

**Information Competency Graduation Requirement Programs:  
A Survey of Methods**

Type B Sabbatical Leave Project by

Shawna Hellenius  
Librarian & Professor  
Cosumnes River College

Fall 2005

Report submitted: April 28, 2006

## **ABSTRACT**

Twenty California colleges and universities that require their graduates to complete an information competency (IC) requirement were identified. Surveys were sent to each of these colleges and universities in order to determine the success of their IC program method. The following report contains the results of this survey, plus a literature review that includes studies evaluating the effects of IC on student success and four curriculum models. West Valley College is identified as a “best practices” model for implementing an IC graduation requirement.

### **I. Introduction**

The ability to locate, understand, and evaluate information is an essential skill for the student, worker, and active global citizen in the contemporary information society. Locating information may appear a simpler task now than a decade ago; however, students struggle with an advanced, multi-step planning, research and evaluation process which involves critical thinking, not just point and click functions. It is the task of instructional librarians and the academic community to educate students in this complex process, thus leading them into the stimulating process of discovery. We want students to participate in the broad intellectual conversation, adding their own voices and acknowledging the ideas of experts who have come before them. At the same time, we want students to avoid plagiarism and respect intellectual property; therefore, they need to be versed in the ethical use of information. These skills are brought together in a set of competencies that librarians call “Information Literacy” or (in California) “Information Competency” (IC). Librarians, trained in the organization and dissemination of information, are the best equipped faculty to teach students these competencies.

Information Competency is “a set of abilities requiring individuals to recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information. Information literacy also is increasingly important in the contemporary environment of rapid technological change and proliferating information resources.”<sup>1</sup> The need for IC as a requirement for academic graduates has arisen through the information technology explosion in recent decades. Information is now available in bulk, unfiltered quantities. The ACRL aptly states that “the uncertain quality and expanding quantity of information pose large challenges for

society. The sheer abundance of information will not in itself create a more informed citizenry without a complementary cluster of abilities necessary to use information effectively.”<sup>2</sup>

The Association of College and Research Libraries (ACRL) has published a list of standards, performance indicators, and outcomes that define IC. These comprehensive standards and outcomes have been adopted as the nationwide authority on IC. Please see Appendix A for this document. In 2002, IC as a graduation requirement seemed set to become a reality for all California Community Colleges. However, the proposed changes to Title V that would have done this were challenged by the Department of Finance. This doesn't mean that colleges should stop planning for an IC graduation requirement. IC skills are still important to our students. As an important basic skill on the road to student success, IC is not just a library concern, but a goal the entire campus should pursue.

What is the best method to teach IC skills to college students? This report provides a literature review for three areas: 1) studies that show the effect of IC on student success; 2) curriculum models for graduation requirements; and 3) pedagogic methods for delivery of IC. The report will review current California Community College and California State University IC requirement programs, including best practices. Finally, the report will conclude with a recommendation for the format of a Cosumnes River College required IC program, including a set of learning outcomes that describe an information competent CRC graduate.

## **II. Literature Review**

### **Studying the Effect of Information Competency on Student Success**

Glendale Community College has been at the forefront of evaluating the effects of IC on student success. Their longitudinal study, spanning from Spring 2000 to Spring 2005, found that information competency is associated with both positive short-term and long-term student success<sup>3</sup>. Researchers compared students who passed Library 101 or 191 with comparable (by enrollment status, GPA, units attempted) students who did not enroll in Library 101 or 191. Library 101/191 students tended to have more positive short-term outcomes than the sample group. “GPA was higher for Library 101/191 students by 0.20 points, a small but significant

difference.”<sup>4</sup> Units completed in the same semester were also higher than the matched group, by one unit. Overall persistence from the target semester to the next semester was 10% higher for students who passed Library 101/191. The slightly higher GPA for the following semester of 2.59 for the Library 101/191 group vs. 2.45 for the matched group was not statistically significant, but the units completed the following semester was significantly greater in the Library 101/191 group. The former Library 101/191 group completed 8.5 units in the following semester, compared to 7.6 for the matched group.

Glendale also evaluated the success of students who completed library workshops, which are hour long instruction sessions on small components of IC. They found higher success rates in the short term: the average difference in course success rate was 13%. Furthermore, “library workshops in English 120 were associated with higher success rates in English 101,” taken in the next semester. However, the same was not true for the ESL 151 students who took the same workshop. While the ESL 151 students, like the English 120 students, received a higher grade in the ESL 151 class if they took the library workshop, unlike the English 120 students, they did not receive a statistically significant increased grade in English 101 the following semester.<sup>5</sup>

### **Curriculum Models**

The Glendale College study has shown that IC increases student GPA, persistence, the number of units they complete, and their performance in individual classes, both in the long and short term. The question, now, when advocating for an IC graduation requirement, is what is the best curriculum format?

The one hour, single shot, on demand library instruction session, infused into a broad mixture of subject disciplines, has been the ruling method of teaching IC to students until the last decade. It is also represented by self-paced exercises, tours, workshops, and online tutorials. The common characteristic is that the library session is brief and only occurs for one to two classes in one course. This method is often perceived by students to be irrelevant to their academic needs, and they retain few lessons from the library session. This method is completely reliant on faculty support for library instruction. Carlson and Miller assert that “no matter how hard librarians work, without the cooperation and support of teaching faculty, the library instruction program

will be unsuccessful or severely limited. This happens because the attitude of the faculty is a major determinant in the response of the students to the program.”<sup>6</sup>

William Orme points out that faculty often perceive librarians as specialists who provide important skill training, rather than educators whose work is central to the teaching mission of the college. Therefore, librarians are presented with the opportunity to deliver brief IC instruction, but no power to activate that knowledge, a critical aspect of instruction and student retention. Librarians teach, and then turn the students over to their regular instructor, whose research assignments allow the regular instructor, not the instruction librarian, the opportunity to monitor and assess students’ practice of IC skills. Unfortunately, the purpose of the assignments is not to improve IC skills, but to use IC skills to develop other essential skills, such as writing or public speaking.<sup>7</sup> In most non-library courses the research process is often a residual skill, rather than the focus of a typical research assignment.

