Are They Learning? Are We? Learning Outcomes and the Academic Library
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# ARE THEY LEARNING? ARE WE? LEARNING OUTCOMES AND THE ACADEMIC LIBRARY

Megan Oakleaf[1]

Since the 1990s, the assessment of learning outcomes in academic libraries has accelerated rapidly, and librarians have come to recognize the necessity of articulating and assessing student learning outcomes. Initially, librarians developed tools and instruments to assess information literacy student learning outcomes. Now, academic librarians are moving to a larger scale assessment approach: the articulation and demonstration of library impact on institutions of higher education. This article considers six questions relevant to the assessment challenges librarians face in coming years: (1) How committed are librarians to student learning? (2) What do librarians want students to learn? (3) How do librarians document student learning? (4) How committed are librarians to their own learning? (5) What do librarians need to learn? (6) How can librarians document their own learning?

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In the past two decades the assessment of learning outcomes in academic libraries has accelerated rapidly. Outside of higher education institutions, regional accreditation organizations have moved from input and output measures to outcomes-based evaluation. They expect higher education institutions to formulate student learning outcomes, assess the degree to which students attain these outcomes, and engage in a continuous improvement process to meet outcomes over time. As a result, higher education institutions have developed general education outcomes, academic departments have adopted lists of learning outcomes, and cocurricular programs have identified student learning and development outcomes. Over time, academic librarians also recognized the necessity to articulate institutional student learning outcomes, usually in the area of information literacy. Meanwhile, professional associations have identified outcomes that all graduating students should attain, such as the adoption of the *Information Literacy Competency Standards for Higher Education* [1]. Funding agen-

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cies such as the Institute for Museum and Library Services have also embraced outcomes-based evaluation for all funded projects; projects must demonstrate that they have a measurable impact on their targeted audiences.

In the past ten years, librarians have progressed by developing tools and instruments to assess information literacy learning outcomes. Traditionally, librarians used surveys and tests to assess student learning [2–10]. More recently, librarians have embraced authentic performance assessments (e.g., portfolios, research papers, annotated bibliographies, and worksheets) [11–18] and used rubrics to score them [19–22].

Now, academic librarians are moving beyond assessment of individual learning outcomes to a larger scale value assessment: the demonstration and articulation of the impact of libraries on institutions of higher education. In times of economic crisis, the need to show value is heightened, as evidenced by the recent increase in projects, large and small, dedicated to finding evidence of the worth and importance of academic libraries. Still, questions remain:

- How committed are librarians to student learning?
- What do librarians want students to learn?
- How do librarians document student learning?
- How committed are librarians to *their own* learning?
- What do librarians need to learn?
- How can librarians document their own learning?

## How Committed Are We to Student Learning?

While many librarians have dedicated their careers to sustaining students, faculty, and colleagues, the idea that academic librarians have a duty and obligation to be educators is not universally embraced. For example, a content analysis of ARL-member library mission statements indicates that only one-fifth of ARL libraries consider teaching a key element of their mission. Many express their desire to *support* the teaching missions of their overarching institutions, using terms like "promote," "enhance," "encourage," or "assist" to describe their efforts to augment institutional teaching missions. However, only twenty-five ARL library mission statements state that they actively "teach," "educate," or "provide instruction" rather than serving in a limited support role. While library mission statements do not necessarily encapsulate individual librarian's beliefs and library service goals, the difference between these positions may indicate important differences in organizational perspective. ARL mission statements indicate two levels of commitment: (1) libraries that cede instructional territory to disciplinary units and provide only secondary, supplemental support and

(2) libraries that identify education as a core value, take responsibility for student attainment of learning goals, and consequently define themselves as active agents in the teaching missions of their institutions. While the latter group certainly commits to a more ambitious role on campus, they also can achieve a more stable and powerful position among competitors.

Of course, while not all academic libraries have embraced teaching and learning as a core value that infuses resource and service offerings, many library departments and individual librarians have. For example, virtually all academic library reference and instruction departments provide some level of education for students in the form of face-to-face teaching, tutorials, subject guides, tip sheets, tool kits, reference interactions, online course support, and so forth. In addition, many libraries have established a list of learning outcomes that all students should achieve prior to graduation, a necessary step in both producing and assessing student learning [23]. Taken together, these examples indicate a degree of departmental and individual commitment to student learning.

