

# Do You See What I See?: Comparing Student and Librarian Perceptions of Learning Outcomes

*Faith Steele and Scott Mandernack*

## **Abstract**

In 2009 the Research and Instructional Services Department at Raynor Memorial Libraries at Marquette University, began using the Association of College & Research Libraries (ACRL) *Information Literacy Competency Standards for Higher Education* to track and assess the information literacy competencies of instructional sessions.<sup>1</sup> Instructional sessions were entered into a locally developed database and mapped to the ACRL information literacy standard(s) addressed in each session, as perceived by the librarian. Students who participated in a research consultation session were surveyed on their perception of the information literacy standards addressed in the session and overall effectiveness of the session. Responses from the students and librarians were collected and correlated for an in-depth look at information literacy standards in research consultations conducted in 2010.

## **Introduction**

A significant amount of research has been conducted on the assessment of the information literacy skills of students, both pre and post instruction, often based on the ACRL Information Literacy Competency Standards for Higher Education. The Standards, approved by the ACRL Board in 2000, offer guidance to colleges and universities in articulating information literacy competencies and provide a framework for assessing information literacy to improve learning and enhance institutional effectiveness. It has long been recognized that information literacy instruction in academic institutions is most effective when closely integrated into the curriculum and offered in a sequenced fashion throughout a student's college experience. While

there has been concerted effort to increase the integration of information literacy across the curriculum at Marquette University, the majority of information literacy instruction is still most commonly accomplished through one-time sessions, either in group classroom settings or in one-on-one sessions, known in this paper as research consultations.

A significant portion of the research literature on information literacy instruction reports on surveys of faculty and students about their knowledge or attitudes about information literacy and its importance to their research practices. This body of research most often centers around intentional instruction of information literacy, often in a classroom environment, with the opportunity for more advanced curriculum design. While group classroom instruction typically allows for more coordinated lesson planning with clearly articulated learning objectives, research consultations generally do not offer the same opportunity. Research consultations are similar to reference desk interactions, likely to come at the request of an individual with a specific objective in mind. For these interactions, the instruction shifts from addressing information literacy concepts in a broader context to focusing on specific skills that attend to the identified goal(s) or objective(s) of the student/learner.

Some previous studies provide useful information related to this study. Gross and Latham surveyed freshman students on their perceptions of information literacy. The study found that most freshman were not familiar with the term information literacy, which made it difficult to pretest students on their knowledge of it. The study recommended that librarians and professors introduce information literacy in ways that

it would relate to personal and academic information seeking. The study also found that students felt highly confident in their information literacy skills, even if test scores indicated the opposite.<sup>2</sup>

Wakimoto also surveyed first year students that completed a required information literacy course for learning and satisfaction. This survey found that after completing the course, students felt satisfied with the course, it was personally relevant, and they gained knowledge of information literacy and the skills associated with it. This study purports that personal relevancy and satisfaction are important factors in information literacy instruction and recommended that librarians expand assessment beyond solely testing on content knowledge.<sup>3</sup>

Conversely, Abdullah emphasizes the significance of using evidence-based data to measure learning outcomes for information literacy, as opposed to perception-based methods. While student perceptions may provide valuable insights, the author contends that outcomes can be better assessed based on concrete, tangible performance of individuals which can be observed and measured. While advocating for greater use of evidence-based data to lend more credibility in decision-making, it is also recognized that perception-based measures may be useful to compare perceptions with practices.<sup>4</sup>

Freeman provided research on students' self-assessment of library skills and their opinion of library instruction. Students in the Freeman study provided a self-assessment of library skills based on task-orientated questions. Students also were surveyed on interest and importance of library instruction. Results from this study show that as student self-assessment scores rise, opinion of library instruction falls and suggest that students need to see the direct benefit of library instruction before participating.<sup>5</sup>

Yi conducted a study on the role of individual research consultations in an information literacy program. This study collected and analyzed data on hours librarians spent on individual research consultations compared to classroom instruction. Results found that a significant amount of time was spent conducting individual research consultations and in many cases supplemented for gaps in classroom instruction. Additionally, it found that individual research consultations reach students at the point of need, customizing instruction and likely increasing student satisfaction.<sup>6</sup>

