Objectives for information literacy instruction

A model statement for academic librarians

by the ACRL Instruction Section

Approved by the ACRL Board of Directors, January 2001

Introduction

Chronology

In 1997, ACKL's Instruction Section (IS) created a task force to review the 1987 "Model statement of objectives for academic bibliographic instruction." The 1997 task force made 12 recommendations, ranging from the "title should more clearly indicate the document's content" to the "statement should be more concise." IS subsequently created a task force for "Revision of the 'Model Statement of objectives"[1] and charged it to follow those recommendations. The task force began its work at the ALA Annual Conference in 1998.

Concurrently, an ACRL task force was working on information literacy standards for higher education institutions. That task force's document, "Information literacy competency standards for higher education" (herein referred to as the "Competency Standards"), were approved in January 2000 and are available at http://www.ala.org/acrl/ilcomstan.html.

The following "Objectives for information literacy instruction: A model statement for academic librarians" updates and replaces the older model statement. The objectives will herein be referred to as the "IS Objectives" for clarity and to indicate that they were written by an IS task force, formerly the ACRL Bibliographic Instruction Section.

Terminology and design

The "Competency Standards" are designed to be used in discussions with administrators and academic departments; they suggest institutional goals or performance outcomes. The "IS Objectives" provide terminal objectives, those that "break down the overall objectives [the "Competency Standards' 'outcomes'"] into specific discrete measurable results."[2] According to the *Cyclopedic Education Dictionary,* outcomes are "the results or the expected results of an educational plan or program." The same source defines an objective as, "In education, a specific purpose or goal to be reached/learned by the student."[3]

These definitions indicate the relationship between the "Competency Standards" and the "IS Objectives." Thus, the instructing librarian may use this document for guidance in developing enabling objectives'[4] for an individual teaching session, or for a course, or when collaborating with a course instructor to incorporate information literacy instruction into a specific course.

This document uses the generic term "librarian" because of different situations regarding faculty status for librarians. "Course instructor" refers to an individual other than a librarian who has instructional responsibility for a class or workshop, e.g., faculty, adjunct faculty, instructor, lecturer, Web-course developer, information technology staff person.

The numbering system used in the "IS Objectives" is tied to the numbers used in the print version of the competency standards.

The revision task force

In 1997, the IS Executive Board created a task force to review the "Model statement of objectives for academic bibliographic instruction." This document was last up-dated and published in 1987.' The final report of the task force recommended that the model statement be revised, and it in-cluded several points to consider in the revision. The IS Executive Board then cre-ated the "Revision of the Model Statement" Task Force in 1998. Carla List chaired the task force; members are listed in the notes that are included with the introduction to the revised model statement.

Immediately after its first meeting, the task force was informed that there was an ACRL-sponsored task force writing infor-mation literacy competencies for higher education. The revision task force worked with that document, writing objectives to help librarians teach students working to-wards the competencies.

The first draft of the revised model state-ment was published on the IS Web site in May 2000. Its Web publication was an-nounced in the May 2000 issue of *C&RL News* and requests for comments were sub-mitted to several discussion lists, including BI-L and ACRLFORUM. A public hearing on the first draft was held at the ALA An-nual Conference in Chicago on July 9, 2000.

Those who attended the hearing provided suggestions, and the e-call for comments was reissued. The task force revised the document, incorporating input from the hearing and from the comments received via e-mail. We wish to thank all who com-mented, especially Patricia Iannuzzi, chair of the competencies task force.

The second draft was submitted to the IS Executive Board and revised; the third draft received approval in January 2001. It was submitted to the ACRL Standards and Accreditation Committee at the ALA Mid-winter Meeting in January 2001. That com-mittee and the ACRL Board of Directors approved the document printed here at their 2001 Midwinter Meeting.

I especially wish to thank members of the revision task force who are all devoted to helping information researchers and who create "teaching moments" whenever pos-sible. Their experience, focus, and determi-nation worked to create a practical, utilitar-ian document for academic librarians who instruct at all levels, from "one-shot," course-related sessions to full credit-bearing courses.

