

# What They Think They Know: A Self-Assessment by New Health Science Center Students

Clayton Crenshaw, Access Services Librarian • ccrensa@hsc.unt.edu  
Gibson D. Lewis Library, University of North Texas Health Science Center

## RESEARCH QUESTIONS

To what extent do new health science center students understand library terminology and commonly used research tools? How much experience do they have with these research tools and with selected information technologies?

## SETTING

The University of North Texas Health Science Center serves more than 1,200 students in the fields of biomedical sciences, clinical medicine, and public health.

## PARTICIPANTS

All new students were asked to complete the voluntary online survey during their orientation meetings in July and August 2008. A link to the survey was distributed in an e-mail message. A total of 106 students responded to all or part of the survey, with the number of responses to the individual questions ranging from 103 to 106. This represents an overall response rate of 29.9%. Of the students responding, 8.5% were in the Graduate School of Biomedical Sciences, 10.4% in the School of Public Health, and 81.1% in the Texas College of Osteopathic Medicine. Compared with the total population of new students, medical students were over-represented in the response group and the other two groups were under-represented. At the time of the survey, 13% of the new students were in biomedical sciences, 20% were in public health, and 67% were in medicine.

## METHODS

Using simple Likert-type scales, the students were asked to describe their understanding of selected library terms and research tools. The terms were selected from the Lewis Library website and from the previous studies summarized by John Kupersmith.<sup>1</sup> The selected research tools are all available through the Lewis Library website. Names of both databases and database platforms were included because students often associate a platform name with a database name or viceversa (e.g., using the word "Ovid" to describe the MEDLINE database on the Ovid platform).

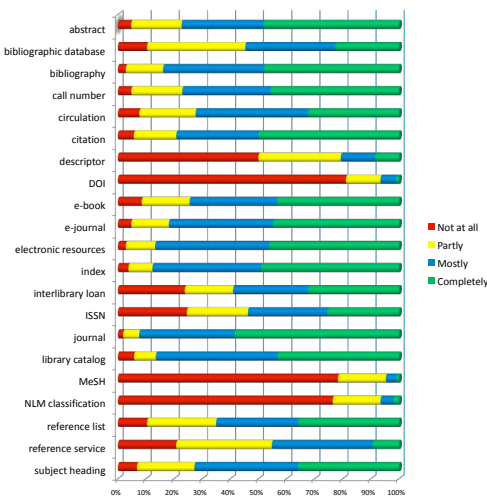
Two additional questions asked the students to indicate the level of experience they have with the same research tools and with selected information technologies.

## RESULTS

### Library-Related Terms

The new students reported understanding many of the terms either "Mostly" or "Completely," but there is still ample room for improvement. Forty-five percent of respondents, for example, had limited understanding of "bibliographic database" and 46% of "ISSN." There were five terms that the majority reported understanding only "Partly" or "Not at all": descriptor, DOI, MeSH, NLM Classification, and Reference Service. Only one student reported completely understanding DOI, a relatively new term.

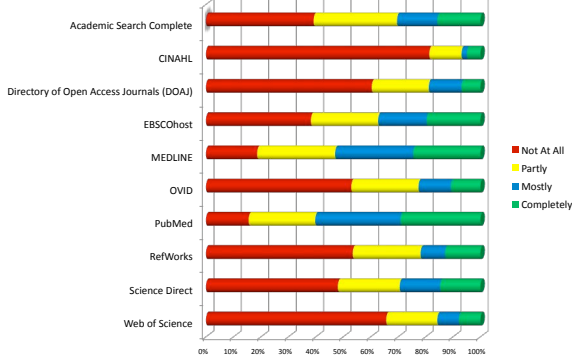
Please choose the one answer that best describes how well you understand the following library-related terms.



