

The future

In 2020, PCC's Library will consist both of physical buildings enveloped in wireless clouds, and it will virtually permeate the College district through technology in our students' homes and mobile devices. Portable technology will be cheap in our wireless city. Connecting to the Internet will be as easy as making a cell phone call is now but "the Internet" will be a different place. With ubiquitous access comes insidious advertising, and critical thinking skills will be essential in order to find useful information.

Some students will never come to the Library; many will rarely visit a campus. They will find links to the Library's resources on all their course web pages. The Library's online resources will be so intuitive that students will easily find what they need. A simple Library search will present students with a list of pertinent articles, current books (ranked by relevance), and a few select web pages; formatted citations of any resource will be a click away. Books will be delivered to any Library near their home or work; articles will be available online or delivered electronically via email.

Librarians will still be teaching, but not "how to." Intuitive interfaces designed by librarians, will allow us to teach higher order skills such as defining and refining a topic, evaluating sources and synthesizing original thinking with research results.

The Library instruction program in the present

Library research instruction includes formal classroom and informal reference desk and distance learning interactions. Our teaching goal is for students to be able to do the research necessary to successfully complete their school work, and to learn lasting research skills, in keeping with PCC's commitment to lifelong learning. The objectives of the library's instruction program are for students to be able to state their research query, select appropriate information resources, search them effectively, identify relevant information and then use it ethically.

Librarians also work with other faculty to incorporate information literacy skills into various curricula throughout the college.

The librarians use established as well as innovative technology for instruction, while maintaining the essential human connection. We need to stay knowledgeable about changes and opportunities in technology.

The Library faculty Department Chair has established a nationally-recognized system of peer coaching to nurture teaching excellence, innovation, collegiality and self-reflection among the library faculty.

The Gaps

The librarians meet with only a small percent of the degree- or certificate-seeking students, and even those students do not receive the full benefit of our information literacy curriculum due to time limitations. Given limited staffing, the librarians need to develop means by which to reach many more students. This includes expanding current DL projects, and also improving interfaces to online resources.

A variety of tools are used to assess student learning, but application is inconsistent and knowledge gained is not shared effectively. In addition, the CCOGs need to be revised to be measurable.

The SAC should focus on improving communication of their successful teaching and assessment techniques, and well as sharing ideas for imbedding information literacy through librarian/faculty and librarian/administrator collaborations.

Defining the Instruction Program

The PCC library instruction program in the context of the whole library

The PCC library is located on PCC's three campuses: Sylvania, Rock Creek and Cascade. Additionally, there is an emerging satellite collection at the Southeast Center. The library's mission is to serve PCC students and staff at any location.

The library has 31 employees in all (with some additional temps), working in Circulation, Cataloging, Library Technical Services, Reference and administration. Some of the library's heavily-used services include the magazine and journal collections, which are primarily available online, the book and film collections, access to computers and the Internet, and textbooks and other materials on reserve. The library provides innovative resources and services such as electronic delivery of journal articles, electronic books, streaming videos for licensed classroom use, and SUMMIT, an automated, patron-initiated book borrowing service from major academic libraries in Washington and Oregon.

The mission of the library faculty (the reference librarians) is to make students and staff aware of the resources the library offers, and to teach them to select which resources to use appropriately for their research, how to use them effectively and then to cite the sources.

The scope of this program review is limited to library faculty's instruction program. The White Paper on PCC Libraries in 2020 discusses our service as a whole and visualizes how we will change and how we will stay the same.

Overview of instruction by Library faculty

The PCC libraries employ seven full-time and four part-time faculty librarians with varied hours. Librarians collaborate with instructors in a variety of disciplines to offer 50-80 minute instructional sessions targeted to students' immediate, course-specific needs. Librarians also prepare course- and discipline-specific online guides, web-based tutorials, and offer one-on-one instruction at the reference desk. Librarians also work at a curricular level with individual instructors to insert information literacy into a specific assignment and with Subject Area Committees (SACs) to embed information literacy within programs.

Library's curriculum

The library SAC developed CCOGs in 2005, using the Association of College and Research Libraries (ACRL) information literacy standards as a guideline (see <http://www.ala.org/ala/acrl/acrlstandards/standards.pdf>)

According to the American Library Association, information literacy 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." (American Library Association. [Presidential Committee on Information Literacy. Final Report.](#))

In a general sense, the intended outcome of our teaching is for students to be able to do the research necessary to successfully complete their school work, and to learn lifelong research skills, as per the Educational Master Plan SD5.

The library SAC's CCOGs state:

After taking library research classes, students will be able to do two or more of the following:

- Understand how the physical and electronic resources of the PCC library are organized, and access them effectively.
- Identify a need for information and formulate a research topic.
- Identify sources of information, and understand the characteristics of the kinds of information found in them.
- Develop a search strategy and effectively execute a search in a variety of information sources.
- Critically evaluate information and recognize the value of various kinds of information.
- Save and store research results efficiently, use and cite information ethically.

Library faculty do not, at this time, teach a credit course on information literacy or research skills, so we are unable to teach all the skills listed in the CCOGs in every class. Information literacy also addresses the commitment to foundation skills necessary for college success as per the Educational Master Plan and its successors.

What we actually do

The numbers

During Fall Term 2005, about 2,000 students, in 93 classes, attended one or more library research sessions taught by a librarian at Sylvania library.

Rock Creek librarians taught more than 1,200 students in 58 classes in Fall Term, 2005, and Cascade librarians taught 835 students in 43 classes during Fall Term.

Thus the 8.5 FTE librarians each taught an average of 710 students during Fall 2005, in addition to providing face-to-face reference help to individual students. Although this number demonstrates a significant contribution to PCC students becoming information literate, library faculty see less than 10% of the enrolled students at each campus. Additionally, we are just beginning to address the information needs of the Extended Learning Campus students, and the Southeast Center.

In which disciplines did we teach?

Librarians primarily teach ESL, ENL, Reading, Writing, Biology, and Nursing Classes at the three campuses and Southeast Center. Many other disciplines also partner with library faculty for one or two sessions. A more detailed view is available in the appendix.

Reference, our other teaching in the library

Reference librarians also teach students to use the library through face-to-face, query-based instruction at the reference desk in the library. When a student asks a reference librarian for help in finding articles from professional psychology journals, for example, the librarian does not merely

help the student find articles on their topic. In addition, she or he makes sure the student understands what professional literature is, what an article database is and how to choose an appropriate one; the librarian helps the student state their topic and refine it if necessary, helps them identify keywords for searching, and explains the pieces of information contained in a citation, including how to read an abstract. The same skills are taught by librarians via phone, email, and online chat.

Although we do collect reference statistics, we do not have a mechanism in place to evaluate those numbers and the quality of service. We anticipate that a future program review will address these concerns.

Other teaching & collaboration efforts

Librarians work with instructional faculty to embed information literacy competencies into course curriculum, whether or not students attend a library research class. For example, students in Building Construction Technology are required to locate and summarize at least six articles using library resources for a construction-related topic. Similarly, the library faculty has worked for the past two years with a Journalism instructor to embed information literacy into one of his courses. The librarian meets with the class four times to help with research, and is also a guest on their MyPCC class page.

Librarians work with instructors to include information literacy skills, and keep research assignments up-to-date in terms of technology and library resources. For example, CG100 students complete a library assignment that requires them to use the library catalog, search article databases and critically evaluate reference sources.

Currently, librarians are collaborating with an instructor to offer an experimental one-credit information literacy course in tandem with a three-credit pre-college reading course. The course, DE 99, will focus on information literacy and promote critical thinking.

The SAC is in the process of working with the curriculum office to create a one-credit research/information literacy class, and a research class targeted at fiction writers has been proposed for an experimental class.

In order to address the information and research needs of distance learning students, two librarians are working with the Curriculum Support Office and Writing instructors to deliver library content to online writing students through RSS feeds. In the past year, the library participated in an experimental program in which a librarian was in residence for a WebCT distance education class. A more comprehensive set of goals and methods for the distance education program is nearly complete, in keeping with the Educational Master Plan SD1 AA1 A3. "Develop a comprehensive institutional vision for distance learning and the role it will play in the design and delivery of curriculum."

Library research classes are promoted primarily through personal contact between librarians and faculty, or librarians and administrators. This happens in informal settings, through participation in campus meetings and committees, and through librarians' work with the academic SACs. Additionally, librarians present at the New and Part-Time Faculty Institutes, at campus and college-wide inservices, at the SAC meetings of departments to which they liaison, meeting Deans of

Instruction, and College service on committees. Librarians also serve on the steering committees of the Teaching-Learning Centers.

The Gaps in our instruction efforts

- **The numbers**

The librarians meet with only a small percent of the degree- or certificate-seeking students. If the mission and intention of the library faculty is to make information literacy part of every student's learning at PCC, we must find a way to teach more students.

- **The library CCOGs state six learning outcomes**

They also indicate that only two or three of those outcomes can be met in a 50 minute class. The library faculty is faced with the dilemma of how to meet all of our learning objectives.

- **Consistency and promotion**

Despite our efforts, many faculty, especially part-timers, do not know about the research instruction available from librarians or about information literacy curriculum. We recognize our need to persuade the administration to value information literacy skills, so that they are incorporated into the College's commitment to education. Better sharing of techniques within our SAC will strengthen our mission.

