Assessment of Library Instruction Using Performance Based Software

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   Abstract: University of North Texas librarians collaborated with a computer programmer to create and develop performance based software to assess library instruction. Librarians administered the Library Instruction Software for Assessment (LISA) in one shot library instruction classes as a pretest and a posttest. The 575 results reveal where students struggle in using the library resources. A post posttest at the end of the semester shows what skills the students retain.
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1. Introduction

At the University of North Texas (UNT), the curriculum has a mandatory second semester of English for all students named English 1320. The students write a required research paper for the English1320 course. The UNT librarians, collaborated with the English faculty to include a library orientation. We wanted to incorporate skills included in the Association for College and Research Libraries (ACRL) Information Literacy Competency Standards for Higher Education (http://www.ala.org/ala/acrl/acrlstandards/informationliteracycompetency.htm) into the library instruction. The library orientation takes place in the Willis Library in a computer room. A librarian instructs students how to do research using the UNT Libraries website. Including how to find help from a librarian, do a subject search in the online catalog, and how to search in Academic Search Premier. Other instruction includes where to find materials in the library, how to print in the library, and other information to help make the research process easier. Librarians deliver all of this information in one class period to about 80 English classes per year.

The English faculty was very satisfied with the collaboration and we librarians considered the collaboration successful. However, we began to wonder how much the students actually learned in the library orientations. The paper surveys distributed in library orientations only measured how satisfied the students were with the instruction and what the students report they think they have learned. We wanted to assess actual student learning and not what students think they have learned. After a thorough search, we found two tools that test information literacy skills. The two tools we found were the Standardized Assessment of Information Literacy Skills (SAILS) and ETS's Information and Communication Technology (ICT) Assessment. Both Project SAILS and ICT work to test institutional initiatives of information literacy skills (Rockman, 2005). However, both these tools require a large amount of time to administer. The library orientation is only one class period and we needed something to assess learning in a short time. Our dilemma is one most academic librarians face. According to an ACRL survey in 2001, 95% of library instruction is done in only one class period (Merz &Mark, 2002). Library administration assisted us by providing time with a computer programmer, Frank Gosnell. Mr. Gosnell worked with us to create and develop software that was performance based. After several months of development, the software looked like the UNT Libraries website with the steps of the assessment on the left side. After getting the Institutional Review Board approval, we began using our assessment software. We named the software Library Instruction Software for Assessment, LISA.

