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Instruction and program design through assessment

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Readers of this chapter will be able to:

I. Use the established philosophies, principles, and concepts of assessment in order to build a framework in which to value, experiment with, and apply assessment for the improvement of learning, teaching, and information literacy programs.

II. Design assessments of student learning for the library classroom and as an integrated component of faculty assignments in order to affirm students’ learning of information literacy concepts.

III. Apply assessment of student learning and principles of good instruction in order to change and improve as a teacher.

IV. Holistically examine an information literacy program through the lenses of the ACRL Best Practices in order to evolve and shape it based on evidence and to demonstrate its value to student success.

Outcome I

Use the established philosophies, principles, and concepts of assessment in order to build a framework in which to value, experiment with, and apply assessment for the improvement of learning, teaching, and information literacy programs.

The main purpose of academic assessment is to provide us with a collection of evidence on which we can base decisions that are designed to improve student learning. This evidence helps us determine how students are doing relative to collaboratively defined learning outcomes, and the process of determining those outcomes assists librarians in building a shared understanding of essential learning and expectations for our students. In terms of library instruction and information literacy, the authors consider academic assessment to include assessment of student learning, assessment of the value and contributions of the information literacy program, and assessment of the teaching contributions and growth of individual librarians. Combining all three of these components forms a holistic assessment plan and a complete picture of how the library strengthens the campus community.

The discipline of teaching has historically incorporated a component of assessment to determine what students have learned, most often in the form of grades. More recent movement toward assessment of learning uses similar principles and practices but differs in several essential philosophies. Grading focuses on diagnosis while assessment is formative; grading is considered final while assessment is considered summative; grading is usually content driven and assessment is usually goal/outcome driven.

For librarians, evaluations have been a common way to elicit feedback about instruction. Evaluations generally focused on student or faculty opinion regarding the qualities of the librarian or usefulness of the session. This approach developed within an assessment context associated with accountability; one that considered administrative needs more than those of the learning enterprise. The emphasis has now shifted to focus on student learning outcomes, and the real value of assessment in this context is the clarity it provides for students, librarians, and faculty. For students, information literacy outcomes are clearly defined and consistently taught. For librarians and faculty, assessment’s significance is as a tool for change since it invites us into conversations with the goal of making good decisions: What can we discover about student learning and achievement of the outcomes that will inform our individual and collective future practice? Assessment helps us clarify and match what we believe is happening in our classrooms and reference areas with student reality. Since it is first and foremost about student experience and not librarian performance or experience, our teaching progress can be measured through the most important factor—student work and actions. The goal of assessment is not to achieve a particular score from student assignments, but instead to determine what we can learn in order to increase our effectiveness as teachers.

Philosophical and Conceptual Foundations

Several philosophical models ground this chapter and illustrate our approach to assessment. These include the Assessment Cycle and the concept of Assessment-as-Learning.

The overall purpose of assessment is to understand in order to take action. An assessment cycle illustrates how discovery and new information is used to foster growth and demonstrates the role of assessment in continuous improvement. The goal is not to merely perform assessments, but to learn, re-engage
CHAPTER 9

Instruction & Program Design through Assessment

Debra Gilchrist and Anne Zald

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and change using the information gathered during the assessment process. The majority of this chapter will be devoted to the first three steps of this assessment cycle as they pertain to assessment of student learning and assessment of information literacy programs.

Educational leaders in assessment from Alverno College (Milwaukee, Wisconsin) have used the phrase assessment-as-learning to affirm that the true value and purpose of assessment is in the learning for the student. Through “diagnostic feedback as well as the reflective practice of self assessment by each student [they] create a continuous process that improves learning and integrates it with assessment.” Assessment-as-learning is rooted in instructional design in that it is a process that begins with a teacher clearly defining what s/he intends for the student to be able to do following an instructional session, selecting an instructional approach that directly correlates with that intention, and determining how successfully the student can demonstrate the learning. While the subject of assessment is generally treated as a separate concept (such as a separate chapter in this book), in practice it is a highly integrated element of good classroom planning.

We extend Alverno’s assessment-as-learning concept one step further by affirming that assessment is also a reflective process that affords deep learning opportunities for the instructor. Librarians who adopt the assessment-as-learning philosophy can attribute a much more important and complex purpose for assessment than mere accountability. Active management with the assessment process in this framework also becomes a continuous process of improving teaching by continually asking the question: What can we discover about student learning that will impact our pedagogical decisions and move students toward even deeper learning?

Yet a third way to learn from assessment through program assessment. Ruth Stehl wisely advised, “Curriculum is not a conversation not a document...” Program assessment sets the stage for important discussions and invites us to come together to establish philosophy, clarify connections, and design plans for nurturing what works in order to change for increased effectiveness.

Educational assessment is a very broad array of activities. The approach to assessment has many years has tended to emphasize practices related to resource accountability by measuring inputs that can be counted, e.g., number of sessions, number of students, etc. Statistics such as these are useful in measuring effort expended on instruction programs; however, they do not address the deeper questions of the library’s contribution to the overarching mission of higher education which is student learning. Assessment practices built upon the philosophical foundation of assessment-as-learning shift our effort to focus on these larger questions and, in doing so, provide a powerful and meaningful context for librarians to contribute to larger institutional goals and outcomes.

**Outcome II**

*Design assessments of student learning for the library classroom and as an integrated component of faculty assignments in order to affirm students’ learning of information literacy concepts.*

Assessment received a professional emphasis and boost with the development of the Information Literacy Competency Standards for Higher Education. These standards provided a framework for the assessment of information literacy and a guideline for developing local definitions, outcomes, and assessments. The Standards now serve as an excellent starting point for campus-based discussions between librarians and faculty members about what information literacy means when viewed through the lens of an institution’s unique curriculum, philosophies, and values. Critical to the information literacy assessment process is that it is aligned with the institutional assessment plan.

