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INFORMATION LITERACY: AN OVERVIEW

Robin Angeley and Jeff Purdue

The American Library Association (ALA) describes information literate people as:

“(t)hose 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 so 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.”¹

Information literacy, then, should for most in higher education simply be a new term for familiar concepts. For instance, as a form of critical thinking, information literacy implies a critical engagement with technology and information sources, not simply using them unquestioningly. Yet we will be hearing about information literacy more and more—whether locally, state- or nationwide. Why? Partially, there is a growing sense that the rapid increase of computer-based resources, both in researching and presenting information, has in some way changed the nature of the college experience for undergraduates. Further, there is a sense that many computer-related skills are increasingly important in students’ lives beyond college, both in the workplace and in the larger society. Lastly, there is some concern that, with the World Wide Web, students have access to information that has not been subjected to the normal selection criteria of the university library. Thus some educators feel that before such issues become overwhelming, information literacy needs to become a central part of the higher education curriculum.

Yet despite ALA’s fine definition, there remains some confusion about what information literacy means. Part of the confusion is the word “literacy” itself, which at its most basic level is the ability to read and write. Yet literacy has seldom been restricted to that simple definition. Rather it has been frequently used

to describe something more: the idea that people need to interpret what they read, to place it in a specific cultural context. In contemporary adult literacy education, this context has been understood primarily in economic terms; literacy is often seen as an entry-level skill for participation in the economy. And while such training is certainly a laudable goal, it has never been the sole purpose of a university education, or of education in general.

In his article “Nominal and Active Literacy”, Michael Holzman presents a useful model for understanding the range of activities understood as literate by various people.² Nominal literacy, he argues, is the goal of those who exist in a state of alphabetic illiteracy, who cannot read or write. Active literacy, on the other hand, is “an integral part of everyday life.” Holzman sees simply knowing how to read as an inadequate goal for even basic education:

“The purpose of an adult basic education class is not solely preparation for the GED class; it is an inadequate GED class that is solely preparatory for the GED examination. Education is—should be—everywhere and always the opportunity to learn and teach, a dynamic process not simply additive, but transforming. (171)”

Similarly, the goal of information literacy is not to produce a nominal informational literacy—for instance, how to use a particular software or a particular source of information—but rather it is to produce students who are actively literate, who are able to take the techniques useful in one environment and apply them to unfamiliar environments. By creating actively literate students we are creating critical thinkers—much the same goal as has always been associated with a quality higher education.

THE ROLE OF THE LIBRARY IN INFORMATION LITERACY

Libraries have centrally positioned themselves in defining and implementing information literacy programs. There are very good reasons for this: for one thing, libraries are intimately concerned with information, however that may be defined. They acquire, describe and make available information in a variety of formats, including print, video, audio, and electronic. Libraries have also traditionally provided a place for quiet contemplation and scholarly pursuits as well as instruction in research methods. Generally, the library is a university's primary access point to information. However, the library's role in the "information age" was relatively ignored in national educational reform reports until the 1986 Carnegie Foundation Report titled *College: The Undergraduate Experience in America*. A section titled, *Resources: Printed Page and Printouts*, detailed the vital role that libraries should play rather than the marginal role they were playing. The Carnegie report noted that libraries are often directed without connections to the learning efforts on campus and that to improve the undergraduate experience, these connections have to be made.³ Thus, the contemporary library should not simply be a repository for information and a place for quiet contemplation, it should also be a dynamic gateway to information and as such provide an active laboratory for students and faculty to explore, investigate and retrieve information wherever it may be found: locally or virtually.

The library's changing role from repository to gateway came with the advent of computers in the late 1970's and early 1980's. Computers liberated libraries and librarians. Repetitive tasks were assigned to computers, enabling librarians to pursue other improvements, such as the automated library catalog and the creation of information databases. By the late 1980's, it was apparent that information technology would become an integral part of all libraries, providing greater efficiencies for both librarians and users. The university curriculum was also affected by computer technology in the 1970's and 1980's. Universities began offering computer literacy courses and often required their undergraduates to take these courses.⁴ Arthur Luehrmann coined the term "computer literacy" in the 1960's, which as he defined it simply meant knowing how to use a computer.⁵

By the late 1980's, however, it was obvious that the concept of computer literacy was not enough. As computers began to assume a more central role in academic

life it was natural that the library would play an integral role in shaping this new model, since libraries had been grappling with these far-reaching changes for some time. One of the earliest and fullest treatments of the information literacy model is *Information Literacy: Revolution in the Library*, published in 1989. The authors, Breivik and Gee, recognized that the computer literacy model espoused by various educational reform reports was not enough. Instead, they argued that "information management skills are essential to literacy":

