

Information Literacy Across the Curriculum Action Plan

Submitted by:
**The Information Literacy Across the Curriculum (ILAC)
Continuous Improvement Team**

Diana Fitzwater

Professor, Library

Jan Geesaman

Associate Dean, Communications

Ken Gray

Professor, Psychology

Christine Kickels

Assistant Professor, Library

Amy Olberding

Professor, Philosophy

Nancy Payne

Professor, Business

Shamili Sandiford

Professor, Biology

Ellen Sutton

Associate Dean, Library

Nancy Webb

Professor, English

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“Remember when all you needed was one skill and you could earn a living? When people were proud to type, operate a lathe, till the soil, teach the three Rs, sell things, work with numbers, and assemble parts to get on with their daily work life? There are still people who do those things, but for a greater number of us, technology leads us a merry chase around the workplace, making life and work more complicated, demanding ever-broadening information age skills—where with the blink of an eye, what you did yesterday isn’t valid today. Is there still one skill we can count on, one skill we can master to fulfill our workplace dreams, regardless of what we do? The answer is yes, and that skill is information literacy, which is being able to locate, access, select, and apply information. Being information literate yields information power.”

Tom W. Goad, organizational consultant, trainer and author from his book
Information Literacy and Workplace Performance (2002)

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Definition of information literacy

In a 1989 publication of the American Library Association's Presidential Commission on Information Literacy, the authors state:

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.

Information literacy** is the ability to recognize an information need and then to locate, evaluate, and effectively use information from a variety of sources to satisfy the need. The acquisition of information literacy skills contributes to an individual's development as a critical thinker, problem solver, and independent learner. (College of DuPage Library, 2002). An information literate person also uses information ethically by properly crediting sources for a research project as well as observing the copyright law.

Importance of information literacy to students

Information literacy processes have become increasingly complex in the 21st century with the explosion of online information output and resources. People must learn how to acquire, manage and analyze large quantities of information from multiple sources and do it quickly. The expansion of information and knowledge is moving at such a pace that the abilities to quickly locate relevant information from disparate sources, and to just as quickly form a coherent whole have become required skills for most workers in our primarily knowledge-based society. In fact, information literacy is directly related to critical thinking skills which entail the ability "to gather and assess relevant information" as well as "problem solving abilities." (Paul, 2000, p.1)

This interest in information literacy is not new. Beginning with the American Library Association's 1989 Presidential Commission on Information Literacy, information literacy has become an established curriculum in many institutions of higher education in this country and around the world. Many universities and colleges have a degree requirement for information literacy. The Faculty Senates of the very large system of California community colleges have tried for several years to institute an information literacy degree requirement. The bill would have likely passed by the California legislature this year, but it was pulled due to an unfortunate lack of funding. Since the concept is strongly supported by the majority of legislators, proponents of the bill are hopeful that it will pass in the near future.

**It should be noted that information literacy is not computer literacy. Computer literacy comprises a set of skills that are used however in the research, reading and writing processes.

This emphasis on information literacy is not driven by academia alone. Many of today's employers require that their workers be information literate whether they use the term or not. Information literacy skills have become as important as communications skills for today's worker.

Terry Crane, Vice-President for Education Products at America Online writes in the September 2000 issue of *Converge*: "Young people need a baseline of communication, analytical skills, and technical skills. We are no longer teaching about technology, but about information literacy—which is the process of turning information into meaning, understanding and new ideas. Students need the thinking, reasoning, and civic abilities that enable them to succeed in—and ultimately lead—a contemporary democratic economy, workforce, and society."

In the 1999 commencement address at the University of Toronto, Anthony Comper, President of the Bank of Montreal, cautions students who are entering the workforce: "...the bottom line is that to be successful, you need to acquire a high level of information literacy. What we need in the knowledge industries are people who know how to absorb and analyze and integrate and create and effectively convey information—and who know how to use information to bring value to everything they undertake."

Karl Albrecht, an organizational consultant, elaborates on the need for information literacy skills in the workplace in the February 2001 issue of *Training & Development*: "As the sheer quantity of information increases, its quality inevitably decreases . . . The steady proliferation of agendas of all types--and the tendency of the Internet and news media to level all information to the same common denominator of mediocrity--make it crucially important to evaluate the quality of what you see, hear, and read . . . It has become quite easy now to fall into information overload, but, simply, you don't need and couldn't process all of the information that's pouring over you. Now, you must consciously reject much more than you accept. It makes good sense to find a few sources of high-quality information and ideas you can trust and tune out the rest."