Assessment of Library Instruction

The Library Subject Area Committee was established in May of 2005, but the librarians had already completed a set of six CCOGs for the library instruction program. To this point it has been our (ambitious) goal that students gain competency in two of those six outcomes after a single 50 minute class. Establishment of the library SAC, and this program review will help us to refine and adjust our instruction in order to better meet these goals.

Peer Coaching

The department chair has established a nationally-recognized system of peer coaching in which librarians observe each other in the classroom, with the goal of improving teaching techniques. The model provides a confidential and informal way to share insights with each other.

Current Assessment Practices

The teaching librarians were surveyed regarding how and how often they assess student learning. A variety of assessment practices are used, including one-minute surveys, in-class questioning, post-instruction discussion with instructors, testing (pre and post) and individual work with students. Overall, four themes emerged:

1. Most instructional librarians engage in some sort of assessment.
2. Short-term assessment is practiced more frequently than long-term.

3. There is a lack of awareness of what other librarians are teaching in the classroom, and how they assess learning. A couple of the librarians had done pre and post tests, (and a pre and post instruction bibliography review) while another wrote "we have never done pre and post tests."
4. There is interest in undertaking a formal study of library instructional effectiveness.

Gaps in Assessment

1. A system should be established in which librarians share what they teach, and what they have learned from their assessments. One form this could take would be an extension of the existing peer-coaching program.
2. The CCOG skills should be re-written into measurable language. (e.g. "Students will be able to differentiate between popular and scholarly sources of information.") This will allow for embedded assessment in instruction assignments.
3. The librarians should link designated CCOGs to specific courses or instruction sessions.
4. Faculty librarians should assist in the provision of assessment of students' information literacy skills with the ETS ICT (Education Testing Service Information and Communication Technology) test, or similar.
5. The library should strive to truly incorporate Information Literacy into college-wide learning objectives.

Current Use of Technology in Library Instruction

Each of the PCC campus libraries has a classroom with the standard podium, which provides access to a range of technological options. All of the classes have computers for student use.

Additional newer technologies are available and used at the Sylvania and Rock Creek libraries. Rock Creek librarians use a "remote mouse" which allows librarians to walk around the room, helping students, while still navigating through online resources. They also use Starboard, which permits the instructor to draw or circle items onscreen.

Sylvania's librarians have been using interactive clickers, which allow the librarians to quickly poll students for responses, either to specific questions, or to simply react to an instructional segment.

On all campuses, librarians use Macromedia Contribute to create customized web pages for general disciplines and specific classes. Counters installed on the class-specific pages have shown them to be popular with students.

Outside the classroom setting, we work with students over the telephone, via email, and through the L-net internet chat reference program. In the Fall of 2006 we hope to provide brief instructional modules through RSS feeds to WebCT writing classes. Several sections of the library webpage are enhanced with small screencasts created using Camtasia. These provide online demonstrations of how to perform different types of searches.

Our use and acceptance of technology should not be construed as a loss of the personal contact which is vital to the learning process. To quote one of our SAC members: "In the classroom I use 'me' as the key instructional tool. I believe I'm a technology artifact called 'librarian' and emphasize that we human librarians are available via personal contact, email contact, and telephonically."

Gaps in use of technology for instruction

We need to stay knowledgeable about changes and opportunities in technology. We must be aware that some students consider instant message, chat, and MySpace to be their domains while others will expect us to consider utilizing social networks and collaborative technology. We will continue to meet the expectations of technically advanced students, and provide new learning opportunities for all of our students, increasing our ability to respond to different learning styles. Librarians must assume a more assertive role in choosing, designing, and implementing all areas of our digital presence.

Futurecast

In 2020, PCC's Library will consist of physical campus-based buildings, enveloped in wireless clouds, and will virtually permeate the College district through technology in our students' homes and mobile devices. *Library 2.0*, a term recently coined by Paul Miller, is in part, a way to access information "by means other than traditional human interaction with an application's web interface," and a way to share over many kinds of interrelational platforms.

The "digital divide" will shift. Portable technology will be cheap and easy to use. Portland will be wireless, and connecting to the Internet will be as easy as making a cell phone call is now. "The internet" may be a different place than it is now. The price of ubiquitous access may be invasive advertising, and critical thinking skills will be of paramount importance in order to filter useful information.

PCC students of all ages, a large number of them over 45, come from Portland Public Schools and other districts, having grown up with curricula driven by data derived from multiple choice tests -- tests taken in schools that may not have had a media specialist present to teach information literacy. Critical thinking was not necessarily part of their curriculum. Many PCC students will take DE classes in order to learn to read with comprehension, and to express themselves clearly. They will need to learn to apply critical thinking skills in all aspects of their studies.

Some students will never come to the Library; many will rarely visit a campus. They will utilize the Library's online resources because they find a link to it on all their course web pages. The Library web pages will be so intuitive and easy to use that students will often find what they need. A simple search on the Library home page will present students with a list of articles on their topic, a list of books (all current and ranked in order of their pertinence), and a few select web pages. Books will be delivered to the Library nearest their home or work (any Library); articles will be available online or delivered electronically via email.

Roy Tennant, in a recent article in [Library Journal](#), comments that "Our users don't use Google and Yahoo simply because they have cute names. They search on them because they're useful . . . we must create compelling, effective, and easy-to-use services." As Google digitizes the books of major research libraries' collections, PCC will join Library-specific consortia, such as Open Content Alliance. Where we currently use SUMMIT to share materials with other academic libraries in

Oregon and Washington, SUMMIT will likely deliver those same books to our students – not just for pick-up at a check-out desk – but directly to their preferred information transmission device.

The Library will be a place that fosters reading, thinking and community. It will provide comfortable space for study, conversation and work. Books, workstations, and the wireless cloud will serve students throughout the building. Reference librarians will be more mobile, teaching students how to use resources at their points of need, whether in a classroom somewhere on campus, virtually via a private visual chat with push technology, or, of course, near a stack of books tagged with RFID technology that guides the student and librarian to the appropriate page, like the indexes we use today.

Recommendations for 2006-2009

The instruction program of the Librarians' SAC must embrace changing technology in order to reach more students, both on and off campus. Technology will not run itself, however. PCC library needs sufficient number of faculty librarians in order to design and implement easy to use interfaces and to provide instruction online. According to the ACRL (Association for College and Research Libraries), PCC is embarrassingly understaffed – by eleven and one half professional librarians. The appendix provides a detailed analysis.

Recommendations for 2020

Peter Morville says that he sees “a future of ambient findability in which we can find anyone or anything from anywhere at anytime . . . a multitude of libraries that help us find what we need, whether the objects sought (and the libraries themselves) are physical, digital, or in between.”

Peter Morville's definitions of findability include

- The quality of being locatable or navigable.
- The degree to which a particular object is easy to discover or locate.
- The degree to which a system or environment supports navigation and retrieval.

Some scenarios predict a world without books, without a need for librarians, but just as technology shapes our instructional design now, most librarians realize that we will become more necessary to student success – not an obsolete and quaint artifact. Our presence as faculty and proponents of information competency will become more apparent as our buildings and our collections of resources morph and adapt to the needs of our users.

Picture a single working parent of the future. He has custody on the weekdays; his ex has the children on weekends in another state. He tries to entertain the kids in the evenings, help with their homework, and get them ready for bed. His own Web 2.0 homework is due at midnight and he needs Library resources to complete it. The Library building is closed for the evening and besides, he can't wake the kids on a school night and bring them to the nearest PCC campus.

With the word “HELP” spoken into his portable device, the virtual PCC librarian begins the reference interview.

“How can I help you?”

"I'm working on a project for my biology 101 class. We're doing research about an area in Oregon and my kids and I just moved here, so I don't really know anything about the state."

"What area were you assigned?"

"We got to pick a place and I picked the Blue Mountains, but I've never even been there."

"You've had your learning styles assessment. How would you describe your preferred learning style?"

"I'm primarily visual."

"Good! Here on your screen you will now find a link to a 3D graphic model created by the Forest Service of the Blue Mountains. There are links to typical flora and fauna of the region. Select a species in order to see a photograph of the animal, with a graphic representation showing how the ecosystem fits its needs for food and shelter."

Already in 2006, Oregonians have chat access to a reference librarian 24 hours a day, seven days per week. It's not so difficult to imagine the chat above, complete with visuals, co-browsing of reference books, instruction that includes searching for materials, best choices of keywords, and finally a referral to the virtual writing lab for help with citing sources, all obtained electronically in the single father's home, long after the gates of the PCC campuses have closed for the night.

The way to deal with the inevitable future is to embrace the people who can teach to the technology as it changes: librarians. The reality is that our instruction program suffers as we increase enrollment without increasing librarian faculty to meet the new traffic generated by students' research.

While the major three year goal should be – at minimum – to hire enough Library faculty to meet the halfway point of nationally-accepted standards, the 2020 goal should be to meet or exceed those standards. Again, technology will not decrease the need for teaching librarians; our instruction demands will necessitate a strong group of Library faculty.