Colleges and universities can use the Standards as inspiration to hone their own information literacy student learning outcomes in order to provide an instructional focus for librarians and faculty. Outcomes set the stage for
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for students as well by providing them, "with a framework for gaining control over how they interact with information in their environment... making them conscious of the explicit actions required for gathering, analyzing, and using information." Information literacy outcomes may take the form of an institutional core ability or a set of standards that all faculty agree to teach and assess (similar to writing or critical thinking across the curriculum), become a specific general education requirement, or be imbedded into the course or program outcomes of the various disciplines to capitalize on the unique nature of information literacy as it is understood and applied in different fields.

Assessment follows an instructional design approach that is facilitated with the following questions:

1. Outcome: What do you want the student to be able to do?
2. Information Literacy Curriculum: What does the student need to know in order to do this well?
3. Pedagogy: What type of instruction will best enable the learning?
4. Assessment: How will the student demonstrate the learning?
5. Criteria for Evaluation: How will I know the student has done this well?

These five questions create a template for the design of an instructional session that consciously aligns the information literacy concepts, teaching strategies, and evaluation techniques with the outcome. While not always a strictly linear process as may be indicated by this presentation of these "steps", each question has a unique role in the design of a quality class session in which assessment will be incorporated. The next section presents each question individually along with examples of the application of each question, and is summarized by a comprehensive example which demonstrates use of all of the questions.

**Effective Assessment Design Question #1 Outcome: What do you want the student to be able to do?**

Learning outcomes are specific statements that express our hopes for our students' learning. Focusing the outcome on what you want the student to be able to do establishes the groundwork for an active, observable assessment. Outcomes can be designed at the individual session level, at the course level or at the institutional level as illustrated in the three boxed examples which follow.

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**Examples of Individual Session Outcomes. You will notice that these outcomes are focused and are able to be accomplished within 1 or 2 class periods.**

**Reference Sources:**
1) Incorporate reference sources into a search strategy in order to gather background information and facts on sociology topics.
2) Articulate the unique features of ref sources in order to demonstrate their application in the research process.

**Boolean Logic:** Construct search statements using Boolean logic in order to search databases effectively and maximize relevant hits.

**Catalog:** Utilize common search conventions and features of the library's catalog in order to increase efficiency and effectiveness of locating materials.

**Language:** Develop search language using controlled vocabulary lists, thesauri and specialized dictionaries in order to achieve breadth, depth, specificity and alternatives in catalog, web and database searches.

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**Examples of Outcomes for a Five-credit Information Literacy Course Focused on the Humanities. In contrast to the session outcomes, these outcomes take on a broader context.**

1) Navigate information structures, manipulate technological tools, & create & refine effective search strategies in order to access scholarly information in the Humanities.
2) Synthesize personal impressions of a work in the Humanities with external information and other perspectives in order to produce an informed analysis.
3) Identify scholarly information resources in the Humanities in order to a) increase understanding, interpretation, or appreciation of specific works and b) comprehend the social, political, or historical contexts of works.
4) Develop individual criteria and apply traditional criteria in order to critically evaluate information sources in the Humanities.
5) Apply research methods and information management skills in order to complete an educational research project (including a short paper, annotated bibliography, and PowerPoint presentation) about an artist from a culture outside one's own.
6) Properly citing sources and using correct bibliographic formats in order to demonstrate responsible information use.
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**Examples of Institutional Outcomes.** At each of these sites, note the broad scope of the outcomes, allowing adaptation to multiple programs and disciplines.

**North Carolina State University: Information Competencies and Assignments for Undergraduates**
http://www.lib.ncsu.edu/textiles/instruction

**Concordia University, Oregon:**
http://celt.cu-portland.edu/murdock/projects/cuoutcomes/incomes.cfm

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http://www.uri.edu/library/instruction_services/infolitplan.html

**Florida Gulf Coast University:** Objectives clustered under four areas of abilities, each with two tiers of competencies.
http://library.fgcu.edu/Policies/infolit.htm

**Pierce College, Washington:** Outcomes and sub-outcomes for 7 concepts
http://www.pierce.ctc.edu/Library/information/ICdefinition2001.doc

**Reed College, Oregon:** Library Research Competencies for first year level, sophomore/junior level, and senior/thesis level

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**Designing Outcomes**

To start the process of designing learning outcomes we suggest this helpful formula:

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Writing outcomes is a complex activity and the same outcome can be written in a variety of different ways. Therefore, we offer these criteria as guidance for determining whether your outcomes are workable.

**A. Quality Outcomes are Clear to the Student:** The outcome not only sets the stage for the teacher's activities, but also conveys to the student the direction of the session or course, what is expected of them, and what is important to the teacher. Use language that is accessible. Students should view outcomes as an integrated part of their educational experience.

**B. Quality Outcomes are Intentionally Designed:** An outcome defines what you want the student to be able to do. Good outcomes use clear verbs that set the direction for the learning that is useful and meaningful. The most effective outcomes not only include the ability the student is to do, but also place it in context by answering why it is important.

**C. Quality Outcomes are Collaboratively Developed:** In an assessment-as-learning framework the emphasis is on the student. Effective planning for instructional sessions involves focusing on student learning outcomes collaboratively with our faculty colleagues. A strategy for this collaboration is to focus the discussion on “what we want the students to be able to do” after this session, instead of what content the librarian might cover during instruction. Strong and viable institutional or discipline-based information literacy outcomes will emerge when we help our faculty colleagues envision the common ground we are building, demonstrate models of assessment and instruction of information literacy concepts, share where students have knowledge gaps, and articulate how we can work together to educate. Outcomes should be based on library and institutional philosophy more than a master list of what skills or abilities students should possess.

**D. Quality Outcomes are Assessable or “Judge-able”:** Most often we think of outcomes as being measurable. Our perspective is influenced by theorists who believe that what is assessable or judge-able are better criteria for a strong outcome. “The spectrum that measurement raises is one of over-simplification of the
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assessing process so that what is assessed can easily be quantified.\textsuperscript{10} Can we, using our professional judgment, determine if the outcome has been achieved? If so, it usually works as an outcome. Incorporating professional judgment, in addition to measurement, expands our strategies for conducting assessment.