Research consultations constitute a significant portion of the information literacy instruction at Marquette, but little assessment has been done to review effectiveness or user satisfaction of these sessions. This study presents an initial foray into the assessment of research consultations, comparing the perceptions of the students about the learning outcomes resulting from the sessions with the expectations of the librarians. This paper will discuss the findings from a survey that was conducted in the spring and fall semesters of 2010 with the intent to:

- Examine students' self-assessment of information literacy skills
- Identify commonalities and gaps between students' and librarians' perceptions
- Assess effectiveness of research consultations
- Consider strategies for reinforcement and retention of information literacy skills

### Methodology

The study utilized a quantitative survey to compile students' perceptions of information literacy learning outcomes achieved as a result of research consultations. These responses were then compared to the librarians' perceptions of which ACRL standards were addressed in the session, as recorded in a locally-developed database.

The Research and Instructional Services Department currently records all instructional interactions with library patrons into the locally-developed database which documents all instructional interactions including tours, information tables, classes and research consultations with students, faculty, staff and visitors. In addition to general information about the context of the instruction session (student/instructor/contact person; course information; date, time, and length of session; etc.), librarians also record which ACRL information literacy standards were addressed in the session. The Standards are recorded to the performance indicator level, yielding up to 22 items being matched to each session. Upon entering the session information into the database, each record is assigned a unique identification number.

To ensure greater consistency of the application of the standards to individual sessions, as reported in the local database, discussions were held among the library staff on the interpretation of each standard and indicator. While it is inevitable that there will be differences of interpretation among a staff of fifteen in-

dividuals, clarification of the standards and associated learning outcomes lead to greater consistency and understanding of the standards, in general, as well as for reporting purposes.

To collect the student perceptions, an online survey was created using SurveyMonkey. Following approval by the University’s Institutional Review Board, the survey was sent via email to each student who participated in a research consultation, starting in the Spring semester of 2010 and continuing through the Fall semester of 2010. The initial distribution of the surveys was sent mid-way into the spring semester and included all consultation sessions that had been scheduled from the beginning of the semester to date. Subsequent surveys were distributed on an ongoing basis every two weeks for consultation sessions scheduled in the previous two weeks. The two week delay in surveying the students was meant to allow for the opportunity for the students to integrate the skills and practices that were addressed into their research, providing at least some indication of the longer-term retention of the skills and concepts learned.

Students who had participated in a research consultation from among all educational levels, including undergraduate to doctoral students, were identified from the database and contacted by email, requesting their participation in the study. A total of 317 surveys were sent out and 67 were completed, representing a response rate of 21.13%. The questions on the student survey questions were adapted from the outcomes of the performance indicators of the ACRL standards in an attempt to use language that was more meaningful and which provided students with an easier, task-orientated understanding of the standards. The survey consisted of 25 questions that asked classification and major, gender, perceptions of information literacy standards addressed in the session, overall satisfaction of the research consultation, and a comment section. The information literacy standard questions asked students whether, as a result of the session, they were able to accomplish any of the outcomes associated with that standard’s performance indicators. Instructions were provided to the students in the initial email message and within the survey on how to answer the questions based on the possible answer choices: “Yes,” “No,” “Does not apply.” “Yes” indicates that the standard was addressed and the student was able to complete or perform the tasks or gain the skill(s) as a result of the research consultation session. “No” indicates that the

standard was addressed but the student was not able to complete or perform the tasks or did not gain the skill(s) as a result of the research consultation. “Does not apply” implies that the standard was not addressed in the session and does not apply to the tasks or skill(s) listed. Both the librarian and student responses were collected and entered into Microsoft Excel and SPSS for analysis and comparison of perceptions.

**Discussion**

The majority of the students who completed the survey were graduate students, representing 62.8% of respondents, followed by Freshmen, at 11.9%, Juniors and Seniors, each at 10.4%, and Sophomores, at 4.5%. Females represented 77.6% of respondents and males, 22.4%. Students from every University college were represented: Arts and Sciences (25.4%); Nursing (19.4%); Business and Health Sciences (each at 14.9%); Education (11.9%); Communications and Professional Studies (6% each); and Engineering (1.5%).