"In the midst of the information explosion, the ability to access, retrieve, and evaluate information should constitute a significant part of today's definition of literacy. In an era when today's 'truths' become tomorrow's outdated concepts, individuals who are unable to gather pertinent information are almost as helpless as those who are unable to read or write. The college-educated person can no longer rely on previous knowledge, textbooks, and faculty to provide the information necessary to make informed judgements; no single person or group of individuals is capable of assimilating all the available information or of keeping abreast of new information as it is generated. The ability to independently and appropriately gather information—not the ability to program a computer—will be a key element in an updated concept of literacy."⁶

Where Breivik and Gee say that one "can no longer rely on previous knowledge, etc.," we would argue that one never could and be called truly educated. That is why it is important to reiterate that information literacy does not so much describe something new as it does emphasize certain elements in our traditional concept of education. The necessity of evaluating information has always been with us; it is because of the changes associated with computer databases and the Internet that this seems an even more important goal now.

The information literacy model necessitates positive change in the instructional mission of the library. Rather than just providing traditional library orientations and tours, often taught out-of-context of an assignment, the library's expanded instructional role emphasizes information-seeking behavior within the context of an information need. Today's library instruction is focused on teaching students research strategies that require active engagement, fosters problem solving, and emphasizes critical evaluation of information. The emphasis is on enabling students to become independent researchers and thereby encouraging lifelong learning.

At Western Washington University, library instruction has evolved in recognition of our expanded instruc-

tional mission. We have created learning outcomes for library instruction (<http://www.library.wvu.edu/inst/goals.htm>)⁷ and have revised our teaching methodology to emphasize concepts rather than the teaching of research tools. Some library credit courses are taught as a linked or a cluster course to a discipline course. Other library credit courses are required courses for certain majors. This type of instruction has created opportunities to collaborate with faculty from all disciplines, ensuring that course content and research methodologies are aligned. In addition, library instruction also includes non-credit instruction. These instruction sessions are also designed with faculty in the disciplines to ensure relevance and appropriateness for a particular research assignment. Yet as Breivik and Gee state:

“The problem with such library initiatives is their impermanence. Individual librarians working with individual classroom faculty or with a particular program may successfully integrate the library into particular courses only to have a change in personnel undo years of effort. Only when academic leaders institutionalize these efforts and provide the necessary leadership and faculty development opportunities will these advances become permanent.”⁸

Although libraries and librarians are uniquely qualified to support and teach information literacy skills, information literacy is not just a library issue. Because it enables students to be lifelong learners and critical thinkers, it is a fundamental principal of higher education. This concept is clearly articulated by the Association of College and Research Libraries (ACRL):

“By ensuring that individuals have the intellectual abilities of reasoning and critical thinking, and by helping them construct a framework for learning how to learn, colleges and universities provide the foundation for continued growth throughout their careers, as well as in their roles as informed citizens and members of communities. Information literacy is a key component of, and contributor to, lifelong learning.”⁹

THE ROLE OF THE UNIVERSITY IN INFORMATION LITERACY

To embrace a successful across-the-curriculum information literacy model, a close collaboration of faculty, librarians, and administrators is necessary, with essential support needed from the higher administrative levels. Moreover, it cannot be overemphasized that information literacy is not an end product, but rather a

means for achieving already agreed upon campus-wide initiatives, such as improving the freshmen year experience, general university required courses, and student retention.

Today, there are many examples of strong institutional programs for information literacy. For instance, as early as 1983, university administrators, faculty and librarians at the University of Colorado began considering information literacy as a requirement for the core curriculum or as a part of basic skills programs.¹⁰ This early movement was preceded by campus-wide shifts towards active and collaborative teaching methods that emphasized critical thinking skills. The University of Colorado library played an important role in fostering communication with faculty about information retrieval and evaluation in their disciplines and how these skills are taught to their students.

The Association of College and Research Libraries (ACRL) provides some guidance in developing a campus-wide collaboration:

“Through lectures and by leading discussions, faculty establish the context for learning. Faculty also inspire students to explore the unknown, offer guidance on how best to fulfill information needs, and monitor students’ progress. Academic librarians coordinate the evaluation and selection of intellectual resources for programs and services; organize, and maintain collections and many points of access to information; and provide instruction to students and faculty who seek information. Administrators create opportunities for collaboration and staff development among faculty, librarians, and other professionals who initiate information literacy programs, lead in planning and budgeting for those programs, and provide ongoing resources to sustain them.”¹¹

The Institute for Information Literacy, affiliated with the ACRL, provides links to several model programs from their website: <http://www.ala.org/acrl/nili/whatis.html>.¹² A perusal of these models demonstrates considerable diversity in approaches to information literacy.