Four alternative models currently exist: 1. stand-alone library course; 2. library course linked or paired through concurrent enrollment with another class; 3. IC across the curriculum; 4. online tutorials.

### *Stand-alone courses*

Stand-alone courses take the form of one, two, and three unit introductory library courses. The main benefit of a stand-alone course has been unanimously described in the literature as the ability to reach students over an extended time period. Susan McMillan states that this enables librarians to build a strong base of research concepts and skills that will serve students in their further academic years<sup>8</sup>. Stand alone courses benefit non-library faculty too. McMillan reports that non-library faculty members have commented that they feel they can raise their standard in class and don’t need to spend time reviewing basics of research before teaching their own content when the IC course is a requirement for their students.<sup>9</sup>

Angela Mega and Jo McClendon developed their two-unit library course because the current four-class library sessions infused into the required Introduction to Human Communication was not working. The authors state that 4 sessions were better than one, but still not sufficient for

comprehensive IC learning. As the student population grew, the number of COMM 1100 sections also grew. In response, Communications faculty increased, but library faculty did not because they were not generating credit hours for the library department. They replaced this method with a 2 credit library course in 2001.<sup>10</sup>

### ***Linked or Paired Courses***

Alfred North Whitehead, in his classic essay, “Aims of Education,” indicted “the fatal disconnection of subjects” as responsible for the phenomenon of inert knowledge.<sup>11</sup> Inert knowledge is knowledge which is not connected to applicable situations. It is in this spirit, that IC courses have been linked or paired in concurrent enrollment with courses that require research. IC courses are also commonly linked with learning communities such as first year freshman experience programs and the Puente programs. The benefit of such course pairings would be to increase the relevancy of the IC training and to aid students in researching their papers in the linked course.

Such a hope is supported by educational theory. Through a longitudinal study, William Graves Perry developed a scheme of intellectual and ethical development for college students that has since been supported through subsequent studies. He described a predictable pattern of growth in student intellectual development that is related to conceptual positions or hierarchies that shape how students are prepared to accumulate knowledge. He found that these hierarchies have more of an affect on learning than the specific intellectual content itself.<sup>12</sup>

It is our responsibility as academic librarians to ensure that library instruction falls in the correct position within these instructional hierarchies. It is also our goal to teach students IC in such a way that it doesn't remain inert knowledge; rather, students should use IC for real world, personal, academic, and occupational needs.

Qualitative data suggests that pairing IC courses in concurrent enrollment with other courses has positive affects on student success. Deborah Moore determined that her college's one-shot, on demand library instruction sessions were insufficient to meet students' research instruction needs. Her longitudinal study examined students from library classes paired in concurrent

enrollment with English 101 classes. The sample was too small to be significant; however, qualitative data indicated greater student success rates. “The English 101 instructor provided the following comment:

In the past, I spent classroom hours in the library showing students how to find and evaluate both print and electronic sources. It frustrated me that I was teaching technical data, not the English reading and writing I needed to teach. As a result of my English 101 students’ concurrent enrollment in Library 191, I do little of the above and more instruction in reading and writing, as I am meant to do. Students get immediate and continuing practice in organizing the research paper and searching for materials with the benefit of [the Library 191 instructor] at their side for interactive learning. This semester, for the first time ever, the students completed the assignments on time and competently. I was amazed at the degree of confidence they showed in their work.<sup>13</sup>

Moore also collected students’ testimonies:

Although at the beginning of the semester I did not like the idea or see the point of taking these two classes, now I am thankful that I did. I believe that without Library 191 I would not have been able to write the research paper I am writing now (Student 1).

Taking Library 191 concurrently with English 101 should be offered to more students because it really makes a positive impact on us and on the grades we receive. Library 191 helps us better understand the library and its organization, teaches us different ways to do research and gather information, and helps us to do the homework correctly for English 101 (Student 3).<sup>14</sup>

James Young and Ashley Williams describe the librarian’s role in a learning community in their article, “The Integration of Information Literacy skills in a year-long Learning Community Program: a faculty and librarian collaboration.” The authors state, of their relationship, that “after five years of collaboration, neither claims complete ownership over their initial domain of expertise. That is, both are comfortable sharing what they know, learning from each other, and collaborating in both the writing classroom *and* the library instruction room”.<sup>15</sup> The authors further observe that “as a diverse group of faculty teaches in the first-year program, it is (perhaps ironically) the librarian who is the central faculty member who has year-long sustained access to students throughout the year”.<sup>16</sup> They point to the opportunity for librarians to develop “strong working relationships with students and to measure year-long growth” as the most distinctive benefit of integrating a librarian into a learning community.<sup>17</sup>

Randy Hensley and Vickery Lebbin describe their three-unit, semester long library course that was integrated into the University of Hawaii at Manoa first-year curriculum through various learning communities. Strengths of the program included improved librarian and faculty

relationships, opportunities for meeting students' needs at the appropriate time, better student assessment, and greater depth of content, as compared to one-shot hour long workshops.<sup>18</sup>

Through coordinated assignments and activities, learning communities create rich connections between students, faculty, and disciplines.<sup>19</sup>

Despite these statements, quantitative data from the Glendale College study shows that pairing Library classes with English 101 sections did not result in better grade performance in English 101 or Library 191, as compared to classes which had not paired with English 101.<sup>20</sup>

### ***Information Competency Infused Across the Curriculum***

Adopted by institutions that do not wish to subject students to an additional required unit for graduation, the IC across the curriculum identifies specific library and non-library courses that fulfill the IC outcomes, and require students to take at least one of those courses. This process occurs on the curriculum committee level. Faculty can elect to include the information competency requirements as "Expected Student Outcomes" in their courses. This must come before the Curriculum Committee for approval. This is the least effective method for delivering depth of content, but a frequent institutional choice.