Appendices

Library CCOGs

CLASS CONTENT DESCRIPTION

Students attending a library orientation class, or series of classes, will learn how the PCC libraries are organized. In addition, they will learn some of the following skills: How to:

- formulate a research query, including identifying keywords and broadening or narrowing a search;
- select appropriate sources of information based on the kind of information needed. For example books for in-depth, broad coverage of a topic, or journal articles for focused, current research on one aspect of a topic;
- access the PCC and other libraries' physical collections through the online catalog;
- access electronic magazine and journal collections via the library webpage;
- use critical thinking skills to evaluate information;
- cite the sources of information and avoid plagiarism.

Gaining all these skills cannot be achieved in one 50 minute class.

INTENDED OUTCOME(S) FOR THE COURSE:

CONTENT: Students will learn how physical and virtual resources of the PCC library are organized and accessed.

OUTCOMES. After taking library research classes, students will:

- Know the PCC library is located on 3 campuses, and the library catalog includes all 3 libraries.
- Know that library materials are shipped between campuses.
- Know barcode is their ID within the library and used to check out materials, request materials from other campuses and libraries, and use PCC library databases from off campus.
- Be able to find the library catalog and article databases on the library home page.
- Know what a reference librarian does and how to contact one.

CONTENT: Students will learn to identify what information they need and to formulate a research topic statement.

OUTCOMES. After taking library research classes, students will be able to:

- State their research topic in one or 2 sentences.
- Select keywords to use in a search, and brainstorm alternative keywords.
- Focus a research topic by specifying a population, time period, analytical model, etc.
- Identify what information they need in order to understand a topic.
- Use narrower or broader search terms.

CONTENT: Students will learn to identify sources of information and the characteristics of the information found in them.

OUTCOMES. After taking library research classes, students will be able to:

- Recognize differing qualities of information in different sources of information. For example, brief factual information can be found in an encyclopedia, broad coverage of a subject can be found in books, narrowly focused, current information can be found in journal articles.
- Select appropriate sources of information for their information need.
- Understand the peer review process.
- Differentiate between primary and secondary sources of information.

CONTENT: Students will learn to develop a search strategy and search a variety of information resources effectively.

OUTCOMES. After taking library research classes, students will be able to:

- Understand the function of Boolean searches
- Understand what a keyword search does.
- Understand truncation.
- Be able to alter a search based on retrieval.
- Identify and apply limits available on any search interface.

CONTENT: Students will learn to critically evaluate information and recognize the value of various types of information.

OUTCOMES. After taking library research classes, students will be able to:

- Recognize the slant or bias of a source of information.
- Evaluate web sites for credibility, currency, timeliness, etc.
- Recognize differences between information that has gone through a publishing process vs. information published on the Internet.

CONTENT: Students will learn how to save, store and cite information.

OUTCOMES. After taking library research classes, students will be able to:

- Know how to email, save or print documents.
- Know how to avoid plagiarism by knowing when words or ideas need to be attributed to their original source.
- Know the elements of a citation, and be familiar with citation formats.

COURSE ACTIVITIES & DESIGN

Students in library research classes engage in a variety of learning activities, aimed at engaging diverse learning styles. Librarians will engage students in at least two of the following activities: lecture/demonstration

- hands-on computer practice
- group work, student presentations
- in- and out of class worksheets
- walking tour of the library.

Library research classes are design by the teaching librarian, often in consultation with the instructional faculty member.

OUTCOME ASSESSMENT STRATEGIES

Student learning is assessed in a variety of ways.

- Student feedback is gathered on approximately 10% of the library research classes taught.

- Librarians work with instructional faculty both formally and informally to assess the impact of library instruction on the quality of student work done in the class. For example, librarians periodically analyze the bibliographies of term papers written by students who have been to a library research class.
- Librarians also confer with instructional faculty before and after classes.
- Some classes, such as the CG100 classes at Cascade, complete library research worksheets as part of their library class. Librarians grade these.

COURSE CONTENT: (THEMES, CONCEPTS, ISSUES, COMPETENCIES AND SKILLS)

This is a list of the competencies and skills that students in library research classes learn. After taking library research classes, students will be able to do two or more of the following:

- Understand how the physical and electronic resources of the PCC library are organized, and access them effectively.
- Identify a need for information and formulate a research topic.
- Identify sources of information, and understand the characteristics of the kinds of information found in them.
- Develop a search strategy and effectively execute a search in a variety of information sources.
- Critically evaluate information and recognize the value of various kinds of information.
- Save and store research results efficiently, use and cite information ethically.

Examples of librarians & faculty embedding information literacy at PCC
Prepared by Len Anderson, PCC Rock Creek Reference Librarian
June 3, 2006

AT THE SAC LEVEL:

- **Building Construction Technology**
 - The materials course is required of all students in the program, whether the student is degree seeking, certificate seeking, or less. The SAC and Len Anderson consulted and developed together a library resource presentation and subsequent assignment within this course to familiarize all BCT students with access to library resources as well as specialized resources used in their industry. Students locate and summarize at least six articles from library resources on a construction topic, e.g. concrete. The librarian also provides ITV instruction for the BCT class when offered using that modality.

- **Aviation Science Technology**
 - Each aviation student is required to locate, read, and report on a person who contributed to aviation science.
 - PCC and Embry-Riddle Aeronautical University have an articulation agreement that includes library support for both PCC and ERAU students. Len Anderson has hosted annual orientations for the ERAU faculty to familiarize them with PCC's resources. Students access these databases remotely since much of the coursework is done at the SE Center (teach-out of the Mt. Hood CC program) and three airports, i.e. PDX, Troutdale, and Hillsboro.

- **Nursing**
 - Sheila Afnan-Manns and the Nursing SAC have collaborated on embedding in a very coherent and systematic way mechanism to increase the information literacy among nursing students. In general students in the 2-year program attend several library orientations over the course of their studies.
 - In the fall of their first year this involves a general orientation to the Library's resources with some subject-specific reference to nursing and allied health resources. As the students progress, these orientations become more assignment specific, i.e. nursing students are responsible for several major research papers, e.g. chronic illness, nursing trends, and health services to culturally/ethnically diverse populations.
 - Currently Sheila Afnan-Manns and the Nursing SAC are conducting a survey of students to determine which sources they are using most, e.g. books, databases, e-books by Ovid, etc. It is intended that these findings may assist in tailoring the information literacy instruction in Nursing.

- **Automotive Service Technology**
 - At least once during the students' time in the AST program they are assigned a library research assignment that has been vetted with Len Anderson, the librarian assigned to support the AST program. Materials have been purchased by the Library to support this one-time assignment.
 - A former SAC chair and Len Anderson reviewed the holdings of the Library and the materials maintained within the department for reference, particularly items like shop manuals. Together decisions were reached on which information would be maintained by the department in its resource holdings and which materials would be retained in the Library. Students in this program rely heavily on databases hosted within the department as well as

the resource collection within the department which has been developed in conjunction with the librarian.

- **Welding Technology**
 - In the first term of each welding cohort the instructors bring the entire cohort to the Rock Creek Library to examine where the welding support materials are located and used. This tour/orientation is done in conjunction with the reference librarian.
 - Since the Rock Creek Library is constructed using visible welded beams, it is used as a “laboratory” for the welding students to locate and evaluate the quality of the welds done by the contractors. In this instance, the entire Library is literally a “learning object.”

- **Diesel Service Technology**
 - The SAC has developed its own useful and sophisticated departmental webpage. It has asked Len Anderson to regularly provide the Webmaster with solid and emerging web links and resource links to be included on the departmental webpage.

- **PCC Center for Sustainable Practices**
 - Director Noelle Studer and Len Anderson have been working since her third day on the job to align library resources with the sustainability initiatives she is coordinating on a college-wide basis. The first step was to assess the current collection which was very hit-or-miss, at best. Together they developed a “core collection” and the Library has purchased it, placing the items across all campuses.
 - The Center has established a webpage. Monthly Len Anderson provides a list of new materials and websites which are then uploaded to the Center’s webpage. Promotion of the sustainability programs at PCC belongs to Studer; however, she has been extraordinarily helpful in encouraging instructors in many different SACs across the college to better utilize library resources for encouraging sustainability.

AT THE CAMPUS LEVEL:

Cascade

- **Writing**
 - Tony Greiner has worked with Andrea Hill’s writing class. He did two sessions with them comparing the preliminary bibliographies that she received after the first session with the ones she received in the final paper, after the second session. The improvement in variety, quality, and citation style was noticeable.

- **CG Courses**
 - Tony Greiner has developed for his CG 100 classes an activity sheet which directs students to seek out sources and information to enhance their information literacy. To entice instructor enthusiasm, he collects and grades the activity sheets.

- **Physical Education**
 - Tony Greiner worked with Levy Query on some assignments involving library resource use. The instructor indicated that she was very pleased with the assignment.

- **Social Psychology**
 - Tony Greiner has worked with Monica Schneider on information literacy instruction for her course in social psychology. The resources used involved the students’ assignment on HUD.

- **ESL**
 - ESL instructors have been making heavy use of the new New Reader Collection.