We strongly encourage you to read die in-troduction and use die objectives. We hope you find diem helpful.—*Carla List, chair, Task Force for the Revision of the Model Statement, cada.list@plattsburgh.edu*

That is, Standard One, Performance Indica-tor 1, Outcome c, is numbered 1.1.c., and followed by objectives written for that out-come. (The Web version of the "Competency Standards" uses a slightly different number-ing system, i.e., Outcome c is Outcome 3)

Using the "IS Objectives"

The "Competency Standards" are the basis for the "IS Objectives," and it is recommended that the two documents be used together. The "IS Objectives" flesh out and make more spe-cific the "Standards," "Performance Indica-tors," and "Outcomes of the competency stan-dards." The "IS Objectives" may be used in a variety of instructional formats. For example, one or two objectives may be employed in a 50-minute "one-shot" class and a related as-

signment. A librarian working with an instruc-tor to develop a course that infuses informa-tion literacy instruction into its content may select several objectives. An information tech-nology staff person may collaborate with a librarian to incorporate some of the objec-tives into campus IT workshops. Many or all of the objectives may be adopted in a com-prehensive program of instruction for infor-mation literacy or in a Web-based tutorial. Thus the "IS Objectives" may be used in part or whole. They expand upon the "Compe-tency Standards." The "IS Objectives" may be used effectively by beginning instructors and by experienced teachers, by librarians, and other classroom instructors. They are appli-cable to just one or to numerous instructional sessions with the same individuals. The "IS

Objectives" serve as a detailed supplementary aid to librarians who wish to break down the "Competency Standards" into smaller instructional components. They are designed to help academic librarians identify and target particular information literacy instructional outcomes. As such, they offer a variety of possible objectives from which to choose.

Librarians may want to refer to both the "Competency Standards" and the "IS Objectives" when discussing library and information literacy instruction with faculty and administrators or when planning, delivering, evaluating, and revising instructional programs and proposals. Regardless of the stage of the information literacy planning or implementation, librarians should apply such elements of the "IS Objectives" as are appropriate to the local setting and circumstances.

The "IS Objectives" provide suggestions for generating ideas about teaching concepts and skills to students and suggests ways to talk about information literacy instruction with course instructors. The document provides a support structure on which librarians can build in creative and individual ways.

Responsibility for information literacy instruction

Information literacy encompasses more than good information-seeking behavior. It incorporates the abilities to recognize when information is needed and then to phrase questions designed to gather the needed information. It includes evaluating and then using information appropriately and ethically once it is retrieved from any media, including electronic, human, or print sources. The responsibility for helping people become information literate is best shared across a campus, as is clearly indicated in the "Competency Standards." Ideally, administrators support information literacy goals for their institutions. Course instructors help their students achieve information literacy in their chosen fields, and librarians and other campus professionals collaborate with course instructors in this effort.

Levels of collaboration between librarians and academic departments differ among institutions and within any one institution. One college may determine that one of the "Competency Standards" components indicates a clear need for collaboration, while another institution may view the same component as

primarily a responsibility of the library's instruction program. The tags suggest possible collaborative situations. They serve as reminders of the need for librarians to share in campus-wide collaborative efforts to develop and achieve information literacy goals.

Not written for all competency standards

Objectives were written only for "Performance Indicators in the Competency Standards" that could best be addressed by the librarian or by the librarian and course instructor collaboratively. "Performance Indicators" such as "The information literate student applies new and prior information to the planning and creation of a particular product or performance" refer to components of learning and instruction in ways not usually addressed by librarians. It is for this reason that Standard Four is not addressed in the "IS Objectives," nor are some of the Performance Indicators in Standards One, Two, Three, and Five. Librarians could, of course, help course instructors develop objectives in these areas.

Evaluating information

Although not all the objectives deal explicitly with the evaluation of information, the need for evaluation and critical thinking is implicit in all stages of research. An Objective for Competency Standard 3, Performance Indicator 4, provides an example: "Selects information that provides evidence for the topic." A subordinate objective states that the individual describes "why not all information sources are appropriate for all purposes." Implicit in this objective is the need for the user to evaluate the information source; appropriateness is a judgment made using criteria set by the user or the course instructor.

The objective in the example above also relates closely to the objective for Competency Standard 1, Performance Indicator 1, Outcome 5: "The individual identifies and uses appropriate general or subject-specific sources to discover terminology related to an information need." Thus, subject specificity is an evaluation criterion when selecting a source. As stated above, evaluation is implicit in nearly all the "IS Objectives."

Many of the outcomes from the "Competency Standards" that deal explicitly with

evaluation are primarily the teaching responsibility of the course instructor in collaboration with the librarian. For example, the course instructor can address the quality of the content of an information source once it is retrieved; the librarian helps people learn how to interpret information in the sources that can be used for evaluating information during the research process. As reliance on Internet sources increases, the librarian's objectivity and expertise in evaluating information and information sources become invaluable.

