educational literature. Particular attention has been paid to those who transfer into four-year colleges and university from community or junior colleges. In 1965, John Hills introduced the concept of "transfer shock" to the educational community. After examining a large number of existing studies and data sets focused on the academic performance of community college students transferring to four-year institutions, Hillse noted a "severe drop in performance upon transfer," which he called "transfer shock."[3] "Transfer shock" has been a consistent theme in the literature on transfer student transition, with many subsequent studies confirming decreased academic success after transferring, usually indicated by a lower grade point average (GPA). Scholars in recent decades have argued for a more holistic view of transfer student adjustment, taking into account more than just changes to GPA. Laanan, for instance, developed the Laanan-Transfer Students' Questionnaire (L-TSQ©), a 304-item survey meant to capture "(1) social demographics; (2) community college experiences; and (3) university experiences" of transfer students.[4] Using a modified version of this questionnaire with a sample of over 900 transfer students, Laanan, Starobin, and Eggleston noted the positive influence that learning and study skills developed at a community college (which they call Transfer Student Capital) had on the students' academic transfer adjustment. Some of the skills found to be significant

include: "note taking skills," "problem solving skills," and "time management skills."[5] While this study, like many of its kind, did not deal with library skills, we argue that library skills acquired and developed in a community college setting have a similar influence on information literacy skills upon transfer. Knowing what experience students gained with libraries, information literacy, and research skills prior to transfer can help librarians at four-year institutions predict these students' needs.

In the library science literature, a few studies of transfer students and their information needs or information literacy skills have been attempted. When Tag surveyed incoming transfer students at Western Washington University, "74.0 percent of the respondents have prepared bibliographies for research papers and 90.6 percent have received instruction on plagiarism."[6] Even with this experience under their belts, 68% of students still indicated that they wanted additional library/research instruction.[7] Tag speaks to the diversity of transfer student populations, a universal issue that can "create practical challenges" for resources and programming: "The group is diverse in age and educational experience, with subgroups of international students, traditional-aged community college students, first-generation, and older adult reentry students."[8] Tag and her colleagues made several attempts to develop content and programming for transfer students based on survey results, including increased integration with other units on campus serving transfer student populations and the addition of a transfer student-specific page on the library website.[9] She also writes that "the library used the survey data results to support the design of a comprehensive, discipline-specific library instruction plan for upper division and graduate students."[10]

In a survey of academic librarians in Ohio, Phillips and Atwood found that respondents typically did not provide any specific information literacy or library programming for transfer students, and only 13% of these librarians felt that transfer students needed specific programming at all.[11] While the studies were conducted with different populations and in different locations, the fact that librarians in Phillips and Atwood's study largely did not think that transfer students needed specific information literacy training, and students in Tag's generally did, made us curious about our own students. We were not providing much in the way of transfer-specific instruction, and we wanted to know if our incoming transfer students needed or wanted such programming.

Previous Study of Incoming Transfer Students

In the summer of 2014, the research team retrieved a list of all currently registered incoming transfer students and their e-mail addresses, and created a survey instrument in Google Forms that asked questions about basic demographics, such as incoming grade level, type of institution from which they transferred, previous exposure to scholarly research and research instruction, and age range. Additionally, respondents were given a set of questions to test their knowledge of basic information literacy skills: identifying keywords to use in a journal article database for a given topic, evaluating web sites for credibility, and demonstrating knowledge of proper citation. The research team created rubrics to evaluate two of the questions, and one question was simply coded as correct or incorrect. A graduate student statistician processed and analyzed these results in the form of a spreadsheet. Of the 1,068 survey solicitation recipients, 155 incoming students responded.

Some of the relevant findings were: the oldest students surveyed scored the lowest on the information literacy questions, as did the students from community colleges. In general, 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% of all students reported never having had library instruction. Only 6.1% of those who scored "knowledgeable" 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.

