
Information Literacy Accreditation Mandates: What They Mean for Faculty and Librarians

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ABSTRACT

REGIONAL ACCREDITATION AGENCIES have established mandates for higher education institutions to implement information literacy programs and to assess the resultant learning outcomes. This mandate calls for a shift in the established library instruction paradigm at many institutions. Responsibility shifts from librarians teaching students how to locate materials for particular assignments, to faculty and librarians working together to embed the teaching and learning of information literacy skills systematically into syllabi and curricula. The new paradigm requires librarians and faculty to adapt a broader sense of the role of information literacy skills in higher education and in the preparation for the professional workforce. It also demands the learning of new methods and concepts by both teaching faculty and librarians, as they develop a collaborative approach to the integration of information literacy into general education and disciplinary education.

INTRODUCTION

When I went to college I continued to work in the library. Because the stacks were closed, I also continued to help students, helping them to find things on their own. I questioned the reserve system: why should anyone want to be limited to just what was on reserve? I argued with faculty that if students were to really learn, they needed to go beyond the reserve system. A few were convinced. I guess I was interested in information literacy even then. . . . Most students never developed any strategies in using a library. It seemed strange that someone would think that bringing in an English class at the beginning of the semester for half an hour would allow the students to learn everything they needed

to know about a library. Where were the connections to the undergraduate experience, the undergraduate curriculum? (Adams, 1992, p.442)

This quotation from an 1992 interview with Howard L. Simmons, executive director of the Commission on Higher Education of the Middle States Association of Colleges and Schools, on the role of academic libraries in higher education, sums up the challenges that have faced academic librarians in the twentieth century: How do you change the pedagogy of higher education so that professors take advantage of the growing print, audiovisual, and electronic resources in college libraries to enhance learning and create excitement about scholarship and research? How do we get instructional librarians and teaching faculty to work as true partners in the development of a curriculum that motivates students to become more engaged with learning and to develop higher-level thinking skills?

In past decades, when librarians talked to faculty about teaching students "library skills," there was only lukewarm support. Many faculty saw "library skills" as an isolated set of skills that could be useful for students to know but that was not really central to the student's intellectual growth, academic success, or future careers. With little emphasis by teaching faculty, undergraduates realized that learning library skills would not get them many points in the classroom. More recent decades have witnessed reform in higher education with greater focus on active learning, lifelong learning, critical thinking, problem-solving, career preparation, undergraduate research, and assessment of learning outcomes. During the later decades of the twentieth century, an information explosion fueled in part by a revolution in information technology has deeply affected academic libraries and higher education. The confluence of these changes makes the time ripe for a transformation of the traditional mission for teaching "library skills" into a broader mandate for teaching "information literacy."

THE INFORMATION MANDATE

In 1987 the American Library Association formed the Presidential Committee on Information Literacy to explore the role of information in education, business, government, and everyday life and to put forth models for how information literacy could contribute to informal and formal learning at all levels. The final report in 1989 stated:

Information literate people are those who have learned how to learn. They know how to learn because they know how knowledge is organized, how to find information, and how to use information in such a way that others can learn from them. They are people prepared for lifelong learning, because they can always find the information needed for any task or decision at hand. (ALA, 1989, p.1)

The report emphasizes the central importance of information for learning, careers, business, and citizenship. It shows how information literacy aligns with educational reforms to improve the quality of education in kin-

dergarten through twelfth grade as well as in undergraduate institutions. Among its recommendations are: 1. That library associations must work more closely with other professional associations to promote information literacy; 2. that state departments of education and commissions on higher education must mandate the inclusion of information literacy in all curricula; and 3. that teacher education programs should introduce future teachers to the concepts of information literacy (ALA, 1989, pp. 11–13). By the time this final report was issued, all three of these efforts above were already underway. The Carnegie Foundation report by Ernest Boyer (1987) prominently mentioned the direct contribution of libraries to the community of learners. Educators went beyond simple proclamations of the importance of information to establish blueprints for integrating information literacy into school curricula. One clear sign was the publication in 1988 of *Information Power: Guidelines for Media Programs*, by the American Association of School Librarians and the Association for Educational Communication and Technology. This article focuses on the information literacy mandate for higher education and its effect upon undergraduate faculty and librarians. However, in many cases colleges are playing catch-up with the efforts of K–12 educators to make elementary and secondary students information literate. Undergraduate faculty and librarians would do well to take note of the methods and materials developed by schoolteachers and librarians.

Where are we in 2002 in terms of the mandate for information literacy in higher education? While there has been an outpouring of articles and books published upon this topic in the last decade, the word “mandate” implies greater recognition of the importance of information literacy in the education establishment. For my purposes, I am concentrating upon the current statements by regional accreditation commissions for colleges and schools as barometers of acceptance of this concept. In general terms, these accreditation bodies have been moving in the direction of requiring greater accountability from institutions of higher education to ensure that students are learning and that students acquire the competencies to function effectively after graduation. The current buzzwords are “educational effectiveness,” “student engagement,” “learning outcomes,” and “assessment.”