Summary

The "Competency Standards" stress that information literacy "forms the basis for lifelong learning. … It enables users to master content and extend their investigations, become more self-directed, … assume greater control over their learning … [and] develop a metacognitive approach to learning, making them conscious of the explicit actions required for gathering, analyzing, and using information." Succinctly stated, this is the purpose of information literacy instruction. The "IS Objectives" can be used as a guide for the efforts of librarians who promote the "Competency Standards" at their institutions.

Notes

1. Revision of the Model Statement of Objectives Task Force, 1998-2001: Marsha Forys, Main Library, University of Iowa Libraries; Francesca Lane Rasmus, Mortvedt Library, Pacific Lutheran University; Carla List, Chair, Feinberg Library, Plattsburgh State University of New York; Judith Pask, Undergraduate Library, Purdue University; Patrick Ragains, Business and Government Information Center, University Library, University of Nevada; Nancy Reinhold, Woodruff Library, Emory University; Robin R. Satterwhite, Tutt Library, Colorado College; Terry S. Taylor, Richardson Library, DePaul University; Marjorie M. Warmkessel, Ganser Library, Millersville University; Esther Grassian, Editorial Consultant, UCLA College Library

2. Lori Arp, "Model Statement of Objectives for Academic Bibliographic Instruction: Draft Revision," *C&RL News* (May 1987): 257.

3. Carol Sullivan Spafford, Augustus J. Itzo, and George S. Grosser, *The Cyclopedic Education Dictionary* (Albany, NY: Delmar, 1998).

4. "Enabling (behavioral) objectives define the specific knowledge or skills necessary to achieve the terminal objectives. They are associated with the behavior of the person who has to master the material." Arp, "Model Statement," 257.

Objectives for Information Literacy Instruction: A Model Statement for Academic Librarians

Competency Standard One

The information literate student determines the extent of the information needed.

Performance Indicator 1: The information literate student defines and articulates the need for information.

Outcomes include:

1.1.c. Explores general information sources to increase familiarity with the topic

• Describes the difference between general and subject-specific information sources.

• Demonstrates when it is appropriate to use a general and subject-specific information source (e.g., to provide an overview, to give ideas on terminology).

1.1.d. Defines or modifies the information need to achieve a manageable focus

• Identifies an initial question that might be too broad or narrow, as well as one that is probably manageable.

• Explains his/her reasoning regarding the manageability of a topic with reference to available information sources.

• Narrows a broad topic and broadens a narrow one by modifying the scope or direction of the question.

• Demonstrates an understanding of how the desired end product (i.e., the required depth of investigation and analysis) will play a role in determining the need for information.

• Uses background information sources effectively to gain an initial understanding of the topic.

• Consults with the course instructor and librarians to develop a manageable focus for the topic.

1.1. e. Identifies key concepts and terms that describe the information need

• Lists terms that may be useful for locating information on a topic.

• Identifies and uses appropriate general or subject-specific sources to discover terminology related to an information need.

• Decides when a research topic has multiple facets or may need to be put into a broader context.

• Identifies more specific concepts that comprise a research topic.

Competency Standard One

Performance Indicator 2: The information literate student identifies a variety of types and formats of potential sources for information.

Outcomes include:

1.2. a. Knows how information is formally and informally produced, organized, and disseminated

• Describes the publication cycle appropriate to the discipline of a research topic.

• Defines the "invisible college" (e.g., personal contacts, listservs specific to a discipline or subject) and describes its value.

1.2. b. Recognizes that knowledge can be organized into disciplines that influence the way information is accessed

• Names the three major disciplines of knowledge (humanities, social sciences, sciences) and some subject fields that comprise each discipline.

• Finds sources that provide relevant subject field- and discipline-related terminology.

• Uses relevant subject- and discipline-related terminology in the information research process.

• Describes how the publication cycle in a particular discipline or subject field affects the researcher's access to information.

1.2. C. Identifies the value and differences of potential resources in a variety of formats (e.g., multimedia, database, Web site, data set, audiovisual, book)

• Identifies various formats in which information is available.

• Demonstrates how the format in which information appears may affect its usefulness for a particular information need.

1.2. d. Identifies the purpose and audience of potential resources (e.g., popular vs. scholarly, current vs. historical)

• Distinguishes characteristics of information provided for different audiences.

• Identifies the intent or purpose of an information source (this may require use of additional sources in order to develop an appropriate context).