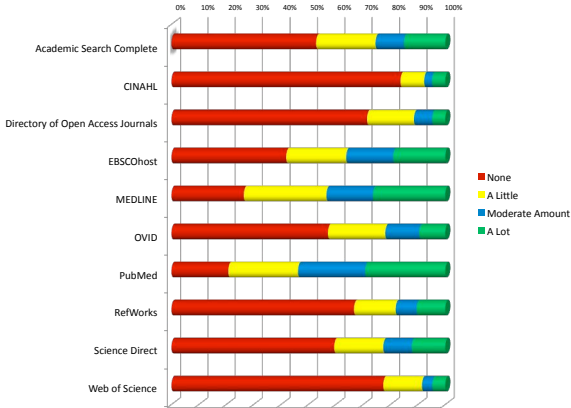
### Research Tools

The students were much less confident about their understanding of the selected research tools. Only MEDLINE and PubMed are reportedly understood "Mostly" or "Completely" by more than 50% of the respondents. The tools least understood by this group are CINAHL, Web of Science, and the Directory of Open Access Journals (DOAJ).

Below is a list of tools used in secondary research. First, indicate how well you understand each one: what it is, what it does, and when you would want to use it.



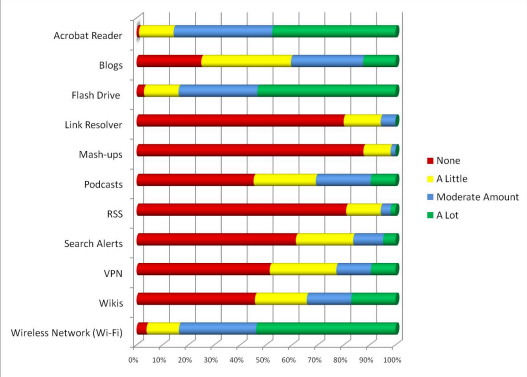
Secondly, indicate how much experience you have using the same research tools.



### Information Technologies

Students were asked about the level of experience they have with selected information technologies. These technologies are either currently in use at Lewis Library or being investigated for possible use in the future. The respondents reported large differences in their experience levels. They have the most experience using Acrobat Reader and flash drives, with more than 80% reporting either a "Moderate Amount" or "A Lot." But most reported having little or no experience using Link Resolvers, Mash-ups, RSS, and Search Alerts. Since no definitions or examples were provided, however, some students may have used one or more of these technologies without realizing it.

Please choose the one answer that best describes how much experience you have using these information technologies.



### Demographic Analysis

The survey included questions about age group, gender, and degree program. Students were also asked whether English is their first, or primary, language and whether they received most or all of their previous education in the United States. The aggregate data were then analyzed by these demographic groupings. The results are presented in tables below.

For each of the four questions about library terms, research tools, or information technologies, a two-sample t-Test was conducted, assuming equal variances. In all four cases, the tests showed no significance between the genders in their responses.

The age groups were also compared, using one-way ANOVA tests. Again, responses for each question were analyzed separately, using the means for each group. Due to small sample sizes, the 30-34 age group was combined with 35-39, and 40-44 was combined with 45-49. For the library terms question, the test showed a significant difference in responses,  $F(3,80)=2.81$ ,  $p<.05$ . Tests for the other questions showed no statistical significance.

The numbers of responses from students whose primary language is not English or who were previously educated outside of the United States were deemed too small for statistical analysis.

### Understanding of Terms

|                                                               | Completely or Mostly | Partly or Not At All |
|---------------------------------------------------------------|----------------------|----------------------|
| All Respondents                                               | 61%                  | 39%                  |
| Female                                                        | 63%                  | 37%                  |
| Male                                                          | 59%                  | 41%                  |
| Age: < 25                                                     | 59%                  | 41%                  |
| 25-29                                                         | 65%                  | 35%                  |
| 30-39                                                         | 67%                  | 33%                  |
| 40-49                                                         | 49%                  | 51%                  |
| English not primary language and/or educated outside the U.S. | 58%                  | 42%                  |
| Biomedical Sciences                                           | 65%                  | 35%                  |
| Public Health                                                 | 64%                  | 36%                  |
| Clinical Medicine                                             | 61%                  | 39%                  |