It is important to note that Albrecht points out the importance of selection and evaluation in the process of locating information. When students do not know about the variety and types of information resources, they will actively select easy-to-locate sources on the Internet and neglect more demanding but higher quality searching of the Library's electronic databases or the Library's catalog for books and other print materials. Finding needed information through using computerized resources such as catalogs, databases, and the Internet is only one step in the whole process of locating and using relevant and reliable information. Our students need to be taught how to select and evaluate, and they need frequent practice with doing so. Unless taught these basic skills, students will grab the first piece of information that they find on the Internet and cut-and-paste it into a paper.

Our students also need to be taught the ethical importance of crediting a source and how to do so. Many students know that plagiarism is wrong, but they must be warned firmly

and frequently that cutting and pasting from the Internet without attributing the source of information constitutes stealing: stealing the ideas of others and calling them one's own.

Knowing when students are information literate

At the present time, we do not know if our students are information literate. We know that it is possible that many are because we can see evidence of the competency in their work, but many more simply are not competent in basic information literacy skills. In order to determine which of our students need our help in this area and at what level they currently perform, assessment is essential. Institutional, program, and classroom assessment must be regular and competency based. Assessing information literacy skills is challenging, because information literacy is made up of intangible processes that cannot be articulated easily as a discrete list of skills, like those needed for computer literacy. Information literacy is a way of knowing how to deal with information, a way of finding out about information resources, and a way of interacting with information. At present, there is no nationally normed instrument for assessing information literacy at the institutional or program levels, but there are a myriad of ways to assess information literacy in the classroom setting.

Characteristics of a successful information literacy across the curriculum program

An information literacy across the curriculum (ILAC) program involves an infusion or integration of opportunities for information literacy skills acquisition throughout the curriculum at the course level. A successful ILAC program has the following characteristics:

- Linked to the goals and educational philosophy of the College.
- Receives library and college administrative support and financing.
- Engages discipline and library faculty in a common goal of information literate students.
- Relies on a set of information literacy standards to establish curriculum and assess learning, like the Association of College and Research Libraries *Information Literacy Competency Standards for Higher Education* (2000).
- Consists of a sequential progression of learning opportunities that are linked to the core curriculum across academic programs or disciplines.
- Assesses learning at all levels: pre- and post at the institutional, program/discipline, and course levels.
- Enjoys a sustained infrastructure of staffing and technical support.

In the literature on ILAC programs, it is stated frequently that the single most important ingredient for a successful program is the discipline faculty's wholehearted support and engagement. In an article by librarians at Towson University (Maryland), the authors state: "The nurturing of strong librarian-faculty relationships is key to Towson University's successful implementation of information literacy instruction. This pedagogical partnership between librarians and faculty is essential for the success of meeting specific information literacy goals." (Black, 2001, p. 219)

ILAC program models

An ILAC program may use one of the following models:

Model 1:

Students are required to take a credit course on information literacy which provides a base of knowledge and skills. Students may then be given formal learning opportunities in other courses that reinforce skills and concepts learned in the information literacy course. These additional learning opportunities are also important for learning the specific resources of a given discipline.

Model 2:

The information literacy program ideally consists of a sequential progression of learning opportunities that are linked to the core curriculum across academic programs or disciplines. In the library literature, this model is often called “course integrated”. In this model:

- Information literacy is a key learning outcome at the course level. Information literacy learning opportunities are integral components of the course and are linked to the course content.
- The course professor sets up regular and progressive activities and assignments for the students to acquire information literacy skills that mesh with the course content and objectives.
- Instruction for these activities and assignments may be taken care of by the course professor, or may be jointly shared by the professor and the librarian.
- Information literacy knowledge and skills are assessed as well as such traditional skills as coherent articulation of subject content and other kinds of writing or presentation skills.

ILAC strongly recommends the implementation of Model 2. It is the philosophy of ILAC that the best context for learning information literacy skills is the discipline course whether it is psychology, business, or nursing. However, Model 2 doesn't preclude the existence of a separate credit course (required or not) on information literacy. Such a course on information literacy definitely bears consideration by a future committee.