1.2. e. Differentiates between primary and secondary sources, recognizing how their use and importance vary with each discipline

• Describes how various fields of study define primary and secondary sources differently.

• Identifies characteristics of information that make an item a primary or secondary source in a given field.

Competency Standard One

Performance Indicator 3: The information literate student considers the costs and benefits of acquiring the needed information.

Outcomes include:

1.3. a. Determines the availability of needed information and makes decisions on broadening the information-seeking process beyond local resources (e.g., interlibrary loan; using resources at other locations; obtaining images, videos, text, or sound)

• Determines if material is available immediately.

• Uses available services appropriately to obtain desired materials or alternative sources.

1.3. c. Defines a realistic overall plan and timeline to acquire the needed information

• Searches for and gathers information based on an informal, flexible plan.

• Demonstrates a general knowledge of how to obtain information that is not available immediately.

• Acts appropriately to obtain information within the time frame required.

Competency Standard One

Performance Indicator 4: The information literate student reevaluates the nature and extent of the information need.

Outcomes include:

1.4. a. Reviews the initial information need to clarify, revise, or refine the question

• Identifies a research topic that may require revision, based on the amount of information found (or not found).

• Identifies a topic that may need to be modified, based on the content of information found.

• Decides when it is and is not necessary to abandon a topic depending on the success (or failure) of an initial search for information.

1.4. b. Describes criteria used to make information decisions and choices

• Demonstrates how the intended audience influences information choices.

• Demonstrates how the desired end product influences information choices (e.g., that visual aids or audiovisual material may be needed for an oral presentation).

• Lists various criteria, such as currency, which influence information choices. (See also 2.4. and 3.2.)

Competency Standard Two

The information literate student accesses needed information effectively and efficiently.

Performance Indicator 1: The information literate student selects the most appropriate investigative methods or information retrieval systems for accessing the needed information.

Outcomes include:

2.1.C. Investigates the scope, content, and organization of information retrieval systems

• Describes the structure and components of the system or tool being used, regardless of format (e.g., index, thesaurus, type of information retrieved by the system).

• Identifies the source of help within a given information retrieval system and uses it effectively.

• Identifies what types of information are contained in a particular system (e.g., all branch libraries are included in the catalog; not all databases are full text; catalogs, periodical databases, and Web sites may be included in a gateway).

• Distinguishes among indexes, online databases, and collections of online databases, as well as gateways to different databases and collections.

• Selects appropriate tools (e.g., indexes, online databases) for research on a particular topic.

• Identifies the differences between freely available Internet search tools and subscription- or fee-based databases.

• Identifies and uses search language and protocols (e.g., Boolean, adjacency) appropriate to the retrieval system.

• Determines the period of time covered by a particular source.

• Identifies the types of sources that are indexed in a particular database or index (e.g., an index that covers newspapers or popular periodicals versus a more specialized index to find scholarly literature).

• Demonstrates when it is appropriate to use a single tool (e.g., using only a periodical index when only periodical articles are required).

• Distinguishes between full-text and bibliographic databases.

2.1. d. Selects efficient and effective approaches for accessing the information needed from the investigative method or information retrieval system

• Selects appropriate information sources (i.e., primary, secondary or tertiary sources) and determines their relevance for the current information need.

• Determines appropriate means for recording or saving the desired information (e.g., printing, saving to disc, photocopying, taking notes).

• Analyzes and interprets the information collected using a growing awareness of key terms and concepts to decide whether to search for additional information or to identify more accurately when the information need has been met.

Competency Standard Two

Performance Indicator 2: The information literate student constructs and implements effectively designed search strategies.

Outcomes include:

2.2. a. Develops a research plan appropriate to the investigative method

• Describes a general process for searching for information.

• Describes when different types of information (e.g., primary/secondary, background/specific) may be suitable for different purposes.

• Gathers and evaluates information and appropriately modifies the research plan as new insights are gained.

2.2. b. Identifies keywords, synonyms, and related terms for the information needed

• Identifies keywords or phrases that represent a topic in general sources (e.g., library catalog, periodical index, online source) and in subject-specific sources.

• Demonstrates an understanding that different terminology may be used in general sources and subject-specific sources.

• Identifies alternate terminology, including synonyms, broader or narrower words and phrases that describe a topic.

• Identifies keywords that describe an information source (e.g., book, journal article, magazine article, Web site).

2.2. C. Selects controlled vocabulary specific to the discipline or information retrieval source

• Uses background sources (e.g., encyclopedias, handbooks, dictionaries, thesauri, textbooks) to identify discipline-specific terminology that describes a given topic.

