ASSESSING UNDERGRADUATE LIBRARY INFORMATION LITERACY LEARNING OUTCOMES AT A STEM UNIVERSITY

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THE CHALLENGE

In 2011, the Michigan Tech University Assessment Council formally adopted information literacy as one of eight University Student Learning Goals. In conjunction with the university adoption of these learning outcomes, librarians at the Van Pelt Library have developed and implemented an instruction strategy that incorporates assessment into the continuous improvement of library information literacy instruction.

Prior to 2011, the Van Pelt Library had no formal assessment strategy. Although there was at one time a post-test administered in conjunction with undergraduate library instruction, none had been in use for at least five years. A new library director and a reorganization of existing staff led to a restructuring of the instruction team and the appointment of a strategic initiatives librarian among whose responsibilities include the development of assessment activities as a tool toward achieving strategic goals.

METHODS

In the summer of 2011, the instruction team identified and mapped course goals to ACRL Information literacy Standards for Higher Education. A classic model was drafted that standardized content and ensured consistency among different librarian teaching styles.

Because library instruction is a limited to a one-shot session required as a part of the general education program, the assessment instrument needed to take up as little of the 50 minute session as possible. A simple pre- and post-test was designed, with questions developed to address each of the five desired course outcomes. Instruction librarians were coached on the administration of the test and results were evaluated after the fall semester.

MAPPING QUESTIONS TO OUTCOMES

Learning outcome	Instructor action	Assessment element
1. Search online and print reference sources in order to gain background information and identify topic keywords.	• Demonstrate one online reference source • Show one print reference source • Discuss Wikipedia	1. What types of sources are most useful for background information and helping to identify topic keywords? a) Online and print reference sources b) Magazines c) Social media sites like Twitter d) Newspapers
2. Identify ways to get research help in order to be able to obtain assistance when needed.	• Show how to access the Libguide, discuss briefly its purpose, point out tutorials links • Ways to "Ask Us" (in-person, IM, email, phone) • Give times/dates of Perspectives Library Help sessions & library tours	2. What are three ways to get research help at the library when you need it? a) Blackboard b) LibGuide c) Ask a librarian in person, IM, email, or phone d) Attend a Perspectives Library Help session
3. Use appropriate tools in order to locate relevant information sources for their research assignments.	• Demonstrate a catalog search appropriate to research topic • Demonstrate searches in one or two databases	3. How can you request sources that aren't in the library? a)Amazon.com b) Interlibrary loan c) WorldCat d) HuskyFetch
4. Evaluate sources in order to choose the most reputable resources to support arguments.	• Show a physical example of a scholarly and popular journal; discuss differences • Discuss difference between searching a database and searching the internet • Discuss criteria for evaluating websites	4. Name two ways a library database is different from the internet.
5. Cite references in order to give credit to information sources utilized during the research process.	• Discuss reasons why we cite • Discuss what goes into a citation (essentially information one needs to know to locate a resource) • Point out resources appropriate to citation style	5.Why is citation necessary in an academic paper? a) I will be graded down if I don't do it. b) To show that I used the right kind of sources. c) To ethically acknowledge others' work and ideas. d) Citing sources is only important in some disciplines.

TEST RESULTS
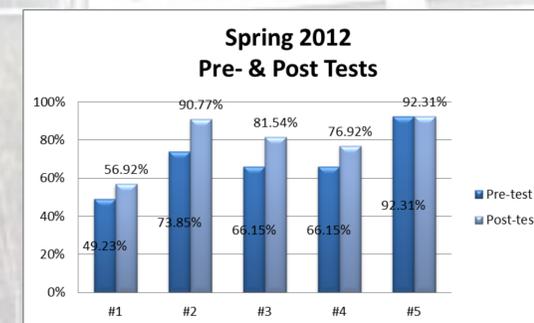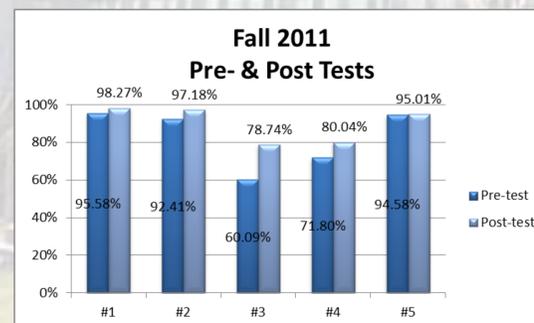
In the fall of academic year 2011/12, Michigan Tech admitted 1,380 first year students. All freshmen are required to enroll in UN1001 Perspectives on Inquiry during their first year, and the majority do so in their first semester. Completed tests were received from 461 students in the fall, and only 73 in the spring. Based on results from the fall, librarians felt that questions 1, 2 and 5 were too easy for students to guess. Questions and answers were rewritten for spring semester.

COMMENTS

In its first year, the program experienced some growing pains. Not all general education faculty participated in the library instruction session even though it is mandated as part of the general education requirements. Individual instruction librarians applied the assessment instrument inconsistently or not at during the course of their instruction sessions, resulting in an inability to relate differences in pre– and post-test scores to individual students. Consequently, variance could not be calculated with any reliability within the sample. Analysis of test results had to be limited to broad generalizations based on differences in overall scores for each question.

FUTURE DIRECTIONS

Despite the challenges, a valid sample of undergraduate pre- and post-tests was collected. Data provided insights into the effectiveness of questions in addressing the outcomes to which they were mapped. The usefulness of the instrument as a whole was evaluated to determine its utility for course development.

Results led to a deeper understanding of contributing factors critical to a successful information literacy assessment strategy, a re-evaluation of the pre– and post test approach, and prompted the search for a more finely tuned assessment instrument. Efforts are underway to develop an instrument that is easy to administer by instruction librarians, easy to take by students and that allow for the improved collection and analysis of resulting data.

Second year program goals include the incorporation and evaluation of alternative, active learning instruction techniques. In the longer term, it is hoped that a broader comparison of learning outcomes assessment of STEM undergraduates to other disciplines will lead toward more focused library instruction strategies and more opportunities for librarian and faculty collaboration.