\textbf{E. Quality Outcomes are Developmental:} Outcomes should sequence and integrate competencies throughout a student's academic career, all the while progressing in sophistication. Articulation of the information literacy outcomes within the curriculum identifies the scope (i.e., depth and complexity) of competencies to be acquired on a disciplinary level as well as at the course level. Selecting the appropriate verb for the outcome helps to set development on the right track, i.e. asking students to \textit{distinguish between} is a more sophisticated skill than asking them to \textit{identify}. Taxonomies (such as Bloom's taxonomy\textsuperscript{11}) are good resources for this activity since they categorize the development of intellectual skills and help you focus your attention on diversifying the cognitive levels at which you challenge your students in any class session, course, or program.

\textbf{Effective Assessment Design Question \#2. Determining Information Literacy Curriculum:} What does the student need to know in order to do this well? AND \textbf{Effective Assessment Design Question \#3. Selecting Pedagogy:} What type of instruction will best enable the learning?

These two questions challenge us to align our curriculum and teaching methods with the outcomes. Assessment-as-learning and the five-question design process are strongly supportive of active learning pedagogies. While other sections of this handbook directly address these topics, we ask you to reflect on them through the lens of assessment since "the quality of student learning is directly, although not exclusively, related to the quality of teaching. Therefore, one of the most promising ways to improve learning is to improve teaching."\textsuperscript{12}

\textbf{Effective Assessment Design Question \#4. Designing an Assessment:} How will the student demonstrate the learning?

Assessments are a measure of progress that can assist both the student and the librarian. While authentic assessments yield the most opportunity for students to have experience with the outcome and for faculty and librarians to most fully develop the learning experience, assessments can also be incorporated into fifty-minute or individual library instruction sessions. The following set of example boxes illustrate different types of assessments.

Assessment can be \textit{Designed by the Librarian} and included in the instruction session or presented as part of the pedagogy:

\begin{itemize}
  \item \textbf{Examples of Assessments in the fifty-minute Library Session:}
    \begin{itemize}
      \item You can do a lot with 5 minutes and a 3x5 card. Consider the value of informal assessments and how they might be incorporated into individual library instruction sessions. A small amount of class time can yield a significant amount of information.
      \begin{enumerate}
        \item Students develop one Boolean search statement on their research topic at the beginning of class. At the end of class they write an improved statement and provide one sentence on why it was better.
        \item After in-class discussion of search statements, students develop a topic sentence and a search statement for a database that addresses the topic in their paper/project. They are turned in before leaving the class and are returned to the students with librarian comments and suggestions.
        \item Students write "one-minute papers" that describe to another student the best research hint they learned during the class and how they plan to use it in their paper/project, and one question that they wish they could ask about their own research paper.
        \item Students develop a list of the 3 most important databases on their topic or the 3 most important criteria for evaluating sources, or the first 3 steps they will take in developing their research topic.
        \item Students list, from their perspective, the 3 most important concepts or skills that the librarian taught.
      \end{enumerate}
    \end{itemize}
  \item Assessment can be \textit{Formal:} Where the instructor designs a specific in-class or take-home exercise that is evaluated and returned to the student:
  \begin{itemize}
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        \item For a research paper, students plan two different Boolean searches that would retrieve information on their topic.
        \item As part of an assigned course paper, students include an analysis of how they have incorporated multiple voices and perspectives, and how they included viewpoints different than their own.
      \end{itemize}
  \end{itemize}
\end{itemize}
assessment process so that what is assessed can easily be quantified.\(^\text{10}\) Can we, using our professional judgment, determine if the outcome has been achieved? If so, it usually works as an outcome. Incorporating professional judgment, in addition to measurement, expands our strategies for conducting assessment.

E. Quality Outcomes are Developmental: Outcomes should sequence and integrate competencies throughout a student’s academic career, all the while progressing in sophistication. Articulation of the information literacy outcomes within the curriculum identifies the scope (i.e., depth and complexity) of competencies to be acquired on a disciplinary level as well as at the course level. Selecting the appropriate verb for the outcome helps to set development on the right track, i.e. asking students to distinguish between is a more sophisticated skill than asking them to identify. Taxonomies (such as Bloom’s taxonomy\(^\text{11}\)) are good resources for this activity since they categorize the development of intellectual skills and help you focus your attention on diversifying the cognitive levels at which you challenge your students in any class session, course, or program.

**Effective Assessment Design Question #2. Determining Information Literacy Curriculum: What does the student need to know in order to do this well?**

AND **Effective Assessment Design Question #3. Selecting Pedagogy: What type of instruction will best enable the learning?**

These two questions challenge us to align our curriculum and teaching methods with the outcomes. Assessment-as-learning and the five-question design process are strongly supportive of active learning pedagogies. While other sections of this handbook directly address these topics, we ask you to reflect on them through the lens of assessment since “the quality of student learning is directly, although not exclusively, related to the quality of teaching. Therefore, one of the most promising ways to improve learning is to improve teaching.”\(^\text{12}\)

**Effective Assessment Design Question #4. Designing an Assessment: How will the student demonstrate the learning?**

Assessments are a measure of progress that can assist both the student and the librarian. While authentic assessments yield the most opportunity for students to have experience with the outcome and for faculty and librarians to most fully develop the learning experience, assessments can also be incorporated into fifty-minute or individual library instruction sessions. The following set of example boxes illustrate different types of assessments.

Assessment can be **Designed by the Librarian** and included in the instruction session or presented as part of the pedagogy:

**Examples of Assessments in the fifty-minute Library Session:**

You can do a lot with 5 minutes and a 3x5 card. Consider the value of informal assessments and how they might be incorporated into individual library instruction sessions. A small amount of class time can yield a significant amount of information.

1) Students develop one Boolean search statement on their research topic at the beginning of class. At the end of class they write an improved statement and provide one sentence on why it was better.

2) After in-class discussion of search statements, students develop a topic sentence and a search statement for a database that addresses the topic in their paper/project. They are turned in before leaving the class and are returned to the students with librarian comments and suggestions.

3) Students write “one-minute papers” that describe to another student the best research hint they learned during the class and how they plan to use it in their paper/project, and one question that they wish they could ask about their own research paper.

4) Students develop a list of the 3 most important databases on their topic or the 3 most important criteria for evaluating sources, or the first 3 steps they will take in developing their research topic.