The program usually maintains the status quo, with one-shot, on demand library instruction sessions being taught in classes with research papers. Sometimes a longer library program is imposed upon the IC class, with or without a librarian as a joint or guest instructor, which could be up to four sessions (as in Megaw and McClendon's Communications class) or even half of the course (i.e. a computer studies course). Megaw and McClendon write that this method is unmanageable for librarians because the library does not generate credit hours for the sections it teaches. Therefore, the number of teaching library faculty does not grow in proportion to the student population and increasing instructional demands.<sup>21</sup>

Another option under the IC across the curriculum model is that non-library instructors would teach IC in their classes without a library subject specialist. Given that this approach is common, Hannelore Rader emphasizes the importance of the task of librarians to provide programs to teach information skills to regular classroom faculty in his article, "Building Faculty-Librarian

Partnerships to Prepare Students for Information Fluency: The Time for Sharing Information Expertise is Now.”<sup>22</sup> This method is viewed as difficult to manage for counselors and admissions staff because of a complex articulation process.

### ***Online Information Competency Tutorials***

Two studies have concluded that online instruction is just as effective as a single, one hour face-to-face library instruction session. William Orme evaluated the effectiveness of the well known interactive web-based tutorial known as the Texas Information Literacy Tutorial (TILT) in “A Study of the Residual Impact of the Texas Information Literacy Tutorial on the Information-Seeking Ability of First Year College Students.” He found that there was no difference in IC learning between students who took TILT compared to the students in the face-to-face lesson. The only difference was increased knowledge of online technology, which wasn’t covered in either lesson, from the students who completed the online tutorial.<sup>23</sup>

Melissa Muth and Susan Taylor came to a similar conclusion while comparing their home-grown online tutorial and face-to-face instruction for teaching library research skills to Composition I students.<sup>24</sup> The difference, however, lay in student satisfaction. From Likert scale questions on student evaluation questionnaires, the authors concluded that “the face-to-face format was better suited to addressing questions. The face-to-face format gave students more confidence that they could use the library.” Open-ended comments, on the other hand, tended to contradict the results of the Likert scale questions, and were more in favor of the online tutorial format. The final conclusion, however, was that both their online tutorial and face-to-face instruction were equally effective for teaching library research skills to Composition I students.<sup>25</sup>

### **Pedagogy**

The library literature on pedagogy for library instruction is weak. This author recommends further study into educational theory as it applies to IC. The literature has increased lately due to the emergence of applying learning outcomes. Lois Pausch and Mary Popp reviewed the use of learning outcomes in assessment of information literacy,<sup>26</sup> Mark Battersby cautioned librarians to write learning outcomes that are contextual and conceptual, not formulaic. “Outcomes are not discrete skills or mere collections of knowledge but the integrated complexes of knowledge,

abilities and attitudes.”<sup>27</sup> Bonnie Gratch-Lindauer stresses the need to assess campus wide outcomes in order to assess the goals valued by various campus constituents.<sup>28</sup> Jennifer Nutefall and Laura Maldonado list five useful questions for instructional design: 1. What do you want the student to be able to do? (Outcome). 2. What does the student need to know in order to do this well? (Curriculum). 3. What activity will facilitate the learning? (Pedagogy). 4. How will the student demonstrate the learning? (Assessment). 5. How will I know the student has done this well? (Criteria).<sup>29</sup>

Library instructional departments have also sought to improve their library instruction skills. In response to a needs assessment, Librarians at the University of Wisconsin created a 16 minute video outlining practical teaching tips for one-shot library instruction sessions.<sup>30</sup> Liz Argentieri describes the effect of a graduate seminar on effective library teaching methods. She emphasizes a constructivist approach with group work and hands-on activities rather than a strictly behaviorist approach with lecture, and concludes that “it is letting go of the impulse to lecture that has made [her a] more effective teacher.”<sup>31</sup>

### **III. California Community Colleges & California State Universities**

Twenty-one California colleges have adopted IC graduation requirements. Of those, sixteen colleges offer a stand alone library course that can fulfill that requirement. Six out of these sixteen colleges use the stand alone library course as the *only* vehicle for students to fulfill the IC requirement. Fifteen of the twenty-one colleges offer the opportunity for students to fulfill the requirement through selected non-library courses, the most common courses selected for infusion of IC are English and Communications courses.

Questionnaires were sent to each of the California colleges and universities that require IC to graduate (Appendix C). According to responses on the questionnaire, the stand alone library course is essential to the standardization of IC learning. Said one respondent, “students are all getting the same information [with a] straight forward requirement, not a piecemeal one. Faculty know what to expect from students who have taken the course.” This method also doesn’t add to the workload of non-library faculty or counselors. Said one questionnaire respondent, “Faculty

do not have the burden of updating their materials when library interfaces or resources change; faculty do not have to change their syllabi to incorporate information literacy.”