OUTCOMES ASSESSMENT AND ACCREDITATION

Some successful information literacy programs are currently operating at California State University at San Marcos, Towson University (Maryland), Purdue University, and the University of Washington, among others. These programs are quite diverse but share a com-

mon framework as they were created to ensure student success in the Information Age both in the classroom and beyond. Successful programs are generally tied to the general education or core curriculum of the institution and address general accountability, outcomes measurement or assessment. These forms of assessment were either mandated by an accrediting agency, by institutional assessment, or by employers of graduates. In Washington State, accountability was formally introduced in 1986 with the Higher Education Coordinating Boards' master plan.¹³ Since then, Washington's accountability effort has shifted from efficiencies to a primary focus on student learning outcomes.

The relationship between student learning outcomes, information literacy and library partnerships has been recognized by many accrediting agencies. One of the first was the Commission of Higher Education, Middle States Association of Colleges and Schools. To date, the middle states are the national leaders in applying information literacy and its assessment across the curriculum. They were also the first accrediting agency to join the National Forum on Information Literacy (<http://www.infolit.org>). Created in 1990, this Forum has over 60 members—including the Association of American Colleges and Universities and the American Association for Higher Education—and promotes activities in these four areas:

- Examining the role of information in our lives and integrates information literacy into members' programs
- Supporting, initiating, and monitoring information literacy projects both in the United States and abroad
- Encouraging the creation and adoption of information literacy guidelines by regulatory bodies, such as the Commissions on Higher Education and Academic Governing boards
- Working with teacher education programs to insure that new teachers are able to incorporate information literacy into their teaching.¹⁴

Several other accrediting agencies have embraced information literacy, including the Commission on Colleges, Southern Association of Colleges and Schools and the Western Association of Colleges and Schools. After reviewing several accreditation reports, Florida International University notes that "the national trend indicates a movement to further revise the language of accreditation from the narrower [concept] of computer literacy to the expanded [concept of] information literacy".¹⁵

FUTURE OF INFORMATION LITERACY FOR WESTERN WASHINGTON UNIVERSITY

In Washington's 1997-1998 biennial budget, the Washington State Legislature directed the Higher Education Coordinating Board (HEC Board) to implement an accountability system in consultation with Washington's public four-year universities and colleges.¹⁶ As directed by the legislature, the HEC Board provided additional recommendations for the 1999-2001 biennium. One of these recommendations provided that "incentive funds should be used to reinforce institutional and state initiatives in the area of student learning outcomes, and to encourage new assessment projects, particularly in the areas of quantitative skills and technological literacy."¹⁷

Thus information literacy is now a Washington State mandated initiative. The HEC Board will be monitoring incentive funds for new initiatives that directly address information and technological literacy. In response, the six public baccalaureate institutions will continue discussions on the assessment of student learning in information and technological literacy begun at the Fourth Annual Colloquy on Teaching, Learning and Assessment held in October 1999 in Leavenworth, Washington. The Colloquy was attended by representatives from all six public baccalaureate institutions including administrators, librarians, instructional technologists, assessment experts, and faculty from a variety of disciplines.

The Colloquy used as its definition of Information Literacy (IL) the Information Literacy Competency Standards for Higher Education by the Association of College and Research Libraries (ACRL) (<http://www.ala.org/acrl/ilstandardlo.html>). This document identifies five standards. Each standard contains performance indicators and measurable outcomes which considerably flesh out the bare bones presented here (these can be seen by clicking on the URL above). The standards themselves are as follows:

1. The information literate individual determines the extent of the information needed.
2. The information literate individual accesses needed information effectively and efficiently.
3. The information literate individual evaluates information and its sources critically and incorporates selected information into his or her knowledge base and value system.
4. The information literate individual uses information effectively to accomplish a specific purpose.