## What Do We Want Students to Learn?

Librarians who establish and apply student learning outcomes know what they want students to learn. Many librarians look to the *Information Literacy Competency Standards for Higher Education* for inspiration in writing learning outcomes; likewise, libraries that have established agreed-upon learning outcomes typically base them on the *Standards*. Although the *Standards* articulate the information literacy skills students need to acquire during their higher education experience, many faculty and institutional administrators consider them library-centric standards. Therefore, to create value in the minds of students, faculty, and administrators, libraries need to establish their value in terms of academic department and institutional teaching goals by augmenting the *Standards* with broader views, especially when communicating outside the library organization and within a campus-wide context.

To determine which standards will serve to translate library learning values to faculty and administrators, librarians can seek the answers to the following questions: (1) What do institutions want students to learn? and (2) What do future employers and graduate/professional programs want students to learn? To answer the first question, librarians can investigate their institution's general education outcomes and strategic goals as well as regional accreditation mandates to gain a unique, campus-specific, non-standardized picture of what students at their institution need to be able to know and do before graduation. Likewise, subject specialist librarians can also identify learning outcomes for individual academic disciplines

and majors as well as any additional accreditation requirements, such as those created by professional associations and applied to professional schools. Some subject specialists, such as engineering librarians at North Carolina State University libraries, have already experimented with this approach [24]. Taken as a whole, the outcomes, goals, and standards produced by institutions, professional associations, and accreditation agencies represent what a particular campus wants students to be able to know and do by the time they graduate.

To answer the second question, librarians can gather information from a wide variety of venues. Librarians can research job postings; follow up on student internship supervisor feedback; or explore the job knowledge, skills, and abilities required for specific job fields. Librarians can also investigate the admission requirements and entering student expectations of graduate and professional schools. Finally, librarians can set alerts to be notified of major publications that focus on higher education, such as *Raising the Bar: Employers' Views on College Learning in the Wake of the Economic Downturn* [25].

In addition to these approaches, librarians can utilize other existing learning standards to define library instructional goals more broadly and match campus learning expectations—without departing from the values of traditional information literacy skills. Clearly, there is a high level of similarity among many learning standards, including the ACRL Standards, AAC&U LEAP *Essential Learning Outcomes* [26], AAC&U *VALUE Rubrics* [27], ISTE *NETS-S Standards* [28], NCTE *21st-Century Curriculum and Assessment Framework* [29], *Partnership for 21st-Century Skills* [30], AASL *Standards for the 21st-Century Learner* [31], *Common Core State Standards* [32], exemplary cocurricular standards [33], and CAS *Learning and Developmental Outcomes* [34] (see my "Shared Learning Standards and Outcomes" comparison, available in the online version of this article as a pdf). Not all of these standards use the term "information literacy" to describe necessary student skills. For example, UniLOA refers to "critical thinking," which is defined as "an active process where students use skills of evaluating, analyzing, assessing, interpreting, questioning and restating a problem or challenge. A skilled critical thinker should be able to examine and understand the fundamental qualities of problems, collect and analyze critical data, draw appropriate interpretations and conclusions, examine broad-based problem-solving options and effectively communicate and implement appropriate solutions" [35]. Certainly, this definition of critical thinking includes many characteristics of information literacy. By emphasizing shared student learning outcomes and standards, librarians can simultaneously teach information literacy content and demonstrate the impact of that instruction on what campuses and employers want students to learn most. Indeed, when librarians ignore artificial academic boundaries and embrace

a broader conception of their teaching content, they are more likely to utilize teaching best practices such as presenting material within real-life or disciplinary contexts. Consequently, librarians can achieve—and demonstrate—an impact on student learning beyond their expectations.

