Introduction

Western Washington University Libraries currently offers several credit courses including “Library 125: Introduction to Information Literacy” and “Library 201: Introduction to Research Strategies”, which are both two credits. Intended for freshmen, Library 125 offers an introduction to basic skills required for effective use of library resources and services, with emphasis on locating, selecting, and evaluating materials in a variety of formats. The course also includes the creation of Web pages. Library 201, on the other hand, is intended to expose sophomores and transfer students to the nature of research particularly strategies for carrying out inquiry, locating electronic and print sources, evaluating sources and authority, and selecting and incorporating material from sources into writing.

With these basic distinctions in mind, the present authors discussed their plans for team-teaching Library 201 in spring quarter 2000. They considered methods for making Library 201 distinct from Library 125, which had been recently revised, thus blurring differences between the two courses. Both courses now had similar assignments, the development of an annotated bibliography based on research logs written for each source, such as a journal article, book or Web site. The authors believed that there were still important distinctions between the courses that justified offering Library 201 as a more advanced course; they therefore decided to emphasize research strategies rather than simply basic library skills.

One of the librarians planning to teach Library 201 had recently written a sample encyclopedia entry and guidelines for entries to an encyclopedia project she was co-editing. Under these, each entry should include an introductory description of the topic, as well as its origins and historical context and should discuss recent developments and any possible future directions. Entries should identify key terms and concepts related to the topic for possible cross-listing and the bibliography should include seminal sources.

The other librarian had been extensively involved in team teaching a library research course clustered with a discipline course and a writing course. Research logs were instituted at this time to help students track the specific sources they consulted. To engage the students quickly in the ten-week quarter they were given a list of possible topics to address. The annotated bibliography assignment for the library course was evaluated in relation to the research paper assignment in the
A credit course assignment: the encyclopedia entry
Jeanne Armstrong and Margaret Fast

[... ] students were instructed to formulate their research in terms of the structure of information [...] and to identify tools most appropriate to a particular topic by answering the following three research questions prior to working with specific tools:
1) What subject or disciplines are involved?
   (e.g. sociology, education, art, etc.)
2) What kind of information is needed?
   (e.g. single fact, general or in depth)
3) What is the time frame of the materials needed?
   (e.g. contemporary with the event or retrospective) (Kohl and Wilson, 1986).

These two instructional approaches were evaluated by analyzing the bibliographies according to several criteria. It was found that bibliographic instruction taught as a cognitive process did result in a statistically significant higher quality of bibliographies (Kohl and Wilson, 1986).

The annotated bibliography assignment and critical thinking

It has been generally recognized that teaching the research process at "point of need," when students need information for an assignment such as a research paper, is effective because students immediately recognize the value of research. Thus at Western Libraries, we have emphasized instruction that is course integrated. Isbell (1995) describes a course at Arizona State that is team taught by a librarian and a faculty member in American Studies to integrate research and writing holistically. According to Isbell (1995): "the principal operating assumption and model for the organization of the [partnered] class is that research and writing exist on a continuum and that perceived distinctions between the two are artificial". As mentioned earlier, librarians at Western have often partnered with a discipline faculty member to integrate the teaching of research and writing. This instruction can be assessed through an analysis of the resulting bibliographies for assigned research papers.

At the Western Washington University Libraries, as has been described previously, the annotated bibliography was usually the major assignment in Library 201 and has often been used in library research courses clustered or linked with a discipline course. This annotated bibliography assignment can be used to teach important critical thinking skills such as evaluation of the source, critical reading and analysis of the information. Engeldinger (1988) proposes that the annotated bibliography and class discussion of students' annotations may even be more effective in teaching critical thinking than a research paper assignment. After some discussion on the importance of
providing context for this annotated bibliography since students in Library 201, unlike those in linked courses, had not been required to synthesize this information into a research paper, the librarians decided to combine the bibliography with an encyclopedia entry. Redesigning the assignment would, moreover, differentiate Library 201 from the Library 125 course, which now had an annotated bibliography as the major assignment.

Alternatives to the annotated bibliography assignment

Having the students write an encyclopedia entry would require them actually to apply the information from the sources in their bibliography and also to exercise reading and writing skills more intensively. Craver (1989) notes that writing improves reading comprehension. She cites R.G. Stauffer in her article entitled “Critical thinking: implications for research”; “most empirical research suggests that critical thinking is related to reading, writing, group interaction and speaking. Reading, for example, is considered to be one of the optimum means for training the mind to think critically” (Craver, 1989).

