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Complex questions, evolving answers: Creating a multidimensional assessment strategy to build support for the “teaching library”

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Abstract: Since 2001, librarians at Oregon State University’s Valley Library have been working to build a “teaching library” supported by a clearly articulated instruction program. From the start, we believed that we needed to assess the “teaching library’s” impact, not only to determine the success or failure of our efforts but also to demonstrate the need for intentional, proactive information literacy instruction on our campus. No single assessment tool or method proved adequate to effectively measure student learning happening both inside and outside the library. We describe our evolving, multi-pronged approach to measuring the impact of the library on student learning in the context of current assessment practices in academic libraries and higher education.

Keywords: “teaching library”, assessment, collaboration, library instruction, information literacy, learning outcomes, student learning

Introduction

Since 2001, librarians at Oregon State University’s Valley Library have been pursuing the vision and goals of a “teaching library”: articulating institution-relevant standards for student learning; developing strategies to move theory and practice of information literacy (IL) instruction forward; and building active partnerships to implement those strategies and reach those goals across campus. From our initial brainstorming up to the present iteration, our version of the “teaching library” has included assessment of student learning as an essential thread, and collaboration with faculty and student programs as an essential strategy.

In this article we will review the state of assessment in libraries, particularly with regard to student learning outcomes and the challenges posed by the academic library’s unique position in the university’s teaching framework. We will describe the evolution of

our assessment efforts as we seek to measure the overall impact of our instruction program. And we hope to offer some ideas that others can use in designing and implementing their own programs of evaluation.

Where we started

Although assessment has been a part of our instructional efforts for many years, our tools and tactics have been variable in their effectiveness and intentionality. In 2000, the Oregon State University (OSU) Library's Instruction Workgroup (IWG) responded to the publication of the *ACRL Information Literacy Competency Standards for Higher Education (ACRL ILCS)* by doing a self-study of current practice and teaching priorities among our instruction librarians (Davidson et al, 2002). In early 2001, the Workgroup drafted a vision statement articulating a new mission for the library's instruction program and a work plan to make it happen. Each of the four goals outlined in this plan included elements of assessment. These included: an internal evaluation of the instructional program and assessment tools, an examination of the library faculty's knowledge and skills in pedagogy, ongoing assessment of teaching effectiveness and assessment of information literacy concepts and skills among our students.

In 2001, as now, the bulk of our instruction was conducted at the invitation of non-library faculty in one-time class contacts, with the exception of four 1-credit classes associated with particular disciplines. The evaluations used for these one-shot instruction sessions do not address student learning and ask about only limited aspects of teaching effectiveness; they are largely satisfaction surveys completed by students and the faculty member at the end of the session. These evaluation forms are still a concern, and will be discussed in more depth below. We asked the instruction librarians where they needed

additional training with regard to teaching, and at the same time we set out to identify tools and procedures to use in assessment.

From the start, we realized that to assess student learning we needed institutional involvement outside the library. Iannuzzi (1999) points out that the meaningful assessment of instruction also extends

far beyond coordination between the reference librarian and the individual faculty members, and beyond the library instruction coordinator talking to department chairs. Strategies at this level require a library culture for information literacy strong enough to influence a campus culture, and this begins with the senior administrators at our libraries and on our campuses (p. 305).

In other words, we knew that to make the case for a “teaching library” to library administration and university administration, we could not continue to rely exclusively upon the efforts of individual liaison librarians. Given the inconsistent level of support for information literacy that existed at the time, across campus and in the library, we knew that we would need compelling evidence to make this a priority for everyone. We not only needed to demonstrate the significance of information literacy as a campus-wide academic goal, we also had to show that the undergraduate curriculum was not helping students achieve that goal. This meant we needed to assess the impact of research instruction on all of our students, not just those who attended library instruction sessions. Reaching our vision for instruction program assessment would clearly take a lot of effort.

It seemed clear that our work would save us effort in the long run. Library faculty were increasingly frustrated with the Sisyphean nature of our teaching approach; we kept

rolling the same rock up the hill, teaching similar concepts to first year students and seniors because we had no objective way to measure student competency levels. Our subjective impressions suggested that upper division and graduate students did not have noticeably better conceptual and skill levels than the lower division students. We wanted to use our energy more effectively. Articulating our workplan focused our energy toward developing solutions.

The reference and instruction faculty and staff attended a series of retreats in 2001-02 which produced our first articulation of the “teaching library”. We envisioned two main target audiences for library resources and services. The “teaching library” would focus on the learning and resource needs of lower division undergraduate students. Its counterpart, the “research library”, would provide parallel emphasis on upper division undergraduates, graduate students and faculty in the disciplines. The “teaching library” also called for a formalized instruction coordinator position; this person would have the responsibility for managing instruction with unaffiliated lower division courses, with assessing the effectiveness of instruction overall and with guiding the implementation of the strategies already outlined in the Instruction Program workplan. While this vision has not been fully realized, it has been important. It provided a backbone for the evolution of the library's instruction program, and it also provided additional incentive for OSU librarians to forge partnerships with other departments on campus.