Faculty support for the library course requirement at Santa Rosa, which has required the Library course for graduates since 2002, has been excellent: “Faculty were supportive from the start and continue to see the value for students.” Students have mixed feelings: “Some students feel they know it already – after all they search the web all the time. [However], most students give us positive feedback (see below) and many wish they had taken it in the first year of college.”

Student feedback for the Santa Rosa IC course includes the following:

Student 1: "This class was wonderful. Although it was a lot all in just 6 weeks. I have learned so much and if I didn't understand it the teacher was there to help. The teacher explained the activities so well I never needed help. I came out of this class with so much information. Thank you!"

Student 4: "I really enjoyed the class. Thank you for teaching me helpful tools in researching and teaching me things that I will use for a long time."

Student 5: "I really didn't know what to expect when I entered this class. I never realized the resources that the library offered and how useful it could be with my other studies here at the college. Thank you for offering this course as it is an invaluable tool for any student navigating their way through college."

Student 6: "The class was more interesting and much more rigorous than I expected. I've been away from school and only recently became familiarized with the internet. Though I'm not up to speed with the majority and tend to be a slow learner in regards to technology, I valued the class highly and found it to be an eye-opening experience."

Student 7: "In my opinion, this is an excellent course because it helps you learn different techniques for using the library for research papers."

Stand alone library courses are the only method where it is possible to thoroughly cover all IC competency standards. One student, who took the Contra Costa library course, then transferred to St Mary's College said of her experience during a brief library orientation at St. Mary's College, “I knew what was going on. I understood what databases were. I could see the other students were totally lost.”

The only drawback for the stand alone course was common among all questionnaire respondents and is best expressed by one: “With the stand alone course the students may wait until the end of

their career here to take the course.” Due to the nature of enrollment appointments, sections fill up with students in their last semester vying to graduate, instead of the target freshman group.

In addition to offering a stand alone library course to fulfill the IC requirement, three colleges link the library course in concurrent enrollment with a non-library class. Said one respondent, whose Library 10 class is linked with English 1A, “Library 10 teaches students the information literacy skills they need to accomplish their assignments in English 1A. The students don’t have to be told the course is relevant to their studies – it sells itself and has a built-in motivator.” In answer to the greatest strengths of the IC program, one respondent replied: “The greatest strength of the program has been the link with the learning communities. So far, we have taught three semesters linking one Library 4 class with an English 1A class. The specific English classes have an emphasis or topic that they are covering, so linking with Library 4 helps the students with their research projects. The two instructors try to go to each other’s classes and revisit what was taught in each other’s class incorporating the lesson into their own class. Students seem to get much more out of both classes this way.” Questionnaire responses from colleges that did not use this method indicated that this was a desirable curriculum method, but required additional staffing.

Fifteen colleges have decided to satisfy the requirement through IC across the curriculum. Questionnaire responses from most institutions indicated that this is not a recommended model. However, “pressure on campus from administration and other departments to not add another unit of work required of students” compelled colleges to adopt this model.

Drawbacks included a complicated articulation process and a time consuming process of checking course outlines to make sure the IC competency has been met and properly assessed. One college that utilizes this method responded that “there is no mechanism to verify that instructors are teaching to the competencies. For example, the computer science class that states that it teaches [the IC outcomes] only requires one library visit and one research presentation. On the other hand, [the library department] teaches a three unit course that takes an entire semester teaching the competencies.” One questionnaire respondent is planning to “pilot an assessment

project next fall focusing on scoring research paper bibliographies and a research journal” in order to ensure every instructor teaching IC required classes is assessing IC skills.

One respondent, who hasn't yet begun the IC across the curriculum program, was enthusiastic: “We have been committed to a multi-faceted approach. We began with our one-unit library course and have now added to the mix the opportunity for an integrated model to develop. We have a set of learning outcomes that describe the goals of the requirement. We have never thought a stand alone library course was the “best” model, but the one that made the most sense to start with.” After this institution's third year delivering the required curriculum as a stand alone library course, the “college Curriculum Committee just approved a set of guidelines and procedures for approving courses wishing to integrate Information Competency into existing courses” in the Spring 2006 semester.

Only one college, CSU San Francisco, meets the IC requirement through an online tutorial.

Nine colleges provide the opportunity for students to test out of the requirement using assessment tests. Tests available include the Bay Area Community Colleges Information Competency Assessment Project <http://topsy.org/ICAP/ICAPProject.html>, the ICT Literary Assessment created by the Educational Testing Service <http://www.ets.org/ictliteracy>, and the International Computer Driving License <http://icdlus.com>. Los Rios district librarians are currently reviewing the ICT Literary Assessment. The Bay Area Community Colleges Information Competency Assessment is the least expensive option.

#### **IV. Best Practices**

West Valley College's IC requirement has been in place since Fall 2005. I recommend their impressive IC program as a best practice. WVC's one unit library course is offered as a stand alone course that can fulfill the IC requirement. In addition, this course is linked in the Puente learning community program. Puente students take English 1A, Counseling 5, and Library 4 together in the same semester. It has also been linked in concurrent enrollment with English 1A. This is viewed as the greatest strength of the program. “The specific English classes have an emphasis or topic that they are covering, so linking with Library 4 helps the students with their

research projects. The two instructors try to go to each other's classes and revisit what was taught in each other's class incorporating the lesson into their own class. Students seem to get much more out of both classes this way."

In addition to the Library 4 Information Competency class, beginning in Fall 2007, students will be required to pass two subject discipline courses that are infused with elements of IC. This is in addition to the Library 4 requirement. WVC indicated that this is the most difficult challenge of the program.