Though the survey responses yielded several relevant and interesting findings, there were unexpected challenges in the methodology that suggested further study was needed. The team discovered, while creating rubrics, that one question's wording did not elicit the exact responses intended. The question asking about keywords to use in a search did not explicitly ask for the specific terms one would type into a search box, so the team felt giving extra weight to responses that used Boolean logic might exclude those respondents who

are familiar with Boolean logic but did not interpret that the question wanted the actual search strategy.

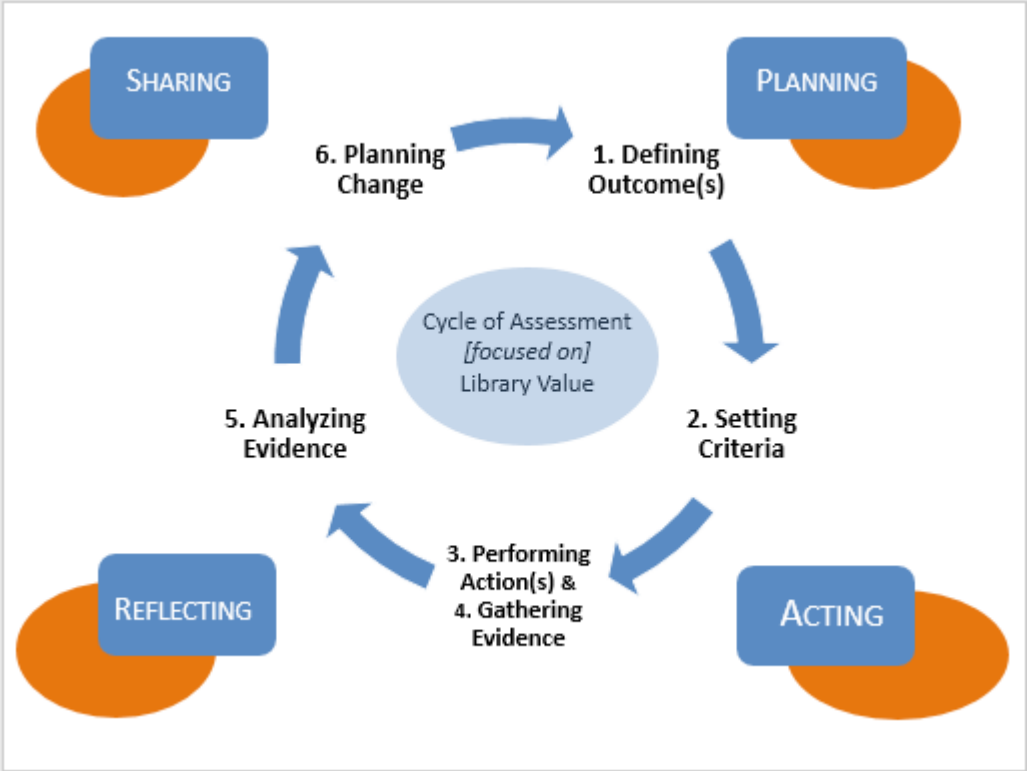
Given the relevant information gained in this research study, and given the fact that the team still had questions, the team decided to apply for and enter this project into the American College and Research Libraries (ACRL) Assessment in Action (AiA) program for the 2015–2016 year cycle.

Assessment in Action

In September of 2012, ACRL was awarded close to $250,000 for a three–year project called "Assessment in Action: Academic Libraries and Student Success." There were multiple planning grant partners, including the Association for Institutional Research, the Institute of Museum and Library Services, and the Association of Public and Land-Grant Universities. The purpose of this program was to build professional competencies of librarians in order to allow them to communicate the value of academic libraries, to build collaborative relationships across campus, and to contribute to higher education assessment work. Each participating institution had to produce letters of support, and teams consisted of a librarian team leader and other team members, some of whom had to be campus partners outside of the library.