Partnerships in an ILAC program

The success of an ILAC program rests on the partnership of key parties. First, the responsibility rests ultimately with the College at large. In order for our students to be successful, the College must advocate and support the need for information literacy skills as a critical competency for all students. In addition:

1. Academic administrators have the responsibility of leading and supporting an information literacy program. Such leadership is not limited to budgetary support. Academic administrators must be responsible for aiding in the development of a collaborative, innovative teaching and learning environment for discipline and library faculty.
2. Discipline faculty, either collectively within a discipline or individually, are responsible to develop curriculum that includes information literacy assignments that assess for particular skills.
3. Library faculty are responsible for developing and maintaining a library instruction program that is aligned with the goals and objectives of an ILAC program. Activities would include collaborating with discipline faculty in the

design and implementation of assignments that assess particular skills and making sure that appropriate resources are available for a given assignment.

It is important to note that in an ILAC program, instruction on information literacy can be, and currently is in some cases, provided solely by the discipline faculty member for his or her students. The role of the librarian may fluctuate with the needs of the discipline faculty member. For example, some may choose to schedule an instruction class, others may ask for handouts, and still others may collaborate on the development of an assignment. In an ILAC program, all parties, whether working individually or collaboratively, should be using a set of information literacy standards as a guide for curriculum planning and assessment. An example of a set of standards or learning outcomes is the Association of College and Research Libraries' (ACRL) *Information Literacy Competency Standards for Higher Education*. The Library has developed their own set of learning outcomes by modifying the ACRL standards for the College of DuPage curriculum and student body.

Information literacy instruction in the Library: current approach

The present set of activities and efforts to teach information literacy skills to our students is large and diverse. The average teaching mode is one 50-minute instruction session. Some sessions are longer and sometimes there is more than one. The discipline faculty requests to schedule an instruction session with the assigned subject librarian. The librarian and discipline faculty plan the content of the session, and in some cases, jointly design the assignment and assessment strategy. In the library literature, this program model is called "course related," as opposed to "course integrated," that was described in the ILAC program models section above.

The current instruction program also includes an online tutorial, various research guides and other kinds of research assistance on the Web site, and workshops on various research topics that are selected by the student. Some discipline faculty teach the necessary skills in their own classrooms through lectures, handouts, and demonstrations of searching particular resources.

The instruction program within the library is very large and has been built on a strong relationship with discipline faculty and associated academic administrators. For the last several years, about 800 sessions are taught per year by the librarians with a headcount of 16,000 students. Many of these students attend more than one session. Most of these students have research projects to complete including papers, speeches, or multimedia presentations. There are presently 10 full-time and 8 part-time Library faculty who teach in the program. There is a librarian whose assignment includes coordinating the instruction program.

The present gauge of success in the current program has been the number of students who attend library instruction sessions. With these numbers, it is easy to conclude that the Library's instruction program is extremely successful. Furthermore, the numbers may lead one to conclude that the practice of integrating information literacy skills into course content is widespread among the various disciplines and programs. However, if student learning were the gauge, we would not be able to say with any degree of accuracy that the

program is successful. We cannot know what they have learned, how well they know what was taught, or if they can apply the knowledge and skills without the necessary assessment and discipline faculty support.

The unfortunate truth is that only about 50% of the College's disciplines/programs participate in the Library's current instruction program. This relatively low participation rate can be for a variety of reasons, but clearly, the responsibility for teaching and assessing information literacy skills is not shared among all faculty. It is imperative that discipline faculty and library faculty work jointly to overcome this deficit and provide our students with the instruction they need to succeed both at the College and beyond it.

Re-envisioning the current program

The ILAC team believes that the current instruction program provided by the Library, as well as the diverse set of activities that comprise other classroom opportunities for C.O.D. students, needs to be re-envisioned to address the following concerns:

1. There are countless students who are never given any learning opportunities for acquiring information literacy skills.
2. Most students are not given sufficiently regular opportunities to reinforce information literacy skills. Such opportunities should, furthermore, progress in complexity with each activity.
3. Some discipline faculty require that their students attend a "tour" of the library. A simple tour of the Library's physical space without an assignment with clear objectives and measurable learning outcomes provides little to no opportunity to learn information literacy skills and processes. Indeed, this type of activity serves only to increase the student's aversion to library work as tours typically have no tangible reward such as learning how to succeed at a class assignment.
4. It is presently up to the discipline faculty to take advantage of this learning opportunity for their students. There are many instructors at the College from all disciplines and programs that require their students complete a research project. Many instructors do not provide them with the means to gain the necessary information literacy skills to successfully complete the research project whether that opportunity be in a formal instruction session with a librarian, through online assistance, a handout, or a lecture in the classroom. This is often due to the incorrect assumption that students already know how to conduct "library" research (Leckie, 1996).
5. Some faculty do not want to give up class time to a session in the Library or do not make the time to consult with their librarian about alternate types of learning activities.
6. Still other faculty are not fully aware of the complexity of skills required to do research in the age of the Internet because their own research skills are in need of updating.
7. Higher order critical thinking skills including analysis, synthesis, evaluation and reflection are minimized due to time constraints and other factors.
8. There is currently no formal and consistent student assessment of information literacy concepts and skills. Such assessment could involve the discipline faculty

- working with the librarian to design graded activities that follow formal instruction. Assessment may also be done independent of the librarian.
9. Since information literacy is rarely a stated or overt learning outcome for a course, proper and complete assessment is not done.
 10. There is rarely enough time to conduct a meaningful assessment within the timeframe of an instruction session of which the average length is 50 minutes.
 11. Since there is little to no recognition of the importance of information literacy among some of the faculty at the discipline or program level, there is no discipline or program information literacy standard or goal in the active course files.
 12. The special and unique needs of distance students for information literacy instruction are not being sufficiently met.

Expectations, assumptions, and issues for classroom faculty

The ILAC team conducted an Information Literacy Across the Curriculum Faculty Survey in November 2002 to find out what is currently being done to provide students with information literacy skills, what skills are considered most important, what assumptions are made about skill levels, and what problems students are having in the process of becoming information literate. Here are some of the survey results:

- Whether required to use outside research or not, the overwhelming majority of faculty surveyed want students to use discipline-specific information resources.
- Of those faculty who require outside research:
 - 81% expect students to use a wide variety of quality sources.
 - 80% expect students to find and evaluate information on Web sites.
 - 86% expect students to be able to identify keywords that describe their research topic.
- 58% of the respondents believe that students need to be taught information literacy skills; 43% assume that they acquired them in high school.

When asked about what problems students are having in the process of becoming information literate, faculty cited the following issues:

- **Time management.** Many faculty expressed this with the following phrases: “getting started,” “not allowing enough time,” “developing a plan of attack,” and “taking the time to do [things] well.”
- **Finding appropriate sources.** Settling for the first thing they find, confusion between databases and Web sites, evaluating sources for reliability, understanding journal articles as compared to magazines, plagiarism of Internet sources.
- **Reading and writing skills.** Understanding what they read, writing coherently, organizing thoughts, “sophisticated analysis,” summarizing main points, and knowing how to critically use the information they find.

Challenges in implementing an ILAC program

There are several challenges in implementing an ILAC program here at College of DuPage:

1. Students do not proceed lockstep through courses at College of DuPage as they do at many other colleges and universities. This means that there is not a course(s)

that would logically be the location for information literacy instruction at the outset of a student's coursework when it is most needed.

For example, English 103 where the research paper is taught, can be taken at any point in a student's tenure. In addition, English 103 is only required of the Associate of Arts degree. Many instructors meanwhile require their students to complete research papers or do other kinds of research projects for which they have had little or no initial instruction. As the November 2002 Information Literacy Across the Curriculum Faculty Survey pointed out, it is not advisable to assume that our students have had prior information literacy assignments, such as research papers in high school, and therefore know what they need to know to do a good paper.

2. Some discipline faculty are in need of updating their own research skills. If the faculty member is information literate and understands the importance and complexities of information retrieval and use in today's world, then he/she is more likely to include information literacy activities and assignments in his/her curriculum.
3. Library and discipline faculty require some professional development in the areas of teaching and assessment in an ILAC program.
4. Professional staffing in the Library may be insufficient to meet the increased demands of a full-scale information literacy across the curriculum program.

Goals & Recommendations

GOAL #1: Establish information literacy as a critical general education competency.