Libraries are no longer seen, if they ever were, as isolated agencies separate and apart from the major teaching and learning activities. The Northwest Association of Schools and Colleges [NASC] (1999) standard 5.B.2 has a general statement about the library’s active educational mission: “Library and information resources and services contribute to developing the ability of students, faculty, and staff to use the resources independently and effectively.” In the section of the standards devoted to *educational effectiveness*, NASC makes an even stronger commitment to integrating the library with the educational mission and curriculum:

2.A.3 Degree and certificate programs demonstrate a coherent design; are characterized by appropriate breadth, depth, sequencing of courses, synthesis of learning, and the assessment of learning outcomes; and require the use of library and other information sources. (NASC, 1999)

2.A.8 Faculty, in partnership with library and information resources personnel, ensure that the use of library and information resources is integrated into the learning process. (NASC, 1999)

These statements make clear that faculty and librarians must collaborate to ensure that students are *required* to use library resources as a part of the learning process. In sum, NASC colleges must ensure that students can use information resources independently and effectively. In the section on undergraduate curricula, the New England Association of Schools and Colleges [NEASC] makes a similar statement: "All undergraduate programs require the use of information resources in addition to course texts and formal instruction" (NEASC, 2001, standard 4.14). North Central Association of Colleges and School's section 5 on "Evaluation and Assessment" includes two library measures: 1. Use of library and learning resources and instructor assignments that require such usage; and 2. the extent to which students use library and learning resources appropriately (NCA, 2001). The latter is significant because it alludes to critical thinking and the critical evaluation of information, both of which are so important.

The Southern Association of College and Schools [SACS] emphasizes more of the "teaching library" approach to this mandate: "The institution ensures that users have access to regular and timely instruction in the use of the library and other learning/information resources" (SACS, 2001, standard 26). Here the responsibility seems to be with the instructional librarians to work with the teaching faculty to arrange for "regular and timely instruction" about information gathering and use of library resources.

Four of the regional accreditation commissions mention the "IL words" explicitly in their standards. In the section on library and information resources, NEASC affirms: "The institution provides appropriate orientation and training for use of these resources, as well as *instruction in basic information literacy*" (NEASC, 2001, standard 7.4, emphasis added). This wording is instructive in drawing a distinction between orientation and training on library resources and information literacy instruction. The Western Association of Schools and Colleges [WASC] identifies information literacy as one of the "*core learning abilities and competencies*" along with written and oral communication, quantitative skills, and critical thinking (WASC, 2001, standard 2.2, emphasis added). WASC also mentions in standard 2.3 that institutions clearly must articulate expectations about student learning in regards to use of library and information resources, with evidence from syllabi and the curriculum. The North Central Association of Colleges and Schools [NCA] places information literacy and the associated skills in in-

teresting contexts in its 2001 *Addendum to the Handbook of Accreditation*. Its explicit mention of “*training in information literacy including research techniques*” is in the section devoted to services supporting distance education (NCA, 2001, standard 4c, emphasis added). North Central also states that new students must be informed during orientation about how library services may support learning and about the requisite skills for accessing library resources (NCA, 2001, standard 4b).

The Middle States Commission on Higher Education has been one of the most vociferous proponents of information literacy as an intrinsic part of the standards of accreditation. Howard Simmons (1994) reviewed the early 1990s developments of the concepts of information literacy for the book, *The Challenge and Practice of Academic Accreditation*. The 2001 draft accreditation standards for Middle States, *Characteristics of Excellence*, states: “*Information literacy—the understanding and set of skills necessary to carry out the functions of effective information access, evaluation, and application—is an essential component of any general education program*” (p. 32, emphasis added). Section XI, which deals with disciplinary education, has three paragraphs dealing with information literacy, including this detailed statement of learning objectives: “*Institutions of higher education need to provide students and instructors with the knowledge, skills, and tools to obtain information in many formats and media in order to identify, retrieve, and apply relevant and valid knowledge and information resources to their study, teaching, or research*” (p. 28).

Middle States [MS] institutions are required to show the integration of information literacy into the curriculum by providing evidence such as: 1. Collaboration between professional library staff and faculty in teaching and fostering information literacy relevant to the curriculum; 2. evidence of information literacy incorporated into the syllabi and other teaching materials describing expectations for students’ demonstration of information literacy skills; and 3. assessment of information literacy outcomes, including assessment of related learner abilities (pp. 29, 31).

Middle States started a pilot project, “*Learning Outcomes for the Millennium*,” to stimulate campus dialogues on the relationship of general education, disciplinary education, and information literacy. For this project, a number of regional meetings of librarians, faculty, and administrators were held to discuss collaborative efforts to improve classroom instruction, distance education, and student learning. Project participants have been encouraged to discuss plans for implementation of these ideas in their curricula. Middle States recommended that colleges use the *Information Literacy Competency Standards for Higher Education* (2000), developed by the Association of College and Research Libraries working with other associations in higher education, as a starting point for discussion of integration of information literacy skills into general education programs as well as into disciplinary education programs. Middle States considers information lit-

eracy as a “metacognitive device for enhancing learning” and as a “metaphor for the entire learning experience” (MS, 2000, p.1). Siena College, where this author resides, has been a participant in this pilot project, and thus has held campus discussions of the Middle States mandate for information literacy and presently is experimenting with different methodologies for better integrating information literacy into the curriculum.

The March 1998 *Progress Report on Information Literacy*, produced by the Association of College and Research Libraries, mentions the efforts of some eighty educational organizations, including the College Board, EDUCOM, the Council of Independent Colleges, and the National Council of Teachers of English, to create the National Forum on Information Literacy, with the goal “to promote information literacy as a means of empowering individuals and enhancing the educational potential and economics goals of communities everywhere” (ACRL, 1998, Challenges Yet To Be Met section, para. 2). The *Progress Report* (1998) calls for research into: 1. How to benchmark information literacy skills; 2. how to measure the effectiveness of information literacy programs on student performance; and 3. how information literacy is manifested and enhances productivity in the workplace (Recommendation 5, “Progress”, para. 1). In spring 2000, the American Association of Higher Education endorsed the ACRL’s *Information Literacy Competency Standards for Higher Education*, with the following call: “With societal well-being so dependent upon how its citizens find, review, and use information, institutions must help students become information literate, in the fullest sense of the term” (Breivik, 2000, AAHE’s Board Endorses Information Literacy Standards section, para. 1).

