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Collaborative Information Literacy Project:

Business Information Systems CIS 03 Term Project

Kristin Yiotis

Design and Implementation of Instructional Strategies for Information Professionals

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Abstract

The researcher collaborated with an instructor of Business Information Systems, an introductory course in the Computer Information Systems (CIS) Department at De Anza College, in an effort to bring information literacy instruction to the CIS Term Project, the class' final assignment.

This paper presents the outcome of that collaboration. The researcher advocates for faculty-librarian collaboration as meeting a current need to introduce information literacy skills across the post-secondary education curriculum. She discovered that information seeking and evaluation skills add value to information-based assignments.

Collaborative Information Literacy Project:

Business Information Systems (CIS 03) Term Project

Zhang, an advocate of team teaching, declares, “the new academic library in the information age will be a teaching library” (2001, p. 141). Current research supports the argument that “teaching has become an essential responsibility for librarians” (Zhang, p. 144). Clyde found “a range of instructional tasks related to information literacy...in [librarian] job advertisements” (2005, p. 430). Roldan and Wu discovered that “the interweaving of course content and library instruction was an effective means of improving students’ information literacy” (2004, p. 326).

Cardina and Wicks discuss “the shift in emphasis in BI [bibliographic instruction] from the teaching of tools to the teaching of critical thinking techniques” (2004, p. 134). Zhang argues for “bibliographic instruction [as being] a primary means for librarians to develop close relationships with classroom teachers” (2001, p. 145). Hollister promotes “integrated information literacy programs as involv[ing] . . . collaboration between teaching faculty and instructional librarians” (2005, p. 104). Macklin advances “integrated instruction [that] requires faculty to work with librarians . . . in designing and creating learning tools and activities...” (2003, p. 495).

Meulemans and Brown claim that graduate students “need to have training and experience [in teaching information literacy competencies] during their graduate program” (2001, p. 253). To meet that need this researcher became involved in an experimental Collaborative Information Literacy Project (CILP) with a Computer Information Systems (CIS) instructor at De Anza College, Cupertino, CA. The purpose of this collaboration is to incorporate information literacy skills into the existing Business Information Systems CIS 03 Term Project.

CIS 03:01 Business Information Systems is a 5-credit, combined lecture-laboratory class

that meets for one hour, Monday through Friday. The Monday, Wednesday, and Friday classes are lecture, while Tuesday and Thursday classes meet in the computer laboratory. CIS 03 is an entry level, required class for students in Computer Information Systems programs. Students are usually freshman with some older returnee students. De Anza College has a high number of international and ESL students particularly in CIS programs. The majority of students in this class have a native language other than English. For these students writing and researching in English is a major challenge. These students also need support in understanding the academic conventions surrounding research such as citing resources.

CIS 03 course description as it appears in the De Anza College catalog is as follows:

“Introduction to management information systems, systems design and development, data communications, data management, office automation, computer hardware and software concepts. Use of common software packages for business applications including word processing, spreadsheets, database, and Internet web tools. Prerequisites: Advisory: English Writing 100B and Reading 100 (or Language Arts 100), or English as a Second Language 24 and 72 (or English as a Second Language 4)” (Enhanced Searchable Course Catalog, 2006).

The textbook for CIS 03.01 section is *Computer Confluence Exploring Tomorrow's Technology*, Seventh Edition by George Beekman, Pearson Education. ISBN 0-13-152531-X.

Supplementary materials are available on the De Anza Web server at:

<ftp://puma.atc.fhda.edu/distribute/pape>

CIS 03 Term Project is designed to give students the opportunity to demonstrate the technical and critical thinking skills they have learned during the quarter. Students are expected to spend about 50 hours per student completing this project in teams of two or three. The goal of the project is to help students understand the use of data processing and communications in

business by completing a study of a data processing and communications application, acquisition, or issue. The project will also enable students to demonstrate their ability to use word processing, spreadsheet, database, presentation, and Web design software programs. Students achieve these goals by researching information sources, sharing findings with team members, writing a business report, preparing an oral presentation, and preparing a printed report. The Term Project is due at the end of the quarter and represents 100 points or 15% of the final grade.

The Term Project is grounded in the constructivist theory of learning where successful learning occurs when instruction is connected to real life experience and when students learn by doing. Macklin (2003) suggests learning environment that engage the learner in knowledge construction through problem-solving activities” (p. 497). ” This approach to learning puts students in situations where they must test and refine their thinking...through activities that are meaningful” such as those involving real life issues (Macklin, p. 496). Therefore, “education is focused on the individual becoming a self-directed problem solver” where learning involves forming, testing, and revising mental models (Danley, Forde, Lahmon, & Maddox, 1999, p. 122-3).

Information Literacy Standards

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

- Performance Indicator: The information literate student identifies a variety of types and formats of potential sources for information.
 - Measurable outcome: Student cites from 5 types of information sources: multimedia, databases, Web sites, microfilm, paper journal/magazines, newspapers, audio/visuals,

books. The student locates resource in the library using databases and online catalog.

Standard Two: The information literate student accesses needed information effectively and efficiently.