Assessment: Why is it so elusive?

It’s all about numbers isn’t it? And libraries are very good at the numbers game, using statistics to document activity levels (e.g., student contact hours, circulation and ILL statistics) and as indicators of quality (e.g., staff to student ratios, number of volumes

in the collection). Admission to the Association for Research Libraries, the gold standard for academic libraries, is based almost exclusively on numbers. In 2002, Dugan and Herson described this approach to assessment as “looking at user communities from the perspective of the library” (p. 376). The library counts what it has and what it does, and uses those numbers to draw conclusions about how well it serves its users.

In recent years, Dugan and Herson argue, this view of assessment has been joined by two others. A second strategy looks at the “library from the ‘customers’ perspective” (p. 376). Marketing derived approaches, such as Total Quality Management, examine library services from the customers’ point of view and focus on the “‘building-in’ of opportunities for evaluation of services,” (Meulemans, 2002, p. 65). LibQUAL+ is an example of the customer-satisfaction approach to assessment. By gathering customer-focused data and counting inputs and outputs libraries can paint an important part of the assessment picture.

It is the third perspective described by Dugan and Herson, however, that is the most critical in stating the case for the “teaching library”. Assessment of this third type measures the impact of the library “on the life of the institution” (p. 376). If the core goal of the university, the “life of the institution,” is student learning, then the library must clearly demonstrate the impact that it has on that goal. This cannot be accomplished by counting inputs and outputs, or gathering satisfaction surveys. These measures can ensure that the pieces for learning are in place, but they cannot tell us if that learning happens. To do this the library must shift its focus away from what it teaches and find ways to measure what students learn.

This shift reflects a larger contextual shift in higher education. It was previously assumed that if services and resources were adequate, then learning would happen. This

assumption started to break down in the 1980's with several sobering reports that made the case for ongoing assessment in education. *A Nation at Risk* (1983), *Integrity in the College Curriculum* (1985) and *Time for Results* (1986) all suggested that the American education community could not presume that learning was automatically happening, even in the best of colleges and universities. These reports inspired calls for reform, which were notable, initially, for their lack of attention to the role of accreditation in the assessment process. In 1988, however, the Department of Education called for accrediting agencies to re-focus their standards for accreditation on "educational effectiveness." By the early 21st century, to meet these revised standards, colleges and universities needed to show that they had developed ways to measure student learning, in the classroom and throughout the campus (Black & Kline, 2002; Meulemans, 2002).

In her content analysis of accrediting agency standards, Gratch-Lindauer (2002) points out that most now include explicit information literacy components. She suggests that academic libraries can play a major role in this new paradigm by "developing clear student learning objectives for information literacy skills; assessing the progress and achievement of these objectives; and showing how the outcomes are used to improve student learning" (p.19). The shift towards learning-focused assessment is also reflected in university strategic initiatives and mission statements, which have pushed libraries to follow suit by developing similar documents that support larger institutional learning goals (Meulemans, 2002).

Previous surveys of the literature have found minimal evidence that evaluation in library instruction programs includes meaningful assessment of student learning (Ragains, 1997; Colborn, 1998; Warner, 2003). In his review of 44 academic library instruction coordinators, Ragains (1997) concluded that their most frequently gathered

assessment data is “reaction data” such as student or faculty satisfaction surveys. Such “subjective data alone are inadequate to measure student learning, guide programmatic improvements in library instruction, or be used as a basis for librarians’ performance appraisals” (p.159). There are probably several factors in play here. Unless they have a specific background in education, most instruction librarians are more familiar with assessing discrete skills and bits of knowledge than measuring conceptual learning or the transfer of knowledge from one setting to another. Librarians, like their peers in higher education, seldom receive formal training in instructional design as a required part of their graduate study.

As a profession, librarianship has not fully developed the tools and practical applications to help librarians measure students’ information competence. Colborn (1998) identifies the lack of standardized tests, credit courses and clear objectives as barriers to effective assessment of student learning. Progress has been made most notably with the publication of the ACRL *ILCS* in 2000. According to Meulemans (2002) this has been the most significant factor contributing to the increased emphasis on assessment in library instruction. Recent reviews of the literature suggest that, while librarians' understanding of the theory of assessment may have improved, not much has changed for the better in practice. After reviewing 20 years of the literature on assessment in libraries, Warner (2003) concluded that most of the instruments used to gather data in libraries focus on subjective impressions of the presentation skills of library instructors. These surveys and questionnaires simply are not up to the task of gathering useful data about student learning. Publication of the ACRL *ILCS* has moved the library profession forward by providing a powerful tool for framing student learning outcomes. But we still have a long way to go in translating these standards into outcomes

that facilitate practical means to determine our impact on learning.