Step 1 of LISA: How likely are you to ask for help from a librarian?
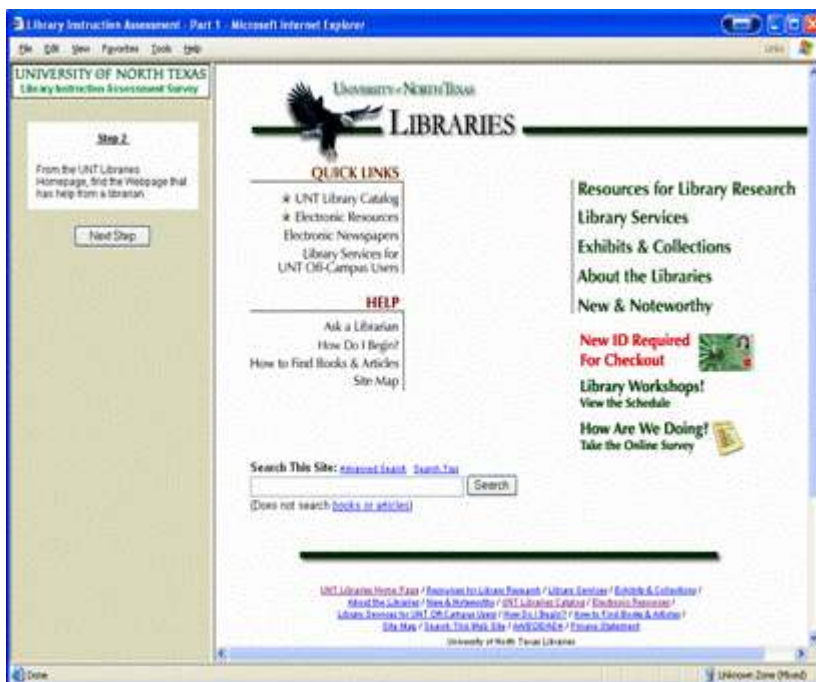
Step 2: From the UNT Libraries homepage, find the page that has help from a librarian.
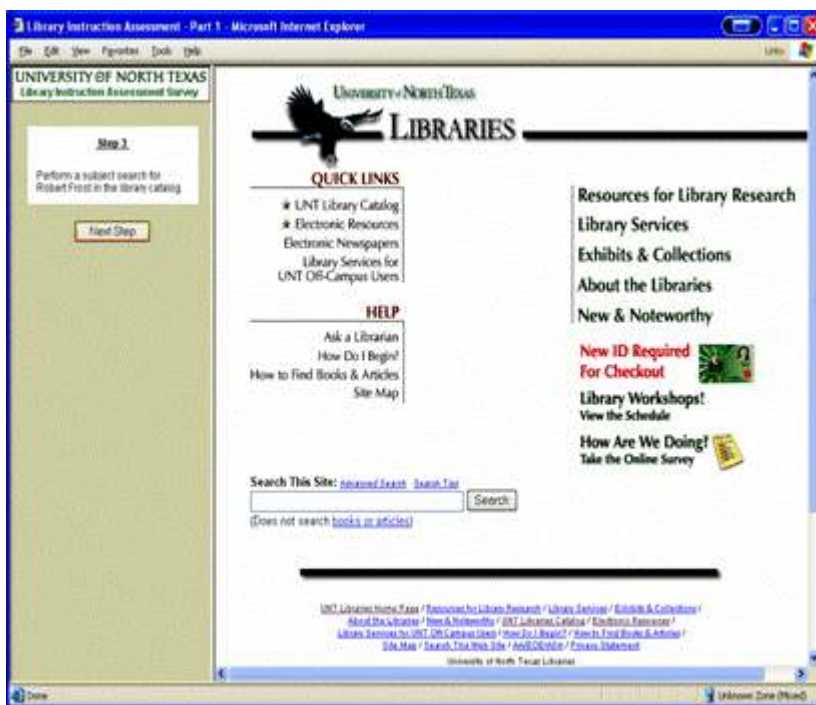
Step 3: Perform a subject search for Robert Frost in the library catalog.

Step 4: Perform a search in Academic Search Premier using the term Robert Frost.

We administered a pretest of at the beginning of the library instruction session for a baseline of student knowledge. At the end of the library instruction session, we administered the posttest to assess whether students learned the library skills taught in the library instruction sessions. As soon as the class began, students took the pretest that consisted of four steps. The first step was a simple question asking the students how likely they were to ask for help from a librarian using a Likert scale. The next three steps asked students to perform a search on the UNT Libraries website to find help from a librarian, perform a subject search in the online catalog, and to perform a search in Academic Search Premier. After taking the pretest, the librarian taught the students all the steps that appear on the posttest. The posttest is a repeat of the pretest with demographic information and comments added. We asked some classes to come back at the end of the semester to take a post posttest. The post posttest was a repeat of the posttest to discern whether students retained the skills taught in the library orientation.

2. Quantitative Results from LISA

The first step of LISA measured how likely students were to ask for help from a librarian as a measure of library anxiety. We found that 70.72% of students were either somewhat of very likely to ask for help from a librarian. In the posttest, 84.19% were somewhat or very likely to ask help from a librarian.

With Step 2, we found the results helpful in correcting library instruction. Step 2 asks students to find the Help From A Librarian webpage. To keep the flow of the instruction, librarians showed students how to get to the Help From a Librarian webpage from a webpage other than the UNT Libraries homepage. The percentage of students able to find the Help From A Librarian webpage went down in the posttest. Once we corrected our instruction and showed students from the UNT Libraries homepage, the statistics from the posttest went up. In the pretest, 68.04% found the Help From A Librarian webpage. Posttest, 58.56% found the correct page and the post posttest, 73.7% were successful.