5) Students list, from their perspective, the 3 most important concepts or skills that the librarian taught.

Assessment can be **Formal:** Where the instructor designs a specific in-class or take-home exercise that is evaluated and returned to the student:

**Examples: Formal Assessment**

For a research paper, students plan two different Boolean searches that would retrieve information on their topic.

As part of an assigned course paper, students include an analysis of how they have incorporated multiple voices and perspectives, and how they included viewpoints different than their own.
**Assessment can be Informal:** Where the instructor asks intentional questions in the classroom at a specific point in the instruction and compares student answers against a pre-determined “ideal” answer. Informal assessments often give the instructor the opportunity to immediately respond to deficiencies:

**Example: Informal Assessment**
Following an instructional segment on scholarly/popular periodicals:

You have 8 different periodicals on each of your group tables. Sort them into categories of popular, scholarly, and trade and discuss the criteria you are using to make that decision. Each group will report out on the criteria for each category.

The instructor is listening to the group decisions to confirm the most important criteria are reported.

**Assessment can be Authentic:** Where the student demonstrates application of the skill or concept while performing a “real-world” task or in the context of a larger project instead of as an isolated endeavor.

**Examples: Authentic Assessment**
At the end of an instructional session in the library, students are presented with a worksheet that steps them through a search strategy process, and asks them to reflect on how they designed their search strategy and whether or not it was successful. The librarian receives the worksheets after they are turned in and can either evaluate them on his/her own, review the results with the course instructor, or return them to the students with feedback.

As part of a paper or project, students evaluate the 3 sources in their bibliography that were most significant to the development of that topic, justifying why they were the most important.

In a biology course, students are asked to determine why a particular type of algae has developed in the campus lake. As part of the lab report, each team of students describes the search strategy they used to locate information about the algae. Included in their laboratory report is an analysis and evaluation of their search strategy.

In researching a company they would like to work for, students are asked to use newspapers, journals, magazines, and annual reports and compare/contrast the unique role each of these sources have in delivering information about their company.

**Assessment can be Formative:** Assessment that is done for the purpose of immediate evidence of student learning or for immediate feedback to the student. Classroom assessment is one of the most common formative assessment techniques. The purpose of this approach is to improve quality of student learning and should not be evaluative or involve grading students. We believe that formative assessment is also formative for the instructor, in that the immediate information allows the teacher to repeat, reinforce, or rejoice.

**Examples: Formative Assessment**
Mini-assignments inside the library instruction classroom as part of a class session.
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An instructor presents a problem to a nursing class as the focus of the course. Each team of students must support their solution for a public health issue. As part of their report, they describe how they acquired and used information to solve the problem.

Assessment can be Integrated: Developed with the faculty and relevant to coursework. Collaboration takes place at the planning stages, delivery, assessment of student learning, and evaluation and refinement of the program. Many of the “authentic” examples also can be defined as integrated. The difference is whether they are designed and administered independently by the librarian or co-designed by the librarian and faculty and integrated into the course assignment.

Example: Integrated Assessment
As part of their history research paper, students must use both primary and secondary sources, explaining the characteristics of each type and what the use of each lends to the depth/breadth of their topic. This information is included in the assignment, and the librarian and discipline faculty member collaborative evaluate the student work. The collaboration can be formal or informal.

Assessment can be Knowledge or Content Based: Where a student demonstrates their knowledge of particular concepts or facts, or performs skills in an unrelated context. Traditional formats for knowledge or content assessments include multiple-choice tests, fill-in-the-blanks, true-false, matching, and short answer. These tests may be individually created or standardized.

Examples: Knowledge / Content Based Assessment
Specify True or False:
Using the Boolean operator AND makes your set of results smaller.

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Examples: Formative Assessment
Mini-assignments inside the library instruction classroom as part of a class session.
One-minute papers at the end of a library instruction class session where the instructor asks students to respond to a specific question.

Assessment can be Summative: Assessment that is designed to be relatively comprehensive; it is generally used to discern the level of learning at the end of a program. A library or college’s information literacy definition or information literacy learning outcomes reflect the cumulative nature of the learning that is desired. For library instruction, summative assessment can also be used to illustrate the degree of accomplishment of the library’s instruction program. By summarizing the results of individual assessments that several different librarians conducted, we can get an overall picture of how students are progressing.

Examples: Summative Assessment
A capstone course includes a component that asks students to apply a sophisticated set of information literacy skills.

Each librarian assesses the same information literacy outcome in several classes throughout the term. The results are averaged to inform them of how the library instruction program is doing with student achievement.

The library administers a comprehensive information literacy exam to all graduating seniors.

Portfolio: The same type of assignment in each of the 4 academic years, progressing in difficulty and with expectations of analysis and reflection. Students can choose to do the assignment with any assigned research paper in a variety of courses. The librarians provide questions to direct the student response.

Junior or Senior Theses: Within the junior or senior thesis, students are required to synthesize and evaluate the research process they used through a set of guided questions; it becomes part of the evaluation of the thesis.

Assessment can be Self-Assessment: Providing students an opportunity to reflect on their own learning, increases their consciousness of their own abilities, and offers the instructor insight as to the student perspective.

Example: Prompts for Self-Assessment
What have you learned about yourself as a researcher while doing this assignment?

What is the best search tip you will pass on to other students?

Assessment can be Progressive and/or Developmental: Promoting deep learning that is retained over time requires not only repetition but also elaboration at varying levels of complexity and in a variety of contexts.

Example: Assessment can be Progressive and/or Developmental
Students develop an Information Literacy or Research Portfolio where they do the same type of assignment in each of their four years, each year progressing in the level of analysis and sophistication. The student can choose to do the assignment with any research paper in any course. Integrated into the assignment are questions provided by the librarian to direct the student’s responses. Librarians and faculty evaluate assignments using a rubric that is collaboratively designed.

Guidelines for Development of Quality Assessments
Assessments must be thoughtfully designed if they are to yield good information. We offer the following criteria to guide the development of assessments.

A. Quality Assessments are Collaborative: While developing in-class assessments for instructional sessions can be successfully accomplished, developing assessments integrated with faculty assessments results in a more natural experience for students. They have the opportunity to view the research process as integrated into their role as a biologist, for example.