The challenge of the one-shot

At OSU, moving beyond the one-shot session, the Sisyphean rock of library instruction, was a strong argument for a “teaching library” that would support a strategic, curriculum-integrated library instruction program. At the same time, the one-shot format itself, with its inherent limitations, added an extra level of challenge as we worked to design an assessment strategy that would effectively measure student learning throughout the curriculum. To accurately measure students’ information literacy it is not enough for librarians to assess library instruction sessions, particularly one-shot sessions. It does not matter how effective the librarian teacher is, the simple truth remains that students do not do all of their learning about their research topics, or even all of their learning about research and information, in these sessions. We came to understand that we needed to combine a variety of assessment strategies, looking both inside and outside the library.

The amount and type of learning that can happen in a one-shot session is severely restricted by time, and by the expectations of the classroom faculty and students. Students can learn a very limited amount about information structure, access and use in a single session, even if we limit our consideration to the learning necessary for a discrete project. A study by Warner (2003) found that after four library sessions, done in collaboration with Communications faculty, students still were confused about some of the most basic concepts covered.

Furthermore, librarians usually have little control over the instructional emphasis of one-shot sessions. In most cases, classroom faculty come to the librarian with a list of topics they want covered. Librarians have even less influence over assessment of actual

learning. Students and faculty alike often come to library instruction sessions with vague and unrealistic expectations. Most librarians will recognize this situation: the faculty member who sends an email asking for the librarian to “please teach my students how to find scholarly articles,” or “please teach my students to use Medline.” The emphasis in these cases is on skills, not concepts or contexts. Even if librarians could determine the class content, the fact remains that the short amount of time available makes it difficult to assess conceptual learning in any meaningful way.

Because of these barriers, most assessment of one-shot sessions focuses on librarian performance and student satisfaction, not learning. Ragains (1997) found in his survey that most assessments of one-shot sessions occur at the end of the session before the class is dismissed. He notes that “Collecting evaluative data soon after an instructional session may increase the number of responses, but tends to limit the information collected to comments about the style and organization of the librarian’s presentation” (p. 165). It is especially clear that such end-of-session assessments tell us nothing about whether or not students retain what they have learned or if they can transfer those concepts and skills to new projects, subjects, and situations. Ragains argues that single sessions are most legitimately utilized for formative/developmental activities such as building teaching skills through team teaching and peer feedback; additionally they can certainly work to build faculty-librarian relationships. He goes on to say that, given the highly artificial and externally prescribed nature of the vast majority of library instruction (i.e., one-shot guest lectures), efforts to assess instruction at this level actually do more harm than good -- for the individual librarian’s professional development, for the perception and reputation of the library on campus and perhaps for the profession as a whole.

Collaboration: barrier or necessity?

It may be tempting for librarians to assert more control over the learning process, and by extension the assessment process, by taking over more teaching responsibilities ourselves. Kempcke (2002) points out that this is not a scalable approach for most institutions.

While Hardesty, Farber et al. recognize and highlight advances in library instruction, I would suggest that their cultural view from their seats at small liberal arts colleges is not applicable at larger institutions and we should stop trying to emulate the standards they set. The more complex political climate, the extended bureaucracies, the myriad of course offerings and degree programs, and the sheer numbers and variety of the student population make the development of truly comprehensive IL programs at large universities difficult at best. Collaboration?

Partnerships? Fine. It's not enough. What's next? We cannot keep repeating the same worn out mantra. Even the best collaborative efforts described in the literature reach a relatively small group of students. On large campuses, it is impossible for librarians to teach IL to all students.

That is why it is so important to weave IL into the curriculum (p. 542).

At OSU, we concluded that the difficulties inherent in developing a strategic, effective information literacy instruction program using the model of one-shot sessions and individual collaborations make it imperative that information literacy be deeply embedded into the curriculum at the program, department, college and university level. In other words, our “teaching library” would rely on campus-wide collaboration.

This level of collaboration, however, adds another level of complexity to the

assessment picture. If librarians share responsibility for delivering research instruction with campus partners, we must also share the responsibility for assessing what our students can do with information. As Iannuzzi (1999) points out, “assessment is difficult because libraries cannot do it alone” (p.304). To effectively measure the impact of a library instruction program on the “life of the institution” the strategies for assessment need to be strategic, and campus wide.

Higher education assessment in general is becoming an increasingly collaborative effort. Accrediting agencies, colleges and universities alike recognize that enriching learning experiences happen both inside and outside of the classroom. To truly measure the institution's impact on student learning they must find ways to capture and measure the learning that happens in libraries, residence halls, student unions and other co-curricular spaces. As the American Association for Higher Education noted in its *Principles of Good Practice in Assessing Student Learning* (1996), librarians, students, student affairs professionals and administrators must be just as involved in assessment efforts as classroom faculty or assessment experts.