The second phase of our requirement—two subject courses infused with [IC] was supposed to have started with the incoming class of Fall 2006, but it has been pushed back a year because not enough courses have come forward to become "information competency infused." Our original thought (back in 2003) was that IC would be ubiquitous throughout the campus. The idea was to introduce elements of IC in nearly all the G.E. courses. If nearly all the courses were IC compliant, then it would be transparent to the students when they register. They wouldn't have to look for courses with the IC stamp of approval because it would already be present within the class assignments. There was unanimous support by our Academic Senate and so the requirement was passed by both the Senate and the Board. ... While we are still working toward our goal of the two infused classes, we may have to think a bit creatively on how to meet it. We don't want the IC requirement to be an additional burden to our students despite the fact that we believe the infused assignments will help build upon what they learned in the Library 4 class. We sincerely want the requirement to be transparent, and so we won't require it until we are satisfied that enough courses meet the requirement.

This model weds the best parts of each option for an IC requirement. Students are given thorough, consistent education in IC, and provided an opportunity to practice these lessons in a course that requires research. Students can therefore see the value in their IC education, and non-library instructors do not need to add additional IC lessons to their own syllabus. They can concentrate on their own discipline.

## **V. Recommendations for CRC**

One of the learning outcomes proposed in CRC's College-Wide Student Learning Outcomes Plan is for students to develop a "critical use of information resources to gather discipline-specific information." The document further indicates that this skill will be demonstrated by the student's information competency skills. All students need to develop research skills in order to analyze the complex issues they encounter in their academic classes, on the job, and throughout their life. Information competency is just beginning to be recognized as a core skill to be learned in college, and various methods are being developed to deliver those skills to students. CRC

needs to be at the forefront of this movement, utilizing the best pedagogical methods to engage students in their acquisition of information competency skills.

Cosumnes River College should expand their current IC task force to include faculty members from across the disciplines represented at CRC. This task force should have three objectives: 1) Review ACRL IC competencies (Appendix A) to determine the competencies that CRC graduates will be expected to fulfill. 2) Examine the IC requirement models presented in this report (Appendix B) and determine the most appropriate model for CRC. 3) Liaison with ARC, SCC, and FLC IC groups in order to attempt uniformity across the district. 4) Promote and request feedback for the selected model from the campus and district community. 5) Present the IC requirement model to the Academic Senate for approval. 6) Implement IC requirement on CRC campus, continuing to liaison with committees across the district.

The recommended model for an IC graduation requirement on the CRC campus is through the one-unit Library 318 course, offered in the following formats: face-to-face, online, and hybrid. This course can also be linked in concurrent enrollment to English, Communications, History, or Political Science courses where instructors have interest in linking courses. It is also recommended that Library 318 be added to learning communities, such as Puente. Students should be able to test out of Library 318 if they already meet the competencies taught in the course. This can be done through either the Bay Area Community Colleges Information Competency Assessment Project <http://topsy.org/ICAP/ICAPProject.html>, or through a yet to be created home-grown IC assessment test.

## Appendix A

**“Information Literacy Competency Standards for Higher Education.”** *Association of College and Research Libraries*. 2000. American Library Association. 24 April 2006  
<http://www.ala.org/ala/acrl/acrlstandards/informationliteracycompetency.htm>.

### Standards, Performance Indicators, and Outcomes

#### Standard One

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

Performance Indicators:

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

*Outcomes Include:*

- a. Confers with instructors and participates in class discussions, peer workgroups, and electronic discussions to identify a research topic, or other information need
  - b. Develops a thesis statement and formulates questions based on the information need
  - c. Explores general information sources to increase familiarity with the topic
  - d. Defines or modifies the information need to achieve a manageable focus
  - e. Identifies key concepts and terms that describe the information need
  - f. Recognizes that existing information can be combined with original thought, experimentation, and/or analysis to produce new information
2. The information literate student identifies a variety of types and formats of potential sources for information.

*Outcomes Include:*

- a. Knows how information is formally and informally produced, organized, and disseminated
- b. Recognizes that knowledge can be organized into disciplines that influence the way information is accessed
- c. Identifies the value and differences of potential resources in a variety of formats (e.g., multimedia, database, website, data set, audio/visual, book)
- d. Identifies the purpose and audience of potential resources (e.g., popular vs. scholarly, current vs. historical)
- e. Differentiates between primary and secondary sources, recognizing how their use and importance vary with each discipline
- f. Realizes that information may need to be constructed with raw data from primary sources

Type B Leave Hellenius  
Appendix A

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

*Outcomes Include:*

- a. Determines the availability of needed information and makes decisions on broadening the information seeking process beyond local resources (e.g., interlibrary loan; using resources at other locations; obtaining images, videos, text, or sound)
  - b. Considers the feasibility of acquiring a new language or skill (e.g., foreign or discipline-based) in order to gather needed information and to understand its context
  - c. Defines a realistic overall plan and timeline to acquire the needed information
4. The information literate student reevaluates the nature and extent of the information need.

*Outcomes Include:*

- a. Reviews the initial information need to clarify, revise, or refine the question
- b. Describes criteria used to make information decisions and choices

**Standard Two**

The information literate student accesses needed information effectively and efficiently.