• Explains what controlled vocabulary is and why it is used.

• Identifies search terms likely to be useful for a research topic in relevant controlled vocabulary lists.

• Identifies when and where controlled vocabulary is used in a bibliographic record, and then successfully searches for additional information using that vocabulary.

2.2. d. Constructs a search strategy using appropriate commands for the information retrieval system selected (e.g., Boolean operators, truncation, and proximity for search engines; internal organizers such as indexes for books)

• Demonstrates when it is appropriate to search a particular field (e.g., title, author, subject).

• Demonstrates an understanding of the concept of Boolean logic and constructs a search statement using Boolean operators.

• Demonstrates an understanding of the concept of proximity searching and constructs a search statement using proximity operators.

• Demonstrates an understanding of the concept of nesting and constructs a search using nested words or phrases.

• Demonstrates an understanding of the concept of browsing and uses an index that allows it.

• Demonstrates an understanding of the concept of keyword searching and uses it appropriately and effectively.

• Demonstrates an understanding of the concept of truncation and uses it appropriately and effectively.

2.2. e. Implements the search strategy in various information retrieval systems using different user interfaces and search engines, with different command languages, protocols, and search parameters

• Uses help screens and other user aids to understand the particular search structures and commands of an information retrieval system.

• Demonstrates an awareness of the fact that there may be separate interfaces for basic and advanced searching in retrieval systems.

• Narrows or broadens questions and search terms to retrieve the appropriate quantity of information, using search techniques such as Boolean logic, limiting, and field searching.

• Identifies and selects keywords and phrases to use when searching each source, recognizing that different sources may use different terminology for similar concepts.

• Formulates and executes search strategies to match information needs with available resources.

• Describes differences in searching for bibliographic records, abstracts, or full text in information sources.

2.2. f. Implements the search using investigative protocols appropriate to the discipline

• Locates major print bibliographic and reference sources appropriate to the discipline of a research topic.

• Locates and uses a specialized dictionary, encyclopedia, bibliography, or other common reference tool in print format for a given topic.

- Demonstrates an understanding of the fact that items may be grouped together by subject in order to facilitate browsing.
- Uses effectively the organizational structure of a typical book (e.g., indexes, tables of contents, user's instructions, legends, cross-references) in order to locate pertinent information in it.

Competency Standard Two

Performance Indicator 3: The information literate student retrieves information online or in person using a variety of methods.

Outcomes include:

2.3. a. Uses various search systems to retrieve information in a variety of formats
- Describes some materials that are not available online or in digitized formats and must be accessed in print or other formats (e.g., microform, video, audio).
- Identifies research sources, regardless of format, that are appropriate to a particular discipline or research need.
- Recognizes the format of an information source (e.g., book, chapter in a book, periodical article) from its citation. (See also **2.3 b)**
- Uses different research sources (e.g., catalogs and indexes) to find different types of information (e.g., books and periodical articles).
- Describes search functionality common to most databases regardless of differences in the search interface (e.g., Boolean logic capability, field structure, keyword searching, relevancy ranking).
- Uses effectively the organizational structure and access points of print research sources (e.g., indexes, bibliographies) to retrieve pertinent information from those sources.

2.3. b. Uses various classification schemes and other systems (e.g., call number systems or indexes) to locate information resources within the library or to identify specific sites for physical exploration
- Uses call number systems effectively (e.g., demonstrates how a call number assists in locating the corresponding item in the library).
- Explains the difference between the library catalog and a periodical index.

- Describes the different scopes of coverage found in different periodical indexes.
- Distinguishes among citations to identify various types of materials (e.g., books, periodical articles, essays in anthologies). (See also 2.3-a.)

2.3. C. Uses specialized online or in-person services available at the institution to retrieve information needed (e.g., interlibrary loan/document delivery, professional associations, institutional research offices, community resources, experts, and practitioners)
- Retrieves a document in print or electronic form.
- Describes various retrieval methods for information not available locally.
- Identifies the appropriate service point or resource for the particular information need.
- Initiates an interlibrary loan request by filling out and submitting a form either online or in person.
- Uses the Web site of an institution, library, organization, or community to locate information about specific services.

Competency Standard Two

Performance Indicator 4: The information literate student refines the search strategy if necessary.