In this context, it becomes clear that there are two dimensions to Dugan and Hernon's third perspective on assessment. First, the academic library must derive its goals, mission and vision from those of the college or university as a whole (Fraser et al, 2002). Secondly, its assessment efforts should measure the impact of its contributions to institutional goals (Flynn et al, 2003). While the library's contributions can be narrowly conceptualized, they do not have to be. For example, OSU Libraries' strategic goals broadly define the role of the Libraries as partners in the learning mission of the University when they call for the OSU Libraries to contribute to “the academic success and the lifelong learning of OSU students,” and to take “a leadership role in promoting

information literacy as an academic goal of OSU,” (Oregon State University Libraries, 2004). The more broadly an academic library's outcomes are conceptualized, the more important it is that these outcomes be developed collaboratively with campus partners (Flynn et al, 2003).

OSU's Multidimensional Assessment Strategy

At OSU, we found that a multidimensional assessment strategy was needed to effectively measure our impact on the life of the university. Like so much in our conception of the “teaching library”, this stage of the process requires collaboration and partnerships. Baker (2002) points out that accreditation commissions encourage higher education institutions to gather data from a variety of sources, using a variety of methods. It is crucial that each institution define goals that reflect its unique mission and environment, and that the strategies developed to gather evidence of student learning should be similarly tailored to the particular goals and needs of the institution.

To create a plan that would allow us to measure the impact of the OSU Library’s instruction program on student learning campus-wide, we needed to combine a variety of methods into a multidimensional assessment strategy. The assessment strategy articulated with the initial vision for the “teaching library” was intended not only to help us build a strategic and effective library instruction program, but also to provide data that would demonstrate the need for the “teaching library” on campus. Four main components went into this plan: a theoretical framework, measurable standards and learning outcomes, standardized tools for gathering quantitative data, and methods for gathering qualitative data. The framework we developed would lend coherence to the information literacy program, allowing us to combine a variety of delivery and

assessment methods under one umbrella. The standards were developed collaboratively, and articulated campus-wide goals for information-literate students. To measure progress towards these standards, we combined qualitative and quantitative methods of gathering data.

Framework: A conversational metaphor

Our approach for teaching – and assessing – information literacy can be characterized as conversational and collaborative. With our earliest programmatic efforts we elected to go beyond teaching English Composition (Writing 121) students basic search skills and instead focus on engaging them in a research conversation. This was philosophically and politically motivated. We strongly believe in the information literacy standards, which advocate critical thinking about information. At the heart of our model is the conviction that all students, regardless of their major, must learn that scholarly research is more than simple fact collecting. Instead, it is a complex, recursive process that requires them to learn new things from the information they find. As part of this process, therefore, they must find good sources, and communicate what they have learned to others. This ability to modify and expand one’s knowledge base in response to new information is necessary to lifelong learning, and also provides a solid basis from which students can learn advanced research skills in particular disciplines. This model of scholarly research resonated strongly with the English department’s composition program coordinators who teach a similarly iterative and rhetorically framed method of writing.

Drawing upon the cross-disciplinary perspective of Barbara Fister and the information-seeking model of Carole Kuhlthau, one of our instruction librarians, working with a faculty member in the University Honors College developed and implemented a

rhetorical framework for research based writing (i.e., speaker, audience, message – in cultural and historical context) with selected Honors College writing classes (Davidson & Crateau, 1998). The collaboration with the Writing 121 program was our first attempt to make this rhetorical approach a more systematic part of our instruction program (McMillen et al, 2002). Based on learning goals mutually defined by library instructors and composition coordinators, we selected indicators from the ACRL standards that were appropriate for the introductory level of these classes, and designed a series of assignments to address specific learning outcomes for each. At the end of the collaboration's first year, the library instruction coordinator and the composition coordinator conducted a rubric-based assessment of students' research papers in Writing 121. We found that this rhetorical stance in relation to information resources seemed to be the most difficult conceptual portion for students to integrate.

To address this, we developed a more explicit 'conversational metaphor' for the research writing process (McMillen & Hill, 2004). We introduced this metaphor to the Writing 121 instructors (graduate students in the English department) and the library instructors in orientation sessions. This metaphor is based on conversation as a familiar activity for students which involves consideration of the context, point of view, and credibility of the speaker. It asks students to first 'eavesdrop' on the conversation, engage with the sources and then enter the conversation through their own contributions. It draws from the literature of both the rhetoric and composition field and information literacy, is designed to facilitate speaking across the dialects of subject disciplines (as students will have to do in their college careers), and works from a shared set of easily accessible ideas and terminology.

Standards: Undergraduate Information Literacy Competencies

In the summer of 2004, the IWG revised the library assignments and instruction sessions in Writing 121. Drawing upon the research and data gathered in the process of creating the conversational metaphor, the IWG crafted measurable learning outcomes, and designed activities based on those outcomes, to introduce each stage of the recursive research process. Because the conversational metaphor for research was collaboratively derived, mutual agreement upon outcomes for the research skills curriculum was straightforward. The success of this collaboration shaped the IWG's approach to their next major task: articulating a set of information literacy standards that would support the campus goals of promoting student success and lifelong learning.

Using the ACRL *ILCS* as the departure point, the IWG identified a set of core concepts and skills. The ultimate goal was to present a coherent picture of an information literate student that would resonate with teaching librarians, classroom faculty and co-curricular partners representing a wide range of campus programs. The resulting draft outlined four primary competencies (see Figure 1).