Furthermore, librarians can revise the language they use when communicating the educational value of libraries. Within library walls, the term "information literacy" has gained wide acceptance. On campus, other synonyms may provoke a more positive response. Examples include "information skills," "research skills," "independent scholarship," "independent research," "inquiry," "21st-century skills," or even "lifelong learning." Indeed, some authors argue that information literacy concepts overlap with many other traditions [36], such as the scientific method [37], general research processes [38], and Bloom's taxonomy [39]. Some librarians may argue, with merit, that it is important to teach faculty and administrators what information literacy is and why it should be important to them. In fact, some librarians may be fortunate enough to work with campus partners that are already well versed in the value of information literacy. For those facing greater challenges, establishing and using a common language that emphasizes shared campuswide values may produce greater success.

## How Do We Document Their Learning?

Once librarians decide that they are committed to owning an instructional role within their institutions and know what they want their students to learn, the next steps are to engage in instruction and then to assess and document impact.

Libraries engage in instruction in various ways. Oftentimes libraries limit their conception of teaching to face-to-face lessons, online tutorials, and subject or course guides to library resources. Many libraries also recognize the instructional role of reference services, both in physical and digital formats. These instruction and reference services form the cornerstone of library educational efforts. However, traditional instructional services are not the only ways in which libraries contribute to student learning. For example, collections and their associated services (i.e., interlibrary loan and reserves) exist, at least in part, to augment learning. Indeed, because libraries exist within educational institutions, it might be argued than nearly all library resources and services contribute, directly or indirectly, to learning. A helpful tool for librarians seeking to establish the connections between library activities and student learning is a student learning impact map (see table 1). Librarians might create a student learning impact map by listing library services, resources, and departments along one side of a grid and student learning outcomes along the other side, then filling

**Table 1**

STUDENT LEARNING IMPACT MAP

| | INFORMATION-LITERATE STUDENT STANDARDS | | | | |
|---|---|---|---|---|---|
| | 1. Determines the nature and extent of the information needed | 2. Accesses needed information effectively and efficiently | 3. Evaluates information and its sources critically and incorporates selected information into his or her knowledge base and value system | 4. Individually, or as a member of a group, uses information effectively to accomplish a specific purpose | 5. Understands many of the economic, legal, and social issues surrounding the use of information and accesses and uses information ethically and legally |
| Reference service | X | X | | | |
| Instructional services | | | X | X | X |
| Circulation | | X | | | |
| Reserves | | X | | | |
| Interlibrary loan | | X | | | |
| Acquisitions | | X | | | |
| Collections | | X | | | |
| Special collections and archives | | X | X | | X |
| Physical space | | | | X | |

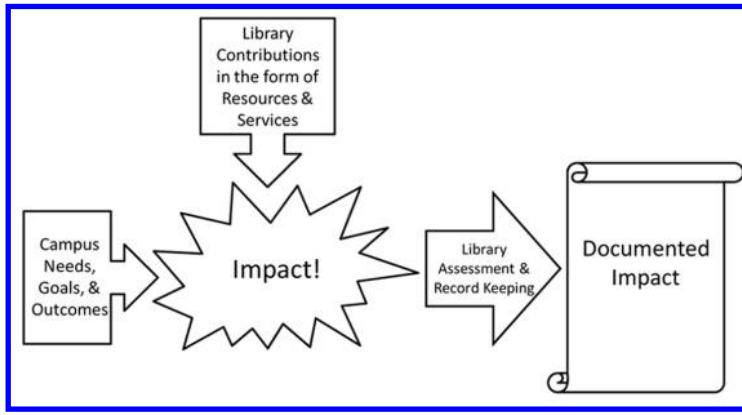


FIG. 1.—Library impact model

in how each library element contributes to learning outcomes. Using such a map allows librarians to explore the intersections between library services and student learning and to identify opportunities for library impact on student learning.

Indeed, while libraries have a long history of offering instructional resources and services, both broadly and narrowly defined, they have less experience assessing their impact in ways that have campuswide relevance. In order to avoid library-centric conceptions of instruction, librarians need to view instruction from a campuswide standpoint. From a campus perspective, library impact occurs where campus needs, goals, and outcomes intersect with library resources and services (see fig. 1).