**Performance Indicators:**

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

*Outcomes Include:*

- a. Identifies appropriate investigative methods (e.g., laboratory experiment, simulation, fieldwork)
- b. Investigates benefits and applicability of various investigative methods
- c. Investigates the scope, content, and organization of information retrieval systems
- d. Selects efficient and effective approaches for accessing the information needed from the investigative method or information retrieval system

Type B Leave Hellenius  
Appendix A

2. The information literate student constructs and implements effectively-designed search strategies.

*Outcomes Include:*

- a. Develops a research plan appropriate to the investigative method
  - b. Identifies keywords, synonyms and related terms for the information needed
  - c. Selects controlled vocabulary specific to the discipline or information retrieval source
  - d. Constructs a search strategy using appropriate commands for the information retrieval system selected (e.g., Boolean operators, truncation, and proximity for search engines; internal organizers such as indexes for books)
  - e. Implements the search strategy in various information retrieval systems using different user interfaces and search engines, with different command languages, protocols, and search parameters
  - f. Implements the search using investigative protocols appropriate to the discipline
3. The information literate student retrieves information online or in person using a variety of methods.

*Outcomes Include:*

- a. Uses various search systems to retrieve information in a variety of formats
  - b. Uses various classification schemes and other systems (e.g., call number systems or indexes) to locate information resources within the library or to identify specific sites for physical exploration
  - c. Uses specialized online or in person services available at the institution to retrieve information needed (e.g., interlibrary loan/document delivery, professional associations, institutional research offices, community resources, experts and practitioners)
  - d. Uses surveys, letters, interviews, and other forms of inquiry to retrieve primary information
4. The information literate student refines the search strategy if necessary.

*Outcomes Include:*

- a. Assesses the quantity, quality, and relevance of the search results to determine whether alternative information retrieval systems or investigative methods should be utilized
- b. Identifies gaps in the information retrieved and determines if the search strategy should be revised
- c. Repeats the search using the revised strategy as necessary

Type B Leave Hellenius  
Appendix A

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

*Outcomes Include:*

- a. Selects among various technologies the most appropriate one for the task of extracting the needed information (e.g., copy/paste software functions, photocopier, scanner, audio/visual equipment, or exploratory instruments)
- b. Creates a system for organizing the information
- c. Differentiates between the types of sources cited and understands the elements and correct syntax of a citation for a wide range of resources
- d. Records all pertinent citation information for future reference
- e. Uses various technologies to manage the information selected and organized

**Standard Three**

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

**Performance Indicators:**

1. The information literate student summarizes the main ideas to be extracted from the information gathered.

*Outcomes Include:*

- a. Reads the text and selects main ideas
  - b. Restates textual concepts in his/her own words and selects data accurately
  - c. Identifies verbatim material that can be then appropriately quoted
2. The information literate student articulates and applies initial criteria for evaluating both the information and its sources.

*Outcomes Include:*

- a. Examines and compares information from various sources in order to evaluate reliability, validity, accuracy, authority, timeliness, and point of view or bias
- b. Analyzes the structure and logic of supporting arguments or methods
- c. Recognizes prejudice, deception, or manipulation
- d. Recognizes the cultural, physical, or other context within which the information was created and understands the impact of context on interpreting the information

Type B Leave Hellenius  
Appendix A

3. The information literate student synthesizes main ideas to construct new concepts.

*Outcomes Include:*

- a. Recognizes interrelationships among concepts and combines them into potentially useful primary statements with supporting evidence
  - b. Extends initial synthesis, when possible, at a higher level of abstraction to construct new hypotheses that may require additional information
  - c. Utilizes computer and other technologies (e.g. spreadsheets, databases, multimedia, and audio or visual equipment) for studying the interaction of ideas and other phenomena
4. The information literate student compares new knowledge with prior knowledge to determine the value added, contradictions, or other unique characteristics of the information.

*Outcomes Include:*

- a. Determines whether information satisfies the research or other information need
  - b. Uses consciously selected criteria to determine whether the information contradicts or verifies information used from other sources
  - c. Draws conclusions based upon information gathered
  - d. Tests theories with discipline-appropriate techniques (e.g., simulators, experiments)
  - e. Determines probable accuracy by questioning the source of the data, the limitations of the information gathering tools or strategies, and the reasonableness of the conclusions
  - f. Integrates new information with previous information or knowledge
  - g. Selects information that provides evidence for the topic
5. The information literate student determines whether the new knowledge has an impact on the individual's value system and takes steps to reconcile differences.

*Outcomes Include:*

- a. Investigates differing viewpoints encountered in the literature
- b. Determines whether to incorporate or reject viewpoints encountered

Type B Leave Hellenius  
Appendix A

6. The information literate student validates understanding and interpretation of the information through discourse with other individuals, subject-area experts, and/or practitioners.

*Outcomes Include:*

- a. Participates in classroom and other discussions
  - b. Participates in class-sponsored electronic communication forums designed to encourage discourse on the topic (e.g., email, bulletin boards, chat rooms)
  - c. Seeks expert opinion through a variety of mechanisms (e.g., interviews, email, listservs)
7. The information literate student determines whether the initial query should be revised.

*Outcomes Include:*

- a. Determines if original information need has been satisfied or if additional information is needed
- b. Reviews search strategy and incorporates additional concepts as necessary
- c. Reviews information retrieval sources used and expands to include others as needed

## **Standard Four**

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

### **Performance Indicators:**

1. The information literate student applies new and prior information to the planning and creation of a particular product or performance.

*Outcomes Include:*

- a. Organizes the content in a manner that supports the purposes and format of the product or performance (e.g. outlines, drafts, storyboards)
- b. Articulates knowledge and skills transferred from prior experiences to planning and creating the product or performance
- c. Integrates the new and prior information, including quotations and paraphrasings, in a manner that supports the purposes of the product or performance
- d. Manipulates digital text, images, and data, as needed, transferring them from their original locations and formats to a new context

Type B Leave Hellenius  
Appendix A

2. The information literate student revises the development process for the product or performance.

*Outcomes Include:*

- a. Maintains a journal or log of activities related to the information seeking, evaluating, and communicating process
  - b. Reflects on past successes, failures, and alternative strategies
3. The information literate student communicates the product or performance effectively to others.