{insert figure 1 here}

At this point, the draft document was presented to all of the reference and instruction librarians for input. After a two-month conversation, a rewritten draft was approved by the reference librarians. We were ready to take the competencies to the rest of the campus.

The IWG gathered input from campus partners in two ways. We planned and

facilitated three focus groups with classroom faculty. At the same time, we invited program heads, assessment experts and people working with special populations of students to talk to us about the competencies in a series of individual conversations. The dialogue generated by the focus groups and the individual meetings was valuable in two equally important ways. First, these conversations showed that introducing students to the recursive research process described by the conversational metaphor was a goal we shared with classroom faculty and with all departments concerned with student success, engagement and retention. It was crucial to our collaborative process that information literacy be understood as a shared goal. Secondly, we gathered valuable feedback about the specific competencies and examples, allowing us to articulate these shared goals in ways that were especially meaningful to our campus partners. The revised competencies were adopted by the library in August 2005 (OSU Undergraduate Information Literacy Competencies, 2005).

The second phase of this process is in progress now: articulating and mapping measurable learning outcomes based on these competencies. Initially, the IWG planned to map the outcomes to the undergraduate curriculum as a first step in strategically planning the Libraries' instruction program. Information gathered during the process of creating the competencies made it clear that a second map, that organized learning outcomes by Bloom's Revised Taxonomy, reflecting different cognitive skills, would be more useful to teaching faculty outside the library. Both maps are currently being developed.

Tools for gathering quantitative data: Project SAILS

One of our earliest stated assessment goals was to develop or find a good tool that

would allow us to assess the IL competencies of large numbers of students. Our survey of the literature showed that virtually none of the published information about assessment described such a tool. Even those studies which purported to measure students' information literacy were usually institution specific (i.e., referred to tools, buildings, and other resources that only those affiliated with the institution could be expected to know about), and none had tackled the thorny psychometric issues of validity and reliability, issues which in general have been lacking from the discussion in the library assessment literature.

In March 2001, Kent State University (KSU) Libraries went public with their effort to address exactly these gaps in a presentation at ACRL X. "We envisioned a standardized tool that is valid and reliable; contains items not specific to a particular institution or library but rather assesses at an institutional level; is easily administered; and provides for both external and internal benchmarking" (About Project SAILS, 2006). Because this tool offered the potential to address some important gaps in our assessment strategy, the OSU instruction coordinator contacted Kent State as soon as it became clear they were interested in working with outside institutions. We integrated the developing SAILS instrument into our new collaboration with English composition. The library agreed to teach two library sessions for each section of 25 students and the Writing 121 coordinator agreed to let us include the web based version of KSU's assessment instrument as a pre-library session assignment. KSU would benefit by getting the responses of approximately 2,500 students per year to help them refine their tool.

We wanted to accomplish several things by participating in what came to be known as Project SAILS (Standardized Assessment of Information Literacy Skills). We hoped to establish a baseline against which we could measure the impact of the

collaboration with English composition. By assessing a cohort of seniors (outside the Writing 121 classes) we wanted to determine if the undergraduate curriculum was improving the information literacy skills of its graduates already, i.e., without the library's instruction efforts. We also planned a future project, sampling seniors four years after the collaboration with Writing 121 began, hoping to identify changes that might be the result of library instruction. We didn't intend to rely on this information exclusively, but felt a psychometrically sound measure would be a strong piece of evidence, which could be used in conversations with library and university administration about the importance of IL competency as an educational goal.

Tools for gathering qualitative data: focus groups

The Harvard Writing Project video, *Shaped by Writing: The Undergraduate Experience*, inspired our thinking about how to supplement the quantitative data gathered with qualitative information. The Harvard Writing Project examined how engaging with a recursive writing process -- one that strongly resembled the recursive research process defined by our conversational metaphor -- affected student learning at Harvard. Harvard's study was enriched by data reflecting students' own attitudes and feelings about their experiences with writing (Sommers & Saltz, 2004). We wanted to gather similar data about OSU students' research experiences. For a variety of reasons, we chose focus groups as our method for collecting qualitative data.

Originally developed to serve business marketing needs, focus groups have been embraced by the social sciences and are making numerous inroads into libraries' planning and evaluation efforts. They have become a sufficiently useful tool to stimulate programs at ALA (Nolan, 2006) and to generate the development of data analysis software (Von

Seggern & Young, 2003). Libraries are using focus groups to add qualitative richness to the more commonly used quantitative analyses supported by routinely collected statistics, and also to gather information on less easily quantifiable processes and perceptions.

First, focus groups are particularly useful to examine groups of people and their reaction to shared experiences, services and activities. Focus groups are structured as conversations and not as simple question-and-answer sessions, and thus offer the opportunity to gather richer data than can be elicited from one-on-one interviews or qualitative surveys. Consequently, they are also frequently used to supplement and/or validate the findings from quantitative measures (Krueger, 2000). In the arena of library assessment, for example, focus group information has been used to supplement the findings from LibQual+ (Forrest & Williamson, 2003).