B. Quality Assessments are Multidimensional: Acknowledge differences in learning and teaching styles by using a variety of appropriate assessment techniques such as portfolio assessment, oral defense, quizzes, essays, direct observation, anecdotal, peer and self-review, and student experience. Include a variety of assessments that focus on student performance, knowledge acquisition, and attitude appraisal.

C. Quality Assessments are Holistic: Consider the complexity of learning by assessing its many aspects including student performance, knowledge acquisition, critical thinking, application of ability to a new context, and attitude appraisal.

D. Quality Assessments are Assesses Thinking Process: Assess the process that led students to make decisions about the research process and not only the final research paper or project. Assess the decision points that occur during the development of the product and the intellectual journey of the student.
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F. Quality Assessments Are Managed. Not everything we teach can be assessed. Classroom assessments should focus on the most important component students need to be successful accomplishing the course assignment. At the program level, librarians can collectively choose to emphasize particular outcomes in as many sessions as possible within a given year and rotate that emphasis over the course of an accreditation cycle.

Effective Assessment Design Question #5: Criteria—How will you know the student has done this well?
Criteria are standards, benchmarks, or descriptions of a good response; measures of value or judgment that guide the student and the teacher toward a "good answer." It is most helpful when students are aware of criteria in advance and use them to shape their response. Developing criteria serves to communicate the often-inexplicit evaluation tenets we hold in our thoughts and to clarify our expectations for both our students and ourselves. Developing criteria means attempting to explain what sometimes might at first appear to be unexplainable. Good criteria are tied directly to the learning outcomes and work together to provide clear guidelines for the student. They provide a strong framework for an

Examples of Descriptive Criteria:
Following an instructional segment on scholarly/popular periodicals and criteria for evaluation of those periodicals, you explain to the students:

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Criteria:
- Periodicals are in correct categories (if not, students provide good rationale for their decision)
- Students report out at least one criterion for their decision from at least 4 of the following categories: audience, purpose, content, authority, language, review policy, and documentation.

Example of a Rubric:

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Needs Improvement</th>
<th>Acceptable</th>
<th>Excellent</th>
</tr>
</thead>
<tbody>
<tr>
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<td>Student is unaware of criteria that might be used to judge information quality. Little effort is made to examine the information located.</td>
<td>Student examines information using criteria such as authority, credibility, relevance, timeliness, and accuracy, and is able to make judgments about what to keep and what to discard</td>
<td>Multiple and diverse sources and viewpoints of information are compared and evaluated according to specific criteria appropriate for the discipline. Student is able to match criteria to a specific information need, and can articulate how identified sources related to the context of the discipline.</td>
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Full Application of the Effective Assessment Design Questions
Our final example brings together all five of the questions to illustrate how they work together to reveal a full instructional design process. Again, we stress that the questions do not have to be engaged in the order they are presented here. Adapt them to your own personal style of teaching to fully manifest their effectiveness. For example, you may want to develop the outcome, and then the assessment, and finally return to the development of the rest of the class session. Or, the classroom assignment may fully dictate the assessment you are using, in which case writing the outcome may come second, followed by the other three questions.
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*A rubric* is a matrix in which descriptive criteria are organized to categorize qualitative and developmental levels of performance on any particular outcome.

**Example of a Rubric:**

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Amongst the extensive research literature about pedagogy there are several authors who assign central importance to reframing the conception and practice of assessment as a powerful means to promote learning, improve pedagogical practice, and become a more conscious teacher. Kenneth Bain\textsuperscript{15} derives principles of good instructional practice from extensive primary data; Maryellen Weimer\textsuperscript{16} synthesizes significant bodies of research; while Stephen Brookfield\textsuperscript{17} develops methodologies for critical reflection from both research literature and extensive reflective practice. This section briefly examines the contributions of each of these authors.

Outcome III
Use assessment of student learning and principles of good instruction in order to change and improve as a teacher.

Being explicit and intentional about student learning, whether in a fifty-minute one shot library instruction session, multiple instruction sessions, or in a full term course, is critical to the assessment-as-learning process. Outcome statements enforce clarity of intention that is fundamental to any subsequent efforts to observe and evaluate student learning success. While this section has illustrated a great deal of flexibility in the modes of assessment that can be used to gather information about student learning (informal, formal, self-assessment, integrated, etc.), assessment is most effective when it is grounded upon a clear statement of what you want the students to be able to do and why that is important for their learning.

Kenneth Bain’s cleverly titled book, \textit{What the Best College Teachers Do} (2004), makes an impassioned case for learner-centered teaching even while drawing in those who, with the best intentions for improving their teaching, may be looking for just the opposite, i.e. a book presenting a litany of teacher-focused tips, techniques, and tricks which they can quickly apply to their own practice. Using results of a research study which interviewed, observed, and studied the practice of sixty-three college and university teachers, Bain has analyzed those practices in the context of their impact on learning in both practical and theoretical terms. In his chapter entitled, “How do they evaluate their students and themselves?” Bain finds that the best teachers challenged conventional wisdom about student assessment (e.g. grading) in order to focus on the outcomes of learning, and in the process developed ways to use assessment to promote learning.

Maryellen Weimer provides an elegant and persuasive review of a large body of research literature regarding teaching and learning in her book, \textit{Learner-centered teaching: five key changes to practice} (2002). While Weimer’s discussion of evaluation begins with a focus upon summative evaluation of student work (the societal need for grades as well as their potential to distort learning), she also identifies several alternative approaches. Pedagogical practices that incorporate self- and peer-assessment can be used to foster both student learning and improved teaching practice. As illustrated in the boxed examples previously presented, these strategies can be adapted to the many contexts in which library instruction takes place whether in a fifty-minute course-related session which may be the librarian’s only formal contact with students, or in a full-term librarian-taught credit course.

Weimer explicitly points to the work on critical reflection by Stephen Brookfield as providing both an analysis of the power relations inherent in the learning enterprise and for seeking to empower teachers and learners to create equitable learning environments. His four lenses for critical reflection provide a powerful basis for questioning what he calls, \textit{hegemonic assumptions}.