Step 3 asked students to perform a subject search in the catalog using the author Robert Frost. Students sometimes have an author such as William Shakespeare as the author. If they perform a keyword search for William Shakespeare, the results are far too many and not helpful. A subject search is an essential skill for the research paper assignment. The first results of LISA found 1.24% of students successfully performed a subject search in the pretest. The posttest results were 11.13% and post posttest 7.8% were successful. The next academic year we used LISA, but added an active learning component to the catalog instruction. As a result, our posttest results shot up to 38%.

The last step in LISA asked students to perform a search in Academic Search Premier (ASP). First, students had to find ASP, which is located three pages deep from the UNT Libraries homepage. 16.49% of students performed successfully in the pretest. 49.69% were successful in the posttest, while in the post posttest 47.43% were able to perform the search.

3. Qualitative Results from LISA

The posttest of LISA included the question: "What did you learn that you didn't know before this library instruction?" LISA collected 439 responses. Since the question was optional, not all of the 575 students responded to this question. Students responded in a variety of ways. Only 12 students responded that they did not learn anything new. Two of the responses were incomplete or incoherent.

One hundred eighty-two students reported on satisfaction with the UNT Libraries services and resources. Many of the students in this group reported positive feelings learning about Academic Search Premier, the full text articles from ASP, how to access ASP remotely, and the ease of searching in ASP. A significant number of students mentioned databases in general. In addition to comments about databases, students commented positively on the ability to access library resources remotely.

While a majority of students mentioned one or two resources or services they learned about in the library instruction session, eighty-nine students reported that they learned "everything." One student wrote, "I learned basically everything about the library." Another student's comment was "I learned how to do just about everything. I had no clue how to use this website what so ever and now I know how to find things that will help me on my research paper. Thank you very much for your time and help."

The third largest group of student comments expressed their satisfaction with the part of the instruction that taught them how to narrow results to a manageable number. Forty-one students specifically mentioned the librarian's instruction about how to limit search results. One student reported they learned "How to specify your search so that you don't have 2398473294823 different things to look through." Most mentioned they were happy to learn how to narrow results because it would save them time.

Students mentioned the library website thirty-one times. Some students write that they had no idea that the library website had so much information to help them with research. Here is a typical student response: "I also learned a wealth of knowledge on how to search for books, periodicals, etc. on the website."

Thirty students wrote comments about learning out to get a help from a librarian. Some students mentioned the webpage that detailed such librarian services as the hours of service, locations of the reference desks, toll free telephone number, librarian chat room, and librarian email. One student reported learning, "That the librarians were so willing to help."

Interestingly, twenty-four students mentioned that they did not know that the university had five library buildings. In their comments, they seemed surprised to learn that we had so many and many different kinds of libraries, such as the Science and Technology and the Media Library. Five students commented on the coffee house addition of the CyberCafe in the Willis Library.

Twelve students specifically mentioned the citation help from the library website and Academic Search Premier. In addition, eleven students said they learned about the library catalog and how to use it effectively.

4. Conclusions

A majority of academic librarians in the United States struggle to teach information literacy skills to students in a single library session. While clearly one class period is not nearly enough time to teach the range of skills identified by the ACRL Information Literacy Competency Standards, librarians continue to try to teach the skills with as much time as is allowed. Librarians need to have a tool to assess how well the students understand the materials taught in the library instruction sessions. The tool needs to be performance based, easy to use, and takes little time in the session.

We used the LISA results to change instruction for the catalog. The results proved that students struggled to learn the catalog. We added an active learning component to our catalog instruction. The results went up 38% of students successful in a subject search from 11%. Good assessment tools aid librarians to do better instruction, which results in better student learning.

References

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