Rock Creek

- **Developmental Education**
 - Robin Shapiro has been working with Theresa Love to develop a 1-credit course, DE 99, which will be tied to a cohort of RD 80 in Fall, 2006. DE 99 will focus on information literacy and promote critical thinking.
 - Under Marilyn Marshall's coordination, Len Anderson, Pam Kessinger, and Robin Shapiro have worked with the DE faculty, e.g. Theresa Love, Lucy Holm, and Lynn McBeth to develop for RD/WR 80 and RD/WR 90 a series of visits for information literacy instruction for each course. It is intended that through these courses the exposure to literacy components spirals upward so that upon exit from RD/WR 90 the students have the information literacy competencies needed to succeed in their college-level work.
- **ESL**
 - Len Anderson and ESL program coordinator Evelyn Delgado have established a process by which all ESL instructors bring their students to the Library for a general orientation about library services. Delgado identified for the Library materials from catalogs that should be purchased to support the re-establishment of a New Reader Collection at each of the campuses. She and members of the Rock Creek ESL faculty accompanied Len and library staff to bookstores to make additional selections. As a result of this work, each of the 3 ½ campus libraries has a comprehensive collection of materials suitable to support ESL [ESOL] students.
- **New Directions**
 - New Directions coordinator Christine Paull and her faculty have worked over several years with Len Anderson to develop a series of activities and instructional opportunities for the students in the New Direction program. The work in databases supports these students as they launch their return to academic work following years out of the workforce.
- **CG Courses**
 - Almost all CG 111 Study Skills courses come to the library to receive direct information literacy instruction for one session during each term. The content of these presentations has been honed over the past several years working with a number of CG instructors.
 - Gateway to Success students attend library skills (information literacy) sessions. Though most Rock Creek instructors bring their students, it is not yet uniform.
- **Writing**
 - An intense curriculum re-design has been ongoing during AY 2006 because of the conversion from 3 to 4 credit writing classes, i.e. WR 121 and 122 replacing WR 121, 122, and 123. This re-design has been led by Charlie Sieracki working in conjunction with librarians Robin Shapiro, Len Anderson, and Pam Kessinger. This new re-design can be adopted/modified by any willing writing instructor in the college. Sieracki is taking the lead with his colleagues to motivate them toward this change.
 - A similarly intense re-write of RD/WR 115 is taking place between Robin Shapiro and Theresa Love. Again it is believed that this major re-write to emphasize information literacy can be a model for consideration by other instructors within the college.

- Formal, collaboratively planned information literacy instruction by Pam Kessinger, Robin Shapiro, and Len Anderson occurs every quarter with large numbers of part-time and full-time writing instructors. Examples are George Staley, Kate Evans, Chris Jensen, Andy Zboralsky, Sam Ericsson, Steve Mainville, and Diane Gwartney.
- **Speech**
 - All librarians work in concert with Holly King and her Speech 111 sections. Every quarter every one of her classes attends at least one information literacy session co-taught by a librarian and Holly King. Following that introduction on how to use databases and evaluate information, the students work throughout the quarter with librarians to gather the information which is needed for their speeches.
- **Environmental Science**
 - Pam Kessinger has co-created with Tom Robertson an information literacy module which his ESR 150 classes engage in each term.
- **Computer Science/Business**
 - Pam Kessinger and Maureen Wright have worked together for several years refining information literacy instruction for both Wright's computer information science classes as well as her business administration classes. These engagements are with CIS 120, CIS 121, and BA 205.

Sylvania

- **ESL**
 - Some ESL instructors have been taking advantage of the new New Reader Collection described under the Rock Creek section.
- **Biology**
 - Biology 101 classes all decided to create a term-long project related to the various ecological provinces in Oregon. All Sylvania Librarians had to work quickly with Biology faculty, i.e. April Fong and Micah Jordan, to ensure that the Library could provide the resources to support the project. In the first year, this meant purchasing basic reference book sources need to answer questions about animals, climate, plants, and resources for different places in Oregon and the state in general. As the Librarians began working with the faculty to introduce each of the labs to our new resources, together we were able to identify databases and websites to complement the print sources. In each year we have consulted with the faculty to add new sources and remove a few less relevant ones from the class pathfinder, which is now between 3-4 pages. This page is distributed to all BI 101 students within the first week of the quarter, printed on green, which helps the students to identify it as the "green" place to go for this daunting project. Once they realize how closely the resources on the sheet correspond to the project, they are relieved. The biology classes demonstrate a grasp of information literacy skills at least comparable to the students in writing classes.
- **Reading**
 - Heather Larrimer's Reading 115 class meets three times per quarter with a librarian, often Jane Rognlie. The first time is a general library orientation, covering topic selection, the catalog and one database. The second class covers several databases and search strategies, such as brainstorming search vocabulary, Boolean, and truncation. The third session is a supervised work session, where the librarian is on hand to assist students in their research.

- Jane Rognlie piloted a student response system project with Heather's two Reading 115 classes. A student response system is designed to allow instructors to pose questions and students to answer using a hand-held response pad. The students' anonymous responses can then be immediately recorded and displayed. Student response systems have the potential to captivate student attention, make them more active participants in their learning, and provide them immediate feedback on their understanding of class material. This feedback enables instructors to assess learning and to adjust classroom activities based upon student responses.
- We collaborated with Heather to devise a quiz that was given as a pretest before library instruction and again as a posttest a week after library instruction. We will be evaluating the results to help us in the design and assessment of future information literacy instruction. Anecdotal evidence, however, suggests that the students were more engaged in the learning process when we used the student response system.

- **Journalism**

- For the past two years Jane Rognlie has worked closely with Rick Seifert to embed info literacy into his Journalism 102 class. We meet with this class 4 times during the quarter as they research public policy issues. One of our librarians, Jane Rognlie, has also been registered as a guest on their MyPCC class web page, so that students can have ready access to librarian assistance via email and class discussion threads.

The four 1 1/2 hour sessions include:

1. General library orientation. Topic selection, book catalog, and Summit
2. Periodical databases, including search strategies.
3. Government documents
4. Internet Searching, focusing on audio and visual files.

Some of the sessions are structured so that students learn by teaching their classmates how to use specific resources and employ specific search strategies.

- **CG Courses**

- Sylvania librarians work closely with Ann Clark's CG classes. They have an extensive library assignment. After the main library instruction session, students have been encouraged to make one-on-one appointments with librarians for further help. This customized assistance has been invaluable in making some of these "at-risk" students feel like they can make it in college. They see the librarians as instrumental to their college success.

DISTANCE EDUCATION:

As noted above in several instances, information literacy taught by librarians is most often done at this point in time in a physical place, whether that be in a library classroom or in the classroom of the instructor. However, it is also noted above that, when appropriate, librarians are engaged in distance education and online courses as determined by instructor preference.

As an update on where the Library is going on distance learning, Sheila Afnan-Manns and Robin Shapiro have been charged by Berniece Owen to take the lead in increasing the presence of library services and instruction in the distance education environment. As such Robin and Sheila are working with online WR 121 and 122 instructors to provide brief library messages to their WebCT writing classes each week. The technology we're using, RSS feeds, makes the process very simple – our challenge is to provide interesting

and relevant content that supports the course. We will provide a single feed for both 121 and 122; in other words, all of the students in the pilot will receive the same messages at the same time. We believe that weekly messages will catch students' attention in a way that a single static "How to use the Library" page would not, and that we can effectively market the many library services and resources available to distance learning students.



Information Literacy Competency Standards for Higher Education

These standards were reviewed by the ACRL Standards Committee and approved by the Board of Directors of the Association of College and Research Libraries (ACRL) on January 18, 2000, at the Midwinter Meeting of the American Library Association in San Antonio, Texas. These standards were also endorsed by the American Association for Higher Education (October 1999) and the Council of Independent Colleges (February 2004). A [PDF of this document](#) is available.

Five copies of the Information Literacy Competency Standards are available in booklet form at no charge. Additional copies may be purchased from the Association of College and Research Libraries for \$25.00 for a package of 25. Orders (along with check or money order made payable to Association of College and Research Libraries) should be sent to:

Association of College and Research Libraries
Attn: Standards Fulfillment
50 East Huron Street
Chicago, IL 60611

Questions? Contact Elliot Mandel at (312) 280-5277 or (800) 545-2433, ext. 5277.

Introduction

[Information Literacy Defined](#)
[Information Literacy and Information Technology](#)
[Information Literacy and Higher Education](#)
[Information Literacy and Pedagogy](#)
[Use of the Standards](#)
[Information Literacy and Assessment](#)
[Standards, Performance Indicators, and Outcomes](#)

Information Literacy Defined

Information literacy 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."¹ Information literacy also is increasingly important in the contemporary environment of rapid technological change and proliferating information resources. Because of the escalating complexity of this environment, individuals are faced with diverse, abundant information choices--in their academic studies, in the workplace, and in their personal lives. Information is available through libraries, community resources, special interest organizations, media, and the Internet--and increasingly, information comes to individuals in unfiltered formats, raising questions about its authenticity, validity, and reliability. In addition, information is available through multiple media, including graphical, aural, and textual, and these pose new challenges for individuals in evaluating and understanding it. 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.

Information literacy forms the basis for lifelong learning. It is common to all disciplines, to all learning environments, and to all levels of education. It enables learners to master content and extend their investigations, become more self-directed, and assume greater control over their own learning. An information literate individual is able to:

- Determine the extent of information needed
- Access the needed information effectively and efficiently
- Evaluate information and its sources critically
- Incorporate selected information into one's knowledge base
- Use information effectively to accomplish a specific purpose
- Understand the economic, legal, and social issues surrounding the use of information, and access and use information ethically and legally

Information Literacy and Information Technology

Information literacy is related to information technology skills, but has broader implications for the individual, the educational system, and for society. Information technology skills enable an individual to use computers, software applications, databases, and other technologies to achieve a wide variety of academic, work-related, and personal goals. Information literate individuals necessarily develop some technology skills.