- Performance Indicator: The information literate student retrieves information online or in person using a variety of methods.
 - Measurable outcome: Student uses more than one source for gathering information including surveys, letters, interviews, email, and other forms of inquiry to retrieve primary information. The student differentiates between primary and secondary sources.

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 Indicator: The information literate student articulates and applies initial criteria for evaluating both the information and its sources.
 - Measurable outcome: Student compares information from various sources in order to evaluate reliability, validity, accuracy, authority, timeliness, and point of view or bias demonstrated by quality of references. The student evaluates Web resources according to a set of standards. The student can differentiate between popular magazines and scholarly journals.

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

- Performance Indicator: The information literate student applies new and prior information to the planning and creation of a particular product or performance.
 - Measurable outcome: Student demonstrates ability to manipulate digital text, images,

and data, as needed, transferring them from their original locations and formats to a new context.

- Performance Indicator: The information literate student communicates the product or performance effectively to others.
 - Measurable outcome: For the class presentation, student chooses a communication medium and format that best supports the purposes of the product and the intended audience.

(American Library Association, 2005).

Learning Objectives

At the completion of the Term Project, students will have successfully demonstrated:

- Understanding the use of data processing and communications in business.
- Research skills involving locating appropriate sources on a topic using library resources, databases, and World Wide Web (WWW).
- Technical skills involving using a word processor and either a spreadsheet or a database in preparing the report, presentation or Web design software in preparing an oral presentation.
- Writing skills at an appropriate level involving preparing a business report that includes citations and references using MLA style guide.
- Oral presentation and teamwork skills involving presenting the project to the class with all team members participating.

Evaluation Strategies

Webster and Rielly (2003) affirm, “measuring the effectiveness of library instruction . . . is essential to validating the time and energy dedicated to it” (p. 16).

The long-term goal of collaborating on this project is to build into the CIS 03 Term Project the information fluency concept as defined by Zhang (2001). Information fluency is the “combination of basic computer skills, information literacy and critical thinking skills” (p. 147). CIS 03 Term Project may be ideal as a framework for introducing students to “the concept of information fluency and the process of information research and communication” (Zhang, p. 147), since the assignment already requires basic computer skills in combination with critical thinking skills pertaining to the use of data processing and communications in business.

How can this researcher measure the effectiveness of the current assignment? Gross and Kientz (1999, ¶ 9) suggest assessing the degree of authenticity of the assignment. This includes five standards: (a) higher order thinking; (b) depth of knowledge; (c) connectedness to the world beyond the classroom; (d) substantive conversation; and (e) social support for student learning (Gross & Kientz, 1999).

How does the CIS03 Term Project stand up when assessing authenticity? The three assignment options require higher order thinking; students must analyze, evaluate, and synthesize information. The aim of all assignment options is to gain depth of knowledge of a current, in use, business information system; of a potential business information system; and of a critical issue in information technologies. Each assignment option requires students to make connections to the world beyond the classroom, the first two options—studying a system in use and studying a potential system, more so than the third—researching a critical issue. The team aspect of the Term Project satisfies the substantive conversation component, in addition to communication with people in the real world. Social support for student learning is satisfied by the oral presentations requirement.

This researcher suggests other ways to assess the effectiveness of the assignment, each

requiring substantial changes to the current assignment. Zhang (2001) advises students completing annotated bibliographies of the electronic resources they've chosen half way into the research project. Requiring students to complete an annotated bibliography half way through the project would enable the librarian to scaffold students' developing information literacy skills of accessing, searching, evaluating, and using information" (Zhang, p. 146), but would necessitate spending class or lab time on this activity.

Webster and Rielly (2003) analyzed the bibliographic citations by type, format, and currency and assigned each bibliography a rating of inadequate, adequate, outstanding (p. 19). This told them what sources students used. To understand the students' research processes, Webster and Rielly created a survey that asked students to report how they found their resources—did they use the catalog, databases, the WWW; did they ask a librarian (p. 19)? The survey also asked students to report on affective factors, such as how students felt about their research--was it difficult, easy; how much time did it take? A similar post-assignment survey for the CIS 03 Term Project would provide feedback about students' research processes and the effectiveness of the instruction in addition to analyzing students' bibliographic citations and lists of references.

Nutefall (2005) offers a way to assess students' information literacy skills and instructional effectiveness: the Paper Trail assignment. Students are required to describe their research process in a separate assignment, including an analysis of what worked, what did not, and what the student would change (Nutefall, p. 93). Instructors and instructional librarians can then use these documents to qualitatively evaluate the original assignment. Did the student outcomes meet the objectives of the assignment, and if not, why not? A similar writing assignment could be incorporated into the CIS 03 Term Project.

CIS 03 Term Project STEP BY STEP

(Thanks to De Anza College professor Ira Oldham)

The Term Project involves teams limited to three students. The steps your team takes to accomplish this project are:

- I. Select project option and topic
- II. Write a project proposal and get approved
- III. Research your topic
- IV. Write your Business Report
- V. Present your Oral Presentation

I. Selecting Project Option and Topic

There are three project options:

1. *Applications project option*
2. *Technology acquisition project option*
3. *Issues research project option*

1. Applications project: Reinventing a better business information system option

1. Select a system for study

Start with a Problem

- Study the business use of data processing and communication systems.
- Choose a business environment you are familiar. Select a real need at work, or in your own business, or your family's business, a business, which you would like to have, or even a "home application" such as a hobby or sports.
- What do you want to improve? How do you propose improving it? Can you improve the data processing for a business? The current inadequacies are called the Business Opportunity. Your proposal for improvement is called the Solution.