### Understanding of Research Tools

|                                                               | Completely or Mostly | Partly or Not At All |
|---------------------------------------------------------------|----------------------|----------------------|
| All Respondents                                               | 30%                  | 70%                  |
| Female                                                        | 25%                  | 75%                  |
| Male                                                          | 32%                  | 68%                  |
| Age: < 25                                                     | 22%                  | 78%                  |
| 25-29                                                         | 32%                  | 68%                  |
| 30-39                                                         | 41%                  | 59%                  |
| 40-49                                                         | 27%                  | 73%                  |
| English not primary language and/or educated outside the U.S. | 29%                  | 71%                  |
| Biomedical Sciences                                           | 22%                  | 78%                  |
| Public Health                                                 | 42%                  | 58%                  |
| Clinical Medicine                                             | 27%                  | 73%                  |

### Experience with Research Tools

|                                                               | Moderate Amount or A Lot | A Little or None |
|---------------------------------------------------------------|--------------------------|------------------|
| All Respondents                                               | 25%                      | 75%              |
| Female                                                        | 21%                      | 79%              |
| Male                                                          | 27%                      | 73%              |
| Age: < 25                                                     | 20%                      | 80%              |
| 25-29                                                         | 26%                      | 74%              |
| 30-39                                                         | 27%                      | 73%              |
| 40-49                                                         | 18%                      | 82%              |
| English not primary language and/or educated outside the U.S. | 30%                      | 70%              |
| Biomedical Sciences                                           | 20%                      | 80%              |
| Public Health                                                 | 38%                      | 62%              |
| Clinical Medicine                                             | 22%                      | 78%              |

### Experience with Information Technologies

|                                                               | Moderate Amount or A Lot | A Little or None |
|---------------------------------------------------------------|--------------------------|------------------|
| All Respondents                                               | 37%                      | 62%              |
| Female                                                        | 32%                      | 68%              |
| Male                                                          | 44%                      | 56%              |
| Age: < 25                                                     | 37%                      | 63%              |
| 25-29                                                         | 39%                      | 61%              |
| 30-39                                                         | 39%                      | 61%              |
| 40-49                                                         | 27%                      | 73%              |
| English not primary language and/or educated outside the U.S. | 35%                      | 65%              |
| Biomedical Sciences                                           | 33%                      | 67%              |
| Public Health                                                 | 37%                      | 63%              |
| Clinical Medicine                                             | 38%                      | 62%              |

## CONCLUSIONS

More than half of the survey responses received about library terms indicated understanding "mostly" or "completely." Testing would be required to determine the accuracy of these responses. Some terms are reportedly much less understood than the others, so these should be included in the Library's educational initiatives.

Understanding of the selected research tools is fairly low, but public health students scored themselves higher than the other groups. Not surprisingly, the responses for experience with research tools were very similar to those for understanding.

Overall, the new students reported more experience with the selected information technologies than with the research tools. But their experiences vary widely, and some of the technologies are still unfamiliar to most of this group.

Each of these areas – terminology, research tools, and information technologies – presents opportunities for education and promotion. The survey served to reveal the strengths and weaknesses in the understanding and experiences of new students. With this knowledge, library services and support can be appropriately focused on the weaker areas.

## REFERENCE

1. Kupersmith J. Library Terms That Users Understand. <http://www.jkup.net/terms.html>. Updated May 15, 2008. Accessed October 2, 2008.

## ACKNOWLEDGEMENT

Tracey Minzenmayer, MIS, PhD  
Education Librarian, UT Southwestern Medical Center Library



UNIVERSITY of NORTH TEXAS  
HEALTH SCIENCE CENTER  
AT FORT WORTH