Additional advantages of a well-run focus group are that the conversational structure can help participants draw connections and analyze their experiences more deeply than they might as individuals. The safety offered by a group conversation can also be beneficial to participants who might be uncomfortable criticizing institutions or authority figures. Finally, the group conversation model can help the researcher examine topics and processes more complex than can easily be captured in a survey or through a questionnaire (Krueger, 2000). Libraries have capitalized on these advantages by using focus groups to better understand students' information gathering/ research processes (Seiden et al, 1997; Valentine, 1993). The knowledge gained from focus groups has been used to guide libraries' instructional and outreach efforts, purchasing decisions, and circulation policies (e.g., Carter, 2002; Warnken et al, 1992). In the last five years, OSU Libraries have successfully used focus groups for usability testing of web-based resources and instruction materials, and as a key part of our overall strategic planning

process.

A final reason we chose to do focus groups was our desire to build on our collaboration with the university's Writing Intensive Curriculum (WIC) program. We realized that the quantitative data provided by SAILS offered only cohort level information and that we were missing some potentially significant feedback about how students perceived their research and writing preparation at OSU.

Results

While it is ideal to be able to plan a comprehensive assessment strategy and then systematically implement it, we rarely have the luxury in libraries to engage in a lengthy planning process. Our vision of the "teaching library" as a highly collaborative framework leading the implementation of information literacy throughout the curriculum made it even more impossible to carefully plan everything out before acting. Our experience has shown us that by emphasizing assessment as a key part of the "teaching library" from the start, we have been able to identify opportunities and strategies as our conceptions and implementation evolved.

In our initial conversations about the "teaching library", two strategic opportunities to address information literacy learning outcomes were identified within the curriculum: the Writing 121 program, and the Writing Intensive Curriculum. Through ongoing collaborative efforts, instruction and assessment activities have been successfully implemented in both of these programs.

When the curriculum for the research skills portion of Writing 121 was redefined in 2004, we used the framework, standards and tools described above. The conversation metaphor was more explicitly integrated into redesigned research log assignments, which

are now worth 10% of the students' final course grade in Writing 121. Assessment of the logs is again based on a rubric, which is openly shared with students. Information gathered during these assessments has been used to refine the Writing 121 curriculum further in each of the last four terms.

We have also used the SAILS instrument to gather quantitative data from Writing 121 students before they receive any library instruction. We were the first institution outside KSU to administer the instrument and were essentially a Beta test site for outside use, collecting data a year before the project received grant funding or began formally collecting data from multiple institutions in Phase I. We have been gathering baseline data on our incoming students for four years, from 2001-2002 until 2004-2005. This baseline data was supplemented by data gathered from cohorts of seniors in the spring of 2002 and 2005.

There were some limitations we knew about when we began using SAILS, and many more we discovered along the way, that have significantly restricted the conclusions we have been able to draw from this data. We knew ahead of time that we would have no way to track or insure that the same students we tested in the first year would be those re-tested four years later. We hoped that the samples would be large enough to allow us to draw some reasonable inferences.

We were less prepared for the extensive changes to the SAILS instrument itself. In hindsight, perhaps this shouldn't have been a surprise since we were aware that the instrument was still under development. At the outset, we didn't fully understand that the changes from year to year would limit our ability to compare cohort results to the extent that they did. Many items were dropped and added as it was determined which ones provided the best discriminatory power and so the item make-up of the four ACRL

standards being assessed changed. As the project progressed, the SAILS Project's own analytical approaches evolved and so the reports generated in the formal phases of testing weren't available for our earliest cohorts of students. In fact, we didn't receive the results from our 2002-2003 cohorts until 2006 because these had to be done "by hand" outside the regular assessment mechanism that was being used in the latter stages of the project. We still haven't received the final data analysis for our most recent senior cohort (2005).

Some data is available; however, it is still unclear what conclusions we can draw. On Standards I, II, and III (the only ones available for our earlier cohort of seniors), we find the mean scores are actually lower for the 2005 cohort than for the 2002 cohort on all three standards. Because the 2005 seniors were surveyed after research instruction was integrated in the Writing 121 curriculum, it might seem as if these numbers could inform conclusions about the effectiveness of that instruction. What we do not know about these seniors, however, makes this problematic. We do not know how many of them took Writing 121 at OSU, we do not know how many of them received any research instruction in any class, and we do not know how many opportunities they had to do research while at OSU.

Even given these limitations, the potential value of quantitative data in making a case for the "teaching library" is clear. If the numbers gathered in 2005 do accurately reflect the general state of IL competencies for seniors, we could argue that additional information literacy instruction is going to be required beyond and/or in addition to Writing 121 before it has a measurable impact on student performance.