2. Investigate Current Methods: Critical Information Point

- Go through the systems development process
- Define your requirements
- Build the application with database, spreadsheet or some other software development tool, or a combination of software tools.

3. Compare/Contrast Activity

Compare differences/similarities between possible business information systems

4. Reinvent • Retool

Consider feasibility issues, cost/benefit analysis, needs analysis, requirements definition

5. Evaluate

- Begin your report with a summary
- Print out the design
- End with a discussion of implementation and maintenance issues

- Conclusions and recommendations

Pick this option if you:

- Have an idea for a business application
- Already have some background information on a business application
- Want to do a marketing survey/needs analysis
- Have studied your competition

Possible Topics:

- Use of a Web page to buy and sell used jeans
- Use of a telephone answering system to increase sales
- Use of the Internet to reduce business travel costs
- Monitoring worker performance by measuring typing speed, time on telephone, sales amounts, break time, number of sales leads found, sales per minute, and sales dollars per dollar of sales cost.
- Prepare a sales presentation. Specify an assumed prospective customer. Try to sell them a significant product, service, or system for data processing or data communication. Why might they buy, or not buy, your offering?
- Visit and discuss a data processing installation. Interview some users and providers of the installation. What valuable insights can you provide, that can help you and your fellow students.

Critical Learning Skills

- Analyze
- Synthesize
- Reflect, transfer & apply

2. Technology acquisition project: Compare and contrast option

1. Identify purpose and items to be compared

Reason for Comparison

- Specify and shop for a data processing, communication, or business information system.
- Select an information technology that would have benefit to your business or life, such as a computer system, a communication system, a computer network, or a set of software products.
- If you have connections with a business use it. The best topics are reports on real current business activities.

2. Brainstorm and select the criteria for comparison: Critical Information Point

Form Criteria for Comparison

- Then compare and contrast different vendors and products.
- Include the Product Number, Product Name, Product Description and Price, adding totals, including taxes and shipping.

3. Use quality information sources: Critical Information Point

Gather data

- Shop around for a vendor and products and services providing the functions needed. Use vendors/stores, publications, and contacts/networks as sources of information.

- If you do not have a connection with a business, you can find a businessperson with whom you can discuss their use of data processing and communications. Make your interview with that person a part of your report.

4. Analyze the result

Make the Comparison

- In your report, discuss why you selected the technology, and then how and why you selected the vendor and the particular product, which you picked.
- Do some financial analysis of the cost/benefit of this technology, if possible.

Pick this option if you:

- Have a sales/product background
- Are interested in a particular technology
- Like next generation innovation
- Are detailed oriented and like comparing products

Possible Topics

- Computer system for use by a business student. Specify the general requirements for a business student. Allow some flexibility in the requirements. Shop for cheap software, hardware, and services to meet the requirements. Create a spreadsheet listing several alternative solutions, showing requirements as rows, solutions as columns, and an indication of the fit in the intersecting cell. Name the specific software and release, name the specific hardware manufacturer and model, name the specific service provider and service, name the retailer, and give the date for the prices. Consider used equipment. Select the system you want, and justify your selection.
- Similar system requirements can be done for other types of workers. For these workers, you should justify the costs, rather than picking a minimum cost system.
 - Car office for a salesperson.
 - Desk office for a specified type worker in a large business.
 - Home office for an entrepreneur.
 - Desk office for a commercial artist.
 - Desk office for a mechanical engineer.
- What network server software products are available? What do they cost? What are the factors that would indicate which of them to select for a business?
- Prepare a sales presentation. Specify an assumed prospective customer. Try to sell them a significant product, service, or system for data processing or data communication. Why might they buy, or not buy, your offering?

Critical Learning Skills

- Use primary sources
- Evaluate resources
- Compare differences

3. Issues research project: Build background option

1. Curriculum Topic and Objectives

Topic or Issue

- Select a critical issue in information technologies, data processing, communications on which you will conduct in depth research.

- Study the issue in terms of its history, its future direction, and causes/effects for individuals, or implications for society in general.

2. Background Building Activity: Critical Information Point

- Research the issue, not only in the library, but using other sources such as Internet and on-line services, CD-ROM, mass media, and interviews with knowledgeable people.

Explore, Skim and Scan

- Read
- View
- Listen
- Survey
- More is better

3. Connect New and Old Learning: Critical Information Point

- Connect your topic to a real life situation from your past experience. Your experience does not have to be in a business setting.
- Discuss your topic with someone who has practical experience related to your topic. Make the interview part of your report.