5. The information literate individual understands the economic, legal, and social issues surrounding the use of information and accesses and uses information ethically and legally.¹⁸

Through considerable discussion, the Colloquy participants created a variation of the ACRL standards and agreed to use these standards to develop an information literacy program on each of the six campuses. As a result of the Colloquy, the provosts have formed an Inter-institutional Planning Group on Information/Technological Literacy, and our charge is to work towards a measure of student learning in the areas briefly described above, and formally stated as follows:

An inter-institutional work group is convened to (1) define information and technology literacy, (2) develop the way in which to measure the achievement of information and technology literacy, and (3) assess the cost of implementing strategies and assessments of students' information and technology literacy.¹⁹

With the first part of the charge completed through the Colloquy, the inter-institutional work group is beginning the second part of the charge, to develop a procedure for measuring student outcomes in information and technological literacy. Our current working model is based on portfolio assessment, which includes a reflective essay on information/technological literacy. The next step will be to plan a summer workshop in which the group will develop a rating rubric based on the IL standards. To measure the effectiveness of our current programs this rubric will then be used to rate the set of papers and reflective essays—provided by faculty teaching capstone senior courses in a variety of disciplines from each campus.

Our inter-institutional group has many models with which to consult. For instance, our own Washington State Community and Technical College System has

focused its assessment activities on creating a competence, or abilities, model of student learning. Through their efforts “innovation centers” were funded during 1995-1997, created to develop, compile, and disseminate “good practice information related to teaching and assessing four key ability areas: writing, critical thinking, cross-cultural communication and multiculturalism”.²⁰ Since information literacy is directly tied to critical thinking abilities via the general education curriculum, this model is a particularly good fit.

CONCLUSION

“Information literacy occurs at the intersection of teaching, thinking and learning, within the broader environment of technology.”²¹

The various efforts on behalf of information literacy represent an extraordinary convergence of several forces concerned with education: accrediting agencies, state legislatures, employers, and university administrators, faculty, and librarians. In addition, it reflects some of the most progressive thinking on pedagogy. It takes into account the changes wrought both in the academy and in the society of which it is a part by the rapid development in computer technologies. But despite all of these forward-looking elements, information literacy also looks back. It is founded upon some of the oldest goals of education: to inculcate a spirit of critique and independence of mind. We have spoken here of a convergence of forces, but converging on what point? That point must be the individual student. This is what literacy, whether of information or of anything else, must be for: particular students, not for employers, accrediting agencies, legislatures, or ourselves, but for each student to use as s/he sees fit, as part of the effort to define what constitutes a meaningful life.

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APPENDIX A

The Council of Presidents'

Interinstitutional Committee of Academic Officers'
(ICAO)

Interinstitutional Accountability/Assessment Team

Information/Technological Literacy

PROGRESS REPORT

November 11, 1999

Steve Hunter (The Evergreen State College)

I. BACKGROUND: THE FALL COLLOQUY

In late October, 60 faculty and staff attended a 2-1/2 day discussion of Assessing Student Learning in Information/Technological Literacy. Campus teams included librarians, instructional technologists, faculty knowledgeable and interested in this topic representing various disciplines, and assessment experts.

Colloquy activities included presentations describing work on defining and assessing information literacy nationally; opportunities for sustained cross-campus discussions of teaching and learning goals in this area, and to develop/refine measurement strategies, and preliminary planning for campus-based work.

The colloquy was a success. People persisted in difficult discussions of definition and even measurement. They left excited about continuing the work together and producing measures. We have taken the first step toward forming an impressive group of faculty and staff from every campus to work on this project.

We are fortunate in this state to have several national leaders on this topic. Two presented at the Colloquy: (1) Dr. Larry Snyder, from the UW, who chaired the committee that wrote the "Fluency with Information Technology (FIT) Report describing "what everyone needs to know and understand about information technology" in response to a request from the National Science Foundation, and (2) Dr. Elizabeth Wilson, also from the UW, who is president-elect of the Association of College & Research Libraries (ACRL). The ACRL has drafted 5 "Information Literacy Competency Standards" including performance indicators and the beginning of a set of measurable student learning outcomes. Finally, Dr. Nana Lowell, also from the UW, has recently joined the national ACRL effort to work with that group on refining measurable student learning outcomes.

II. STATEWIDE WRITING PROJECT AS MODEL

Our state's experience with the Writing Project was briefly described at the colloquy. A more detailed report on the Writing Project precedes this summary. There was wide-

spread support of the Writing Project's model for continuing work on Information/Technological Literacy across campuses.

III. COLLOQUY OUTCOMES

- Participants endorsed, with some revisions, the ACRL Information Literacy Standards and began the harder work of moving toward measurable learning outcomes. The revised standards and performance indicators are attached.