Outcomes include:

2.4. a. Assesses the quantity, quality, and relevance of the search results to determine whether alternative information retrieval systems or investigative methods should be utilized
- Determines if the quantity of citations retrieved is adequate, too extensive, or insufficient for the information need.
- Evaluates the quality of the information retrieved using criteria, such as authorship, point of view/bias, date written, citations, etc.
- Assesses the relevance of information found by examining elements of the citation, such as title, abstract, subject headings, source, and date of publication.
- Determines the relevance of an item to the information need in terms of its depth of coverage, language, and time frame.

Competency Standard Two

Performance Indicator 5: The information literate student extracts, records, and manages the information and its sources.

Outcomes include:

2.5.C. Differentiates between the types of sources cited and understands the elements and correct syntax of a citation for a wide range of sources

• Identifies different types of information sources cited in a research tool.

• Determines whether or not a cited item is available locally and, if so, can locate it.

• Demonstrates an understanding that different disciplines may use different citation styles.

Competency Standard Three

The information literate student evaluates information and its sources critically and incorporates selected information into his or her knowledge base and value system.

Performance Indicator 2: The information literate student articulates and applies initial criteria for evaluating both the information and its sources.

Outcomes include:

3.2.a. Examines and compares information from various sources in order to evaluate reliability, validity, accuracy, authority, timeliness, and point of view or bias

• Locates and examines critical reviews of information sources using available resources and technologies.

• Investigates an author's qualifications and reputation through reviews or biographical sources.

• Investigates validity and accuracy by consulting sources identified through bibliographic references.

• Investigates qualifications and reputation of the publisher or issuing agency by consulting other information resources. (See also 3.4.e.)

• Determines when the information was published (or knows where to look for a source's publication date).

• Recognizes the importance of timeliness or date of publication to the value of the source.

• Determines if the information retrieved is sufficiently current for the information need.

• Demonstrates an understanding that other sources may provide additional information to either confirm or question point of view or bias.

3.2. C. Recognizes prejudice, deception, or manipulation

• Demonstrates an understanding that information in any format reflects an author's, sponsor's, and/or publisher's point of view.

• Demonstrates an understanding that some information and information sources may present a one-sided view and may express opinions rather than facts.

• Demonstrates an understanding that some information and sources may be designed to trigger emotions, conjure stereotypes, or promote support for a particular viewpoint or group.

• Applies evaluative criteria to information and its source (e.g., author's expertise, currency, accuracy, point of view, type of publication or information, sponsorship).

• Searches for independent verification or corroboration of the accuracy and completeness of the data or representation of facts presented in an information source.

3.2. d. Recognizes the cultural, physical, or other context within which the information was created and understands the impact of context on interpreting the information

• Describes how the age of a source or the qualities characteristic of the time in which it was created may impact its value.

• Describes how the purpose for which information was created affects its usefulness.

• Describes how cultural, geographic, or temporal contexts may unintentionally bias information.

Competency Standard Three

Performance Indicator 4: The information literate student compares new knowledge with prior knowledge to determine the value added, contradictions, or other unique characteristics of the information.

Outcomes include:

3.4.e. Determines probable accuracy by questioning the source of the data, the limitations of the information gathering tools or strategies, and the reasonableness of the conclusions

• Describes how the reputation of the publisher affects the quality of the information source. (See also 3-2.a.).

• Determines when a single search strategy may not fit a topic precisely enough to retrieve sufficient relevant information.

• Determines when some topics may be too recent to be covered by some standard tools (e.g., a periodicals index) and when information on the topic retrieved by less authoritative tools (e.g., a Web search engine) may not be reliable.

• Compares new information with own knowledge and other sources considered authoritative to determine if conclusions are reasonable.

3.4.g. Selects information that provides evidence for the topic

• Describes why not all information sources are appropriate for all purposes (e.g., ERIC is not appropriate for all topics, such as business topics; the Web may not be appropriate for a local history topic).

• Distinguishes among various information sources in terms of established evaluation criteria (e.g., content, authority, currency).

• Applies established evaluation criteria to decide which information sources are most appropriate.

Competency Standard Three

Performance Indicator 7: The information literate student determines whether the initial query should be revised.

Outcomes include:

3.7.b. Reviews search strategy and incorporates additional concepts as necessary

• Demonstrates how searches may be limited or expanded by modifying search terminology or logic.

3.7.C. Reviews information retrieval sources used and expands to include others as needed

• Examines footnotes and bibliographies from retrieved items to locate additional sources.

• Follows, retrieves, and evaluates relevant online links to additional sources.

• Incorporates new knowledge as elements of revised search strategy to gather additional information.

Competency Standard Four

The information literate student, individually or as a member of a group, uses information effectively to accomplish a specific purpose.