Pick this option if you:

- Do not have any “real life” business/technology experience
- Have an interest in a particular issue that you will research
- Found a topic from the textbook you’d like to develop
- Want to learn how to define and narrow a research topic
- Want to explore library resources

Possible Topics

- Privacy and computer security issues. Publishing, on the Internet, of credit information, including social security number, mother’s maiden name, credit history, and other information.
- Ethical issues. Limits of freedom of speech and freedom of the press in the Internet.
- Copyright issues. International trade in illegal software; open source software.
- Business issues. What is the history and future of the Internet and Internet business use?
- Educational issues. How should computer training be carried out in K-12 schools? Discuss with teachers and students involved.
- Health issues. What is ergonomics? How does it relate to a specific type of business?
- Human resources issues. What are the advantages and disadvantages of telecommuting? Report on interviews with telecommuters.
- Employment issues. What is the impact of data processing on the work force? What jobs are being created and eliminated? How does this affect your job plans?
- Computer crime. Hackers broke into several of the UNIX computers used by students at De Anza. The computers were out of service long enough that they interfered with student lab work. Consideration was given to the possibility of canceling the classes that used these machines. The classes were not canceled, but the students needed to work very hard to catch up. What is the difference between acceptable hacking, to see how things work, and destructive hacking, which disrupts processing? What kinds of damage can be produced? What should be done to prevent, punish, or recover from disruption of computer systems by hackers?
- Computer crime. Report on the work of Cliff Stoll to track KGB hacking.

- Technical issues. When are standards valuable? What are some important standards used in data processing? What things are not covered by standards? Why?
- Technical issues. Data is commonly transmitted as voice, FAX, binary data, video, or other specific type of signal. The communication systems are evolving toward being able to transmit them all as binary data. What will be the implications of the convergence of all types of data handling to a common system? Consider the specific implications for a specified company, or for your career.

Critical Learning Skills

- Locate introductory resources
- Develop questions
- Define a research topic

Source: (Loertscher, 2006)

II. Writing Your Project Proposal

- Project Proposal is due 3 weeks before the Term Project is due.
- Include Project Option and Topic
- Include names of all students in your group
- Include a Gantt chart showing tasks (see sample Gantt chart at end)
- Include 5 information sources
- Send this information to the class reflector at: <ftp://puma.atc.fhda.edu/distribute/pape>

Narrowing your research topic

A topic that covers **too much material** is a common problem for students. If you start with a broad area, concentrate on narrowing your subject. You can narrow your topic by considering a particular approach to the subject, or a sub-topic within it.

Some preliminary reading may help determine how deep your interest goes, as well as letting you know what kind of material will be available as you write your essay.

“Once you have found some background information, you can **refine your broad research topic** into a narrow, focused topic. The sooner you can develop a broad subject into a focused topic, the sooner you can shape your research into a finished paper” (Refining a topic, 2001, Introduction section).

What do you already know about this subject?

- Is there a specific **time period** you want to cover?
- Is there a **geographic region or country** on which you would like to focus?
- Is there a **particular aspect** of this topic that interests you? For example, public policy implications, historical influence, sociological aspects, psychological angles, specific groups or individuals involved in the topic, etc.

Source: *Refining a topic*. (2001). Retrieved April 7, 2006, from the Duke University Library Web site: <http://www.lib.duke.edu/libguide/refining.htm>

Topic: Computer Security

- Am I writing of one specific kind of computer security or of security issues in general?
- What kind of computer security do I wish to write about? Internet privacy? Computer hacking? Computer viruses?
- What activities, qualities, or events of that particular computer security issue do I wish to explore?

General subject: Computer Security

Narrowed topic: Publishing on the Internet

Specific topic: How to register your photographs online to get copyright.

Source: *The UVic writer's guide*. (1995, April). Retrieved April 7, 2006, from the University of Victoria's Web site: <http://web.uvic.ca/wguide/Pages/EssayNarrowTopics.html>

Analytical Skills Rubric				
What is your level?	Apprentice 0-5 pts.	Basic 6-10 pts.	Learned 11-15 pts.	Exemplary 16-20 pts.
Analytical Skills: Depth of Analysis Project shows analysis of data processing and communications problem and provides solution. Current concepts, terms, principles, and conventions are used.	The project presents a position highly dependent on superficial analysis of references. Concepts, terms, principles, and conventions are not always used correctly throughout the project.	The project presents a position supported by some analysis of relevant references. The project shows more correct use of current concepts, terms, principles, and conventions.	The project position based on deep and thorough analysis of relevant references. The project reflects correct and clear use of terms, concepts, principles, and conventions.	The project presents position based on an integration of relevant and high quality references. The project demonstrates clear, correct, precise, and concise use of terms, concepts, principles and conventions.

III. Researching Your Topic

*** N.B. You must cite your sources, so keep record of every Web site, journal, magazine, or newspaper article, book, database, or multimedia you study or make use of. See Section IV for how to create in-text and reference citations using MLA formatting for your written report.

Resources at the De Anza Library

There are 5 kinds of resources available at De Anza Library:

<http://www.deanza.fhda.edu/library/>

- Microfilm
- Print magazines, journals, and books
- Multimedia holdings of CDs, DVDs, audio cassette tapes, and VHS tapes
- Databases of electronic journals, magazines, and newspapers
- Internet resources available through the World Wide Web

De Anza College Microfilm Holdings

Microfilm is kept next to the Reference Desk area, toward the back of the building. Look for metal microfilm cabinets and reading machines. Microfilm is arranged by title, alphabetically.