THE PARADIGM SHIFT TO INFORMATION LITERACY

If you tie the beginning of the “library instruction movement” to the first Library Orientation Exchange (LOEX) Conference in 1971, then the movement is now over thirty years old. As they acquired more experience in teaching in various contexts, librarians realized that traditional ways of instructing students about library skills were becoming insufficient and that a new paradigm was necessary to move the profession forward in terms of providing effective instruction to meet the information needs of students at all levels. The final report of the ALA Presidential Committee on Information Literacy in 1989 proclaimed the central rationale for “information literacy” as the new rallying call for instruction librarians:

This call for more attention to information literacy comes at a time when many other learning deficiencies are being expressed by educators, business leaders, and parents. . . . Because we have been hit by a tidal wave of information, what used to suffice as literacy no longer suffices; what used to count as effective knowledge no longer meets our needs; what used to pass as a good education no longer is adequate. (p. 10)

THE SHIFT IN WHAT WE ARE TRYING TO TEACH

In his seminal work, *Teaching with Books*, published in 1940, Harvie Branscomb, Director of Libraries at Duke University, called for educational reform that would transform undergraduate education from teaching relying primarily upon lectures and textbooks to a more challenging and engaging education that encourages students to take more responsibility for their own learning and stimulates investigation and discovery through reading and research using the vast resources of college libraries (p. 9). The kernel of his idea—to motivate students to have more inquisitiveness through independent learning—is still a major thrust in higher education today. Information literacy is necessary to this effort because independent learners need to know how to access, collect, evaluate, synthesize, and report information that is important to the tasks at hand.

Traditional library instruction was designed to teach students the “library skills” necessary to use the library effectively. The teaching focused upon making students aware of and knowledgeable about library resources: the library catalog as the gateway to the book collection, the periodical indexes as the gateway to the periodical collection, and the reference collection. To make effective use of library resources, librarians wanted students to know about gathering background information, identifying appropriate subject headings and keywords, locating books by call number, citing sources properly, and distinguishing between popular and scholarly literature. Students who acquired these skills could use the library resources effectively to find relevant resources for their assignments and research papers. The learning objectives were fairly limited in scope.

A number of recent trends in higher education raise questions about the adequacy of the traditional approach to library instruction. First, advances in information technology have created new dimensions to library collections as well as alternative sources of information outside the library: online catalogs, full-text databases, e-books, and free and commercial Web sites. Since most faculty find it difficult to keep up with the rapid growth in electronic information sources, instructional librarians need to instruct both students and faculty about these new sources. Second, many educators have modified their instructional programs to include more independent study, active learning, internships, and undergraduate research, leading to greater reliance upon library and information-gathering skills. Thirdly, professional as well as regional accreditation agencies have placed increasing importance upon student competencies and assessment of learning outcomes.

These trends in information technology, higher education, and the growth and maturing of library instruction led to the transformation from a narrow focus on “bibliographic instruction” to a broader concept of “information literacy.” While traditional library instruction concentrated upon library resources and library tools, information literacy goes beyond those confines to deal with information in any format located anywhere. Informa-

tion literacy is linked closely with computer literacy, due to the burgeoning of electronic publishing and Web publishing. Students must know information technology in order to use the contemporary library. Librarians must be conversant with software programs dealing with Web browsing, printing, bibliographic management, and data management in order to deliver information effectively to students and faculty. As Chart 1 demonstrates, information literacy advocates assert that information-gathering skills are directly connected to and should be integrated closely with the teaching of research methods, critical thinking, problem-solving, and scholarly communication. Just as instruction librarians must tailor their presentations to the subject matter of a particular course, so they must now be aware of the trends in research methods and scholarly communication in the discipline, so that students see the connections between specific resources being discussed and the processes involved in conducting research and communicating findings. Chart 1 also points out that information literacy espouses that students must learn about the broader political, economic, legal, social, cultural, and ethical issues surrounding the creation, distribution, and use of information. Finally, graduating students must have been exposed to the concept that information literacy is one of the liberal arts (along with reading, writing, computational, and thinking skills) essential for career preparation, professional development, lifelong learning, and civic participation in a democracy. An interesting discourse on this topic can be found in a 1996 *Educom Review* article entitled: "Information Literacy as a Liberal Art: Enlightenment Proposals for a New Curriculum" (Shapiro, 1996).

THE SHIFT IN THE APPROACH TO TEACHING

LOEX (Library Orientation Exchange) connoted the academic librarians' instructional emphasis on orienting students to library facilities, resources, and services. In 1971 college librarians gave lots of tours and orientations for new students, especially at the beginning of the year. The purpose was to orient students to the library building, the organization of the resources, and the services provided. The message was that students needed to be familiar with the surroundings when they returned to do their assignments.