Objectives were not written for this standard because its performance indicators and outcomes are best addressed by the course instructor, rather than by librarians. (See the introduction and the "Competency Standards" document.)

Competency Standard Five

The information literate student understands many of the economic, legal and social issues surrounding the use of information and accesses and uses information ethically and legally.

Performance Indicator 1: The information literate student understands many of the ethical, legal, and socio-economic issues surrounding information and information technology.

Outcomes include:

5.1.b. Identifies and discusses issues related to free vs. fee-based access to information

• Demonstrates an understanding that not all information on the Web is free, i.e., some Web-based databases require users to pay a fee or to subscribe in order to retrieve full text or other content.

• Demonstrates awareness that the library pays for access to databases, information tools, full-text resources, etc., and may use the Web to deliver them to its clientele.

• Describes how the terms of subscriptions or licenses may limit their use to a particular clientele or location.

• Describes the differences between the results of a search using a general Web search engine (e.g., Yahoo, Google) and a library-provided tool (e.g., Web-based article index, full-text electronic journal, Web-based library catalog).

Competency Standard Five

Performance Indicator 3: The information literate student acknowledges the use of information sources in communicating the product or performance.

Outcomes include:

5.3.a. Selects an appropriate documentation style and uses it consistently to cite sources

• Describes how to use a documentation style to record bibliographic information from an item retrieved through research.

• Identifies citation elements for information sources in different formats (e.g., book, article, television program, Web page, interview).

• Demonstrates an understanding that there are different documentation styles, published or accepted by various groups[1]

• Demonstrates an understanding that the appropriate documentation style may vary by discipline (e.g., MLA for English, University of Chicago for history, APA for psychology, CBE for biology).

• Describes when the format of the source cited may dictate a certain citation style.

• Uses correctly and consistently the citation style appropriate to a specific discipline.

• Locates information about documentation styles either in print or electronically, e.g., through the library's Web site.

• Recognizes that consistency of citation format is important, especially if a course instructor has not required a particular style.

Note

1. Examples of published style manuals are: Joseph Gibaldi, MLA *Handbook for Writers of Research Papers,* 5th ed. (New York: Modern Language Association, 1999). *Publication Manual of the American Psychological Association,* 4th ed. (Washington, DC: A.P.A,, 1994). *The Chicago Manual of Style,* 14th ed. (Chicago: University of Chicago Press, 1993). Council of Biology Editors, Style Manual Committee, *Scientific Style and Format: The CBE Manual for Authors, Editors, and Publishers.* 6th ed. (Cambridge, England: Cambridge University Press, 1994).

APPENDIX
Responsibility tags for Competency Standards Outcomes

To emphasize the shared nature of information literacy instruction, the components of the "Competency Standards" are marked with the tags "L" and "L/C" as examples of who might take the lead for a given component. "C" is the abbreviation used to indicate the "course instructor." (See the definition of this term above.) The tags applied to the Competency Standards thus are defined as: L = primarily librarians' responsibility; L/C = responsibility shared by librarians and the course instructor through guidance, consultation, or collaboration. The course content is always the responsibility of the course instructor.

The tags are examples of ways to approach the shared responsibilities for information literacy instruction. Again, local preferences may vary. The examples do not include computer center staff, teaching center staff, or the many other campus professionals who may also have a role. Librarians may use the tags as they see fit at their institutions.

Performance Indicator 1: The information literate student defines and articulates the need for information.

Outcomes include:

1.1. c. Explores general information sources to increase familiarity with the topic (L)

1.1. d. Defines or modifies the information need to achieve a manageable focus (L/C)

1.1. e. Identifies key concepts and terms that describe the information need (L/C)

Performance Indicator 2: The information literate student identifies a variety of types and formats of potential sources for information.

Outcomes include:

1.2. a. Knows how information is formally and informally produced , organized, and disseminated (L/C)

1.2. b. Recognizes that knowledge can be organized into disciplines that influence the way information is accessed (L/C)

1.2. C. Identifies the value and differences of potential resources in a variety of formats (e.g., multimedia, database, Web site, data set, audiovisual, book) (L/C)

1.2. d. Identifies the purpose and audience of potential resources (e.g., popular vs. scholarly, current vs. historical) (L/C)

1.2. e. Differentiates between primary and secondary sources, recognizing how their use and importance vary with each discipline (L/C)

Performance Indicator 3: The information literate student considers the costs and benefits of acquiring the needed information.