Frequencies of the performance indicators reported per session by librarians and students were calculated for the 67 consultations for which survey responses were received. With a total of 22 values for all performance indicators, 1.1 through 5.3, librar-

**TABLE 1**  
**Frequencies of Librarian to Student Standard Matches (N = 22 )**

Standards	Number of Matches
0	2
1	1
2	2
3	5
4	1
5	2
6	7
7	9
8	10
9	9
10	3
11	3
12	5
13	4
14	3
21	1

ians reported inclusion of the indicators per consultation session ranging from 2 to 21 times. The mode for librarians was 9 indicators per session, recorded a total of 8 times; the average frequency of librarian-recorded indicators was 10.39 for all responses. The range for student frequencies was 22, with zero as the minimum and 22 as the maximum number of indicators recorded per research consultation. The mode for students was 22, recorded a total of fifteen times. The average frequency for student standards recorded was 15.34 for all responses.

In addition to frequencies of indicators reported by both librarians and students, frequencies for the number of matching responses were also calculated. Librarian/student matches ranged from zero as the

minimum to 21 as the maximum number of matches. The mode for indicator matches was 8, recorded 10 times; the average was 8.03. Two survey responses reported the same number of standards addressed by the librarian and the students; one reported 16 performance indicators were addressed and the other reported 11. However neither response had an exact match of performance indicators for librarians and students.

Considered in the aggregate, the results of the survey indicate some strong differences in perceptions between librarians and students in most regards. Overall, the librarian perceptions were more varied and selective for each session than were those of the students. In general, the students indicated that they learned more from each session than what the librarians felt was addressed. The notable exception is a particularly strong agreement in the learning outcomes associated with Standard 2, “the information literate student accesses needed information effectively and efficiently.” A look at each standard and its performance indicators will reveal the varying degrees of differences between the perceptions for each standard.

**Standard One: Know**

Regarding Standard One, “the information literate student determines the nature and extent of the information needed,” students responded most positively to the performance indicator 1.1, “defines and articulates the need for information,” with 86.6% indicating they were able to accomplish the tasks or they gained the knowledge as a result of the session. The other performance indicators were also viewed positively: 85.1% each for Indicator 1.2 and Indicator 1.3, and 79.1% for Indicator 1.4. Interestingly, Indicator 1.2 was the only indicator that generated zero “No” re-

**TABLE 2**  
**Frequency of Standards Reported in Research Consultations (N=22)**

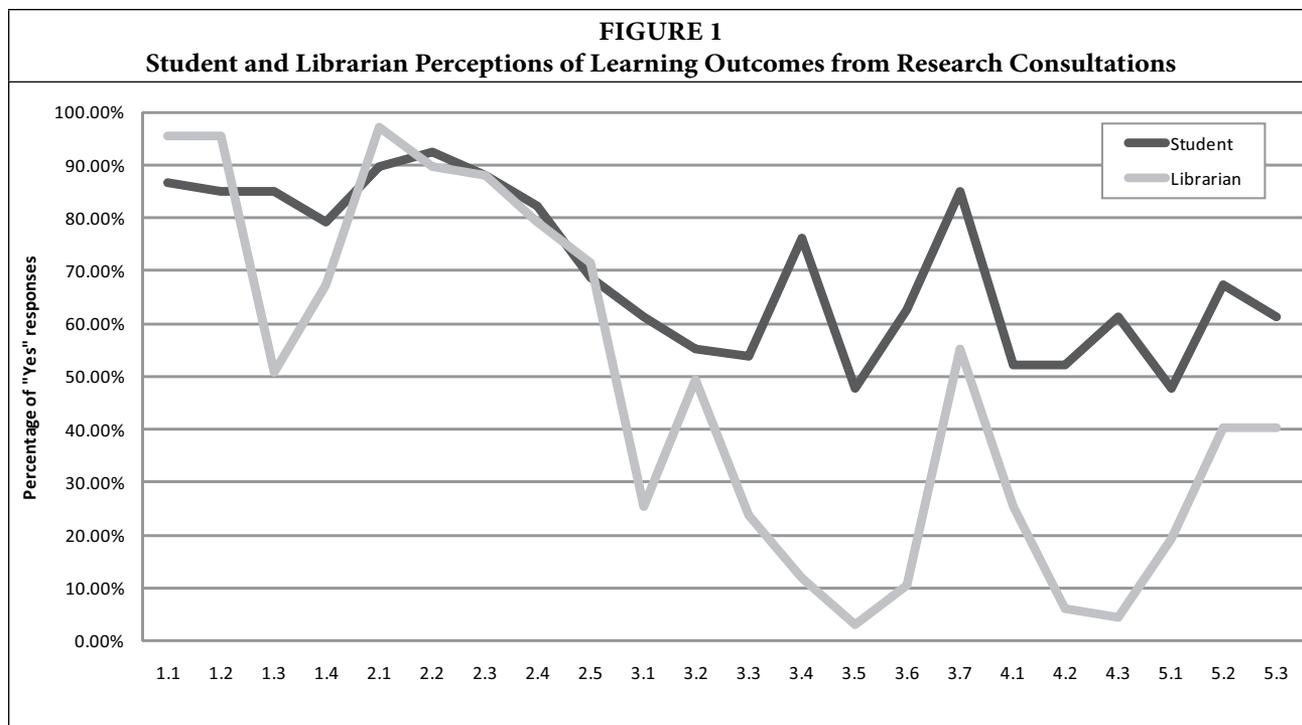
Number of Standards Reported	Librarian Frequency Reported	Student Frequency Reported
0	0	1
1	0	1
2	1	0
3	2	0
4	3	0
5	2	2
6	3	3
7	7	3
8	6	1
9	8	4
10	2	0
11	6	3
12	5	2
13	6	4
14	5	2
15	5	5
16	1	3
17	2	3
18	1	3
19	0	4
20	0	5
21	2	3
22	0	15