Sometimes faculty would ask librarians to give tours and orientations for students enrolled in particular courses. While many did give the tours, librarians knew that this surface approach to the library was counterproductive. It implied 1. that once a student knew what resources were available and where they were located, it would be easy to use the library for their assignments and research papers, and 2. that the librarian's main role was to select resources and give students directional help. The "library instruction movement" was founded because college librarians wanted to provide students with more in-depth education about how to use resources. As a result, the paradigm shifted to librarians reaching out to faculty for time in their courses to demonstrate to students how to use the library resources

Chart 1

Traditional Library Instruction (narrow view)		Information Literacy	
1. Identifies the focus of the research topic	Faculty	Traditional library instruction topics listed in first column #1–#11	Librarian/faculty
2. Identifies sources of background information	Librarian		Librarian/faculty
3. Teaches how to search library catalog	Librarian	12. Teaches how to determine the information needed	Librarian/faculty
4. Teaches students about search terms	Librarian	13. Instructs students about research methods	Librarian/faculty
5. Instructs how to search periodical literature	Librarian	14. Teaches students about scholarly communication	Librarian/faculty
6. Identifies key reference sources	Librarian	15. Teaches students about information technology	Librarian/computing center staff
7. Teaches how to cite sources and create bibliography	Faculty/librarian	16. Instructs students broadly about how to evaluate print and electronic information sources	Librarian/faculty
8. Teaches library classification schemes	Librarian		Librarian/faculty
9. Informs students about library services (reference, ILL, etc.)	Librarian	17. Teaches students about economic, political, legal and cultural context of information	Librarian/faculty
10. Informs students about popular and scholarly lit.	Librarian	18. Teaches students about how to evaluate information content	Librarian/faculty
11. Instructs students how to develop search strategies	Librarian		Librarian/faculty
12. Teaches how to determine information needed	Faculty	19. Teaches students how to synthesize information	Librarian/faculty
13. Instructs students about evaluating source of information	Librarian	20. Teaches critical thinking skills	Librarian/faculty
14. Teaches students about evaluating information content	Faculty	21. Teaches problem solving skills	Librarian/faculty
		22. Teaches students about data manipulation and data management	Librarian/faculty
		23. Prepares students for lifelong learning, career preparation and professional development	Librarian/faculty

effectively. Over the next decades, instructional librarians were successful in most settings in getting faculty to understand that, if a class were brought to the library to receive instruction on how to use the library effectively, students would do better work on their research papers. Evan Farber at Earlham College demonstrated the benefits of the “course-related instruction” approach to user instruction most dramatically.

This approach is widely followed at most colleges and universities today and established two important premises: That librarians are willing and able to teach students about the use of information resources; and that the educational programs and students benefit from exposure to library instruction. However, there are inherent drawbacks to course-related instruction, as it presently exists: 1. The ability to reach students is dependent upon faculty interest in such instruction, resulting in scattered coverage across departments; 2. some students receive little if any instruction depending upon the courses selected; 3. librarians try to cover a whole host of topics in a single hour since it may be their only chance with some students; 4. even though librarians tailor presentations to the specific course, students are exposed to some repetition of subject matter, since the librarian must assume there has been no prior learning for each classroom presentation.

The information literacy advocates build upon the success of the course-related instruction to convince colleges and universities that faculty and librarians collaboratively must provide students and faculty with the requisite skills to access, identify, locate, evaluate, and synthesize information and educate the academic community how these skills fit into the broader context of teaching critical thinking, problem-solving, research methods, scholarly communication, and lifelong learning. The difference between the approach in traditional library instruction and information literacy is that the former assumes that library instruction is an add-on or a plum to make the course better if the librarian is able to convince the professor to give up the class time, whereas the latter establishes as a principle that information literacy is an essential ingredient in the education process and must be embedded into the course structure along with the other vital components of the course. Information literacy asserts that library instruction is not a frill or a desirable extra component, but rather is an intrinsic part of education today.

Information literacy is linked to the current educational reforms, which call for integrative education. In their book, *Fostering Information Literacy*, Helen Thompson and Susan Henley (2000) show how information literacy competencies connect with the Secretary of Education’s Commission on National Standards and the competencies established for mathematics, science, social studies, English, and fine arts by their professional standards committees. Middle States establishes these yardsticks for measuring the success of integrating information literacy into the educational process: 1. Is it embedded into course syllabi? 2. Are librarians and faculty collaborat-

ing to include information literacy into curriculum design? 3. How are information literacy learning outcomes being assessed?

These new standards change the approach to library instruction. If information literacy is to be embedded into courses, then faculty must accept some level of responsibility for teaching these skills, whether they teach the skills or a librarian teaches them or they collaboratively develop modules for students to learn these skills. Librarians must become more acquainted with the courses' objectives, pedagogy, and content. These standards call for colleges to consider how students should acquire information competencies over their four years and how the skills should be distributed across the curriculum, in a similar fashion to when writing changed from "composition" or "expository writing" to "writing across the curriculum." When they are no longer confined to teaching course-related library instruction upon demand, librarians and faculty can start to talk about "building blocks" which can be taught one or two or three at a time, but not all in one single lecture. Faculty and librarians are better situated to assume that students in a particular class received some previous level of library instruction, so that they can build upon those acquired skills. Faculty and librarians can start to assess at different intervals how much students have learned in terms of information competencies. In the senior years, students may be expected to put together these skills in some kind of a capstone project, whether it is a thesis, a portfolio, or an internship, showing their mastery of how the various pieces of the information puzzle fit together. In this model, faculty and librarians are true partners in the educational process, working together to ensure that graduating students are able to function effectively in our information society.