A second preliminary comparison we can make from the available data is between the 2005 freshman and senior levels of performance on the 12 discrete skill sets derived from the SAILS instrument. With the exception of Skill Set 9, Retrieving Sources, our

seniors performed at nearly the same level and in some cases, somewhat worse, based on mean scores. They were apparently more knowledgeable about retrieving sources. Since no one has yet defined what level of SAILS performance constitutes information literacy, we can't conclude that this is necessarily a problem, but the data does suggest that OSU students' experience as presently structured is not significantly increasing their information literacy. This information could potentially be combined with data gathered by our partners in Student Affairs through the National Survey of Student Engagement and/ or with the findings from our own focus groups.

The limitations of the SAILS analyses we have received to date only reinforce the need for qualitative data gathering as part of a multidimensional assessment strategy. The numbers can suggest a great deal about our students' skills, but in order to understand how particular learning experiences have shaped those skills more information is needed. This is particularly true for the SAILS data because it only provides cohort level information, so we can't measure individual student learning with this instrument.

With funding support from the WIC program and from library administration, we planned a series of focus groups with seniors in spring 2005. We developed our stimulus questions in collaboration with the WIC program coordinator. We solicited volunteers from two graduate Education programs (Adult Education and College Student Services Administration) to be trained as facilitators for the groups. Participants were solicited from the cohort of seniors who completed the SAILS survey that spring. We had hoped to recruit graduating seniors in the middle of their last (10 week) term at OSU. After some delays in the institutional review board process, we were not able to schedule the focus groups until the end of the term. We were therefore only able to recruit 27 students to attend the 1.5 hour conversations. In most cases, we successfully created separate focus

groups for science majors and for those who majored in the social sciences or humanities.

Less than half (47%) of the focus group participants had taken Writing 121 at OSU. The rest met their basic writing requirement with Advanced Placement credit, or by transferring credits from other institutions (in most cases, from community colleges or high schools). Research instruction was not always a requirement in these alternative courses, which has significant implications for our instruction program. No matter how effective the Writing 121 collaboration is, it will not be adequate if more than half of our students never take it.

The preliminary data from the focus groups confirms that this method produces very rich insights into the impact of research and writing experiences on undergraduate learning. Our experience, unfortunately, also illustrates some of the challenges of focus groups as an assessment method. Because videotaping can have a stifling effect on focus group conversation, we chose to audiotape the sessions as a less intrusive alternative. Multi-voice conversations are very difficult to transcribe from an audiotape, which forced an unexpected delay with the analysis. Ideally, a professional transcriber, with focus-group experience, should be hired. We also used facilitators from outside the library to moderate the groups. This made it possible for us to schedule several groups on the same day, and it was intended to preserve an atmosphere of neutrality within the groups. Not being present during the conversations, however, means that we are completely dependent on the transcriptions for our data. In addition, the facilitators appear to vary widely in quality, which could compromise the integrity of the data gathered from some of the groups.

Preliminary themes discussed in the focus groups illustrate the value of this type of data for programmatic assessment. For example, several students expressed the idea

that they were successful doing research but that they had had to learn too much on their own. Students perceive that faculty members have clear standards for evaluating students' research and writing, but that they do not always communicate those standards, before or after research projects are done. Students feel that after they leave the structured experience of high school, they are left to learn college research by trial and error. Several students said that they felt that their instructors assumed students should know how to do college-level research already, and therefore didn't provide direct instruction or feedback. All of the students said that they had the opportunity to do at least some projects that required research while they were at OSU. They were proud of what they had been able to do, and enjoyed the opportunity to figure out how to produce their own analyses.

Students also felt like they needed more guidance about how to find sources, and how to identify quality sources. Many experienced difficulty finding information in the library. Most students were comfortable with web-based research and felt that they could find current information on the Internet. There was no indication that students received negative feedback about the sources they found; in fact, many said that the feedback they received on papers did not extend to their sources at all.

These results, while extremely preliminary and anecdotal, suggest that the focus group data may provide a powerful tool for building the case for a "teaching library" that includes collaborative instruction and curriculum-integrated information literacy outcomes.

Future directions

We have come so far and still have a long way to go. OSU's instruction librarians

have led the charge, within the library and across campus, to promote information literacy as an important item in the educational agenda. Although the *OSU Strategic Plan for the 21st Century* states that “At no time in our history has the ability to absorb, understand and evaluate information been so important” (Oregon State University, 2004, p. 1), there is currently no formal statement regarding the value of or need for IL competencies for which colleges and departments are held accountable.

Due in large part to the continual advocacy of library instruction faculty, information literacy is now prominently reflected in the OSU Libraries’ mission and vision statements. In addition, one of the three goals outlined by the Libraries’ strategic plan focuses entirely on information literacy and lifelong learning. A subject librarian position was re-visioned into a position focusing on undergraduate learning and assessment. Concerted efforts by subject liaisons, the Undergraduate Services Librarian, and the Instruction Workgroup are raising the awareness among key student programs and general faculty about the library’s investment in what was already a shared, and is now a more clearly articulated, set of desired learning outcomes.