Consider higher education institutions that include critical thinking as a general education outcome. These institutions want students to graduate with strong critical thinking skills. If librarians at these institutions want to contribute to campus goals, they need to leverage or possibly retool their existing resources and services. For example, librarians might recommit to teaching critical thinking skills actively and explicitly via digital reference—by presenting information seeking as a step-by-step, problem-solving process and focusing on the analytical or evaluative skills that are key elements of both critical thinking and information literacy. In this scenario, library impact occurs at the intersection of campus critical thinking learning outcomes and a library service that actively teaches critical thinking. Or, consider colleges that have adopted the AAC&U (Association of American Colleges and Universities) *VALUE Rubrics* to assess student learning. Of course, library resources and services are clearly related to the *VALUE Rubrics* for information literacy [40]. However, librarians can

also anticipate an intersection with other areas of the VALUE assessment initiative, such as inquiry and analysis. At least three areas of the inquiry and analysis rubric naturally relate to library resources and services:

- *Topic selection*: identifies a creative, focused, and manageable topic that addresses potentially significant yet previously less explored aspects of the topic;
- *Existing knowledge, research, and/or views*: synthesizes in-depth information from relevant sources representing various points of view/approaches;
- *Analysis*: organizes and synthesizes evidence to reveal insightful patterns, differences, or similarities related to focus [41].

Because standard library instruction efforts at most institutions emphasize these three skills, librarians are well positioned to take ownership for meeting such campuswide goals. Librarians who understand institutional needs and correlate those needs to existing or new library contributions can easily pinpoint impact areas.

To reveal the full picture of library impact, librarians need to map all the intersections between campus needs, goals, and outcomes and library contributions in the form of resources and services—in short, all the ways in which the library helps address campus issues. A useful tool for mapping these intersections is a library mission impact map. Librarians include campus needs, goals, and outcomes in a column on the left-hand side of the mission impact map (see table 2) and list library existing services, resources, and departments along the top row. Then, they map where library offerings intersect with campus mission to find points of impact. As an added benefit, this process can generate ideas for new library resources and services to satisfy unmet campus needs, goals, and outcomes.

Once librarians map points of library impact, the next steps are to assess and document the impact. However, assessing and documenting library instructional impact, particularly in a campus context, can be challenging. Librarians who engage in instruction do not always have direct access to students for the purpose of learning assessment (e.g., librarians who participate in assignment or curriculum design only). Even librarians with access to students often do not assess student learning, and many do not even design their lessons to accommodate or support assessment activities (e.g., using the *Understanding by Design* instructional design model [42]). When they do assess student learning, many librarians do not know how to document their assessment results to create a large-scale representation of how the library contributes to student learning. Developing a student learning assessment plan helps librarians track student learning and devise

**Table 2**

MISSION IMPACT MAP

| Campus Needs, Goals, and Outcomes | Reference Services | Instructional Services | Circulation | Reserves | Interlibrary Loan | Acquisitions | Collections | Special Collections and Archives | Physical Space |
|---|---|---|---|---|---|---|---|---|---|
| Student enrollment | | X | | | | | | X | X |
| Student retention | X | X | X | X | | | X | | |
| Student graduation rates | X | X | X | X | | | X | | |
| Student success | X | X | | | | | | | X |
| Student achievement | X | X | | | | | | | |
| Student learning | X | X | | | | | | | |
| Student experience | | | | | | | | | X |
| Faculty research output | | | X | | X | X | X | X | |
| Faculty grant funding | | | X | | X | X | X | X | |
| Faculty teaching | | X | | X | | | | | |

ways to overcome assessment challenges. For example, assessment plans encourage librarians to consider and discuss the following:

- What learning outcomes will be achieved?
- What are the target student audiences for learning?
- What opportunities for learning exist?
- What is known about student learning? Not known?
- What methods or tools would best assess learning?
- How will student learning assessment data be analyzed?
- How will librarians know that students have learned?
- Who is responsible?
- What is the timeline for assessment?
- What resources are required?
- What are the results of student learning assessment?
- How will results be presented? To whom?
- Who can make decisions and recommendations based on results?
- What decisions and recommendations are made based on results?
- What is the plan for following through and following up on the decisions and recommendations for change? [43]

By capturing, tracking, and reporting the answers to these questions in a student learning assessment plan, librarians can record their impact on student learning. Finally, after documenting their impact on student learning, librarians need to communicate that impact campuswide.