De Anza College Print Holdings

Print magazines and journals are located on the first floor of the library in the North Reading Room. Look for the shelves with red boxes. They are arranged alphabetically by title. Newspapers are kept for six months. You will see them on the first shelf as you walk into the North Reading Room.

De Anza Online Catalog contains the print and multimedia resources owned by the library. You search the catalog by keyword, title, author, and subject for:

- books
- videotapes
- course reserves
- books on tape

De Anza Electronic Scholarly Journals <http://ma9dg3fc4f.search.serialssolutions.com/>

Search for a journal or magazine by title, subject area, or keyword.

These journals are the same ones that exist in the databases below, just organized by title instead of by database.

Databases of Electronic Magazines and Newspapers

<http://www.deanza.fhda.edu/library/news.html>

The journals located in these databases are not available free of charge on the World Wide Web. De Anza Library pays a hefty fee to get access to these e-journals. Therefore, they are login and password protected. You can get a list of the current login/passwords from the reference desk librarian. Bring your De Anza ID card.

You do not need a login/password if you search from computers on the De Anza campus. You search these databases by keyword. If you already know the article you need, you can search by the article's title or author.

EbscoHost Magazine Index

The EbscoHost database provides indexing and full text articles from both the popular press and peer reviewed journals. Full text articles are the exact articles as published in print editions.

- Academic Search Elite
- Military and Government Collection
- Primary Search
- Funk & Wagnall Encyclopedia
- EBSCO Animals

InfoTrac Magazine Index

The InfoTrac database provides indexing and full text articles from both the popular press and peer reviewed journals. Full text articles are the exact articles as published in print editions.

- InfoTrac Custom
- Literature Resource Center

ProQuest Newspaper Index

The ProQuest database provides indexing and full text articles from 5 major newspapers: The New York Times, Wall Street Journal, Washington Post, Los Angeles Times and the Christian Science Monitor. In addition the De Anza subscription includes some newspapers from Northern California, such as the Oakland Tribune and Sacramento Bee. Full text articles from the ProQuest Database are the exact articles as published in print editions.

- National Newspapers (5)
- California North Newsstand

What is the difference between scholarly journals and popular magazines?

The University of Texas at San Antonio Library gives 7 areas of differences, the top 3 being: Length, Authorship, and Language/Audience. Check out these difference simply explained in an easy to read table format: <http://www.lib.utsa.edu/Research/Subject/scholarlyguide.html>

Business Librarian Diana Wu at San Jose State University King Library provided this table:

Scholarly Journals vs. Popular Magazines: How can you tell the difference?

Scholarly Journal Articles	Criteria	Popular Magazine Articles
Usually a scholar or researcher with expertise in the subject area. Author's credentials and/or affiliation are given.	Author	Author's name may or may not be given; often a professional writer; may or may not have expertise in the subject area
Other scholars, researchers and students.	Audience	General public; the interested non-specialist.
Specialized terminology or jargon of the field; requires prior knowledge (or a good specialized dictionary!).	Language	Vocabulary in general usage; understandable to most readers.
Articles have a clearly defined structure with an abstract, objective, methodology, analysis, results and conclusion. May include charts or graphs.	Appearance / Organization	Informal organization: eye-catching type and formatting. Usually includes illustrations and photographs.
Always has a list of references or bibliography; sources of quotes and facts are cited and can be verified.	References / Bibliography	Rarely has a list of references; usually does not give complete information about sources of information.
<ul style="list-style-type: none"> • <i>American Economic Review</i> • <i>Journal of Accountancy</i> • <i>Harvard Business Review</i> • <i>Journal of Management Information Systems</i> • <i>Journal of the Academy of Marketing Science</i> • Census data • Working papers (white papers), standards • Company reports, etc. 	Examples	<ul style="list-style-type: none"> • <i>Business Week</i> • <i>Consumer Reports</i> • <i>Fortune</i> • <i>New York Times*</i> • <i>Psychology Today</i> • <i>Time</i> • <i>Wall Street Journal*</i> • Book/chapter reviews <p>* If articles are the result of an original investigation, it can be considered as primary source.</p>

Source: Wu, Y. D. (2005, August). *Scholarly & popular articles*. Retrieved March 20, 2006, from San Jose State University Library Web site: http://www.sjlibrary.org/services/literacy/info_comp/articles_scholarly.htm

Internet Resources on the World Wide Web for Business/Information Technology

De Anza Librarian, Pauline Yeckley, developed LCEN 51, "Business Resources on the World Wide Web" a for credit, on-line, Internet research class:

<http://lore.fhda.edu/yeckley/lcen51/assignments.html>

Subject Directories let you drill down from general categories such as Business, Computers, to more specific categories in Business or Computers to lists of Web sites.