Gibson (1989) in his article, “Alternatives to the term paper: an aid to critical thinking,” urges librarians and instructors to think about using alternative assignments rather than assigning term papers that often result in formulaic products that do not really encourage the development of critical thinking. Gibson (1989) cites Robert Ennis of the Illinois Critical Thinking Project, who created a list of 12 critical thinking abilities: “Some of the most important ones for library instruction are: focusing on an issue or question; analyzing arguments; using questions of clarification; determining the credibility of a source; making judgments of value; defining unclear terms; and locating and examining assumptions”. Gibson suggests that Ennis’s critical thinking goals can inform the design of alternative library research assignments that facilitate the development of critical thinking.

One such assignment is to have the student prepare a pathfinder or “mini guide-to-the-literature,” which should contain:

• A brief discussion of the background, importance and relevance of the topic, with all potentially confusing terms defined.
• A discussion and evaluation of reference books … containing articles or entries specifically appropriate for the topic.
• A division of the topic into its most important subtopics, with a brief discussion of each subtopic followed by an annotated listing of books, magazine and journal articles, and newspaper articles discussing the subtopic. Each subtopic, with its bibliography, should comprise a major section or “chapter.”
• A brief discussion and evaluation of the usefulness of various indexes, abstracts, and other bibliographies and guides to the literature for this topic.
• A brief section discussing the most important audiovisual materials, if any are available, for this topic.
• A brief discussion of computerized databases useful for this topic.
• A conclusion analyzing research trends for this topic and other closely related topics (Gibson, 1989).

As Gibson (1989) states, “This assignment requires careful focusing on an issue or problem, clear definitions of terminology, analysis of the topic into subtopics, selection and evaluation of sources, and synthesis and integration of all the information into a coherent whole”. Although different from our encyclopedia entry assignment, this type of assignment resembles ours in the expectation that students will need to synthesize the information from various sources into a coherent whole. There are also some similarities in our requirement that the student identify and use a variety of resources from reference books to databases.

Design of the encyclopedia assignment

The authors of this article hoped that the encyclopedia assignment would redesign the Library 201 so that it includes the learning outcomes that target upper division students. “Western Washington University Libraries information literacy learning outcomes” (Western Washington University Libraries, 1999) outlines the expectations for all students attending Western Washington University.

“Western Libraries information literacy learning outcomes” (Western Washington University Libraries, 1999) for lower division students include the ability to:

• organize information from a variety of sources for practical application (e.g. term paper, oral presentation);
• summarize the information in the student’s own words;
• prepare a bibliography and notes; and
• determine the extent to which the research met the defined information need.
The objectives for upper division students target the following abilities:

- demonstrate a variety of search techniques; and
- synthesize information from a variety of sources.

Since Library 201 is an advanced library course that emphasizes research strategies, we thought it appropriate that this course have outcomes that integrate some lower and some upper division outcomes, especially those covering the social aspect of information, the organization of information, and the research process. The authors chose to focus on the research process to move the students beyond the lower division expectation. Students were expected to review sources based on specific evaluation criteria and to be able to differentiate between fact, opinion, propaganda, point of view and bias. They were also expected to explain differing points of view in the discourse community and revise both their search strategies and the encyclopedia entry. The capstone of the course was that students be able to synthesize information that they gathered from a variety of sources.

The assigned text for the course was Woodward’s (1999) *Investigating Resources in Cyberspace*. Several chapters were selected for student reading, these included: “Selecting a topic”; “Using the Online Public Access Catalog”; “Taking a quick library tour”; “Reading critically”; “Documenting your sources”; “Planning a research strategy”; “Plagiarism”; “Exploring periodical indexes”; “Biographical courses”; “Bibliographies”; “Exploring the Internet”; “Investigating government documents”; and “Locating government information”. Class sessions included instruction on the online catalog, subject encyclopedias, other reference resources, print and online periodical indexes, full text databases, government information, primary sources and statistical sources. At one class, a panel of scholars across the disciplines (Geology, Anthropology, and Modern and Classical Languages) discussed their research. For another class we visited the Center for Pacific Northwest Studies and the State Archives near Western’s campus to expose students to archives and manuscript repositories containing original source materials.