## How Committed Are We to Librarian Learning?

Although much of the focus on learning outcomes assessment is rightfully focused on students, librarians also benefit from engaging in assessment [44]. By assessing students, librarians determine what students know and are able to do and, as a part of that process, librarians learn to be better teachers and assessors. Furthermore, librarians who engage in impact assessment learn additional skills and strategies. Of course, librarian learning requires effort, time, resources, and support—which raises the question, "How committed are we to our own learning?" Although the need to master assessment skills may be new, librarians' espoused commitment to the underpinnings of library assessment—theory-based practice, pragmatism, reflective practice, and individual and organizational learning—is not. These theories and philosophies are already deeply rooted in current library practice.

*Theory and Practice*

Most librarians learn about the value of theory-based practice in library school. Historically, LIS programs teach library practices within the context of information theories. Theory-informed practice is also supported by the Council for the Advancement of Standards in Higher Education. The council recommends basing all higher education practices, programs, and services on theory [45]. Librarians learning to assess student skills can reap many benefits from grounding assessment practice in theory. For example, theory helps librarians to combine logic and intuition with empirical knowledge, provide support and guidance for practice, and "increase the strength and utility of strategic assessment planning" [46]. According to Keeling and colleagues, basing assessment practice on theory "significantly improve[s] the process and outcomes" [47, p. 16]. Indeed, theory "serves, in practice, to build an essential foundation for assessment planning; assessment purposes, methods, metrics, and reporting are developed on [a theoretical] foundation" [47, p. 15].

*Pragmatism*

Librarians who acquire assessment skills extend their profession's existing emphasis on pragmatic processes. As a philosophy, pragmatism focuses on how things work best in practice and seeks to discover ways to reliably achieve goals and improve performance [48, p. 475]. For librarians learning about assessment, "pragmatism serves as a . . . means to taking more effective actions by improving the accuracy of one's beliefs about how things actually work in the world. It is a system that draws on lessons learned from experience—in both deliberate and systematic ways—to create knowledge for action. High quality knowledge leads to effective action that works reliably well in reaching performance goals" [48, p. 477]. A pragmatic approach improves practice by eliminating "defects in beliefs" that cause errors [48, p. 481] and creating tools to solve problems [48, p. 482]. Like assessment itself, pragmatism is characterized by "reiterative learning-based processes" similar to this pragmatic step-by-step framework for taking productive action:

1. Thoughtfully interpret one's environment.
2. Learn from experiences.
3. Reflect on past experiences.
4. Imagine how patterns of cause and effect might impact future experiences.
5. Engage in inquiry to reduce doubt.
6. Take targeted action to achieve a desired result.
7. Use reasoning to apply or create new rules for action.
8. Build knowledge through experimentation.

9. Improve one's knowledge by incorporating discoveries from action.
10. Clarify beliefs by using inquiry to improve performance. [48, p. 478]

Librarians who use assessment to improve their practice adhere to pragmatist philosophy.

*Reflective Practice*

Not only do librarians who learn to conduct assessment align themselves with pragmatic philosophy, they engage in reflective practice. Researchers use many terms to describe reflective processes: reflective practice, reflection-in-action [49], metacognitive reflection [50], reflective learning [51], critical reflection [52], and reflective thinking [53]. By any name, reflective practice usually begins with a problem or "situation of complexity, uncertainty, instability, uniqueness, or values-conflict" [54, p. 42] and a decision to find a solution. Next, practitioners seek information about the problem and decide to act. The last step is to take action [54, p. 44]. Thus, the result of reflection is action oriented: Russell R. Rogers states, "Ultimately, the intent of reflection is to integrate the understanding gained in one's experience in order to enable better choices or actions in the future as well as to enhance one's overall effectiveness" [54, p. 41]. Like the assessment cycle, reflective practice is ongoing. In fact, according to John Dewey, solving problems through reflection often requires multiple cycles of trial and error [55].