The team leader agreed to lead regular team meetings on campus, represent the team at in-person AiA events, engage in online discussion forums, participate with a cohort and provide feedback, and to present a poster at the end of the program at the American Library Association conference. AiA used a model of assessment to organize projects that consisted of defining outcomes, setting criteria, performing actions and gathering evidence, analyzing evidence, and planning change.

Figure 1: "Assessment Cycle." *Assessment in Action Notebook*. **Chicago: American College and Research Libraries, 2015.**



Through in-person meetings with other AiA participants, advice from the cohort, and from other team members, the AiA team at UNCG decided to employ two different assessment instruments.

Study One: Pre- and Post-Test, FFL 250

Methodology

Two of the team members had been invited to provide library instruction to two sections of FFL 250: Enhancing the Transfer and Adult Experience

at UNCG. This is an optional course 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 in Google Forms, asking students to demonstrate whether they could find books in the library, choose which of two articles was scholarly, and explain why. The form also asks class participants to describe their comfort level with finding books in the library, discerning between popular and scholarly articles, figuring out where to go to find needed information, and using proper citation. The original intention was that students would complete the pre-test outside of class before the library instruction session.

The instruction was planned to fit into a 40-minute time period, with hands-on exercises in all the areas covered by the pre-test, followed by a ten minute post-test containing similar tasks to perform as in the pre-test, along with similar questions about comfort levels with these tasks. The results would then be imported into Excel and analyzed using SPSS.

Results and Discussion

Though some interesting results emerged, this study also faced some limitations and challenges. The pre-test links were not delivered to students prior to the class, as intended. Thus, the instruction librarians had to re-allocate time to allow for both the pre-test and the post-test within the 50-minute session. The addition of the pre-test not only rushed students through the session, but the immediate deployment of the post-test could be said to only measure how well students remembered what they were just told. Another challenge was that one of the two sections contained students who appeared to be facing learning or technology challenges. These students, some of whom had helpers, were largely unable to complete the pre- or the post-test. Therefore, the team discarded results from this section and relied on the results from the second section only.

Librarians on the team created a rubric to evaluate answers to these three questions, and each tested the rubric and revised. A pair of student statisticians was assigned to the two projects. For this assessment, there were paired sample tests on all data and t-tests on selected data. Attitudinal questions were graded on a three point Likert scale of “not comfortable,” “somewhat comfortable,” and “very comfortable.” Due to the loss of one section of the class, there were some questions where some correlation was observed, but the small sample size could not be deemed statistically significant. The student statisticians advised that, were this study repeated, a larger bank of questions and a larger sample size could improve results greatly.

The results did indicate that there was some improvement in performance between pre- and post-tests, but the improvement was not statistically significant, due to the sample size. What was statistically significant, however, was an increase in comfort levels regarding common research tasks. Students indicated a 25% increase in comfort for finding journal articles, a 26% increase in comfort for finding books, and, though 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 2: Comfort level finding journals in the library, pre- and post-tests