Hegemonic assumptions are those which we as educators often hold which ultimately work against the long term interests of educators and learners. Assessment is a powerful tool for informing critical reflection through his four lenses: autobiography as teacher and learner; our students’ eyes; our colleagues’ experiences; and theoretical literature. Assessment-as-learning is a powerful methodology for gathering data to fuel critical reflection.

“... we found professors who have broken with tradition to forge fundamentally different approaches to both assessment and evaluation, and in those differences to answer questions that have long plagued conversations about such matters ... In their hands,
Example of the Assessment Design Questions Applied to a 200 level Business course with one or two sessions of library instruction

Outcome: Locate and evaluate a local company’s annual report and distinguish its qualities and application from an article in a business journal.

Curriculum: Definition and role of an annual report; Criteria to evaluate a business journal article; Where to locate annual reports.

Pedagogy: Small group activity, Discussion and Mini-Lecture: A team of students is presented with 2 annual reports and two journal articles. They develop lists of characteristics, similarities, and differences between the two. The instructor uses that as a basis to lead a discussion of evaluating those sources and how they might be different from each other.

Assessment: As part of the course assignment, students will locate one annual report and one journal article on the same company and compare and contrast the type of information they find in each source.

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evaluation and assessment become intertwined, supporting each other in ways that deliberately benefit learning. When they assess their students, they do so in part to test their own efforts to facilitate learning. When they evaluate their teaching, they do so by looking at learning, both the objectives and the outcomes.19

Drawing upon the research in teaching and learning can influence assessment design and significantly advance the impact we have on students. In addition to major authors such as Bain, Weimer, and Brookfield, we recommend regular reading of the literature of many academic disciplines that focus on the scholarship of teaching and learning. The concepts and tenets these authors present could be transitioned into criteria that describe/illustrate effective instruction. Articulating these elements as criteria serves to facilitate common understandings about what effective teaching "looks like" and provides tangible goals for new teachers.

Outcome IV

Holistically examine an information literacy program through the lenses of the ACRL Best Practices in order to evolve and shape it based on evidence and to demonstrate its value to student success.

The traditional mode of library instruction program assessment has been to measure the many things that can be easily counted (number of instruction sessions, number of students served, number of librarians teaching, number of hours spent preparing for or providing instruction). However useful these library-centric input/output measures may be as a measure of effort, they will not demonstrate the effectiveness of the library’s instruction program, identify the library’s contribution to institution’s educational mission, nor provide guidance to planners as to where to direct resources to improve the library’s educational impact. When communicating with current and potential participants in the library’s instruction program as well as various institutional and community stakeholders in student learning success, having data and other evidence which demonstrates impact on shared learning goals will be critical to program development.

Process Questions for Program Assessment Design

Program assessment is best accomplished when we are able to sustain both the learner-centered philosophy of assessment as well as the pedagogical practices. This can be accomplished by reframing the five questions we used to address instructional design and classroom assessment to now focus on what we want to accomplish in information literacy programs:20

| 1. Program Outcome: | What does an effective instruction program do? |
| 2. Program Criteria: | How do you determine if you have achieved your outcomes? What will constitute success? |
| 3. Program Assessment: | How will data or evidence be collected? |
| 4. Program Analysis and Evaluation: | How will the discussion or evaluation of the data occur? Who will be involved? |
| 5. Program Change: | What changes will be enacted? Who will take leadership? What is the timeline? What resources are required? |

These questions can be used to guide the process of program assessment. A starting point for formulating the content of programmatic outcomes and criteria has been provided by Characteristics of Programs of Information Literacy that Illustrate Best Practices: A Guideline.21 As with ACRL’s Information Literacy Competency Standards for Higher Education, the process of adapting these to local circumstances is crucial to gathering meaningful assessment data. To fully engage this section, we suggest using the Best Practices as a resource as we examine each question for its unique contribution to the program assessment process.

1. Program Outcome: What does an effective instruction program do?

The Best Practices document identifies elements of importance to program success. To adapt them for this purpose, we suggest recasting the categories as program-level outcome statements as we have done in the example below, adding or eliminating categories to reflect your institutional requirements. The guidelines for writing and evaluating outcome statements presented earlier in this chapter can also be guides for writing outcomes at the program level.

Program Outcomes Inspired by the Best Practices:

### BEST PRACTICES CATEGORY 1: MISSION

Outcome: (What does an effective instruction program do?) Be guided by a dynamic and learner-centered mission statement and program outcomes in order to communicate the program’s contributions and align with the library and college mission and educational priorities.

### BEST PRACTICES CATEGORY 9: OUTREACH

Outcome: (What does an effective instruction program do?) Engage in outreach and marketing activities using a variety of methods and modes in order to communicate the value of IL literacy learning programs to various stakeholders.
evaluation and assessment become intertwined, supporting each other in ways that deliberately benefit learning. When they assess their students, they do so in part to test their own efforts to facilitate learning. When they evaluate their teaching, they do so by looking at learning, both the objectives and the outcomes.\textsuperscript{19}

Drawing upon the research in teaching and learning can influence assessment design and significantly advance the impact we have on students. In addition to major authors such as Bain, Weimer, and Brookfield, we recommend regular reading of the literature of many academic disciplines that focus on the scholarship of teaching and learning. The concepts and tenets these authors present could be transitioned into criteria that describe/illustrate effective instruction. Articulating these elements as criteria serves to facilitate common understandings about what effective teaching "looks like" and provides tangible goals for new teachers.

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**BEST PRACTICES CATEGORY 9: OUTREACH**

Outcome: (What does an effective instruction program do?)

Engage in outreach and marketing activities using a variety of methods and modes in order to communicate the value of IL literacy learning programs to various stakeholders.
2. Program Criteria: How will you determine you have achieved your outcomes? What will constitute success?