**TABLE 3**  
**Standard One Student**

	1.1	1.2	1.3	1.4
Yes	86.6%	85.1%	85.1%	79.1%
No	1.5%	0.0%	1.5%	1.5%
Does Not Apply	11.9%	14.9%	13.4%	19.4%

**TABLE 4**  
**Standard One Librarian**

	1.1	1.2	1.3	1.4
Yes	95.5%	95.5%	50.7%	67.2%
Does Not Apply	4.5%	4.5%	49.3%	32.8%



sponses from students, reinforcing the strong sense of successfully learning how to identify a variety of types and formats of information. Librarians’ perceptions were more varied, ranging from 95.5% for Indicators 1.1 and 1.2, but dropping down to only 50.7% for Indicator 1.3, which is concerned with considering the costs and benefits of acquiring the needed information.

**Standard Two: Access**

Standard Two, as previously mentioned, shows a strong level of agreement between librarian and student perceptions. The greatest variance, though still relatively small, was relative to Indicator 2.1, regarding selecting the most appropriate investigative methods or information retrieval systems for accessing the needed information; 97% of librarians (in fact, this was the single most cited performance indicator among librarians) and 89.6% of students responded yes. Of the four “No” responses by students for this indicator, signifying that the performance indicator was addressed but they did not feel they had learned the skills or gained the knowledge, each librarian responses was a “Yes.” The other indicators had response pairs (students & librarians) of 92.5% & 89.6% for Indicator 2.2 (the highest of any student response); 88.1% & 88.1% for Indicator 2.3; 82.1% & 79.1% for Indicator

2.4; and 68.7% & 71.6% for Indicator 2.5. Students, as well as librarians, seem confident in demonstrating their ability to “access information effectively and efficiently,” as indicated by their strong level of agreement on “Yes” responses.

**TABLE 5,**  
**Standard Two Student**

	2.1	2.2	2.3	2.4	2.5
Yes	89.6%	92.5%	88.1%	82.1%	68.7%
No	6.0%	1.5%	1.5%	3.0%	1.5%
Does Not Apply	4.5%	6.0%	10.4%	14.9%	29.9%

**TABLE 6**  
**Standard Two Librarian**

	2.1	2.2	2.3	2.4	2.5
Yes	97%	89.6%	88.1%	79.1%	71.6%
Does Not Apply	3%	10.4%	11.9%	20.9%	28.4%