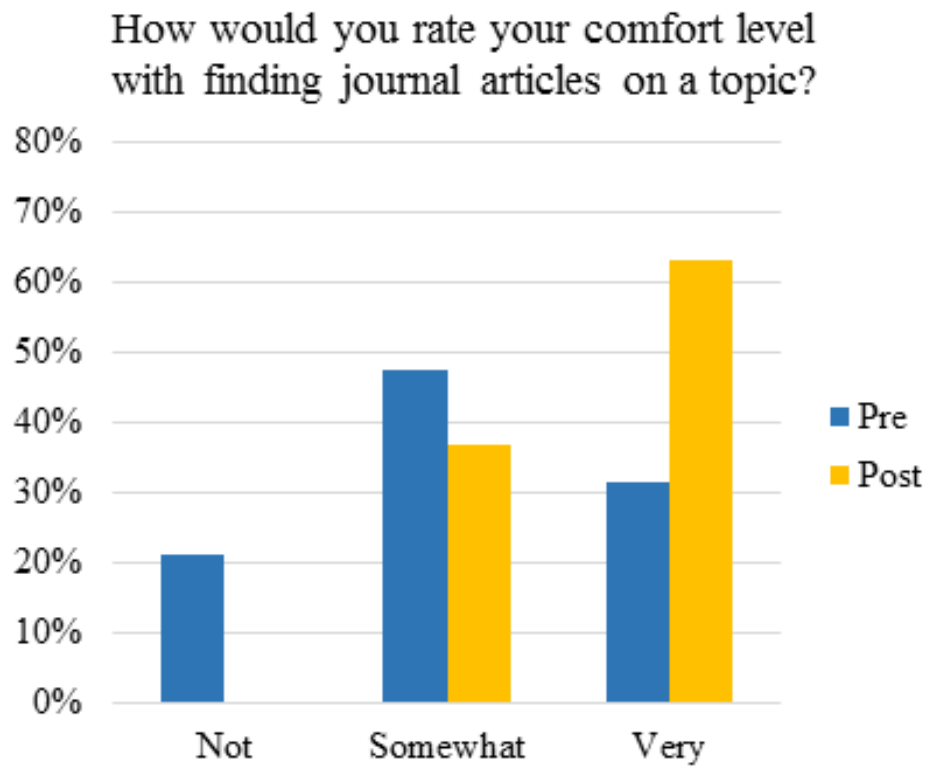
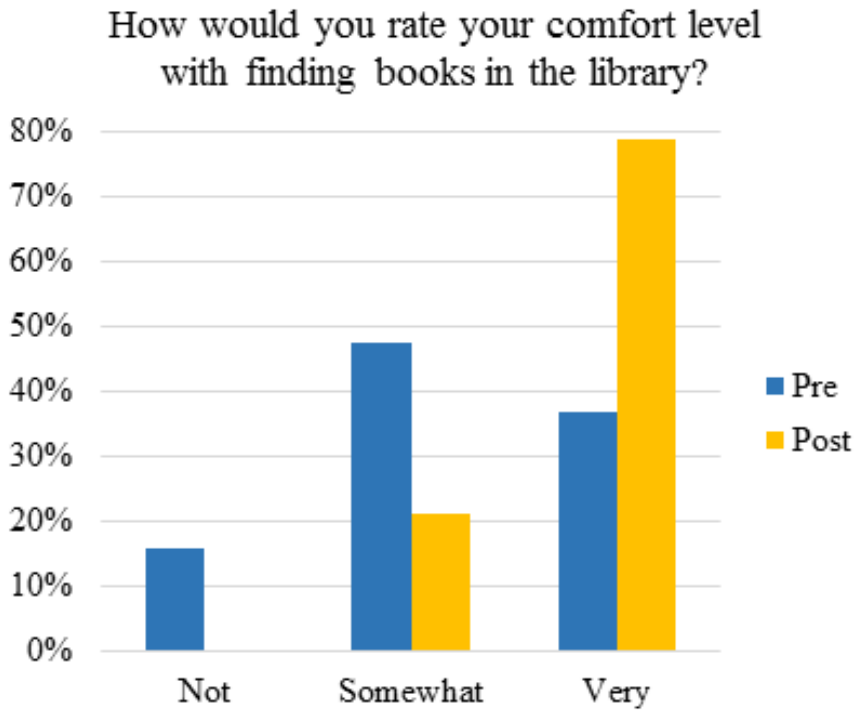
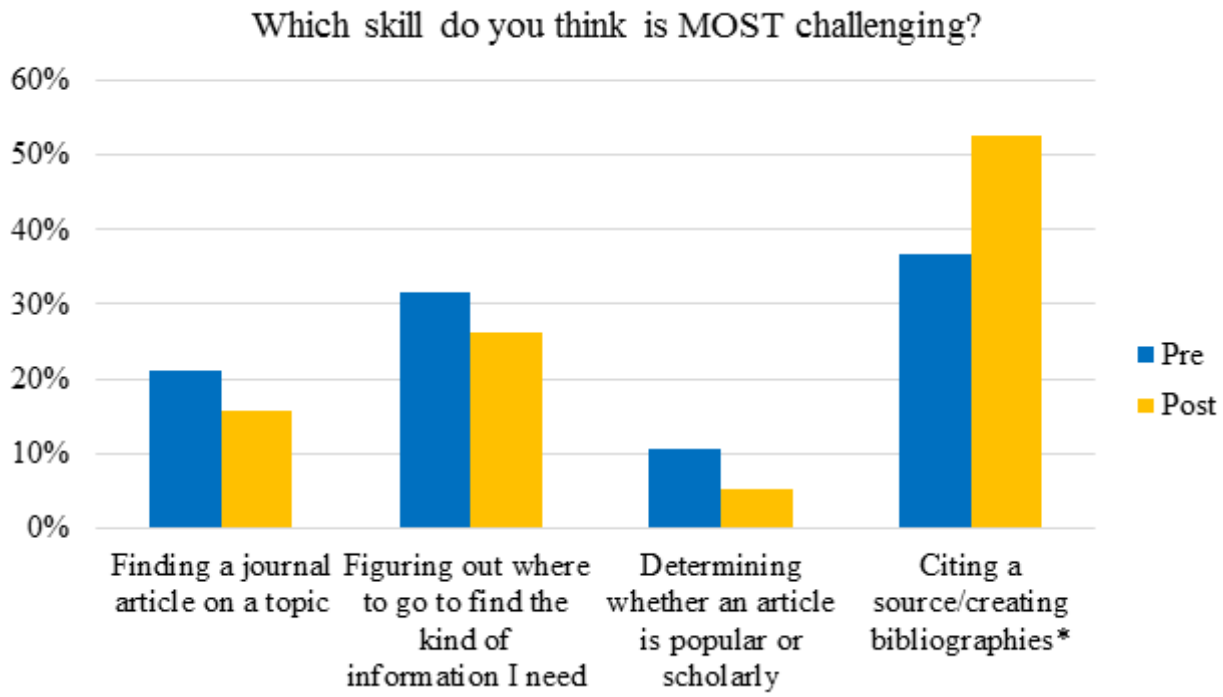