Librarians employing assessment as a learning tool can use several methods to facilitate reflection. They include mentoring, structured experiences [56], group discussions [57], critical incidents [58], role analysis, and communities of practice [59]. These methods are most powerful in an environment that fosters reflection and "autonomy, feedback, access, and connection to others, stimulation by others, and significant performance demands" [56]. One of most difficult challenges of reflective practice is to create an environment where assumptions can be broken—assumptions that are often ingrained in personal or organizational norms [60, p. 296]. However, the risks of not engaging in assumption breaking and reflection are dire; according to Michael Hammer and Steven A. Stanton, "Although successful organizations fail in many different ways, all these failures share one underlying cause: a failure to reflect" [60, p. 291].

Conversely, librarians who embrace reflective practice reap numerous benefits including greater change capacity; more freedom of action; improved flexibility, productivity, and innovation [61]; new perspectives on experience; changes in behavior; increased commitment to action [62]; and increased learning. In fact, some researchers consider learning the major outcome of reflection [54, p. 47]. Victoria J. Marsick and Karen E. Watkins consider reflection a facilitator of informal learning [63], Jack

Mezirow believes reflection results in transformational learning [64], and Donald A. Schon asserts that reflection contributes to professional learning [49].

*Individual and Organizational Learning*

Library assessment reflects a professional commitment not only to pragmatic and reflective practice but also to individual and organizational learning. On an individual level, assessment closely mirrors the constructivist learning process. According to constructivist learning theory, "problem solving is at the heart of learning, thinking, and development. As people solve problems and discover the consequences of their actions—through reflecting on past and immediate experiences—they construct their own understanding" [65, p. 1463]. John Kenny asserts that constructivist approaches to learning are appropriate when individuals confront transformational change "as, by definition, no one knows what the solution will be; there is no expert to transmit the knowledge; it must be created by the individuals within [an] organization" [66, p. 358].

When assessment is an organizational process, not just an individual one, it leads to organizational learning. Learning organizations are "skilled at creating, acquiring, and transferring knowledge and at modifying its behavior to reflect new knowledge and insights" [67, p. 78]. Learning organizations have systematic problem-solving strategies, use data for decision making, and embrace a habit of experimentation. They learn from the past and from others, and they circulate knowledge throughout their organization [67, pp. 81–89]. Learning organizations support lifelong learning, accept and expect learning from mistakes [68, p. 10], and encourage creativity as "fundamentally critical to successful innovation" [69]. They are characterized by "empowerment, openness, team member dialogue, supportive risk-taking environments, appreciative inquiry, and distributive leadership" [70, p. 108].

The concept of a learning organization is relevant to all twenty-first-century organizations [71], but "it is critical that libraries become learning organizations" [68, p. 12]. When libraries become learning organizations, they minimize complacency; maximize continuous learning, improvement, and innovation [72]; promote inquiry and dialogue; facilitate collaboration; create systems to share learning; focus librarians on a unified vision; and connect the library to its environment [73].

In order to build a learning organization based on assessment, libraries must have supportive leaders and skilled librarians. For example, libraries require leaders who nurture organizational learning [74] in the area of assessment, communicate a vision, commit to change, connect learning with library operations, capture and reward learning, and ensure sharing of knowledge [75]. Librarians also need discretionary time to learn [76,

p. 47] and opportunities to work collaboratively with educators in other disciplines [68, p. 13]. Priti Jain and Stephen Mutula summarize the skills librarians need to make the most of academic libraries that are also learning organizations. These include "team skills, public relations and communication skills, ability to think in terms of the enterprise (strategically), creative thinking, use of new technology and information tools effectively, ability to train and educate the client effectively, . . . and the capability of working effectively in partnership with faculty members and other stakeholders" [68, p. 12]. If achieved, organizational learning is a "means for achieving success in turbulent times" [70, p. 105].

Certainly, there is "no one best theory—and there is no one best way to apply theory to assessment" [47, p. 15]. Pragmatism, reflection, and learning theories all underpin library practices, including assessment. However, other theories, philosophies, and paradigms also align well with assessment. For example, the assessment of student learning is rooted in assessment theories including "assessment *for* learning," "assessment *as* learning," and "assessment *as learning to teach*" [77, pp. 540–41]. To assess, demonstrate, and articulate the impact of libraries on institutions of higher education, librarians would do well integrate all these concepts into their professional culture.