Information literacy, while showing significant overlap with information technology skills, is a distinct and broader area of competence. Increasingly, information technology skills are interwoven with, and support, information literacy. A 1999 report from the National Research Council promotes the concept of "fluency" with information technology and delineates several distinctions useful in understanding relationships among information literacy, computer literacy, and broader technological competence. The report notes that "computer literacy" is concerned with rote learning of specific hardware and software applications, while "fluency with technology" focuses on understanding the underlying concepts of technology and applying problem-solving and critical thinking to using technology. The report also discusses differences between information technology fluency and information literacy as it is understood in K-12 and higher education. Among these are information literacy's focus on content, communication, analysis, information searching, and evaluation; whereas information technology "fluency" focuses on a deep understanding of technology and graduated, increasingly skilled use of it. ²

"Fluency" with information technology may require more intellectual abilities than the rote learning of software and hardware associated with "computer literacy", but the focus is still on the technology itself. Information literacy, on the other hand, is an intellectual framework for understanding, finding, evaluating, and using information--activities which may be accomplished in part by fluency with information technology, in part by sound investigative methods, but most important, through critical discernment and reasoning. Information literacy initiates, sustains, and extends lifelong learning through abilities which may use technologies but are ultimately independent of them.

Information Literacy and Higher Education

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

competency extends learning beyond formal classroom settings and provides practice with self-directed investigations as individuals move into internships, first professional positions, and increasing responsibilities in all arenas of life. Because information literacy augments students' competency with evaluating, managing, and using information, it is now considered by several regional and discipline-based accreditation associations as a key outcome for college students.³

For students not on traditional campuses, information resources are often available through networks and other channels, and distributed learning technologies permit teaching and learning to occur when the teacher and the student are not in the same place at the same time. The challenge for those promoting information literacy in distance education courses is to develop a comparable range of experiences in learning about information resources as are offered on traditional campuses. Information literacy competencies for distance learning students should be comparable to those for "on campus" students.

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

Information Literacy and Pedagogy

The Boyer Commission Report, *Reinventing Undergraduate Education*, recommends strategies that require the student to engage actively in "framing of a significant question or set of questions, the research or creative exploration to find answers, and the communications skills to convey the results..."⁴ Courses structured in such a way create student-centered learning environments where inquiry is the norm, problem solving becomes the focus, and thinking critically is part of the process. Such learning environments require information literacy competencies.

Gaining skills in information literacy multiplies the opportunities for students' self-directed learning, as they become engaged in using a wide variety of information sources to expand their knowledge, ask informed questions, and sharpen their critical thinking for still further self-directed learning. Achieving competency in information literacy requires an understanding that this cluster of abilities is not extraneous to the curriculum but is woven into the curriculum's content, structure, and sequence. This curricular integration also affords many possibilities for furthering the influence and impact of such student-centered teaching methods as problem-based learning, evidence-based learning, and inquiry learning. Guided by faculty and others in problem-based approaches, students reason about course content at a deeper level than is possible through the exclusive use of lectures and textbooks. To take fullest advantage of problem-based learning, students must often use thinking skills requiring them to become skilled users of information sources in many locations and formats, thereby increasing their responsibility for their own learning.

To obtain the information they seek for their investigations, individuals have many options. One is to utilize an information retrieval system, such as may be found in a library or in databases accessible by computer from any location. Another option is to select an appropriate investigative method for observing phenomena directly. For example, physicians, archaeologists, and astronomers frequently depend upon physical examination to detect the presence of particular phenomena. In addition, mathematicians, chemists, and physicists often utilize technologies such as statistical software or simulators to create artificial conditions in

which to observe and analyze the interaction of phenomena. As students progress through their undergraduate years and graduate programs, they need to have repeated opportunities for seeking, evaluating, and managing information gathered from multiple sources and discipline-specific research methods.

Use of the Standards

Information Literacy Competency Standards for Higher Education provides a framework for assessing the information literate individual. It also extends the work of the American Association of School Librarians Task Force on Information Literacy Standards, thereby providing higher education an opportunity to articulate its information literacy competencies with those of K-12 so that a continuum of expectations develops for students at all levels. The competencies presented here outline the process by which faculty, librarians and others pinpoint specific indicators that identify a student as information literate.

Students also will find the competencies useful, because they provide students with a framework for gaining control over how they interact with information in their environment. It will help to sensitize them to the need to develop a metacognitive approach to learning, making them conscious of the explicit actions required for gathering, analyzing, and using information. All students are expected to demonstrate all of the competencies described in this document, but not everyone will demonstrate them to the same level of proficiency or at the same speed.

Furthermore, some disciplines may place greater emphasis on the mastery of competencies at certain points in the process, and therefore certain competencies would receive greater weight than others in any rubric for measurement. Many of the competencies are likely to be performed recursively, in that the reflective and evaluative aspects included within each standard will require the student to return to an earlier point in the process, revise the information-seeking approach, and repeat the same steps.

To implement the standards fully, an institution should first review its mission and educational goals to determine how information literacy would improve learning and enhance the institution's effectiveness. To facilitate acceptance of the concept, faculty and staff development is also crucial.

Information Literacy and Assessment

In the following competencies, there are five standards and twenty-two performance indicators. The standards focus upon the needs of students in higher education at all levels. The standards also list a range of outcomes for assessing student progress toward information literacy. These outcomes serve as guidelines for faculty, librarians, and others in developing local methods for measuring student learning in the context of an institution's unique mission. In addition to assessing all students' basic information literacy skills, faculty and librarians should also work together to develop assessment instruments and strategies in the context of particular disciplines, as information literacy manifests itself in the specific understanding of the knowledge creation, scholarly activity, and publication processes found in those disciplines.

In implementing these standards, institutions need to recognize that different levels of thinking skills are associated with various learning outcomes--and therefore different instruments or methods are essential to assess those outcomes. For example, both "higher order" and "lower order" thinking skills, based on Bloom's Taxonomy of Educational Objectives, are evident throughout the outcomes detailed in this document. It is strongly suggested that assessment methods appropriate to the thinking skills associated with each outcome be identified as an integral part of the institution's implementation plan.

For example, the following outcomes illustrate "higher order" and "lower order" thinking skills:

"Lower Order" thinking skill:

Outcome 2.2.2. Identifies keywords, synonyms, and related terms for the information needed.

"Higher Order" thinking skill:

Outcome 3.3.2. Extends initial synthesis, when possible, to a higher level of abstraction to construct new hypotheses that may require additional information.

Faculty, librarians, and others will find that discussing assessment methods collaboratively is a very productive exercise in planning a systematic, comprehensive information literacy program. This assessment program should reach all students, pinpoint areas for further program development, and consolidate learning goals already achieved. It also should make explicit to the institution's constituencies how information literacy contributes to producing educated students and citizens.

Notes

1. American Library Association. [Presidential Committee on Information Literacy. Final Report.](#) (Chicago: American Library Association, 1989.)
2. National Research Council Commission on Physical Sciences, Mathematics, and Applications. Committee on Information Technology Literacy, Computer Science and Telecommunications Board. *Being Fluent with Information Technology.* Publication. (Washington, D.C.: National Academy Press, 1999) <http://www.nap.edu/catalog/6482.html>
3. Several key accrediting agencies concerned with information literacy are: The Middle States Commission on Higher Education (MSCHE), the Western Association of Schools and College (WASC), and the Southern Association of Colleges and Schools (SACS).
4. Boyer Commission on Educating Undergraduates in the Research University. *Reinventing Undergraduate Education: A Blueprint for America's Research Universities.* <http://notes.cc.sunysb.edu/Pres/boyer.nsf/>

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
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

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
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
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
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
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
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 I: Selected Information Literacy Initiatives

- In 1989 the American Library Association (ALA) Presidential Committee on Information Literacy issued a [Final Report](#) which defined four components of information literacy: the ability to recognize when information is needed and to locate, evaluate and use effectively the needed information.
- In 1990, the National Forum on Information Literacy (NFIL) was founded as a response to the recommendations of the ALA Presidential Committee *Final Report*. NFIL is a "coalition of over 75 education, business, and governmental organizations working to promote international and national awareness of the need for information literacy and encouraging activities leading to its acquisition." Forum members promote information literacy nationally, internationally, and within their own programs. <http://www.infolit.org/index.html>
- In March 1998 NFIL issued, *A Progress Report on Information Literacy: An Update on the American Library Association Presidential Committee on Information Literacy: Final Report*. <http://www.infolit.org/documents/progress.html>
- In 1998 the American Association of School Libraries (AASL) and the Association of Educational Communications and Technology (AECT) published *Information Literacy Standards for Student Learning*. The AASL/AECT standards detail competencies for students in K-12.
- Since 1989, in the absence of national standards, many states, school districts, state university systems, and local institutions have developed information literacy competency standards. <http://www.fiu.edu/~library/ili/iliweb.html>

Library White Page excerpt by Berniece Owen:

Student trends between today and tomorrow:

- Students will be more and more computer/communication savvy.
- They will have short attention spans.
- They will want information quickly.
- They will want to find information easily.
- They will want results, not directions to results. E.g., articles, not citations.
- They will have access to unimaginable quantities of information, and will need to be able to assess information quality rapidly.
- They will communicate constantly with friends, family and classmates.
- They will work together, and expect campus technology to support social networking.
- They will add excellent teachers to their communication circles.
- They will carry their social (communication) circles with them everywhere.
- For convenience or necessity, they will get much of their higher education via virtual or distance learning avenues.
- For face-to-face connections, they will continue to look for a “college experience” on college campuses. They are only human after all.