THE ROLE OF THE LIBRARIAN IN THE INFORMATION LITERACY PARADIGM

Instructional librarians engaged in traditional library instruction during the last thirty years have created a wealth of literature about the theory and practice of teaching students about library and information-gathering skills and strategies. Information literacy advocates used that vast experience base to build a new model for imparting library and information skills to meet the changing environment of today's students. Most of these changes are logical extensions of traditional library instruction and are not a radical departure from what the best academic librarians have been doing. The total effect is to proclaim that the college library is a "center of learning" and to broadcast to higher education that the academic librarian is an "educator" as well as a "teacher-librarian."

The Information Expert

Traditionally, librarians have been perceived as keepers of the books and the journals. Students and faculty generally have considered librarians

as knowledgeable about books, journals, and reference materials in their collections; publishing trends; and cataloging and classifying resources. With the advent of the Internet, librarians must expand their horizons and become knowledgeable about important academic Web sites and help to organize the Internet resources so that students and faculty may find their way through the maze to high quality Internet resources for the subjects that they are researching. Topsy Smalley (1998) from Cabrillo College shows how librarians can fill the gap by working with faculty to teach students about "Internet research." The Librarians Association of the University of California [LAUC] has created an instructional Web site about the "New Horizons in Scholarly Communication" (LAUC, 1998).

Knowledge about trends in electronic publishing is not enough in this new environment in which information may be published on the Web without undergoing any review process whatsoever. Instructional librarians must assist students to evaluate the *source* of information (print or electronic) and to evaluate the *information content* of whatever they read. This makes the librarian's role much more vital, because it is in the details of the content that students become aware that scholars often are uncertain or disagree about the "facts" and/or the "conclusions" about a given topic. The student's task is not simply to regurgitate what is stated, rather it is to develop skills to gather and evaluate evidence and reach a conclusion based upon a synthesis of the evidence gathered. While librarians usually cannot claim the in-depth knowledge of a field to analyze the evidence from the vantage point of a subject expertise, librarians do have broad experience with interpreting information and in evaluating information for its content and meaning and, therefore, can and should pass that expertise to students. In an article on the role of librarians written in 1992, Sonia Bodi goes a step further in suggesting that librarians must share responsibility with teaching faculty to ensure that students learn critical thinking skills at the appropriate moments in the research process.

The Educator

If college faculty and administrators are going to take librarians seriously as colleagues, the librarians must demonstrate commitment to and knowledge of academics. Libraries must sponsor and promote educational programming, whether it is lectures, poetry readings, symposia, awards, displays, or research fairs. Librarians must attend and contribute to academic events. The teaching library maximizes the use of its facilities, its information resources, and its information technology to promote learning, so that the library becomes a central or the prime "learning place" on the campus. The campus library should be the "gymnasium for the mind," the place where students and faculty exercise their mental capacities and stretch their learning abilities, their thinking, and their creativity. Academic libraries must have strong liaison programs with academic departments to dem-

onstrate to faculty the library's obvious interest in collaborating with faculty in the enterprise of improving the academic environment for education and research (Yang, 2000). In her article, "What I Want in a Librarian," Professor Aletha Stahl (1997) states that she wants an educational colleague who will be proactive in letting faculty know what print and electronic resources are available to aid in their teaching and research and in suggesting ways that the faculty member may contribute to the library's educational mission. Sally Kalin and Loanne Snavely (2001) from Penn State describe the kind of outreach and synergy needed if the library is to be recognized as a key partner in the educational enterprise.

Librarians also may contribute to higher education by conducting research about information competencies and creating theoretical constructs that help to understand student learning. Starting with the founding of the LOEX conference in 1971 and then with the annual annotated bibliography on library instruction in *Reference Services Review*, Hannelore Rader has been a major advocate for the specialized study of library instruction and information literacy. Since its inception in 1983, the journal *Research Strategies* has encouraged librarians and faculty to publish strategies for teaching information competencies. Pat Breivik (1998, 2000) has been responsible for promoting information literacy with the major associations affiliated with higher education. Carol Kulthau and Michael Eisenberg are two prominent researchers who have done considerable scholarship and writing about the mental processes involved in searching for, evaluating and synthesizing information. The fact that information literacy is now receiving attention from educators in many fields, in many different journals, and in many countries is a testimony to the determination of those mentioned above as well as many others who advanced information literacy as a useful concept for educators.

The Teacher-Librarian

By the 1990s academic libraries felt confident enough about their efforts in classroom instruction to use the term "instructional librarian" when advertising to fill positions. In 2002 with the push for information literacy, it seems that academic libraries may go further and talk about the "teacher-librarian," connoting that the profession views the role as teacher as vital to the overall position of academic librarian. Those who are interested in historical comparisons may read, compare, and contrast the activities related to the teacher-librarian in 1970 (Brown, 1970) and the statement by the Australian Council of School Library Associations [CoSLA] on the role of the teacher-librarian in 2001 (CoSLA, 2001).

In the abstract beginning his article entitled "The Art of Learning with Difficulty," Yale Professor of Philosophy George Allan (2000) states: "Librarians should be actively involved in educating students; not merely teaching them the techniques needed for bibliographic searches, but helping them

learn the artistry involved in thinking for themselves” (p. 5). Two of the central goals of information literacy are to teach students how to learn and how to become independent learners. Librarians have been criticized for spending their time on “training” students to know how to use the library catalog, how to search for periodicals, how to locate material in the library, and other specific techniques for accessing information, without sharing the broader intellectual concepts which are important to information-gathering and research methods. Likewise, librarians who talk about the information technology to retrieve information without commenting upon the pros and cons of the technology (e.g., the Internet) as a mode of scholarly communication are missing a great teaching opportunity to connect with the wider educational context. Information literacy and critical thinking go hand-in-hand (Gibson, 1989; MacAdam & Kemp, 1989).