*Outcomes Include:*

- a. Chooses a communication medium and format that best supports the purposes of the product or performance and the intended audience
- b. Uses a range of information technology applications in creating the product or performance
- c. Incorporates principles of design and communication
- d. Communicates clearly and with a style that supports the purposes of the intended audience

## **Standard Five**

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

### **Performance Indicators:**

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

*Outcomes Include:*

- a. Identifies and discusses issues related to privacy and security in both the print and electronic environments
- b. Identifies and discusses issues related to free vs. fee-based access to information
- c. Identifies and discusses issues related to censorship and freedom of speech
- d. Demonstrates an understanding of intellectual property, copyright, and fair use of copyrighted material

Type B Leave Hellenius  
Appendix A

2. The information literate student follows laws, regulations, institutional policies, and etiquette related to the access and use of information resources.

*Outcomes Include:*

- a. Participates in electronic discussions following accepted practices (e.g. "Netiquette")
  - b. Uses approved passwords and other forms of ID for access to information resources
  - c. Complies with institutional policies on access to information resources
  - d. Preserves the integrity of information resources, equipment, systems and facilities
  - e. Legally obtains, stores, and disseminates text, data, images, or sounds
  - f. Demonstrates an understanding of what constitutes plagiarism and does not represent work attributable to others as his/her own
  - g. Demonstrates an understanding of institutional policies related to human subjects research
3. The information literate student acknowledges the use of information sources in communicating the product or performance.

*Outcomes Include:*

- a. Selects an appropriate documentation style and uses it consistently to cite sources
- b. Posts permission granted notices, as needed, for copyrighted material

## Appendix B

### California Colleges and Universities with Information Competency Graduation Requirements

#### 1. Colleges Offering Stand Alone Library Course

- Cabrillo College (2)
- CSU Bakersfield (3) \*
- Cerro Coso College (3) \*
- City College of San Francisco (3) \*
- College of the Sequoias (2,3)
- Contra Costa (3) \*
- Diablo Valley College (3) \*
- Long Beach City College (3)
- Merced (3)
- Mission College (3) \*
- Monterey Peninsula College
- Ohlone College \*
- Saddleback College (3)
- Santa Rosa Jr. College \*
- Taft College \*
- West Valley College (2)

#### 2. Library Course Linked in Concurrent Enrollment with Non-Library Class

- Cabrillo College (1)
- College of the Sequoias (1,3)
- West Valley College (1)

#### 3. Information Competency Infused in Selected Non-Library Courses

- CSU Bakersfield (1) \*
- CSU Monterey Bay
- CSU Sacramento \*
- Cerro Coso College (1) \*
- City College of San Francisco (1) \*
- Contra Costa (1) \*
- College of the Sequoias (1,2)
- Cuyamaca College
- Diablo Valley College (1) \*
- Long Beach City College (1)
- Merced College (1)
- Mission College (1) \*
- Saddleback College (1)
- Siskiyou College

#### 4. Online Tutorial

- CSU San Francisco

\* Offers opportunity to test out of requirement

(1) Also offers stand alone IC course

(2) Also offers linked course

(3) Also offers IC infused into non-library course

**Appendix C**  
**Best Practices in Information Competency Survey**

1. Please describe your particular Information Competency (IC) model used for your institution's IC graduation requirement:
  - 1 Unit Library Course
  - 2 Unit Library Course
  - 3 Unit Library Course
  - Course linked to a learning community (please describe)
  - Online tutorial(s)
  - IC requirement in incorporated into a course in an outside discipline (i.e. Communications or English course) (please describe)
  - Other (please explain)
2. How long has your IC program been in place in your institution?
3. What do you believe are the greatest strengths of the particular IC model you have chosen to use for students to fulfill the IC graduation requirement?
4. What do you believe are the greatest weaknesses of the of the particular IC model you have chosen to use for students to fulfill the IC graduation requirement?
5. How has your IC model been received by faculty at your institution?
  - Extremely well
  - Well
  - Poorly
  - Mixed reactions

Please explain:

6. How has your IC model been received by students at your institution?
  - Extremely well
  - Well
  - Poorly
  - Mixed reactions

Please explain:

7. Do you have any evidence (hard or anecdotal) of your IC requirement increasing student success on your campus?
8. Are there any quotes from faculty or students that you could share with me? The purpose of these quotes would be to promote an IC requirement at our campus through sharing successes of other colleges.

## Notes

---

<sup>1</sup> Association of College and Research Libraries, "Information Literacy Competency Standards for Higher Education," 17 March 2006. *American Library Association*, 24 April 2006  
<<http://www.ala.org/ala/acrl/acrlstandards/informationliteracycompetency.htm>>.

<sup>2</sup> Association of College and Research Libraries  
<<http://www.ala.org/ala/acrl/acrlstandards/informationliteracycompetency.htm>>.

<sup>3</sup> Glendale Community College, "Statistical Evaluation of Information Competency Program Student Outcomes Spring 2000 to Spring 2005," 27 July 2005, 24 April 2006  
<<http://www.glendale.edu/library/IC/Research/ICEval05.pdf>>.

<sup>4</sup> Glendale Community College 2.

<sup>5</sup> Glendale Community College 8.

<sup>6</sup> David Carlson, and Ruth H. Miller, "Librarians and Teaching Faculty: Partners in Bibliographic Instruction." *College and Research Libraries* 45.6 (1994): 483-91.