The syllabus explained that students could use a topic that they needed to research for another class or select from an array of topics related to “globalization” including social activism, human rights, business/economic development, women, and environment. One of the librarians, who had been involved in collection development on the World Trade Organization (WTO) and globalization issues, created a link to some full-text Proquest articles on various aspects of globalization that might assist students in choosing a topic.

Students were required to write 15 research logs on the various resources presented in class. These logs described articles, books or other resources on their topic and assisted the student in creating the 500-word encyclopedia entry with an annotated bibliography. The research log was comprised of two sections: the first section included search information such as the resource used to find the source, for example online catalog or periodical database, search terms/keywords, limits used, results of the search and the citation in *APA Style*. The second section included evaluation of the relevant resource with discussion on the authority, publisher, currency, purpose/scope, research methods used by the author, the audience for whom the piece was intended, special features, and statement of relevance to topic. The students received log forms to use for writing their research logs.

The students were expected to create encyclopedia entries that addressed certain guidelines. A worksheet with the following guidelines for the encyclopedia entry was distributed to provide the students with a template for drafting their entries:

- definition of the topic;
- historical background;
- key concepts;
- major authors or contributors;
- seminal resources on the topic; and
- current issues about the topic.

In addition to the written final project, students were required to give an oral presentation explaining why they chose the topic, how they conducted their research, and what they learned about the topic or about the research process.

**Conclusions: course outcomes, evaluation, and the future**

Overall the students did fine work. Most of them wrote quality encyclopedia entries that synthesized information from their research and addressed the points in the guidelines. The student presentations were also successful, and stimulating discussion ensued. Students were a supportive audience for one another, asking questions or giving suggestions. They often shared personal reasons for their choice of topic, such as one young woman who chose to research bi-polar disorder, because she has this condition.
One student focused on the cure for affluence through “voluntary simplicity.” Her investigation of this topic vastly influenced her view on consumerism. Another student was concerned about human rights in China and wished to pursue the 1989 events at Tiananmen Square.

As an example of the process and products created by the students, we will describe in detail two successful final assignments. Typically students chose topics that had some relevance to them. One student, whose home is in Hawaii, was interested in researching coral reef conservation because of its significance for his home environment. This student wrote an entry that explained coral reefs, discussed the environmental problems concerning reefs such as cyanide fishing and discharge of industrial toxins and concluded with some information on solutions to the problems through legislation and creation of conservancy sites. This student used various sources including reference books, articles, government documents and Web sites.

Another student provided an overview of the ethical, economic, genetic, technological controversies surrounding biotechnology and agriculture. He traced the manipulation of plants and animals from its beginning to the identification of the double helix in DNA to biotechnology as a current, growing field of study. The student consulted various sources including a Canadian government publication, an article authored by a Monsanto chief executive officer, and books on DNA and the bio-revolution, to name a few.

At Western Washington University, the faculty is expected to have students evaluate classes. The authors of this course received a high rating. In the comment sheets, students stated that they found the various and intensive research strategies challenging and helpful in expanding their research abilities. Several wrote that the class should be recommended to all Western students, particularly incoming freshmen. Two students believed that it was more work than most two-credit courses; one student appreciated being able to use the research for this class in conjunction with a discipline class.

Following on these authors’ initiatives, two library colleagues at Western Washington University have since adopted the encyclopedia entry assignment. The librarian who taught Library 201 the following spring quarter used a revised version of the encyclopedia entry with his class, conferring with us about his intention to use a more structured version of the assignment by requiring students to research specific topics for their entries. The librarian who teaches Library 225, Internet Literacy, decided to use a version of the encyclopedia assignment in his class offered during the spring quarter of 2003. This course is geared to sophomores and teaches the role of the Internet in scholarly research by identifying appropriate resources and evaluating Internet resources. Students in this course were expected to create Web site encyclopedia entries for an online encyclopedia of Iraq.

Our objectives for this course recognized the importance of having the students engage reading, writing and speaking skills that would allow them to synthesize the information and acquire a deeper understanding of the research process as described in the aforementioned literature on critical thinking and library research. The students’ growth in their research ability and intellectual comprehension of the information, combined with the quality of their encyclopedia entries and student satisfaction with the course serve as confirmation that critical thinking can be successfully integrated into library credit course instruction.

References


Woodward, J. (1999), Investigating Resources in Cyberspace, NTC/Contemporary Publishing Group, Lincoln, IL.