The bullet points provided under each category heading of the Best Practices document are illustrative and not prescriptive or comprehensive, and can be developed into criteria to demonstrate the extent to which you have met your program outcomes. Essentially, criteria state what is happening when a library instruction program is achieving excellence. What will satisfy you that indeed your outcome is being fulfilled? By focusing data collection efforts on these specific criteria you will document the activities and corresponding success of your program. There is no magic answer as to how many criteria you need, nor how to define the level of quality with a number or score. Each program will define that for themselves depending on size, number of librarians, campus initiatives, library priorities, and other relevant factors. Our personal opinion is that achievement is not about scores or numbers but about progress made from year to year toward that optimal end result. For example, the Best Practices document states:

Category 9: Outreach
- communicate a clear message defining and describing the program and its value to targeted audiences
- use a variety of outreach channels and media, both formal and informal

The following examples shows how these bulleted points can be reformulated as criteria identifying program activities that fulfill the stated outcome.

Criteria Inspired by the Best Practices

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| Criteria (What will constitute success?) | a) 100% of appropriate information literacy information and resources appear in relevant publications or on relevant websites, whether produced/maintained by the library, academic departments, or administrative units.  
b) The library (co-)sponsors 6 faculty development programs each year with appropriate groups, i.e. Teaching Center, Writing Center.  
c) Outreach activities reach 10% new attendees each year; grow in attendance by 15% each year; draw attendees from over 50% of academic departments, and assist the campus community in embracing information literacy as a collaborative and collective endeavor. |

Establish goals that will illustrate achievement of the various outcomes and that are meaningful to your program. For some outcomes, a percentage change over a period of time may be useful to specify in order to establish priorities, allocate resources, and evaluate progress.

3. Program Assessment: How will data or evidence be collected?

When choosing a data collection method it is important to match the method of data collection to the data need, e.g. what you need to know and how the data will be used. Do you need to prioritize operational activities that support your instruction program? Do you need to elicit information from faculty that will help you understand what motivates faculty to participate in instructional collaborations? Do you want feedback from library users on their satisfaction with particular services? Each of these information needs can be addressed using distinct information gathering strategies, or data collection methodologies, whether formal or informal, quantitative or qualitative.

At this point in the assessment process library staff frequently find themselves at an impasse, identifying an obligation to use rigorous research methodologies although they may be lacking expertise, or resources, or both. We propose an alternative that will encourage moving forward with assessment in order to develop an institutional culture of evidence. An institution that promulgates a culture of evidence asserts that not all assessment must have a numeric result. (See chart below.)

Characteristics of a Culture of Evidence

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| Faculty needs  
Faculty interest  
Student learning  
What content is important to cover, etc. | Evidence = information/data gathered from external sources to address specific questions |
| Working alone | Working collaboratively |
| Among library staff  
With faculty  
With administrators  
With academic support staff  
With computing professionals etc. | |
| Input / Output measures, e.g.  
Number of sessions taught  
Number of students attending  
Prep time  
Instruction time | Success measured by impact (on learning or program)  
What practice has changed  
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When discussing a culture of evidence we identify a set of institutional practices whereby questions are asked, evidence is gathered and discussed, and changes in practices or policies are implemented on the basis of those discussions of evidence. By advocating that libraries develop a culture of evidence, or engage with the wider institutional efforts to foster a culture of evidence, we argue that there is a continuum of assessment practice that produces value in both its process and its outcome. When working to establish a culture of evidence we demonstrate that excellence does not require perfection; that doing as good a job as we are able to do within whatever constraints there may be in order to better understand our environment and other stakeholder perspectives is a valuable effort. When we work within a culture of evidence with regard to assessing student learning we are respectful towards students in our effort to reflect using the best available evidence.

Informal data collection methods are legitimate for program assessment as they are for classroom assessment. Informal methods can be used to gather data or evidence that is quantitative or qualitative in nature. Formal assessment can also be undertaken in the service of instruction program assessment and there are numerous methodologies that can be employed. A review of research methodologies is beyond the scope of this chapter, however, frequently used methods include surveys (quantitative data) and focus groups (qualitative data). Surveys have become logistically easier to implement in recent years with the availability of online survey tools which provide no- or low-cost options for creating, distributing, and analyzing surveys. The options for data collection are plentiful; therefore, keeping the focus on what you need to know rather than the method that is easiest to implement, is critical for making choices that will produce useful and meaningful results.

Returning to and extending the example used above of Best Practices Category 9 (Outreach), our assessment for the criteria of placing Information Literacy content in publications and Web site is an informal one; an inventory of publications/Web sites in spreadsheet format. For other criteria in the example (co-sponsoring faculty development programs and conducting outreach activities) formal assessments (data collection tools) will be used to collect both quantitative and qualitative information. The various tasks and strategies identified in this example can be tackled in a sequential order over a period of months or years. The assessment effort should support and enhance your instructional program, not overwhelm it. It may be possible to develop the inventory and the focus groups of the example below in parallel during the first year of an assessment action plan. However, using the lessons learned from the focus groups can be the focus of a second annual action plan for revising publications, seeking additional placements for Web site links among departmental or administrative sites, and developing faculty development workshop content and/or partner-
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**Outcomes, Criteria & Assessments Inspired by the Best Practices**

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4. Program Evaluation: How will the discussion of the data occur? Who will be involved?

The next question in the assessment planning process, evaluating whether a program is functioning well and achieving its stated outcomes, needs to be addressed very deliberately as an ongoing discussion of the evidence gathered and lessons learned. Information gathered through formal and informal assessments of the information literacy program needs to be used at the appropriate levels to fuel improvements in pedagogical practice, faculty-library collaborations, and programmatic impact. Trust surrounding the collection and use of data or evidence must be built carefully and deliberately. Ongoing conversations among peers focused on student learning provide development opportunities to practitioners...
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5. Program Change: What changes need to be made? Who will accept leadership for the implementation? What timelines and resources will be required?

The final question in this series is the simplest to understand, but often the most difficult to implement. Many assessment efforts disengage at this point because of the large number of daily tasks that already occupy our professional lives. But with this question, we get to the heart of why we do assessment, which is to change practices based on good information and increase the library’s impact on student learning and success. We recommend being deliberate with this step, but also reasonable. Rather than making every change possible, plan key activities for change that will result in the greatest impact, identify the individuals who will take leadership for the change, establish timelines, and identify required resources will help to move the project from plan to reality. The results of any changes made will be assessed with the next regular assessment cycle of the program.