Some future directions for assessment have already been suggested above. It has yet to be determined to what extent the results of our Project SAILS assessments can usefully inform the refinement of information literacy instruction. Some of the limitations described above may be corrected when new versions of the instrument allow us to define more precisely what kind of research experience the responding students have had. Particularly promising are the more fine-grained results of the skill sets. It seems likely that the evidence is there to support a claim that students are not significantly improving most of their IL competencies through the current undergraduate curriculum. In the best of all worlds, this apparent lack of progress can increase increase

the importance of IL competency as an educational priority for OSU and add motivation to infuse IL instruction more systematically into the undergraduate curriculum, both in general education courses and in required course sequences in the departments.

To definitively use this tool to assess the library's instruction program effectiveness, we will have to take advantage of new options for identifying specific groups when SAILS administration resumes in fall 2006. This would require again sampling seniors with analyses discriminating those who have completed Writing 121 at OSU and those who have been exposed to differing levels of library instruction during their undergraduate career (e.g., how many library instruction sessions have they had and at what levels). Because we have only recently obtained data which would allow comparison between seniors and freshmen level students, we are still in the planning stages for sharing this information with a range of audiences associated with the library (e.g., the Faculty Senate Library Committee) and audiences across campus (e.g., the Dean's Council). There is also the potential of combining the SAILS data with other large-scale analyses of student learning and student engagement.

Focus group data promises to offer valuable feedback on student perceptions of the research and writing instruction they have received as undergraduates. We also hope to use the focus group findings to enrich our understanding of the quantitative SAILS data gathered from seniors. In particular it is desirable to look at self-perception vs. actual knowledge and performance measures. Maughan's (2001) series of assessments with seniors found that students routinely evaluate themselves as being more information literate than measures of performance warrant. Again there are numerous potential audiences including those responsible for assessment efforts on campus and for student retention.

Collaborating with the WIC program on our 2005 focus groups provided us with the opportunity to gather data not only on the impact of research instruction, but also on the impact of research and writing on learning. Similar collaborations with other partners in Student Affairs and Academic Programs offer similar potential. One could argue that a more generalized exit interview of seniors would be extremely useful for refocusing campus priorities and reaching OSU's stated goals of providing a compelling learning experience and preparing life-long learners.

To this point, we have described how we will develop the collaborative data gathering efforts already underway. We also intend to combine these with classroom- and course-level assessments of research instruction. Ideally, we would like to be able to capture learning assessments on instruction delivered in-person, by classroom faculty, or online. The outcomes mapping project described above will provide additional tools for this effort. Over the last year, the reference and instruction department has been working on creating a suite of classroom assessment tools, online learning tools and other instructional materials that address the competencies. Now, we need to build these assessments into our evaluation project.

For years, we have been using a generic satisfaction survey after instruction sessions, which does not provide any meaningful data about student learning. The IWG needs to develop a way for librarians to collect and manage learning assessment data on the direct and indirect instruction they do. While we will never capture assignment- or course-level assessment data for all of the research instruction done in the curriculum, we also intend to share the mechanisms we develop with classroom faculty via workshops through the new Center for Teaching and Learning, and communications between departments and their library liaisons.

Finally, we need to get more systematic and strategic impact out of the partnerships we already have in the curriculum. We already utilize informal student feedback as well as actual rubric based scores on the research logs to continually refine the library assignments in Writing 121, the foundation course of our information literacy instruction efforts. We need to systematically review these logs rather than relying on the piecemeal process currently in place to create a more coherent picture of where students are encountering the most difficulty. Both the Writing 121 instructors themselves and the library's liaison to the Writing 121 program share their observations with the composition program coordinator, but a much wider audience for the results of student performance on these assignments would be appropriate, including the WIC program coordinator and teaching faculty, library administration, and student programs on campus invested in successfully retaining students.

More systematic assessment and reporting of findings would be appropriate with our other major strategic instruction partner, the WIC program. Currently, individual librarians have undertaken analysis of student research paper bibliographies to gauge student understanding and utilization of appropriate information resources. Because these are upper division course, it would potentially be useful to compare these with the bibliographies prepared by students in the lower division Writing 121 course.

Conclusion

Developing meaningful assessment of a library's instruction program is not unlike the process of research that we strive to teach our students. It's messy, iterative and seldom if ever straightforward. The concepts and skills we are trying to measure are multiple and complex. This means, realistically, that no single measure, delivered a single

time, to a single designated cohort of students will suffice. Information literacy assessment can take place at numerous levels in an institution and, at successively higher levels, greater amounts of collaboration are required. This also increases the challenges for assessment.

It is essential that library instruction programs embrace the learning outcomes paradigm which governs higher education and that we lead the way in integrating information literacy competencies. If academic libraries are going to remain relevant to the educational missions of our institutions, we must demonstrate how we contribute to student learning and preparation for the world they face beyond graduation. Incorporating assessment into every aspect of our instruction, at every level, alone or in collaboration with others, is a necessary strategy for survival. Beyond that, well-designed assessment can be formative as well as summative, allowing us to continually improve the effectiveness of what we do.

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