If librarians are to be effective teachers, they must utilize a wide range of teaching techniques depending upon class size, the level of the students, the subject matter, and the time allotted. Teacher-librarians must go beyond lectures and demonstrations to use discussion, guided exercises, group projects, testing, printed materials, Web-based instructional modules, and other standard teaching methods to improve student learning. ACRL’s Institute for Information Literacy’s Immersion Program (2002) offers a track entitled “Librarian as Teacher,” for those interested in improving their instruction by applying the techniques of classroom teaching, learning theory, leadership and assessment to information literacy. The University of New South Wales in Australia offers a course designed to provide academic librarians with teaching skills. The modules include: 1. Adult learning and development; 2. human memory; 3. communication and experiential learning; 4. evaluation; 5. instructional design; and 6. instructional technology (Barrett & Trahn, 1999). Librarians have numerous continuing education opportunities to help them become better teachers.

Curriculum Developer

The 1997 Middle States *Guidelines for Librarian Evaluators* contains a checklist entitled “Assessing Librarian Effectiveness as Teacher/Facilitator of Information Management.” The checklist makes clear that librarians must be deeply involved in all aspects of curriculum development (Middle States, 1997):

- “In which campus-wide committees are librarians involved? (Give special attention to committees on curriculum, assessment and strategic planning). . . . To what extent do the faculty call upon librarians for assistance with developing courses or conducting their own research?” (pp. 13–14)
- “Do librarians review the institution’s outcomes assessment data to determine if institutional or course-specific findings relate to opportunities the library may have to improve learning?” “Do the librarians review ev-

idence of students' learning in their projects and classroom work. . . ?”
 “When competency-based education is the avowed criterion for designing instruction, is “information literacy” clearly identified as an outcome to be measured?” (p. 13)

2001 mandates from regional accreditation agencies and trends in higher education clearly call for academic librarians to serve on curriculum committees, to speak out on the direction of general education and disciplinary education, to be involved through the liaison programs with the development and revision of courses, to work with faculty on exercises and assignments to improve student learning, and to assess student outcomes. In all these matters, librarians have a special role to play to foster the integration of information literacy into the curriculum. Drawing upon the growing literature in print and upon the Web, librarians need to bring to the attention of faculty examples of successful assignments, exercises, and handouts that could be used to teach information literacy. ACRL's Institute for Information Literacy's Immersion Program has a track devoted to “Librarian as Program Developer” that shows participants how to use learning theory, pedagogy, and assessment tools to develop information literacy programs (ACRL, 2001). The institute also has a Web site on the “Characteristics of Programs of Information Literacy that Illustrate Best Practices” which discusses the essential steps librarians must follow in order to be successful at integrating information literacy into the curriculum (ACRL, 2002). Librarians may also draw upon a growing body of literature on assessment of information literacy to help with curriculum design.

THE ROLE OF THE TEACHING FACULTY IN THE NEW INFORMATION LITERACY PARADIGM

Main Rather Than Sole Educator of Students

In traditional college settings, faculty sometimes complained that librarians, as guardians of the books and the journals, kept faculty from using treasured resources that they needed for their research. Likewise, librarians sometimes complained that faculty, as guardians of the classroom, kept librarians from teaching library skills to students because they considered this less important than other topics being covered in class. If information literacy programs are to succeed, this kind of protectionism must come to an end and faculty and librarians must change their roles in teaching and learning and in their relationships with each other. Librarians must open up their collections to faculty for both research and teaching without burdensome restrictions. If educational reform is really to have an impact in higher education, faculty must change their culture centered on autonomy and superiority to be more collegial and collaborative. Wade Kotter (1999) provides a useful review of the recent library literature concerning how to enhance and deepen the relationship between librarians and faculty.

Librarians are natural allies to faculty because the library mission is founded upon support for the curricular and research mission of the academy, which is so dear to the faculty. If information literacy is to be successful, faculty must acknowledge and accept that librarians feel a special kinship with faculty and a special interest in what they are teaching in the classroom. Reference librarians feel the “impact” of teaching on a daily basis. In a collegial model, there should be much more regular communication between librarians and faculty to ensure that library and information resources are available when needed for assignments and that librarians may direct students to meet course objectives by knowing them ahead of time. In the article “What I Want in a Faculty Member” Christine Larson (1998) from Earlham makes these requests of faculty:

- Recognize that librarians and faculty are in the same business;
- Give clear communication with librarians about what is going on in a course, especially about assignments that might involve student research or use of the library;
- Give research assignments that are possible for students to complete with the campus’ library resources;
- Inform librarians about new courses or curricular initiatives, so that the library collections can support the institution’s programs (pp. 259–260).

Teacher of Information Literacy

While a small core of faculty have accepted library instruction as an essential component of their courses that require student investigation and student research, most faculty do not believe that library instruction is that vital to their courses. In the past, librarians offered faculty the opportunity for students to receive library instruction, but many faculty said “no, thanks.” The major reasons given were a lack of time to cover everything in the course, that students already have the skills needed, or that the skills were not required in the course. Library instruction has simply not been on the radar of most faculty (Hardesty, 1995).