A Word about Standardized Information Literacy Tests

Several standardized assessments of information literacy have been developed that can provide an overall assessment of students’ information literacy ability. The difference between standardized assessments and locally designed assessments is their comprehensive scope. Since most information literacy programs do not teach all skills or concepts to all students, it may not be appropriate to use a standardized test as a direct measure of learning as a result of classroom instruction. Instead, aggregate results from a standardized test could either establish a baseline for entering students (placement), serve as a measure of cumulative learning for graduating students (program assessment or benchmarking), or provide information about how an individual student is performing in comparison to the group norms established by the test. The results from standardized testing can be very powerful when used as a source of insight into student learning that faculty and administrators can then use for program development.

Examples of Standardized Information Literacy Exams include:

- Project SAILS (Standardized Assessment of Information Literacy Skills): Developed and administered by Kent State University, SAILS is a “knowledge test with multiple-choice questions targeting a variety of information skills. The test items are based on the ACRL information Literacy Competency Standards for Higher Education.”

- ETS iSkills: The Educational Testing Service (ETS) has been working to develop a standardized test of Information & Communication Technology (ICT) Literacy that can be used for institutional or program benchmarking, individual summative assessment, and institutional comparisons. ETS worked with a group of higher education faculty, librarians, computing and assessment professionals to develop the assessment model, initial test items, and scoring mechanisms. The components of ICT Literacy as defined by the Higher Education Initiative and which form the basis for test development are: Define, Access, Manage, Integrate, Evaluate, Create, and Communicate. The test items of the iSkills assessment integrate cognitive and technical skills to achieve a variety of information and communication tasks in scenarios drawn from both the academic and working worlds. The ethical and legal issues which are so critical to practice in this arena are also addressed in test items and scoring.

Bay Area Community Colleges Information Competency Assessment Project. The project’s purpose was to “develop a challenge-out or credit-by-exam instrument that might be used and/or modified at community colleges having an information competency requirement.” The two-part instrument incorporates mul-

Using aggregate scores to benchmark programs

How well do students enrolled in programs X, Y, and Q perform on test after completing their degree? If students have higher scores after completing program X or Y, what is happening in these programs that could be a useful model for improving instruction or student learning in program Q?

[X, Y, & Q may be different programs at the same institution (chemistry, biology, political science) or the same academic program at different institutions (chemistry programs at colleges which have implemented the same standardized test).]
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tiple-choice, matching, and short answer as well as performance-based exercises and uses two publications of national information literacy standards as the basis for the assessment.

**Bringing It All Together: An Assessment Plan**

Ultimately, the foundation for an assessment plan is to collect summative assessment data and this type of data can stand-alone. Formative assessment data, however, can contribute to a comprehensive assessment plan by providing the basis for annual action plans that direct effort and resources toward achieving the stated outcomes. Discussions of what has been learned from applying as-

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**Organizations Helpful with Assessment and Creative Design**

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**Conclusion**

Assessment can be a valuable tool for individual librarians to improve both their teaching and their students’ learning; for groups of librarians collaboratively designing an instruction program; for program coordinators seeking to improve the quality of instruction or to engage in planning for professional development; and for library administrators who wish to understand and further the impact of the library on student experience. Assessment is a process vital to the future of academic libraries since it so clearly demonstrates our focus on student success and provides opportunity to highlight the academic library’s unique and important contributions to larger institutional goals.

**Notes**

5. ACRL. Standards, “Introduction”
multiple-choice, matching, and short answer as well as performance-based exercises and uses two publications of national information literacy standards as the basis for the assessment.

**Bringing It All Together: An Assessment Plan**
Ultimately, the foundation for an assessment plan is to collect summative assessment data and this type of data can stand-alone. Formative assessment data, however, can contribute to a comprehensive assessment plan by providing the basis for annual action plans that direct effort and resources toward achieving the stated outcomes. Discussions of what has been learned from applying as-

**Organizations Helpful with Assessment and Creative Design**

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<td>Several initiatives including the Carnegie Academy for the Scholarship of Teaching and Learning (CASTL) which offers a national program for scholars, a campus program to provide support for local efforts, and a program for Scholarly and Professional Societies to provide support and encouragement within disciplinary contexts.</td>
<td><a href="http://www.carnegiefoundation.org/programs/index.asp?key=21">http://www.carnegiefoundation.org/programs/index.asp?key=21</a></td>
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**Notes**
5. ACRL. Standards, "Introduction"
CHAPTER 10

Diversity: Cross Cultural Instruction

Lori S. Mestre

In the past 10 years our society has experienced a rapid growth in diversity of its population. The term diversity is being used in its broadest sense, including not only race, ethnicity and religion, but also various cultural, linguistic, gender, generational, sexual orientation, ability and disability characteristics and needs of our population. Libraries have become more responsive to the needs of these diverse cultures and have recognized the importance of providing access, outreach, job opportunities, and programming targeted to these groups. Providing culturally responsive instruction to these groups is also of importance. This chapter will discuss some considerations for providing what the author would term as cross cultural instruction, including strategies for working with multiple cultural groups.

Why Librarians Should Care about Providing Cross Cultural Instruction

The first impression created by a library and the assistance received by a patron can be long lasting. Librarians might not understand the relevance of investing time in learning how to effectively address cross cultural differences especially if they feel that the strategies they develop to help special populations are not useful for the general population. A patient and caring librarian who expresses interest in the needs of patrons can help shape their user behavior and research forays. Providing instruction that is responsive and relevant to the needs of the patron can open up an interest in the patron to continue the research exploration. Learning how to provide this type of instruction can be a challenge to the librarian who has only used teaching strategies and examples based on his or her previous experiences.

Although our urban, rural and suburban settings are more diverse than ever, the overwhelming majority of library personnel continue to come from middle class, European American backgrounds. Many educators are now struggling to connect with a completely new set of learners, with cultural backgrounds distinctly different from each other and from their teachers. Across the country and throughout our region, educators are embracing the notion of cultural responsiveness as a means of helping all students reach high standards. Any acknowl-