**Standard Three: Evaluate**

Standards Three and Four showed significant differences of perceptions in almost every indicator; in every case, student responses were more positive about the outcomes than the librarians. The single greatest variance among all indicators was in Indicator 3.4, “...

compares new knowledge with prior knowledge to determine the value added, contradictions, or other unique characteristics of the information;” a difference of more than 64 percentage points separated the student and librarian “Yes” responses. The next greatest variance within Standard Three was with Indicator 3.6, regarding the validation of understanding and interpretation of the information through discourse with others. In this case, 62.7% of student responses indicated it was learned as a result of the session, but only 10.4% of the librarians indicated it had been addressed. Also of note, Indicator 3.5, “determines whether new knowledge has an impact on the individual’s value system...,” was reported by librarians as the indicator least often covered in the sessions, with only 3% of respondents. Given the nature of these learning outcomes, which are more internally driven by the student and outside the scope of the librarians, these large differences of perception are not surprising. That the students attribute to the consultation sessions the ability to perform these tasks or gain these skills is, however, very encouraging and is a testament to the success of these sessions.

	3.1	3.2	3.3	3.4	3.5	3.6	3.7
Yes	61.2%	55.2%	53.7%	76.1%	47.8%	62.7%	85.1%
No	4.5%	4.5%	6.0%	1.5%	9.0%	1.5%	3.0%
Does Not Apply	34.3%	40.3%	40.3%	22.4%	43.3%	35.8%	11.9%

	3.1	3.2	3.3	3.4	3.5	3.6	3.7
Yes	25.4%	49.3%	23.9%	11.9%	3%	10.4%	55.2%
Does Not Apply	74.6%	50.7%	76.1%	88.1%	97%	89.6%	44.8%

**Standard Four: Use**

Standard Four saw similar variances in responses between librarians and students, with students reporting higher positive responses than librarians in all cases. Indicator 4.2 showed a significant discrepancy of perceptions between students and librarians, with 52.2% of students indicating they learned how to revise the development process for the product or performance, whereas only 6% of librarians indicated that it had been addressed in the session. Indicator 4.3 had the largest

	4.1	4.2	4.3
Yes	52.2%	52.2%	61.2%
No	4.5%	9%	3%
Does Not Apply	43.3%	38.8%	35.8%

	4.1	4.2	4.3
Yes	25.4%	6%	4.5%
Does Not Apply	74.6%	94%	95.5%

difference in perceptions, with 61.2% of students responding favorably but only 4.5% of librarians indicating it was covered in the session. This discrepancy reflects what was represented in ACRL’s *Objectives for Information Literacy Instruction: A Model Statement for Academic Librarians* (2001), in which it is recognized that librarians may not address the objectives of every performance indicator. Since all of the indicators in Standard Four are typically addressed outside the scope of the librarian, no objectives for this indicator were even written; this survey’s results seem aligned with ACRL’s assumption.

**Standard Five: Ethics**

Standard Five also did not indicate a strong level of agreement on perceptions between students and librarians, however it did not exhibit the wide disparities in responses displayed in Standards Three and Four. As in previous standards, the majority of students reported a higher percentage of positive responses to the performance indicators than did librarians reporting that the indicators were addressed. The “Yes” responses among students and librarians were highest for Performance Indicators 5.2 and 5.3: 67.2% of students responded positively to Indicator 5.2, compared to 40.3% of librarians; 61.2% of students and 40.3% of librarians indicated positive responses for Indicator 5.3.

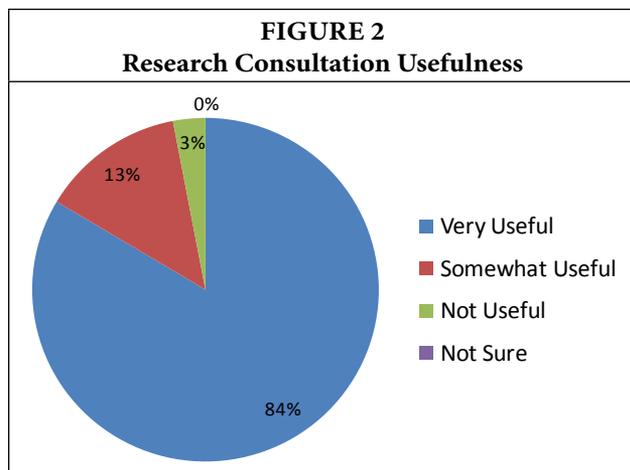
**Overall Usefulness and General Comments**