As was shown in the first section of this article, regional accreditation agencies now are stating outright that regular library instruction should be an essential part of higher education and that more educational standards call for information literacy to become a central core set of skills required for an undergraduate degree. This changes the definition of the situation. If it is incumbent upon institutions to teach information literacy competencies, then teachers have an obligation to accept part of the responsibility to ensure that students receive instruction in this area. This has major implications for the librarian and the professor:

1. The professor must consider how to incorporate information literacy into his/her courses.
2. Faculty can no longer simply rely upon librarians to provide instruction

as a last minute add-on to the course; on the other hand, faculty may have good ideas about how the librarian may approach certain topics. Team-teaching is also possible.

3. If the professor is teaching information literacy, he/she must ensure that they are up-to-date and informed about library and information resources available.
4. Faculty knowledgeable about the curriculum could make valuable suggestions about how to sequence the learning of information competencies.
5. Faculty may incorporate more formal assessment of information literacy into the existing assessment measures for the course.

It is important to note that information literacy is not hitting a hard wall of nonacceptance by all faculty. Many faculty are discovering that the concepts of information literacy are in tune with the competency-based standards being adopted in their own fields (Thompson & Henley, 2000). Faculty also are finding that they already cover many of the ACRL information competencies in their courses, especially the research methods courses and senior seminars. Other faculty prefer the broader, conceptual approach to teaching students about research methods and critical thinking to the narrow focus upon library skills and technology, which accompanied the one-hour lectures in more traditional library instruction. Both librarians and faculty must look for connections between information literacy and the important concepts in disciplinary education.

Fellow Learner As Well As Teacher

Many teaching faculty rely upon traditional sources of information that they were taught in graduate school to teach and advise students about how to conduct a literature review for a research paper. However, there has been tremendous change in academic publishing and information technology during the last two decades, resulting in an explosion of new sources and new approaches to conducting information searches in most fields. Thus, many faculty feel increasingly uneasy about the resources that students may use for doing library research. The logical solution is either to give more of the responsibility for teaching information competencies to librarians or to provide continuing education to the faculty, so that they are better informed and better able to teach and guide students to the full complement of resources, or a combination of the two. R. L. Smith (1997) from Dakota State states the preferred option clearly:

Faculty control the learning environment and are in a better position than library faculty to create situations which allow students to see information seeking as an essential part of problem-solving in a discipline. The time has come to shift our focus from students to the faculty—to teach the faculty to teach information literacy. (p. 1)

Librarians at a number of institutions are giving more attention to faculty development as a way of moving from offering the one-shot library

lecture to a more integrated approach to library instruction. Lewis and Clark College (Portland, Oregon) received a grant from the M. J. Murdock Charitable Trust in 1999 to hold faculty development workshops covering the concepts of information literacy, newer information technologies and information resources and techniques for enhancing the teaching and learning of information competencies (Dorner & Gass, 2001).

From my experience at Cleveland State, faculty prefer to receive instruction on the educational and research use of information technology from librarians than from computing center staff, because librarians usually are rated as better teachers and are more attuned to faculty objectives and needs. If time is set aside and some compensation is given, faculty are receptive to learning about new academic electronic and Web resources from librarians, whom they recognize as the experts in electronic publishing. New approaches must continue to be developed. Weber State offered new faculty retreats entitled, "Information Literacy across the Curriculum." Topics included information literacy competencies, learning objectives, learning activities, integration into courses, and use of technology (Newby & Hansen, 1998). George Washington University librarians offered a number of Web publishing workshops (Stebelman, 2001).

In any approach to teaching faculty about information resources and about information literacy, librarians must respect that faculty are the experts in teaching in general as well as in their respective disciplines. It is important that any workshops and seminars presented to the faculty give faculty a chance to put forth and exchange ideas about pedagogy and give feedback upon what is needed to be learned. Tom Rocklin (2001) from the University of Iowa said this about the experience after leading faculty workshops on information literacy:

There are approaches to teaching that are more prevalent in one discipline than in others and the workshops have proven to be productive arenas for exposing participants to thinking about teaching that is different from their own. Second, in these workshops, we present a wide range of technological possibilities. Occasionally, a participant wonders out loud what possible use a particular possibility could have. The workshop leader could answer, but it is much more compelling when, as often happens, a fellow participant answers. (p. 59)

Curriculum Developer

As the campus moves to implement "information literacy across the curriculum," faculty and librarians should build upon ideas learned during the transition from composition courses to "writing across the curriculum." The goals are similar: 1. To expose all students to small doses of information literacy over the four years of undergraduate education; 2. to demonstrate the importance of information literacy to the study of many different subjects; 3. to teach information literacy as a set of concepts and skills related to learning of other skills, and not in isolation; and 4. to en-

sure that college graduates are information literate. This is something upon which all educators should agree.

Three major curricular changes confront the teaching faculty: 1. Information literacy is a broader set of skills and concepts than those offered under traditional library instruction; 2. accreditation agencies call for institutions to define information competencies and assess how well students learn them; and 3. faculty are requested to collaborate with librarians to embed information literacy into their course syllabi.

If faculty are to implement these changes, they must engage in curriculum development with the aid of librarians. R. L. Smith (1997) puts it bluntly that librarians need "to discourage faculty from expecting us to teach and will have to offer them a reasonable alternative—to provide them with materials, ideas, and instruction in how they can move toward resource-based active learning" (Librarian Commitment to Faculty Development section, para. 1). Patricia Iannuzzi (1998) reminds us to build upon common interests: "Librarians have an opportunity to use information literacy to help faculty succeed in their own objectives" (p. 100). Writing, reading, critical thinking, research methods, problem-solving, plagiarism, computer literacy, and communication are some of the important ingredients in most courses with a close link to information literacy. At faculty development seminars on information literacy, faculty may discover that their colleagues are already integrating new resource-based instructional techniques into their courses.