This definition of information literacy is broader than HECB/State charge for a measure of "technological literacy". There was no disagreement about the importance of using technology tools, but faculty tend to see these as means to an end, rather than an end in and of themselves. At the advice of Kathe Taylor and Cindy Flynn, we suggest a working title for this project: "Information/Technological Literacy".

- Institutional teams committed to a statewide project to further work on this topic patterned after the Statewide Writing Project. This will involve:
 - 1) an inter-institutional planning group – probably three people from each campus including a librarian/instructional technologist, a faculty member and an assessment person;
 - 2) collection of examples of classroom assignments intended to incorporate "information literacy";
 - 3) at least ideally, collection of a second piece of writing by the student describing the processes used to collect, evaluate and employ information/technology in the assignment;
 - 4) an inter-institutional summer workshop patterned after the Writing Workshops of the past two summers where faculty, assessment types and community members evaluate examples of student work and develop a rating rubric for "information/technological literacy".

IV. NEXT STEPS

- Form inter-institutional planning committee (12/99)
- Plan Summer 2000 Information/Technological Literacy Workshop (12/99 – 4/00)
- Secure examples of student work from each campus (1/00 – 4/00)
- Establish campus-based Information/Technological Literacy campus teams and designate workshop participants (1/00 – 4/00)
- Conduct Summer 2000 Information/Technological Literacy Workshop (7/00)
- Write-up workshop results and critique (9/00)
- Revise rating rubrics and project design (10/00 – 12/00)
- Develop campus-specific applications (10/00 – 6/01)

- Design second summer Information/Technological Literacy (12/00 – 4/01)
- Secure examples of student work for second-round workshop from each campus (1/01 – 4/01)
- Conduct Summer 2001 Workshop (7/01)
- Write-up workshop results and critique (9/01)
- Revise rating rubrics (10/01 – 12/01)
- Final Report on Pilot Phase of Information/Technological Literacy Student Learning Outcome Measures (1/02)

ACRL STANDARDS AND PERFORMANCE INDICATORS

Washington State Assessment Modifications 10/25/99

- **STANDARD ONE:** The information literate student determines the extent of the information needed.

Preamble: The information literate individual frames questions and hypotheses, determines what information is relevant to them, and reevaluates them in the light of new information. Various models of these tasks are appropriate, depending on the questions posed and the academic discipline through which the inquiry is being made.

1. The information literate individual continually defines and redefines the need for information.
 2. The information literate individual identifies a variety of sources of information and understands the constraints and possibilities of each.
 3. The information literate individual adapts their search strategy depending on the time, money, and skills required.
- **STANDARD TWO:** The information literate individual accesses needed information effectively and efficiently.
1. The information literate individual selects the most appropriate investigative methods or information retrieval systems for accessing the needed information.
 2. The information literate individual constructs and implements effectively designed search strategies.
 3. The information literate individual retrieves information online or in person using a variety of methods.
 4. The information literate individual refines the search strategy if necessary.
 5. The information literate individual extracts and records the information and its sources.
- **STANDARD THREE:** The information literate individual evaluates information and its sources critically and

incorporates selected information into his or her knowledge base and value system.

1. The information literate individual articulates and applies initial criteria for evaluating both the information and its source.
 2. The information literate individual identifies the main ideas from the information gathered.
 3. The information literate individual synthesizes main ideas to construct new perspectives.
 4. The information literate individual integrates new knowledge with prior knowledge.
 5. The information literate individual is able to form new views based on the integration of new knowledge with prior knowledge.
 6. The information literate individual validates understanding and interpretation of the information with others.
 7. The information literate individual determines whether the initial query should be revised.
- **STANDARD FOUR:** The information literate individual uses information effectively to accomplish a specific purpose.
1. The information literate individual demonstrates application of new and prior information to the planning and creation of a particular product or performance.
 2. The information literate individual demonstrates the ability to revise the product or performance based on new and/or prior information.
 3. The information literate individual demonstrates his or her effective use of information.
 4. The information literate individual demonstrates ability to use technology in appropriate and creative ways to generate products or performances (e.g., use of word processor, presentation tool, or spreadsheet).
- **STANDARD FIVE:** The information literate individual understands the legal, and social issues surrounding privacy, access and ownership of information and accesses and uses information ethically and legally.
 1. The information literate individual understands the ethical, legal and social issues surrounding information and information technology from the perspective of both the consumer and the provider.
 2. The information literate individual follows regulations, policies, and etiquette related to the access and use of information resources.
 3. The information literate individual acknowledges the use of information sources in communicating the product or performance.

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