<sup>7</sup> William A. Orme, "A Study of the Residual Impact of the Texas Information Literacy Tutorial on the Information-Seeking Ability of First Year College Students," *College & Research Libraries* May 2004: 214.

<sup>8</sup> Susan R. McMillan, "We're Teaching – Are They Learning? Looking at the Two-Credit, Required Information Literacy Course," *First Impressions, Lasting Impact: Introducing the First-Year Student to the Academic Library. Papers and Session Materials Presented at the Twenty-Eighth National LOEX Library Instruction Conference held in Ypsilanti, Michigan, 19 to 20 May 2000* (Ann Arbor: Pierian Press, 2002) 106.

<sup>9</sup> McMillan 107.

<sup>10</sup> Angela Megaw, and Jo McClendon, "One-Shot to a Full Barrel," *Managing Library Instruction Programs in Academic Libraries. Selected Papers Presented at the Twenty-Ninth National LOEX Library Instruction Conference, held in Ypsilanti, Michigan, 4 to 6 May 2001* (Ann Arbor: Pierian Press, 2003) 113 – 115.

---

<sup>11</sup> Alfred North Whitehead, "Aims of Education," *Aims of Education and Other Essays* (New York: Macmillan, 1929).

<sup>12</sup> William Graves Perry, Jr, *Forms of Intellectual and Ethical Development in the College Years: A Scheme* (New York: Holt, Rinehart and Winston, 1970).

<sup>13</sup> Deborah Moore, et. al, "Information Competency Instruction in a Two-Year College: One Size Does Not Fit All," *Reference Services Review* 30.4 (2002): 300-306.

<sup>14</sup> Moore 300 – 306.

<sup>15</sup> James B. Young, and Ashley Taliaferro Williams, "The Integration of Information Literacy Skills in a Year-Long Learning Community Program: A Faculty and Librarian Collaboration," *Integrating Information Literacy into the College Experience. Papers and Session Materials Presented at the Thirtieth National LOEX Library Instruction Conference Held in Ypsilanti, Michigan 10-11 May 2002* (Ann Arbor: Pierian Press, 2003) 21.

<sup>16</sup> Young 21.

<sup>17</sup> Young 22.

<sup>18</sup> Randy Burke Hensley, and Vickery Kaye Lebbin, "Learning Communities for First-Year Undergraduates: Connecting the Library Through Credit Courses," *First Impressions, Lasting Impact: Introducing the First-Year Student to the Academic Library. Papers and Session Materials Presented at the Twenty-Eighth National LOEX Library Instruction Conference held in Ypsilanti, Michigan, 19 to 20 May 2000* (Ann Arbor: Pierian Press, 2002) 35.

<sup>19</sup> Hensley and Lebbin 36.

<sup>20</sup> Glendale Community College <http://www.glendale.edu/library/IC/Research/ICEval05.pdf>.

<sup>21</sup> Megaw and McClendon 113 – 115.

<sup>22</sup> Hannelore B. Rader, "Building Faculty-Librarian Partnerships to Prepare Students for Information Fluency: The Time for Sharing Information Expertise is Now," *C&RL News* Feb 2004: 74 – 90.

---

<sup>23</sup> Orme 205 – 214.

<sup>24</sup> Melissa Muth, and Susan Taylor, “Comparing Online Tutorials with Face-to-Face Instruction: A Study at Ball State University,” *First Impressions, Lasting Impact: Introducing the First-Year Student to the Academic Library. Papers and Session Materials Presented at the Twenty-Eighth National LOEX Library Instruction Conference held in Ypsilanti, Michigan, 19 to 20 May 2000* (Ann Arbor: Pierian Press, 2002) 115.

<sup>25</sup> Muth and Taylor 115.

<sup>26</sup> Lois M. Pausch, and Mary Pagliero Popp, “Assessment of Information Literacy: Lessons from the Higher Education Assessment Movement,” 1997. *American Library Association*, 24 April 2006 <[http://www.ala.org/Content/ContentGroups/ACRL1/Nashville\\_1997\\_Papers/Pausch\\_and\\_Popp.htm](http://www.ala.org/Content/ContentGroups/ACRL1/Nashville_1997_Papers/Pausch_and_Popp.htm)>.

<sup>27</sup> Mark Battersby, “So, What’s a Learning Outcome Anyway?,” *Capilano College*, 28 April 2006 <<http://merlin.capcollege.bc.ca/mbatters/whatsalearningoutcome.htm>>.

<sup>28</sup> Bonnie Gratch-Lindauer, “Defining and Measuring the Library’s Impact on Campuswide Outcomes,” *College and Research Libraries* 59 (1998): 550.

<sup>29</sup> Jennifer Nutefall, and Laura Maldonado, ”Step by Step Teaching: Creating Learning Outcomes,” *LOEX Quarterly* 32.1-2: 8 – 10.

<sup>30</sup> Helene Androski, Dineen Grow, and Carrie Kruse, “What Do I Know? Tips for Teaching Librarians,” 2000, *University of Wisconsin-Madison Libraries*, University of Wisconsin Board of Regents and Memorial Library, 23 April 2006 <<http://www.library.wisc.edu/instruction/video/index.htm>>.

<sup>31</sup> Liz Argentieri, et al. “Librarians Hitting the Books: Practicing Educational Theory in Library Instruction,” *Managing Library Instruction Programs in Academic Libraries. Selected Papers Presented at the Twenty-Ninth National LOEX Library Instruction Conference, held in Ypsilanti, Michigan, 4 to 6 May 2001* (Ann Arbor: Pierian Press, 2003) 49.