## What Do Librarians Need to Learn?

In order to act in accordance with their espoused theories and practices, librarians need to learn new impact assessment skills, but exactly what skills do they need to learn? Although this question merits deeper study, an initial list of important impact assessment skills might include

- Developing an assessment plan [43]:
  - Identifying the purposes, values, or theories guiding assessment activities
  - Linking assessment activities to institutional and library planning documents
  - Establishing resources for assessment activities
  - Setting data privacy and other ethical use policies
  - Scheduling ongoing assessment activities based on an agreed-upon assessment cycle [44]
- Conceptualizing library impact on learning:
  - Articulating student learning outcomes addressed by libraries and librarians as well as academic faculty and student affairs professionals, independently and in collaboration with academic faculty or student affairs professionals

  - Defining library impact in an institutional context
  - Articulating questions about library impact
  - Matching questions about library impact to appropriate assessment methods.
- Defining an action plan for an assessment activity [78]:
  - Identifying an outcome to assess
  - Determining the scope of assessment
  - Checking for existing data
  - Determining the assessment method
  - Deploying assessment methods
  - Gathering student learning assessment data
  - Analyzing data
  - Preparing a results report
  - Applying student learning assessment data to make decisions and take actions that will increase student learning and continuously improve instructional programs
  - Managing student learning assessment data over time, programs, departments, and so on
- Identifying assessment tools that measure student learning such as tests, rubrics, and performance/artifact assessments [79], independently and in collaboration with academic faculty or student affairs professionals. Other basic assessment methods include the following:
  - Observations
  - Interviews
  - Focus groups
  - Surveys
  - Artifact analysis (e.g., documents, transactions, logs)
- Communicating library impact:
  - Identifying valid, reliable, and relevant results
  - Reporting student learning assessment results to stakeholders including librarians, academic faculty, administrators, students, parents, accreditors, and so on
  - Using impact results to market the library to academic faculty, administrators, students, parents, and other stakeholders
  - Utilizing impact results to gain resources needed for improvement
- Seeking assistance from assessment experts as needed

Among the most challenging student learning assessment skills are the management of student learning assessment data, the application of that data to make decisions and take actions to increase learning [80], and the creation of results reports for stakeholders. Ironically, librarians, who excel at documenting information, find the documentation of learning, espe-

cially what they have learned from student assessment, somewhat challenging. Happily, systems exist to aid librarian efforts to manage, apply, and report what they have learned about assessing and improving student learning.

## How Can Librarians Document Their Own Learning?

Assessment management systems (AMSs) exist to help academic faculty, student affairs professionals, and librarians design, document, and report assessments. AMSs not only track what assessments reveal about student learning but also about what assessors learn as a consequence of the assessment process. In other words, they record information about the student achievement of learning outcomes as well as document assessor decisions and actions—in short, what assessors have learned.

Several AMSs exist, and they share many common features. AMSs are typically organized around a tree structure based first on organizational units (programs, departments, schools, or the entire institution), then on the goals and/or outcomes of those units. In an AMS, goals and outcomes can cover learning as well as other strategic areas (see fig. 2). Permission setting allows different AMS users to access distinct system areas, to reveal either data for large-scale results across programs or to protect information entered by individuals. Perhaps most important, AMSs capture the decisions librarians make in response to their assessment learning, the actions that they pursue based on their learning, and the documents that record their learning over time. AMS examples include WeaveONLINE, TracDat, LiveText, eLumen, Tk20, Waypoint Outcomes, Blackboard Learn's assessment module, OATS from Georgia Tech, openIGOR from Coker College, and AMS from TaskStream.