Library trends between today and tomorrow:

- Libraries will be centers for books – the real and the virtual.
- Libraries will be centers for supplementary learning.
- Libraries will be centers for independent learning.
- Libraries will be centers of assisted access to information wherever and whenever it is available.
- Libraries will provide assistance in organizing information.
- Libraries will be comfortable and safe havens for rest, reflection, reading, and researching.
- Libraries will be centers for collaborative learning, student team projects, and student study groups.
- Libraries will facilitate production and dissemination of student- and faculty-generated information.
- Libraries will be centers of trend-setting, tested, and secure software and equipment designed to assist students in achieving successful learning at PCC.
- Libraries will provide the best books and other learning resources that professional librarians, dedicated staff, and engaged faculty can select.
- Librarians will teach students the skills to use successfully the resources on the shelves and in the web world.
- Librarians will practice guerrilla librarianship and will be in faculty offices collaborating with instructors and embedding Library research skills in courses.

PCC Library building trends now and in the future

- The buildings will have bookshelves and the latest in wired and wireless communication tools for finding information on demand.
- The buildings will have offerings of large and small reading rooms for quiet study and large and small conference rooms for group study.
- The libraries will have small tables with two or three desktop computers for shared projects.

- Libraries will have quiet, multi-purpose study rooms with smart boards for project development and demonstration.
- Graphical finding tools will assist students in navigating the libraries' physical and virtual space, and reference librarians' offices will be close to user spaces to provide personal, face-to-face assistance.
- An information commons – a centrally located area for questions and answers about PCC services – will include workspace for Library, tutoring and other related student services.
- Space for meeting friends, catching up on the news, restoring energy with coffee or soda and a snack while working on the next assignment or waiting for a ride will be available in the Library.
- Reference islands in the stacks will encourage students to talk to librarians about finding usable information for assignments and projects quickly and easily.

Users Are Local Planning Document

Student Names: Robin Shapiro, Sheila Afnan-Manns

Institution: Portland Community College

Library URL: <http://www.pcc.edu/library/>

The ACRL Guidelines for Distance Learning Library Services

Write a brief profile of the current distance education program at your institution and any future plans for distance education that have been identified

Portland Community College (PCC) is a vibrant, diverse institution offering classes throughout the Portland metro area. Roughly 100,000 credit and non-credit students attend PCC classes each year, making PCC the largest institution of higher education in Oregon.

In 2004-2005, 9696 students took Distance Learning (DL) classes through PCC.

- Of those, 2724 students took ONLY Distance Learning classes.
- There were 22,236 enrollments -- i.e., each DL student took an average of 2.29 DL classes.
- PCC classes with top DL enrollments included:

- 639 students took a DL version of Writing 121.
- 467 students took a DL version of Writing 122.
- 513 students took a DL version of Business 101.
- 406 students took a DL version of Business 211, Intro to Accounting.
- 387 students took a DL version of Health 250, Personal Health.
- 385 students took a DL version of Math 60, Introductory Algebra

The Distance Learning program has grown rapidly; this year (2005-2006) PCC has made the strategic decision to slow growth in order to focus on course quality. The Distance Learning Faculty Advisory Committee was formed to lead this effort. Librarians participate as members of the Distance Learning Faculty Advisory Committee. We are currently engaged in *Quality Matters* (www.QualityMatters.org) training and certification to comprehensively assess DL courses.

DL Services currently available:

- *Barcode* – Library barcode may be requested through an online form that is linked from the Library's homepage (<https://www.pcc.edu/library/forms/barcode.htm>).
- *Catalog* – Access to online catalog and Summit (union catalog of 30+ academic libraries in Oregon and Washington), with ability to request books delivered to any campus
- *Databases and E-books* – Access to subscription databases, including many full-text articles and some e-books
- *Link resolver technology* – The Library has invested in WebBridge, a link resolver that will facilitate item-level deep linking, with the potential to seamlessly redirect a user from abstracts in one database to the full text in another and connect related resources for ease of use by students and faculty
- *Reference* – E-mail reference through an online form linked from the Library's homepage, with 24-48 hour turnaround; Phone reference during library hours with ability to leave a message that is answered

within 24-48 hours; 24/7 virtual (chat) reference, though a bit “clunky” and not suited for complex questions

- *Interlibrary Loan* – Online interlibrary loan requests
- *Tutorials* – Tutorials including TILT, several Library-developed Camtasia files that are embedded into various class pathfinders.
- *Pathfinders* -- Pathfinders for many classes
- *Citations* – the Library has web pages indicating how to create citations in a variety of formats
- *Streamed videos* – the Library just launched a pilot project where we streamed 59 titles, including chunking them so a student or instructor could watch the entire program or just those sections relevant to their work. The intent is to build into our collection more streamed videos into the future.
- Both the Library homepage and TILT are linked from the PCC WebCT footer

Where are the gaps?

- *Marketing* – many students and instructors are unaware of the resources currently available through the Library
- *Instruction* – while tutorials provide a good introduction to individual resources, they don’t help a student with his/her own search, they don’t recognize and correct mistakes, they don’t answer questions, etc.
- *Browsing* – it’s not easy for off-campus students to look through a collection and get a feel for the work being done in their fields
- *Content* – our class pages (pathfinders) don't provide sufficient breadth / depth of content to ensure equivalent service. Also, they are not prominent or noticeable on the Library’s web page. As such, access is not maximized, either from the Library’s webpage or by being embedded directly into instructors’ WebCT course pages.

Addressing the gaps

- *Marketing to faculty* – In conjunction with PCC’s Distance Learning program, the Library needs to develop a discrete, recognizable Library DL program that systematically harnesses the services and resources we already have! PCC Library is increasingly investing in full text and reference databases, e-books, and streamed video. However, there is not an official program in place to capture and sell to faculty. As such, we are underutilizing what we already have. The Library needs to “package” its resources into a sellable program and then market that program in formal and informal ways, which may include:
 - Catching faculty at meetings, and offering a special reception / library session
 - Making sure faculty members are issued barcodes
 - Trying to get an e-mail list to offer a library tips newsletter monthly or bi-monthly
 - Sending flyers and brochures via campus mail
 - Offering to build WebCT modules or stand-alone instruction modules adaptable by librarians or faculty for course needs
 - Ask faculty members to include a library assignment if appropriate
 - Develop one-stop resource instructors can link into online classes
- *Marketing to students* – Likewise, the PCC Library needs to market to DL students where they are, present a cohesive set of DL services and resources, and embed resources where they will be most convenient for the DL student. Ideas include:
 - Addressing DL students where they are, but “Where” are the students? -- WebCT, MyPCC, etc.
 - Auditing DL classes (a PCC Librarian did this) and introduce resources as opportunities arise. This is labor-intensive, but may reveal insights that could be implemented across all DL courses in a more systematic way
 - Developing course modules instructors can easily adopt to introduce resources

- *Instruction* – This is a big issue. For traditional courses Librarians teach library instruction upon instructor request. This usually involves a one time 50 to 90 minute class where the catalog, databases, and other resources are reviewed. Librarians will also address how to generate a topic, the research process, and how to create citations within a particular format. Content is often customized for the particular class (e.g., biology, business, writing). Increasingly, the Library is moving toward an information literacy model where, through close collaboration with the instruction, information literacy components are embedded more systematically into course content, and library instruction will take place several times across an academic quarter. In many ways, this shift from discrete bibliographic instruction sessions to a comprehensive information literacy approach better serves DL where library resources need to be embedded in such a way to promote seamless access at the point of need. Instruction may take the form of more comprehensive Camtasia tutorials, virtual auditing of DL classes by a librarian to address questions as they arise, and eventually web-cast instruction for DL students. We do have the ability for telecast instruction, but for pure DL courses, we might need to consider web-casting in the future.
- *Content* – while the PCC Library offers helpful content online, much of it has been developed and mounted to the website within the context of traditional courses. As such, a review of all of our services and resources with a DL lens is needed. We need to un-embed much of our E-resources to make access as seamless as possible for DL students, both from the Library's webpage and from WebCT and MyPCC course pages.

Management Issues

Review the 14 management guidelines listed below. Identify which of them would benefit from an institution-wide task force and/or from a survey. Next to each selected guideline, list the positions or departments at your institutions that could provide input, support, and/or influence for that guideline. For those that you have identified for a survey, briefly note one or more questions that you might ask in a survey.

1. assess and articulate, on an ongoing basis, both the electronic and traditional library resource needs of the distance learning community, the services provided them, including instruction, and the facilities utilized;

Who will provide input, support, and/or influence?

The Distance Learning Faculty Advisory Committee and Subject Area Curriculum Committees for each academic department are the best places to reach faculty engaged in teaching DL courses and addressing the general curriculum needs of each department.

Sample survey questions?

PCC already has an institution-wide taskforce, the DLFAC, in which librarians also actively participate.

2. prepare a written profile of the distance learning community's information and skills needs;

Who will provide input, support, and/or influence?