- Librarian's Internet Index, a database of Web sites organized into subjects: <http://lii.org>
- Yahoo! Directory is another well-known subject directory: <http://dir.yahoo.com/>
- Google has a subject directory called Google Reference: <http://directory.google.com/Top/Reference/>

Other Business and Technology Resources on the Web

- Yahoo!, Finance: <http://finance.yahoo.com>
- National Public Radio: <http://www.npr.org/>. Select Business on left hand side.
- Tech News World: <http://www.technewsworld.com/>
- New York Times Business Web Guide: <http://www.nytimes.com/ref/business/business-navigator.html>
- Findlaw is the best single starting point on the Web for doing legal research: <http://www.findlaw.com/>
- Annual Reports to Fortune 500 companies: <http://www.annualreports.com/>
- Bureau of Labor Statistics, principal fact-finding agency for the Federal Government: <http://www.bls.gov/>
- Genius Find Economy & Business: http://www.geniusfind.com/Economy_and_Business.htm
- How Stuff Works explains common technologies and machines using excellent diagrams and pictures: <http://www.howstuffworks.com/>

How can you judge the quality and reliability of information you find on the Web?

Librarians have developed strategies for evaluating Web sites and the information on them. "The Good, The Bad & The Ugly or, Why It's a Good Idea to Evaluate Web Sources" from New Mexico State University Library uses 5 criteria:

- Authority--who's responsible for the site?
- Accuracy--is the information reliable and error-free?
- Objectivity--does the information show bias?
- Currency--is the information dated?
- Coverage--what is the extent of the information?

Check out these criteria and examples of The Good, The Bad, & The Ugly at this fun and informative site: <http://lib.nmsu.edu/instruction/eval.html>.

What's the difference between primary and secondary sources?

Primary source: a document or physical object in which the author reports *first hand* about an event he has experienced or witnessed. They could be **documents, creative works, relics, artifacts**: Diaries, letters, memoirs, journal articles, speeches, manuscripts, interviews, official records, poetry, drama, novels, music, art, pottery, furniture, clothing, machines, computers. Examples: Journal article reporting a NEW research finding, The Constitution of the United States, The Diary of Anne Frank, Native American pottery.

Secondary source: the author interprets, analyzes, or draws conclusions about primary sources. The author is at least one step removed from the event or phenomenon. Secondary sources may have photographs or quotes of primary sources in them. They are published works such as journal articles, books, television documentaries, and encyclopedias.

Sources: University Library. (2005, November). *How to distinguish between primary and secondary sources*. Retrieved April 7, 2006, from the UC Santa Cruz Web site: <http://library.ucsc.edu/ref/howto/primarysecondary.html>

Princeton University Library. (n.d.). *What is a primary source?* Retrieved April 7, 2006, from the Princeton University Web site: <http://www.princeton.edu/~refdesk/primary2.html>

Citing Your Sources Correctly

For Written Project Report students are required to use:

- Word processing software, spreadsheet software, database software.
- In-text citations and list of reference using MLA style guide.

Why do you need to keep track of your sources?

Citing your sources avoids plagiarism. In-text citations, also called parenthetical citations, are necessary where you quote directly from another work in the body of your paper. Not citing sources is called plagiarism and is grounds for disciplinary action at De Anza. "Students shall be subject to College discipline for any of the following misconduct that occurs at any time on campus" First on the list is "Dishonesty, such as plagiarism...." (Foothill/De Anza Standards of Conduct, 2002).

In-text citations are also necessary when you write about ideas that belong to someone else in the body of your paper. You must provide the person who had the idea in the first place and the location where you found the idea.

At the end of your paper you must include a List of References that you have cited throughout the body of your paper and also other materials that you studied but didn't actually cite.

Every type of resource has a slightly different MLA citation format: print, electronic, books, newspapers, scholarly journals, magazines, Web sites, databases, or multimedia.

The Modern Language Association (MLA) provides a style guide for formatting in-text citations and references in a uniform and standard fashion. The *MLA Handbook* is the published book version and is available at the De Anza Library. But many examples of MLA citations and references are available on college Web sites. The following Web sites provide good examples:

Using Modern Language Association (MLA) Format from the Online Writing Lab (OWL) at Purdue University: http://owl.english.purdue.edu/handouts/research/r_mla.html

In-Text Citations:

Create MLA Parenthetical Citations from the Writing Center at the University of Wisconsin-Madison: http://www.wisc.edu/writing/Handbook/DocMLACitation_Format.html

Reference Citations:

MLA Citation Style from C.W. Post Campus of the Long Island University, with excellent visual examples of reference list citations: <http://www.liunet.edu/cwis/cwp/library/workshop/citmla.htm>

Research Skills Rubric				
What is your level?	Apprentice 0-5 pts.	Basic 6-10 pts.	Learned 11-15 pts.	Exemplary 16-20 pts.
<p>Research Skills: Relevance of Sources Analysis is supported by relevant and high quality sources. Sources are documented by citations and references following MLA style guide.</p>	<p>Project cites 1+ type of information source. All resources from Web. Web sources are dubious quality. Does not use in-text citations or are incomplete. References incomplete or nonexistent.</p>	<p>Project cites 3+ types of information sources, including primary and secondary. Few sources from library collection Web sources show some relevance and quality. Citations and references usually accurate.</p>	<p>Project cites 5+ types of information sources, 2+ primary, 2+ secondary sources. At least half of sources are from library collection. Web sources show relevance and quality. Citations and references accurate.</p>	<p>Project cites 6+ types of information sources, 3+ primary and 3+ secondary sources. More than half of sources from library collection & databases. Web sources show exemplary quality. Citations and references accurate.</p>

V. Writing Your Business Report

INSTRUCTIONS (THE RULES OF THE GAME)

- The report must fit the page layout specified below.
- If your topic does not fit the specified format, consult with the instructor.
- Do not deviate from the specified format without approval of the instructor.