For librarians, AMSs organize assessment data in ways that facilitate documentation, action, and reporting. For example, many librarians assess student learning using informal methods such as *Classroom Assessment Techniques* [81], worksheets, or observation. Without an AMS, such assessment findings are viewed only by individual librarians, then maintained in files inaccessible to others or discarded. As a result, much assessment-based librarian learning becomes tacit knowledge, which is difficult to surface and share on an organizational level. By documenting informal (and formal) assessment results in an AMS, librarians gain "the ability to turn tacit knowledge into explicit, codified knowledge that can be shared through different kinds of systems, including those that are more data-based and others that are more relationship-oriented such as communities of practice" [82]. AMSs enable librarians to share existing assessment data "so that others can benefit from what individuals have learned"

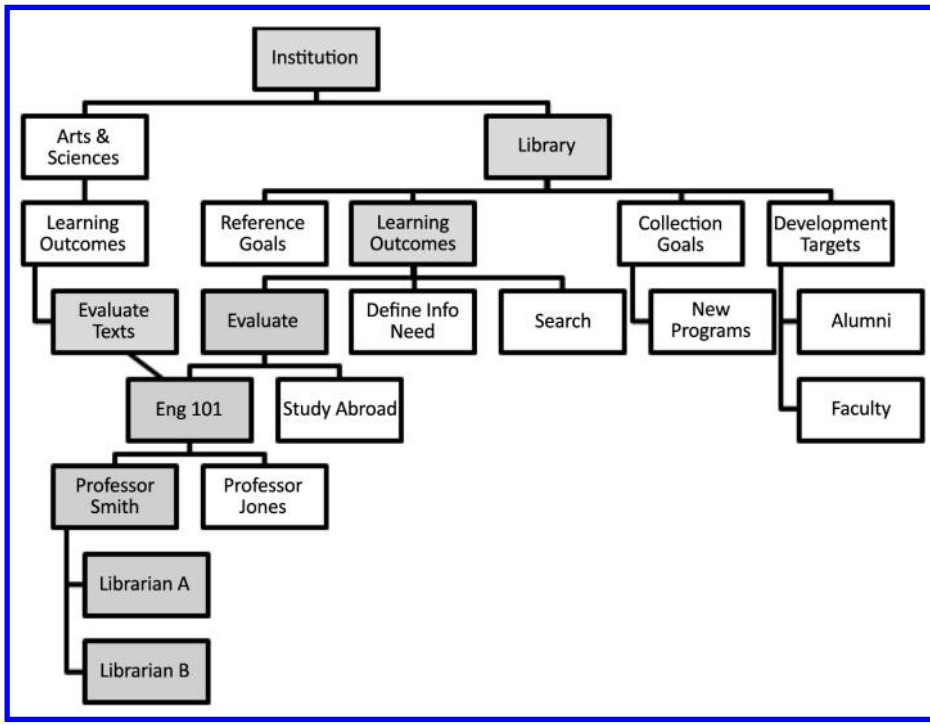


FIG. 2.—AMS hierarchy example

[83, p. 270] and transform their libraries into learning organizations. David Skyrme defines learning organizations as "organizations that have in place systems, mechanisms and processes, that are used to continually enhance their capabilities and those who work with it or for it, to achieve sustainable objectives—for themselves and the communities in which they participate" [84]. In order to capture, document, and report assessment data—transforming individual librarian learning into actionable organizational learning—libraries should adopt AMSs or similar systems. Indeed, the current absence of such systems in libraries is a serious impediment to librarians' ability to learn from assessment processes [83, p. 272].

## Conclusion

Today, librarians face a new assessment challenge: to articulate the value of academic libraries within an institutional context. To demonstrate the

impact of academic libraries on student learning, librarians need to commit themselves to playing an active role in teaching students. To teach and assess student learning, librarians should begin with a list of outcomes that describe what they want students to learn and then target them in their instruction and assessment efforts. Next, they should employ impact maps and assessment plans to determine how those outcomes intersect with institutional, departmental, cocurricular, or accreditation needs, goals, outcomes, and standards. In order to take these steps, librarians may need to acquire additional assessment skills. Fortunately, librarians' existing culture of pragmatism, reflection, and organizational learning can serve as a basis for any new assessment strategies that librarians must learn. Finally, librarians can employ assessment management systems to facilitate the recording, analysis, and documentation of library impact at their institution. Clearly, the assessment of student learning—and the acquisition of librarian assessment knowledge—is challenging, but it is also has the potential to revitalize academic librarians' role on campus. Are students learning? Yes. Are we? Definitely. And we're just getting started.

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