Figure 3: Comfort level finding books in the library, pre- and post-tests



Other useful information included learning what skills students found the most challenging. Proper citation was considered the most challenging skill in both the pre-test and the post-test. The second most challenging skill was figuring out where to go to get needed information, and the third was finding journal articles on topics. The form allowed for write-in responses, and several students indicated that an in-person library tour would be helpful.

Figure 4: Most challenging skills identified in pre- and post-tests



** The question on citing sources and creating bibliographies was inadvertently worded slightly differently in the post-test than it was in the pre-test, which can be seen in the links below. However, both questions showed citation as the perceived most challenging skill.*

The team, along with the statisticians, believes that it would be useful to try a similar study, but with a larger group of incoming transfer students. One of the team members was the director of the New Student Transitions and First Year Experience department, so the team is working to identify better opportunities to test these measures on a larger group of transfer students.

Study Two: Re-surveying Previous Year's Incoming Transfer Students

Team members designed the second study to follow up with the cohort of 2014–2015 incoming transfer students after one year of study at UNCG. Some of the same demographic questions were asked, with a few additional ones to address previously identified gaps. However, because the intent was to test identical responses one year later and compare, the team did not make significant changes. Again, these students were asked to complete a few questions to determine their information literacy skills. In this follow-up survey, students were also 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. The question asking respondents to indicate their search strategy was rewritten to more precisely ask students what exact words they might type in the search box, in order to give extra credit to attempts to use connectors such as "and" or "or." The citation question was rewritten in order to indicate that students should only select

statements that required citations. The team used the same e-mail list used in the first study.

One unexpected result of note came when almost half of the e-mails sent out bounced back because the e-mail account no longer existed. Because it is not very often that a transfer student enters and graduates within a year, it is assumed that most of these e-mails bounced because the student had dropped out or transferred again somewhere else. The team could not extrapolate as to why so many students had left UNCG, but it speaks to retention challenges.