Page Layout:

- **Cover**
 - CIS 3 Project Report De Anza College
 - fall, winter, spring, or summer term and the year
 - Your name
 - Title of the report
 - A copyright statement:
 - “© 2000 by *My Name*, this report can be reproduced for use by the instructor and students.”
 - OR, if it contains sensitive business information:
 - “© 2000 by *My Name*, all rights reserved.”
- **Page 1 (Summary for Management)**
Expect management to read only the first page, or maybe two. Some other people (like myself) may read more of the report.

The printed report shall have the following on the first page:

- **Conclusion**
- **Business Opportunity**
- **Business Environment**
- Brief description of the **Solution**

The above items shall be on the pages specified, and in the order specified. The words shown in boldface shall be the title for your sections.

- Page 2 (Summary Continues)

The second page shall contain:

- **Cost** for implementing the solution
- **Schedule** for implementing the solution
- Why this is the **Best Solution** (sell to management)
- Why it is of **Interest to Students**
- What **Work** did you do (convince the instructor you did good work)

The above items shall be on the pages specified, and in the order specified. The words shown in boldface shall be the title for your sections.

- Page 3 and on - Remainder of the Report (The Body)

ATTENTION: Write this section first then go back and write the summary (p.1 & 2). This section should stand alone – it should contain your complete work. I will read this first and then see if you have summarized it well in pages 1 & 2.

- The total number of pages (per group) in **the body** of the report shall not exceed 6.

Like the first two pages, the remainder of the report should be brief and clear. It should sell your proposal. It should provide additional information, not provided in the first two pages, giving the information in more depth. If your proposal deals with a real system that has been implemented, describe the implementation, and the results of the implementation. The last item should be a section describing **the division of work** between the team members.

- **Additional material** is to be attached, which you might reference elsewhere in the paper. A **table or graph you created** must be included in these pages.

Table or graph

The body of the report must refer to at least one spreadsheet or database report you created. (You may substitute a print of a WEB page you built.)

References/ Bibliography

Provide a list of references to WEB pages, magazine articles, books, individuals you interviewed, et cetera. This should be in MLA format and should follow the last section. **See Section VI below for formatting in-text citations and list of references in MLA style.**

Writing Skills Rubric				
What is your level?	Apprentice 0-5 pts.	Basic 6-10 pts.	Learned 11-15 pts.	Exemplary 16-20 pts.
<p>Writing Skills: Use of Conventions Appropriate for a business report. Elements and ideas within report are logically and structurally linked together. Ideas are interconnected and are presented in consistently throughout the report.</p>	<p>Elements and ideas are presented in a disconnected, rather piecemeal fashion. Little or no evidence of correct writing. Poor conventions seriously limit the report's readability.</p>	<p>Elements are somehow linked together but reflect some inconsistency throughout the report. Some evidence of correct writing. Poor conventions limit the report's readability, but not seriously</p>	<p>Evidence of structural and internal consistency within the report. Minor errors are present, but they do not detract from the readability of the report.</p>	<p>The report is highly and tightly organized. Ideas, concepts and principles are presented in a consistent fashion. Enhances the readability of the report.</p>

VI. Preparing Your Oral Presentation

Give an oral report of 10 to 12 minutes. Make it interesting to the class. Teach them key things you learned. Sell them on your solution. Each member of the team should talk for 3 minutes. Use visual presentation tools such as PowerPoint or Web pages.

For Class Presentations students are required to use:

- Presentation software
- Web design software
- Web hosting capability

Oral Presentation & Teamwork Skills Rubric				
What is your level?	Apprentice 0-5 pts.	Basic 6-10 pts.	Learned 11-15 pts.	Exemplary 16-20 pts.
<p>Oral Presentation & Teamwork Skills All team members show knowledge of subject, have good speaking</p>	<p>Team do not have grasp of information. Team cannot answer questions about subject. Team members</p>	<p>Team is uncomfortable with information and is able to answer only rudimentary questions. Team members' voices</p>	<p>Team demonstrates ease with expected answers to questions, but fails to elaborate. Team members'</p>	<p>Team demonstrates full knowledge by answering all class questions with explanations and elaboration. All team members</p>