Recommendations:

- A. Add information literacy to the critical thinking skills item in the list of general education objectives. State the importance of and commitment to information literacy in other key college documents.
 - Group/Persons Responsible:** Library Faculty
 - Timeline:** By Fall 2005
 - Funding Needed:** None
 - Measurable Success Indicator:** The College acknowledges the importance of information literacy for our students through various forums and publications and makes a commitment to educate them. Information literacy is a general education objective and is so indicated in relevant college documents.

- B. Investigate the feasibility of establishing of information literacy as a degree requirement.
- Group/Persons Responsible:** Library Faculty, Discipline Faculty, Degree Requirements Committee
Timeline: By Fall 2005
Funding Needed: None
Measurable Success Indicator: A degree requirement for information literacy is investigated. It is determined whether efforts should be taken to recommend that information literacy be a degree requirement. At the same time, recommendations are made as to how a student would meet the requirement.

GOAL #2: Increase information literacy professional development opportunities for faculty to introduce them to the concepts and curriculum of information literacy.

Recommendations:

- A. Offer Teaching & Learning Center workshops and courses.
- Group/Persons Responsible:** Library and Discipline Faculty Team(s), Teaching and Learning Center
Timeline: Continuing
Funding Needed: None
Measurable Success Indicator: Workshops and courses are offered and attended. There is a marked increase in information literacy learning opportunities for students using new curriculum concepts and pedagogical methods and techniques. Discipline faculty and administrators know what information literacy means for their discipline and work to build in a required assignment for their students. There is more collaborative development of information literacy opportunities among library and discipline faculty.
- B. Establish information literacy as the focus of a future Fall Workshop and/or Inservice Day in order to provide a forum to educate faculty about information literacy concepts and curriculum, to showcase current model activities and projects, and to share ideas about teaching and learning.
- Group/Persons Responsible:** Fall Workshop and/or Inservice Day college committee
Timeline: Fall 2006
Funding Needed: \$3,000 for speakers, materials, publicity, etc.
Measurable Success Indicator: Information literacy is the focus of a Fall Workshop and/or Inservice Day. It is well attended and received. There is a groundswell of interest in ensuring that our students are information literate. New discipline faculty/librarian partnerships are formed. New assignments and assessment tools are written and included in syllabi.

GOAL #3: Initiate innovative curriculum development projects.

Recommendations:

- A. Develop models of course-integrated information literacy assignments or projects and assess them for their efficacy in increasing the level of student learning of information literacy knowledge and skills.
Group/Persons Responsible: Library and Discipline Faculty Team(s),
Timeline: Ongoing
Funding Needed: 20 credit hours overload pay
Measurable Success Indicator: Models are developed at a minimum of 10% per year. Assessment indicates that students information literacy skills have markedly increased.
- B. Develop sample information literacy-intensive credit course in order to investigate the feasibility of required information literacy-intensive credit courses as a way to meet an information literacy degree requirement. Example: Biology 101 in which the student earns 1 extra credit hour by completing information literacy activities and assignments.
Group/Persons Responsible: Library and Discipline Faculty Team(s),
Timeline: Fall 2005
Funding Needed: 6 credit hours overload
Measurable Success Indicator: A sample information literacy-intensive credit course is developed. If possible, the course is offered and it is determined that this model is a feasible way to meet an information literacy degree requirement.
- C. Develop a model credit information literacy credit course (elective or required) to be offered by the Library.
Group/Persons Responsible: Library Faculty
Timeline: Spring 2005
Funding Needed: 6 credit hours overload
Measurable Success Indicator: The model is developed, and if possible, the course is offered in order the feasibility of the course as a way to meet an information literacy degree requirement.
- D. Develop an Innovative Incubator project(s) to assess learning of information literacy skills.
Group/Persons Responsible: Library and Discipline Faculty Team(s),
Timeline: Begin Fall 2005
Funding Needed: Innovative Incubator funds
Measurable Success Indicator: A project is completed and stands as a model of information literacy skills learning for other faculty that can be used to promote participation in the ILAC program.

- E. Address the special and unique needs of online and off-campus students for information literacy learning opportunities.
Group/Persons Responsible: Library and Discipline Online Faculty Team(s),
Timeline: Ongoing
Funding Needed: 6 credit hours overload pay
Measurable Success Indicator: The needs of online and off-campus students are assessed and addressed.
- F. Continue to develop the instructional components of the Library's Web site including Web pages and "point-of-need" multimedia resources.
Groups/Persons Responsible: Library Faculty
Timeline: Ongoing
Funding Needed: No special funding needed
Measurable Success Indicator: The instructional components of the Library's Web site are developed. The components are used by students and learning is in some way assessed.