PCC is in the process of establishing a policy on prerequisites. We anticipate that the results of a faculty survey on essential skills will provide a framework for information literacy standards and prerequisites; instead of doing another survey, we will use those results to align IL instruction for distance learning with new standards for all courses.

Sample survey questions? NA – part of previous survey on IL needs

3. develop a written statement of immediate and long-range goals and objectives for distance learning, which addresses the needs and outlines the methods by which progress can be measured;

Who will provide input, support, and/or influence?

Library Subject Area Committee (i.e., library faculty meeting as instructional faculty), Distance Learning administration and faculty, and DL Faculty Advisory Committee

Sample survey questions?

a)

4. promote the incorporation of the distance learning mission statement, goals, and objectives into those of the library and of the originating institution as a whole;

Who will provide input, support, and/or influence?

It's already there.

Sample survey questions? NA

5. involve distance learning community representatives, including administrators, faculty, and students, in the formation of the objectives and the regular evaluation of their achievement;

Who will provide input, support, and/or influence?

Again, this is being accomplished by the Distance Learning Faculty Advisory Committee.

Sample survey questions?

6. assess the existing library support for distance learning, its availability, appropriateness, and effectiveness, using qualitative, quantitative, and outcomes measurement devices, as well as the written profile of needs.

Who will provide input, support, and/or influence?

Library Subject Area Curriculum Committee (SAC), the Library Program Review Committee that was formed to review our instructional and other services as part of our new SAC status, and the Library DL Committee.

Sample survey questions?

A) what services do we provide to DL vs. traditional students/faculty; B) what resources do we provide to DL vs. traditional students/faculty; C) does our web site serve equally well traditional and DL students/faculty.

7. prepare and/or revise collection development and acquisitions policies to reflect the profile of needs;

Who will provide input, support, and/or influence?

Again, the Library Subject Area Curriculum Committee, composed of reference and instruction librarians each of whom serve as subject specialist and liaison to PCC's academic departments. In addition, the manager of technical services as well as the coordinator of e-reserves are important people to have in this discussion.

Sample survey questions?

A) What proportion of currently collected items serve traditional, DL, and/or both types of students?
B) Will a shift toward electronic resources (e-books, streamed videos, full text article databases, reference databases) serve DL and traditional students better, worse, or the same? C) what is the cost impact of shifting away from print and toward digital resources?

8. participate with administrators, library subject specialists, and teaching faculty in the curriculum development process and in course planning for distance learning to ensure that appropriate library resources and services are available;

Who will provide input, support, and/or influence?

As noted in the questions above, the Library SAC, Library SAC Program Review Committee, and DL Faculty Advisory Committee are all important forums for address these issues.

Sample survey questions?

9. promote library support services to the distance learning community;

Who will provide input, support, and/or influence?

Sample survey questions?

10. survey regularly distance learning library users to monitor and assess both the appropriateness of their use of services and resources and the degree to which needs are being met and skills acquired;

Who will provide input, support, and/or influence?

Sample survey questions?

11. initiate dialog leading to cooperative agreements and possible resource sharing and/or compensation for unaffiliated libraries;

Not applicable – we have cooperative agreements with an exceptionally wide range of libraries via the Orbis-Cascade Alliance (academic, union catalog and ILL), PORTALS (regional, ILL and professional development activities) and L-Net (statewide virtual reference cooperative).

Who will provide input, support, and/or influence?

Sample survey questions?

12. develop methodologies for the provision of library materials and services from the library and/or from branch campus libraries or learning centers to the distance learning community;

Who will provide input, support, and/or influence?

Sample survey questions?

13. develop partnerships with computing services departments to provide the necessary automation support for the distance learning community; and

Who will provide input, support, and/or influence?

PCC's Curriculum Support Office and the Library's Technology Services department are terrific resources to draw upon in conjunction to the DLFAC.

Sample survey questions?

14. pursue, implement, and maintain all the preceding in the provision of a facilitating environment in support of teaching and learning, and in the acquisition of lifelong learning skills.

Who will provide input, support, and/or influence?

Sample survey questions?

Personnel

Write a brief description of your library's personnel situation as regards distance education and changes you may want to make in the future.

The PCC Library has six full time and three part time librarians serving faculty and students at the Colleges three main campuses, two major instructional centers, two workforce development centers, and several other sites sprinkled across the community. Primary job responsibilities include information literacy and bibliographic instruction, reference in a variety of formats (in person, phone, email, virtual), collection development, and liaison to academic departments for which you are a subject specialist. Secondary responsibilities include college wide service through participation on campus committees, etc.

PCC librarians currently participate in activities that serve Distance Learning students. These include: online pathfinders for departments and particular courses; Camtasia tutorials embedded within pathfinders and other Library web pages; phone, email, and virtual reference services; a growing number of full text databases, e-books, and streamed video; and participation in the college-wide Distance Learning Advisory Committee and Taskforce on the Rising Costs Text Books to educate the faculty about library resources pertinent to distance learning while raising the Library's profile within the PCC Community.

PCC Library also employs several paraprofessional staff who can support services for Distance Learning students. There is a Reserve Coordinator on each main campus, one of which also acts as the coordinator for the Library's E-Reserves. The E-Reserves Coordinator has indicated a capacity to increase the number of E-Reserves and E-Coursepacks, both as a way to serve DL students and offer an alternative to expensive text books.

The Library can also draw upon the services of staff outside the Library in support of DL services. There is a Presentation Support Specialist housed on the Rock Creek Campus who is part of the Curriculum Support Office. He supports the development of Camtasia tutorials and other technologies. PCC has formed a campus-wide Distance Learning Advisory Committee with whom the Library participates.

Across PCC there is commitment to providing equivalent services to PCC's growing and robust DL program. There is tremendous capability and resources already in place that have only been partially tapped. Within the context of the Library's current staffing levels, we have the capacity to develop a more directed set of DL services that captures our latent capacity, and to do this in collaboration with the DLAC, Curriculum Support Office, and others. The next step would be to pilot test our program in a few high priority DL courses (noted above). From there, a fuller program could be implemented across more DL courses. The impact on Library staff, however, must be considered as we do not have the capacity with current staffing levels to absorb a significant increase in a new programmatic area. The following is recommended:

- **Phase I Develop (2005/06 academic year):** Develop a directed DL Library services program using current Library staffing resources;
- **Phase II Pilot (summer-fall 2006, 2006/07):** Pilot the program across a few key DL courses with PCC funding for course development that would buy out staff time to dedicate to the pilot. Apply by May 17, 2006 for summer 2006 project. Assess outcomes and use them for education, outreach and advocacy to further raise the Library's profile as critical and center to student success across traditional and DL courses.
- **Phase III Rollout (winter 2007):** As we demonstrate the value of our DL through the pilot, the Library must leverage its status for on-going funding to support the DL program, perhaps tapping into the Technology Fees paid by students or other sources of PCC operating costs.

Facilities

Describe the current level of Internet connectivity at your institution. How does this support or not support the delivery of library services and resources to your distance education students and faculty?

PCC Library has full Internet connectivity, our main campus Libraries have wireless access, we have a dedicated student help desk to answer connectivity and WebCT related issues, and we have the capability to integrate Library services and resources directly into WebCT and other platform course pages. Our technological infrastructure and staff support are in place to support our DL program, which has been growing for years.

Do you expect your students to use their own equipment from home or office? If you have an office or research center at your remote sites, will you provide equipment (e.g. a computer lab) for distance students to use? What additional equipment needs to you have?

The majority of our distance learning students are taking WebCT classes; it is not unreasonable to expect them to have adequate Internet access for library purposes. Students in telecourses frequently view lessons in campus libraries. There have been steps taken to develop some level of library service at our satellite locations; for example, we are developing a functional library at our Southeast Center, including the provision of instruction at that location.

As our DL program grows, we may need to consider providing remote access to equipment, either directly through PCC facilities or by contracting with other organizations to use their facilities (e.g., community colleges or libraries in other regions of the state). At this stage of development in PCC's DL program, including the development of a dedicated Library component, we are not at the point where this is a priority. Access via connectivity is adequate.

Finances

Identify funds in your current budget that could effectively be reallocated. Indicate what needs to be done to accomplish this. This might include obtaining administrative approval, cancellation notifications to users or vendors, bids for online services if required by your institution, etc. Note: Even if your institution does not require bids, they often lead to more competitive pricing.

Phase I Development: Current Resources. Re-allocation of funds is not necessary during Phase I Development. As noted above, we have several services and resources within the Library that have only begun to be exploited. We currently buy materials that support off-campus use, and have lines of communication (phone, e-mail, VR) available to support distance learning.

Phase II Pilot: PCC Internal Project Funds. We can and should seek funding to support Phase II Pilot Project. This would include:

- support for the development of information literacy components for DL,
- integrating our existing resources into WebCT courseware via large-scale WebCT modules,
- the development of a DL webpage from the Library website, etc.

Funding could come from various PCC sources, including internal grants for curriculum and program development, support from the DLAC and/or Curriculum Support Office, and other sources.

Phase III Rollout: Sustainable funding for added resources. Long-term sustainable funding from PCC as part of the Library's annual operating budget will be required to support a full DL Library program. Potential sources include the Technology Fee and Distance Learning Fee revenue streams paid by students as part of their tuition to support the integration of technology for instruction. The Library must leverage the recognition gained through the pilot project regarding our critical role in student success to advocate for sustained sources of funding to support DL Library services.