skills. Presentation is well organized. All team members participate.	mumble, incorrectly pronounce terms, or speaks too quietly for students in the back of class to hear. Some team members absent or do not participate.	low or incorrectly pronounce terms. Audience has difficulty hearing presentation. Brief participation by some team members.	voices clear, pronounces most words correctly. Audience can hear presentation. Good distribution of effort by team members.	use clear voices and correct, pronunciation of terms so that all audience members can hear presentation. All team members participate.
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Technical Skills Rubric				
What is your level?	Apprentice 0-5 pts.	Basic 6-10 pts.	Learned 11-15 pts.	Exemplary 16-20 pts.
Technical Skills: Used appropriate computer software for written report and oral presentation. Project demonstrates ability to manipulate digital text, images, and data as needed.	Project demonstrates poor ability to use computer software for report and presentation, and to manipulate digital text. Graphics are superfluous graphics or no graphics are used.	Project demonstrates sufficient ability to use computer software for report and presentation, and to manipulate digital text. Graphics used rarely support text and presentation.	Project demonstrates learned ability to use computer software for report and presentation, and to manipulate digital text. Graphics relate to text and presentation.	Project demonstrates expert ability to use computer software for report and presentation, and to manipulate digital text. Graphics explain and reinforce screen text and presentation.

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Appendix

EVALUATIVE RUBRIC

Date:	Name:		Group:	
			Topic:	
LEARNING OBJECTIVES	PERFORMANCE LEVELS			
Evaluate each objective independently.	Apprentice 0-5 pts.	Basic 6-10 pts.	Learned 11-15 pts.	Exemplary 16-20 pts.
Analytical Skills: Depth of Analysis Project shows analysis of data processing and communications problem and provides solution. Current concepts, terms, principles, and conventions are used.	The project presents a position highly dependent on superficial analysis of references. Concepts, terms, principles, and conventions are not always used correctly throughout the project.	The project presents a position supported by some analysis of relevant references. The project shows more correct use of current concepts, terms, principles, and conventions.	The project position based on deep and thorough analysis of relevant references. The project reflects correct and clear use of terms, concepts, principles, and conventions.	The project presents position based on an integration of relevant and high quality references. The project demonstrates clear, correct, precise, and concise use of terms, concepts, principles and conventions.
Research Skills: Relevance of Sources Analysis is supported by relevant and high quality sources. Sources are documented by citations and references following MLA style guide.	Project cites 1+ type of information source. All resources from Web. Web sources are dubious quality. Does not use in-text citations or are incomplete. References incomplete or nonexistent.	Project cites 3+ types of information sources, including primary and secondary. Few sources from library collection. Web sources show some relevance and quality. Citations and references usually accurate.	Project cites 5+ types of information sources, 2+ primary, 2+ secondary sources. At least half of sources are from library collection. Web sources show relevance and quality. Citations and references accurate.	Project cites 6+ types of information sources, 3+ primary and 3+ secondary sources. More than half of sources from library collection & databases. Web sources show exemplary quality. Citations and references accurate.

<p>Writing Skills: Use of Conventions Appropriate for a business report. Elements and ideas within report are logically and structurally linked together. Ideas are interconnected and are presented in consistently throughout the report.</p>	<p>Elements and ideas are presented in a disconnected, rather piecemeal fashion. Little or no evidence of correct writing. Poor conventions seriously limit the report's readability.</p>	<p>Elements are somehow linked together but reflect some inconsistency throughout the report. Some evidence of correct writing. Poor conventions limit the report's readability, but not seriously</p>	<p>Evidence of structural and internal consistency within the report. Minor errors are present, but they do not detract from the readability of the report.</p>	<p>The report is highly and tightly organized. Ideas, concepts and principles are presented in a consistent fashion. Enhances the readability of the report.</p>
<p>Technical Skills: Used appropriate computer software for written report and oral presentation. Project demonstrates ability to manipulate digital text, images, and data as needed.</p>	<p>Project demonstrates poor ability to use computer software for report and presentation, and to manipulate digital text. Graphics are superfluous graphics or no graphics are used.</p>	<p>Project demonstrates sufficient ability to use computer software for report and presentation, and to manipulate digital text. Graphics used rarely support text and presentation.</p>	<p>Project demonstrates learned ability to use computer software for report and presentation, and to manipulate digital text. Graphics relate to text and presentation.</p>	<p>Project demonstrates expert ability to use computer software for report and presentation, and to manipulate digital text. Graphics explain and reinforce screen text and presentation.</p>
<p>Oral Presentation & Teamwork Skills All team members show knowledge of subject, have good speaking skills. Presentation is well organized. All team members participate.</p>	<p>Team do not have grasp of information. Team cannot answer questions about subject. Team members mumble, incorrectly pronounce terms, or speaks too quietly for students in the back of class to hear. Some team members absent or do not participate.</p>	<p>Team is uncomfortable with information and is able to answer only rudimentary questions. Team members' voices low or incorrectly pronounce terms. Audience has difficulty hearing presentation. Brief participation by some team members.</p>	<p>Team demonstrates ease with expected answers to questions, but fails to elaborate. Team members' voices clear, pronounces most words correctly. Audience can hear presentation. Good distribution of effort by team members.</p>	<p>Team demonstrates full knowledge by answering all class questions with explanations and elaboration. All team members use clear voices and correct, pronunciation of terms so that all audience members can hear presentation. All team members participate.</p>