Because of these e-mail bounces, it was no surprise that the number of respondents had dropped, this time to only 58. The smaller sample size made it more challenging to find differences between groups.

Results and Discussion

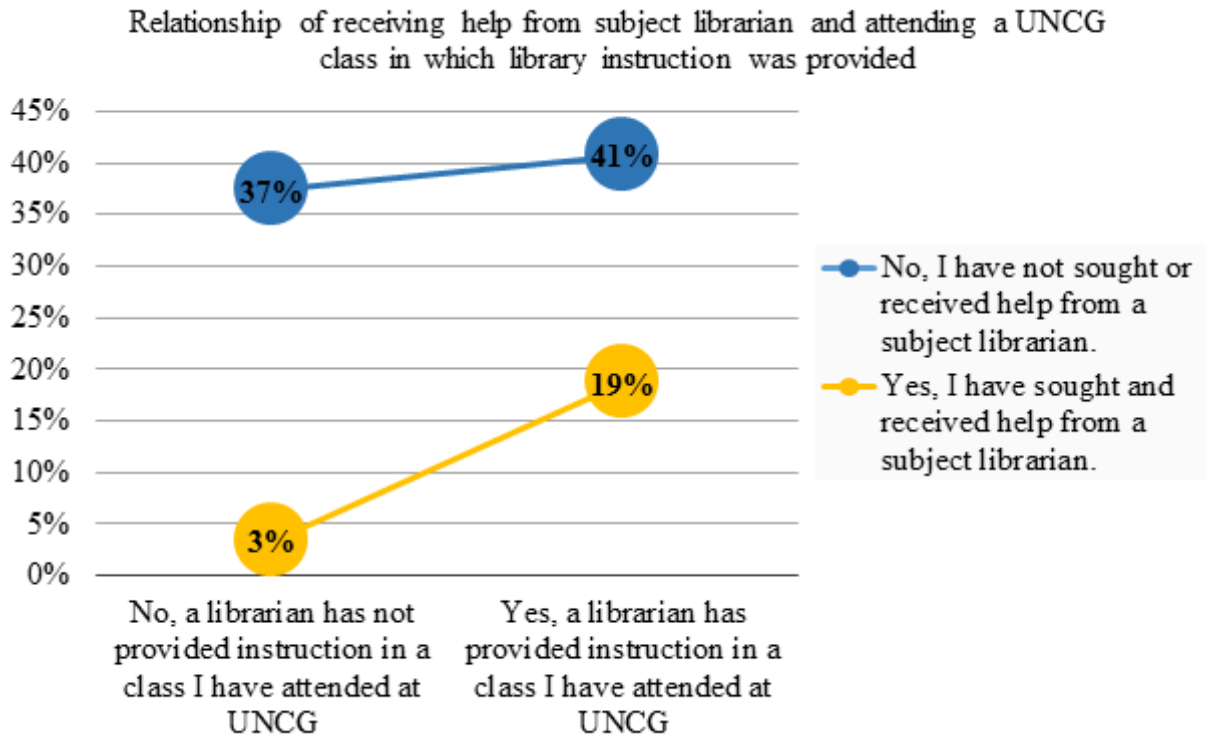
The statistician used a four-point scale with averages, which differed from the statistician from the previous study, who used "knowledgeable," "fair," and "poor." Also, the questions were slightly different, so direct comparisons between scores in the 2014 study and the 2015 study are not meaningful, but it is interesting to note that, in the initial study, about 73% of respondents scored as either fair or poor, leaving only 27% as knowledgeable. In this study, the search average score was 60% on a four-point scale.

One question asked in the more recent study was how long the respondent's education gap had been. In the initial study, results showed that older students scored more poorly than younger students, but, since no question asked how many years it had been since the respondent had attended another institution, it was unclear whether the correlation was between age and knowledgeability, or length of gap and knowledgeability. As expected, older students were more likely to have a gap in their education than younger students, thus suggesting perhaps the gap was responsible for the lack of information literacy skills.