Reference Services

Write a brief statement outlining your plans for various types of reference service for distance learners. Will you create a knowledge base of regularly asked questions and how will you incorporate the interpersonal and human element into this service?

The PCC Library currently offers reference services via e-mail, telephone, and shared virtual reference (L-Net, www.oregonlibraries.net). All of these services are advertised on the library web site; we plan to integrate them more fully into the campus by embedding links and information directly into WebCT course pages, etc. L-Net currently includes K-12 and college libraries throughout the state of Oregon. At some point in the future, we may consider developing a subset of L-Net that serves community colleges or academic libraries to better focus our virtual services.

Bibliographic Instruction

Briefly describe the steps that could be taken to integrate information literacy into reference and bibliographic instruction offered at your library.

Last year the Library successfully became its own Subject Area Curriculum committee (SAC), a status traditionally reserved for academic departments. The application process required the development of a Course Content and Outcomes Guide that largely reflects the ACRL Information Literacy competencies. This historic step will allow the Library to raise its visibility across the campus as its own academic department with subject expertise. For instruction librarians, the SAC becomes an official forum from which we can strategize on the challenges we face and develop innovative responses for traditional and distance learning services. Reaching SAC status represents a significant step towards moving our program from isolated bibliographic instruction sessions to a more embedded program of information literacy that substantively integrates library and research skills into the curriculum of academic departments, an approach that will better serve DL and the technologies available for embedding links to relevant resources. Empowered with this new standing, reference and instruction librarians are actively collaborating with teaching faculty to move in the progressive direction of an information literacy program and seeking ways to assess our impact on student success and retention both in traditional and DL classes.

The Library also recently formed a program review committee to review our instructional and other services as part of our new SAC status. This committee would be important to include.

Access Services

Describe your biggest challenges as regards access services for distance learners and what you hope to do about them in the future. These could include areas such as equipment, ability to supply what is needed, time constraints, the technology itself, copyright issues, cross-training, impact on collection development,

faculty and student expectations, limits on service, review of policies and procedures, and where the responsibility lies.

As noted in other sections of this report, PCC and the Library have invested in many relevant resources that will serve DL students well. Our biggest challenge is to develop a dedicated DL Library program and market that program aggressively to faculty and students. We have tremendous latent potential based on the technology and resources we have in place right now. There is awareness and interest at the college level, as well. An important outcome of this course is the development of a three phase approach: development, pilot, and rollout. The first two phases are based on the level of resources we have right now that are currently under-utilized from a DL perspective.

Electronic Reserves

Describe the level of interest on your campus in electronic reserves and how you plan to approach this service.

There is growing interest in electronic reserves on PCC's campus. In fall 2005 a librarian had the chance to work with a political science instructor to develop an e-coursepack composed of full text articles that the library already had access to. This saved students time and money. In fact, PCC has formed a taskforce to address the rising cost of textbooks. Recommendations include library e-reserves and e-coursepacks as alternatives to expensive text books. The Library has a dedicated e-reserves coordinator who has confirmed the Library reserve staff has the capacity to absorb more requests. As noted in the marketing section of this report, we need to educate faculty about this option and make it accessible, perhaps through an online request form prominently linked for the Library's website.

Electronic Journals

Describe the approach you are taking to ejournals at your library as regards any of the issues raised in course.

With the leadership of our manager of technical services, the PCC Library is taking a pro-active approach to evaluate the cost/benefit and value-added of print vs. electronic journals. The Library has formed an ad hoc committee to review the reference collection to determine if many of our print sources can be replaced with electronic versions and what this means for cost and user access. Subject liaisons are working with their academic departments to determine from the faculty which print subscriptions may be cancelled if full text is available. The thrust is toward e-journals through thoughtful analysis of cost and curriculum needs. This is a direction that will best serve DL students.

Electronic Books

Briefly describe the role electronic books currently play or will play in the future at your library.

Similar to e-journals, the Library is increasingly adding e-journals. However, there is a significant amount of education that needs to take place. Not all students and faculty recognize that these resources are equivalent to print books. Students and faculty also may need instruction in how to fluently navigate e-books. An additional concern is the ability for someone to read an entire book online, and if it will encourage excessive printing. In cases where a student may need an entire book, we can also direct them to our union catalog, Summit, where a print version is often available that can be requested and received within working days.

Databases

Make a wish list of databases you may consider adding.

[UNESCO EOLSS - Encyclopedia of Life Support Systems](#)

Databases address history, especially with full text.

Audience Issues

Write a brief description of the computer capabilities of your primary audience.

Our students vary. We expect students to be able to use a web browser (modified as needed for ADA issues), e-mail, and fill out web forms including user-id and password combinations. Many essential campus services are accessed via a web portal (my.pcc.edu), so the expectation is generally met. Faculty members are expected to be able to do all of the above, as well.

Administrative Issues

Write a one-paragraph summary explaining the administrative setup of your library website.

Design Issues

Write a paragraph describing how your website's design facilitates use by your primary audience and any changes you may want to make in the future.

Our website was designed primarily with a traditional audience in mind. There are several resources available online with links from the Library's homepage or other web pages. However, there is general agreement that room for improvement exists. An ad hoc committee has been formed to review the Library's webpage, which will include a strong lens toward DL students and faculty. Many of our resources need to be made more transparent. We are considering creating a separate DL Library page that would link from the homepage that would aggregate in a meaningful way all resources and services for DL students and faculty. Our pathfinders have been developed in a rather ad hoc way to this point. We must consider a more comprehensive approach to provide the depth and breadth of information that will provide the equivalent services we need.

Content Issues

Write a paragraph describing how content for your distant students is provided on your website and any changes you may want to make in the future.

Our "Off-Campus Services" page is linked from the library's home page. It includes information on obtaining a barcode by e-mail, locating books and articles, and finding tutorial and help. It also includes contact information. However, we hope this information will be revised as part of our web review committee described above.

Course Wrap-Up

Write a brief paragraph outlining what you think your next steps will be in developing your distance education support program.

We plan to meet with DL administrators to discuss the future of library services to DL. With their ideas and recommendations, we will develop several samples of services the library can provide via WebCT, and present these to the Distance Learning Faculty Advisory Committee. We will recruit DL faculty to pilot new library services in several courses, assess the costs and benefits of each pilot, and recommend services to be offered in the future.

As we demonstrate the value of the Library's DL program through marketing, outreach and instruction, we anticipate support for further growth – for training, for instructional design, and for increased personnel.

Standard Three: Staff

3.0 Sufficient and qualified professional and support staff should be available to implement the services for which the program is responsible.

Commentary. Table A evaluates the requirements for adequate numbers of staff on a single campus. The figures are for full-time positions at two levels, minimum and excellent, based on full-time equivalent student enrollments. The table does not include services listed in Appendix B as peripheral. If any of these extra services are assigned, additional positions will be needed. There is a direct relationship between staff, budget, and services. When staff level and funding level increase, the number of services possible will also increase; the reverse is also true. Another factor which affects staff requirements is the ratio of total enrollment to full-time equivalent students. Headcount enrollment is often 50% greater than student full-time equivalent (FTE). The higher the ratio the greater will be the need for additional staff beyond the formulas in Table A. If there is a regular summer session at the college, the positions in Table A should be based on an eleven or twelve month equivalency. If, in a multicampus or multicollege district, some services are centralized, for example, technical services and automation, personnel will be needed at a centralized site in addition to those needed in the campus libraries.

TABLE A*
Staffing Requirements for Single-Campus Services**

FTE Students	Administrators Min & Excel	Professional		Technicians		Other Staff***		Total Staff	
		Min	Excel	Min	Excel	Min	Excel	Min	Excel
under 1,000	1	2	4	2	4	2	3	7	12
1,000-2,999	1	3	5	3	6	3	6	10	18
3,000-4,999	1	5	7	5	8	4	8	15	24
5,000-6,999	1	7	9	7	12	6	11	21	33
7,000-8,999	1	8	11	9	17	7	14	25	43
9,000-10,999	1	10	15	11	20	9	17	31	53
11,000-12,999	2	14	21	13	24	11	20	40	67
13,000-14,999	2	16	24	16	28	13	24	47	78
15,000-16,999	2	18	27	19	32	16	28	55	89
17,000-19,000	2	20	30	21	36	18	32	61	100

* Does not include student assistants

** Additional Staff will be needed if enrollment is 50% greater than FTE

*** Secretaries, clerks, lab aides, etc.

For the sake of argument and because it's confusing to treat them otherwise, let's look at each campus as a single entity. FTE Fall 2005 as reported at this link:

http://www.pcc.edu/ir/reports/end_of_term/2005Fall.htm provides the following numbers:

RC = 1611

CA = 1388
SY = 3013
Collegewide = **7317.97**

Extrapolating a year's worth of data, according to the ACRL chart, Rock Creek and Cascade should, at minimum, have five librarians each. Because of Berniece Owen's success at securing Robin Shapiro's position, Rock Creek is now only two short. Cascade needs three more librarians. Sylvania, at minimum, should have ten librarians. Assuming part-time librarians, Sue Adams and Mary Frances Wise = .5, Sylvania is six and one half librarians short for the size of the population we serve.