Students were asked to indicate on a four-point scale the degree of usefulness of the research consultation. The majority of the students were satisfied with the research consultation: 83.6% reported the consultation

	5.1	5.2	5.3
Yes	47.8%	67.2%	61.2%
No	4.5%	1.5%	1.5%
Does Not Apply	47.8%	31.3%	37.3%

	5.1	5.2	5.3
Yes	19.40%	40.30%	40.30%
Does Not Apply	80.60%	70.10%	59.70%

was “Very useful”; 13.4% reported “Somewhat useful”; 3% reported the research consultation was “Not useful” at all. Correspondingly, the two responses that reported the research consultations as “Not useful” also had zero librarian/student performance indicator response matches. Furthermore one of the responses reported zero performance indicators were addressed by the librarian in the research consultation. Students had the option to leave a comment at the end of the survey. A total of 14 comments were submitted; of those, 12 were positive (86%), most offering thanks and appreciation for the individual librarian with whom the student met or expressing general thanks for the session. Comments such as, “I could not have done effective research without his help,” or “<Librarian> was amazing! She took my project and not only helped me better understand RefWorks (the purpose of my consultation) but also helped me with the project as a whole. Thanks so much!” were representative of the positive comments received. One negative comment was received, indicating the session felt rushed and the librarian did not address the questions asked;



the final comment was a reflection on the survey itself, indicating that many of the survey questions did not seem relevant to his/her experience.

### Conclusions

Of the five information literacy competency standards, Standards One and Two were the most addressed standards in research consultations during the period of this study. Standard Two had the highest level of agreement between librarian and student perceptions based on the data collected, while Standards Three and Four reported the widest discrepancies. Low positive responses were expected for Standard Four as this standard is rarely addressed by librarians, however many student responses contradicted librarian responses by indicating higher positive values.

Although this study focused on the standards addressed in the research consultations, it is also an indicator of student information literacy skills in general, as students reported their ability to perform these tasks and skills outside of the research consultation. Most students reported that most of the standards were addressed and they were able to perform them in the context of their own research. It is possible that students overestimated their ability or knowledge of information literacy skills, so further assessment using multiple strategies and approaches must be done to complement the results of this survey and attempt to reconcile the difference in perception-based versus evidence-based information literacy instruction.

Still, student responses serve to establish a benchmark for the effectiveness of the research consultation service. Despite the number of standards and performance indicators addressed and reported, students overwhelmingly view research consultations as positive experiences, due in large part to the direct relevance of the session in meeting their immediate needs. Anecdotally, research consultations are often cited by public service librarians as one of the most positive experiences, for essentially the same reasons: directly meeting the needs of the patron and having the ability to establish a relationship. While the differences in perception of the actual issues addressed in any given session may vary considerably, the value of the consultation service is clear.

### Notes

1. Association of College & Research Libraries. *Information Literacy Competency Standards for Higher Educa-*

tion. Standards of Practice, Chicago, 2000.

2. Gross, Melissa, and Don Latham. "Undergraduate Perceptions of Information Literacy: Defining, Attaining, and Self-Assessing Skills." *College & Research Libraries* 70, no. 4 (July 2009): 323–334.

3. Wakimoto, Diane. "Information Literacy Instruction Assessment and Improvement through Evidence Based Practice: A Mixed Method Study." *Evidence Based Library and Information Practice* 5, no. 1 (2010): 82–92.

4. Abdullah, Szarina. "Measuring the outcomes of information literacy: Perception vs evidence-based data." *International Information & Library Review* 31, no. 4 (2010): 98–104

5. Freeman, Christopher. "The Relationship of Undergraduate Students' Self-assessment of Library Skills to Their Opinion of Library Instruction: A Self-reporting Survey." *The Southeastern Librarian* 52, no. 3 (2004): 39–46.

6. Yi, Hua. "Individual research consultation service: an important part of an information literacy program." *Reference Services Review* 31, no. 4 (2003): 342–350.