CONCLUSION: COLLABORATION IS THE KEY TO ACHIEVING INFORMATION LITERACY

Information literacy competencies are linked to the educational reform calling for more concentration upon *higher level thinking skills*. Likewise, information literacy is founded upon a *higher level of integration* of library instruction with the teaching of other concepts and skills by embedding that teaching into the syllabi and curricula. Finally, information literacy requires a *higher level of interaction, communication, and planning* between faculty, librarians and others.

In an insightful book entitled *The Collaborative Imperative* (2000), Dick Raspa and Dane Ward, a librarian and professor who have collaborated for years, define and give examples of the continuum in faculty-librarian cooperation, starting with simple *networking* through exchanging information, to *coordination* through joint problem-solving, to *collaboration* through a sustained relationship to meet set educational goals. Information literacy represents the highest level of collaboration, where faculty and librarians recognize and act upon their joint responsibility for ensuring that students acquire information competencies. Cerise Oberman, Bonnie Gratch, and Betsy Wilson (1998) developed a useful yardstick for measuring how far along an institution of higher education is toward integrating information

literacy into the curriculum. The “Information Literacy IQ (Institutional Quotient) Test” includes these questions about the level of collaboration:

- Is information literacy evident in campus-planning documents?
- Do faculty accept/partake in responsibility for information literacy?
- Are there support and rewards for faculty who develop and redesign curriculum to include concepts of information literacy?
- Is there collaboration among curricula designers, faculty, academic advisors, computing staff?

The integrative and holistic approaches to educational reform usually view information literacy and technology as part of the educational package. These approaches clearly call for a team-approach to curriculum design, recognizing the contributions to be made by educational technologists, librarians, and persons responsible for distance education, writing centers, teaching centers, strategic planning, as well as many others. Trudi Jacobson (2000) has a recent article about successful partnerships between library instruction programs and teaching centers. Deborah Huerta (science librarian) and Victoria McMillan (chair, interdisciplinary writing) (2000) give a useful discourse on collaborating on a two-tiered approach to teaching scientific writing. The Web is creating opportunities for new ways of collaborating through online guides, instructional modules, exercises, and tests to instruct students and faculty about information literacy concepts and skills (Meldrem, Johnson, & Spradling, 2001). In 1997 *The Journal of Library Services for Distance Education* was established in recognition of the importance of distance education and the role that libraries must play in that form of education.

Colgate’s Collaboration for Enhanced Learning is but one example of information technologists and librarians working together to create new solutions and new opportunities for student learning about information technology and information resources (Petrowski, Baird, Leach, & Noyes, 2000). EDUCAUSE has created a Library/IT Partnerships Constituent Group “to provide a forum for discussing management issues and sharing experiences about such partnerships and collaborative efforts” (EDUCAUSE, n.d., para. 1). The University of Washington has developed a campus-wide program to enhance teaching and learning called UWIRED. “The Primary goal of UWIRED is to create an electronic community in which communication, collaboration, and information technologies are integral to teaching and learning; ultimately, the aim is information literacy to be the hallmark of a UW degree” (Williams & Zald, 1997, p. 2).

Middle States and other regional accreditation agencies are requiring that institutions incorporate information literacy into general education and disciplinary education programs. Professional organizations responsible for teaching in the disciplines are preaching competency-based learning, including information literacy. Funding organizations and agencies are

providing grants to colleges and universities who are organizing librarians and teaching faculty to develop curricular plans incorporating information literacy. The Institute of Museum and Library Services approved a two-year study by Gustavus Adolphus and other Minnesota academic libraries for developing a model for librarians and faculty to enhance “developmental research skills across the curriculum” (Gustavus Adolphus, 2000, para. 1). Five California public campuses applied for a grant on “Information Competence Implementation Through Interactive Instructional Materials: A Systemwide Collaboration” (CSU at San Luis Obispo, n.d.). Five Ohio private colleges received funding from the Mellon Foundation for monies to integrate information literacy into the liberal arts curriculum (Five Colleges of Ohio, 2000). The new book *Making the Grade: Academic Libraries and Student Success* (2002), by Maurie Kelly and Andrea Kross shows again how librarians and faculty can work together to enhance learning. Two major books that give useful tips and many examples on how to partner with faculty are: *Working with Faculty to Design Undergraduate Information Literacy Programs* (1999), by Rosemary M. Young and Stephen Harmon, and *Library User Education: Powerful Learning, Powerful Partnerships* (2001), edited by Barbara I. Dewey.

Steven Bell (2000) calls for the establishment of “learning libraries” that support and promote “seamless learning cultures” (pp. 48–54). Students need to receive an education where the various components of their education fit together to create a unified approach that they can understand and that gives them the wherewithal to cope with and succeed in their chosen professions. Faculty and librarians are natural allies in the educational process: they both encourage reading, writing, and research; they both stress critical thinking; they both are interested in the life of the mind; and they both are educators. Let us hope that the accreditation standards for information literacy push faculty and librarians to collaborate more closely to achieve joint goals, so that students will benefit by becoming sophisticated information consumers, able to discern knowledge and truth, appreciate diversity, and synthesize information to create new knowledge, so that they are successful in business, government, and the arts, as well as in their personal and professional lives.

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