GOAL #4: Develop a comprehensive assessment program.

Recommendations:

1. Develop or obtain and then implement an institutional assessment tools for pre-information literacy skills.
Group/Persons Responsible: Library Faculty
Timeline: Fall 2006
Funding Needed: \$5,000 to purchase; 10 credit hours overload to develop and implement
Measurable Success Indicator: An assessment tool is developed or obtained. A pilot project to test the tool is initiated.
2. Develop course and program assessment strategies and tools.
Group/Persons Responsible: Library and Discipline Faculty Team(s),
Timeline: Spring 2005
Funding Needed: 3 credit hour overload pay
Measurable Success Indicator: Some strategies and tools are developed and tried out with a minimum of two programs.
3. Develop classroom assessment strategies and tools.
Group/Persons Responsible: Library and Discipline Faculty Team(s),
Timeline: Ongoing
Funding Needed: None
Measurable Success Indicator: Strategies and tools are developed and employed by 25% each year.

GOAL #5: Provide a continual technological infrastructure for information literacy instruction.

Recommendation:

1. Maintain, enhance and expand as needed Library classrooms and classroom equipment including computers, printers, data projectors, and audiovisual equipment.

Group/Persons Responsible: Library Faculty

Timeline: Ongoing

Funding Needed: Funding would be requested through the Information Technology planning process, as usual.

Measurable Success Indicator: Classrooms and classroom equipment are maintained at a high performance level. New classroom space or new uses of classroom space is established. New equipment is implemented when needed.

Putting the plan into action

The Information Literacy Across the Curriculum Continuous Improvement Team recommends that this plan be put into action as soon as possible. There are certain goals and recommendations that can be begun immediately by first setting up new teams around individual recommendations. Although these teams are likely to be spearheaded by Library faculty, the ILAC team hopes that because of the support of this plan by the College administration, academic administrators and discipline faculty will take charge of certain aspects of the plan where their interest and expertise is likely to be the greatest, namely curriculum development and assessment.

The ILAC team also recommends that another survey or study of the current landscape of research and information literacy skills be conducted soon to further determine current faculty activities and practices. Also, a needs assessment might contribute still further useful information to help build the program. Although the number of faculty who responded to the November 2000 study was good, the committee recognizes that more faculty must be heard from and engaged in discussion of the ideas outlined in this plan.

There must also be an on-going, annual review of this plan's goals and recommendations. This plan is very comprehensive. It will need regular attention and evaluation. An Information Literacy Across the Curriculum program at the College of DuPage is very likely to evolve in ways that the current team cannot at this time anticipate.

As was noted at the beginning of this document, the ILAC concept is far from new. There is so much to be learned from other universities and colleges who have been down this road. A thorough literature review along with attendance at particular conferences and other kinds of staff development activities is essential to developing a successful program.

BIBLIOGRAPHY

American Library Association (1989). *Presidential Commission on Information Literacy*. American Library Association. <http://www.infolit.org/documents/89Report.htm>

Association of College and Research Libraries (2000). *Information literacy competency standards for higher education*. Chicago: Association of College and Research Libraries.

Black, C., Crest, S. & Volland, M. (2001). Building a successful information literacy infrastructure on the foundation of librarian-faculty collaboration. *Research Strategies*, 18, 215-225.

Goad, T. W. (2002). *Information literacy and workplace performance*. Westport, Connecticut: Quorum Books.

Leckie, G.J. (1996). Desperately seeking citations: Uncovering faculty assumptions about the undergraduate research process. *The Journal of Academic Librarianship*, 22, 201-208.

Paul, R. & Elder, L. (2000). *The miniature guide to critical thinking concepts & tools*. Dillon Beach, Calif.: Foundation for Critical Thinking.

Shapiro, J. J. and Hughes, S. K. (1996). Information literacy as a liberal art: Enlightenment proposals for a new curriculum. *Educom Review*, 31, 2. <http://www.educause.edu/pub/er/review/reviewarticles/31231.html>

Student Learning Outcomes for the Information Literacy Instruction Program (2002). College of DuPage Library. <http://www.cod.edu/library/services/faculty/infolit/learningoutcomes.htm>