Outcomes include:

1.3. a. Determines the availability of needed information and makes decisions on broadening the information-seeking process beyond local resources (e.g., interlibrary loan; using resources at other locations; obtaining images, videos, text, or sound) (L/C)

1.3. C. Defines a realistic overall plan and timeline to acquire the needed information (L/C)

Performance Indicator 4: The information literate student reevaluates the nature and extent of the information need.

Outcomes include:

1.4. a. Reviews the initial information need to clarify, revise, or refine the question (L/C)

1.4. b. Describes criteria used to make information decisions and choices (L/C)

Competency Standard Two

The information literate student accesses needed information effectively and efficiently.

Performance Indicator 1: The information literate student selects the most appropriate investigative methods or information retrieval systems for accessing the needed information.

Outcomes include:

2.1. C. Investigates the scope, content, and organization of information retrieval systems (L/C)

2.1. d. Selects efficient and effective approaches for accessing the information needed from the investigative method or information retrieval system (L)

Performance Indicator 2: The information literate student constructs and implements effectively designed search strategies.

Outcomes include:

2.2. a. Develops a research plan appropriate to the investigative method (L/C)

2.2. b. Identifies keywords, synonyms, and related terms for the information needed (L)

2.2. C. Selects controlled vocabulary specific to the discipline or information retrieval source (L)

2.2. d. Constructs a search strategy using appropriate commands for the information retrieval system selected (e.g., Boolean operators, truncation, and proximity for search engines; internal organizers such as indexes for books) (L)

2.2. e. Implements the search strategy in various information retrieval systems using different user interfaces and search engines, with different command languages, protocols, and search parameters (L)

2.2. f. Implements the search using investigative protocols appropriate to the discipline (L)

Performance Indicator 3: The information literate student retrieves information

online or in person using a variety of methods.

Outcomes include:

2.3. a. Uses various search systems to retrieve information in a variety of formats (L)

2.3. b. Uses various classification schemes and other systems (e.g., call number systems or indexes) to locate information resources within the library or to identify specific sites for physical exploration (L)

2.3. C. Uses specialized online or in person services available at the institution to retrieve information needed (e.g., interlibrary loan/ document delivery, professional associations, institutional research offices, community resources, experts and practitioners) (L/C)

Performance Indicator 4: The information literate student refines the search strategy if necessary.

Outcomes include:

2.4. a. Assesses the quantity, quality, and relevance of the search results to determine whether alternative information retrieval systems or investigative methods should be utilized (L/C)

Performance Indicator 5: The information literate student extracts, records, and manages the information and its sources.

Outcomes include:

2.5. **C.** Differentiates between the types of sources cited and understands the elements and correct syntax of a citation for a wide range of sources (L/C)

Competency Standard Three

The information literate student evaluates information and its sources critically and incorporates selected information into his or her knowledge base and value system.

Performance Indicator 2: The information literate student articulates and applies initial criteria for evaluating both the information and its sources.

Outcomes include:

3.2. a. Examines and compares information from various sources in order to evaluate reliability, validity, accuracy, authority, timeliness, and point of view or bias (L/C)

3.2. C. Recognizes prejudice, deception, or manipulation (L/C)

3.2. d. Recognizes the cultural, physical, or other context within which the information was

created and understands the impact of context on interpreting the information (L/C)

Performance Indicator 4: The information literate student compares new knowledge with prior knowledge to determine the value added, contradictions, or other unique characteristics of the information.

Outcomes include:

3.4. e. Determines probable accuracy by questioning the source of the data, the limitations of the information gathering tools or strategies, and the reasonableness of the conclusions (L/C)

3.4. g. Selects information that provides evidence for the topic (L/C)

Performance Indicator 7: The information literate student determines whether the initial query should be revised.

Outcomes include:

3.7. b. Reviews search strategy and incorporates additional concepts as necessary (L/C)

3.7. C. Reviews information retrieval sources used and expands to include others as needed (L/C)

Competency Standard Five

The information literate student understands many of the economic, legal, and social issues surrounding the use of information and accesses and uses information ethically and legally.

Performance Indicator 1: The information literate student understands many of the ethical, legal, and socioeconomic issues surrounding information and information technology.

Outcomes include:

5.1.b. Identifies and discusses issues related to free vs. fee-based access to information (L/C)

Performance Indicator 3: The information literate student acknowledges the use of information sources in communicating the product or performance.

Outcomes include:

5.3.a. Selects an appropriate documentation style and uses it consistently to cite sources (L/C) ■

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