In the initial study, significant differences were found in knowledgeability based on age, transferring institution type, and previous exposure to library instruction. In the 2015 study, there were no significant differences found by any demographic factors. There are several factors that might explain the lack of significant differences. First, the sample size was much smaller, and a larger set of results tends to tease out more correlations and significant differences. Second, the percentage of students who scored poorly in basic information literacy skills was higher in the first study, and it is possible that some of the lowest scorers are no longer attending classes at UNCG, or that a year of study at UNCG improved scores overall.

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. From the bar plot, we can see that, of those that did receive instruction, a greater proportion received help from a subject librarian (as compared to those who did not receive library instruction). There is a statistically significant correlation at the level that indicates the datapoint of 19% for "yes & yes" is higher than expected. Therefore, this is evidence of a relationship between a student attending a UNCG class in which library instruction was provided and receiving help from a subject librarian.

Figure 5: Correlation between students who have had library instruction and have sought help from a subject librarian



Both Assessment in Action studies pointed to improvements in confidence and in comfort seeking help from a reference librarian after receiving library instruction. Though the differences in performance were not statistically different, increased comfort with library research tasks and seeking help from subject librarians would likely lead to increased skills over time. Psychologist Albert Bandura has written extensively about his theory of self-efficacy, and posits that greater levels of confidence lead to increased self-efficacy, which eventually leads to higher cognitive function: "People with high efficacy approach difficult tasks as challenges to be mastered rather than as threats to be avoided. Such an efficacious outlook fosters interest and deep engrossment in activities."[12]

The Assessment in Action program benefitted the research team in several ways. First, the program structure forces librarian researchers to look outside the library to find natural partners in the larger organization. Second, the program provided a cohesive model of the Cycle of Assessment, which allowed for participants to think carefully about outcomes, methods, and measures in a structured manner. Third, the program provided an opportunity for participants to work closely with a cohort that could provide feedback and direction.

Next Steps

While the initial study garnered a sufficient response rate to find significant results, the two studies in the Assessment in Action program suffered from a smaller number of data points. The team would like to try a similar survey study with incoming and returning transfer students, but perhaps using pre-existing data that does not rely on self-reporting. Survey fatigue can decrease response rates. Some data can be pulled from library instruction statistics and registration data, determining how many attendees of a class are transfer students. Additionally, if librarians can find an entrance to transfer student orientations, it might allow for greater response. The library has now employed a part-time statistician, who was one of the two students who analyzed the data from the AiA studies, and the team now has the advantage of working closely with someone who can better advise the group on best practices in both quantitative and qualitative future studies.

The team is also investigating using other assessment measures. This year, several UNCG librarians will bring in transfer students to participate in focus groups, which we hope will allow for greater insights on the research needs and backgrounds of incoming and current transfer students. Additionally, the team is contacting librarians from feeder area community colleges to discuss collaboration on handoff instruction and outreach.

The team leader and the libraries' diversity coordinator was asked to participate on a Howard Hughes Medical Institute (HHMI) grant proposal to develop services, instruction, and outreach to aid in student retention and success for transfer students in STEM majors, particularly with underrepresented minorities, and librarian embeddedness is included in the grant plan. This participation will allow the libraries a strategic partnership across campus in outreach to our transfer student population and marketing our services and resources to a population that is challenging to target.

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Endnotes

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2. Ibid.
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5. Ibid., 191.
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11. John C. Phillips and Thomas A. Atwood, "Transferring Skills, Transferring Students: A Call To Academic Libraries," *College & Undergraduate Libraries* 17, no. 4 (December 10, 2010): 340.
12. Albert Bandura, "Perceived Self-Efficacy in Cognitive Development and Functioning," *Educational Psychologist* 28, no. 2 (1993): 144.

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