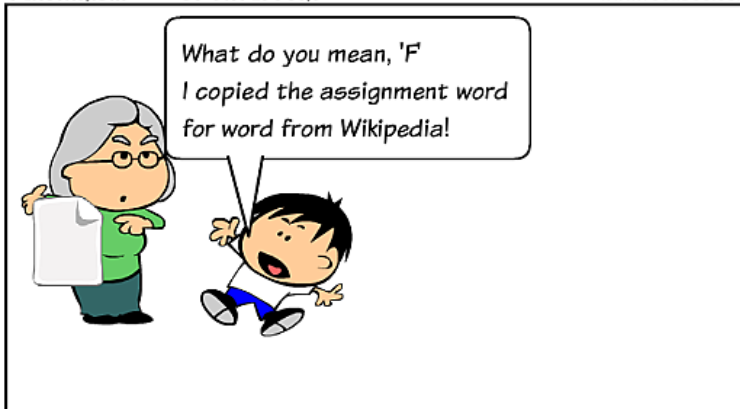


Enhancing Student Information Literacy: Assignments to Build Information Research Skills

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David & Lorraine Cheng Library

The majority of our students are comfortable researching in an online environment but many are not aware of the Library's diverse resources and rely too heavily on web resources that may not be appropriate for college level research. Although most library resources are "web" based, students often choose the familiar resources of high school for the unfamiliar academic resources offered by the academic library. Technology may have made the research process easier, but it has also increased the amount of information that is readily available. Students need to develop skills in order to effectively locate, evaluate, organize and use information. Information literacy is more than finding and locating resources. Evaluating information based on the purpose or need of the project is a key element.

The following are examples of library-based assignments that can be adapted and used within any discipline or subject field. Most of the examples are intended to offer an alternative to the traditional term paper. These assignments require students to explore, utilize and evaluate various library resources as well as Internet resources.

Information skills are best learned when linked to course content.

The **University Core Curriculum** program outcome #5 is directly related to information literacy. Students will be able to ...

...formulate strategies to locate, evaluate, and apply information.

The development of **information research skills is easily integrated with other skills such as critical thinking, technological literacy or quantitative literacy.** These skills are readily applied to "real world" problem solving. Information research skills can support oral communication exercises and presentation skills. Information literacy best practices explicitly link information seeking skills to a specific purpose or need – which can include a class presentation, debate, or recording. As noted in a 1982 article by Schwegler and Shamoan, "...academic research is a process of inquiry, problem solving, and argument, not simply an information-gathering process."¹

We welcome the opportunity to work with you to plan assignments that will help students develop their information research skills.

¹ Schwegler, R.A. & Shamoan, L.K. (1982). Aims and Process of the research paper. College English, 44(8), 817-824.

Annotated Bibliography/Review of the Literature

Locate a specified number (and type) of sources on a topic and write descriptive or evaluative annotations using a discipline appropriate style (APA, MLA or other).

Objective: Students will become familiar with the process of locating and accessing information resources while also learning to critically evaluate them. Students will learn how to extract keywords, phrases or concepts from a topic and practice research strategies for a specific purpose. Students will also become familiar with the format of a particular citation style. Requiring students to include scholarly articles, books, web pages and other types of sources will help them perfect their citation skills.

Information Literacy Skills:

- Use of the library online catalog to locate books.
- Use of at least one library database to locate journal articles.
- Identify web sources using Google Scholar or similar tool.
- Evaluate each source for relevancy, authority, accuracy.
- Prepare a citation for the source.

Technology Options:

- Export or place references into bibliographic management software such as RefWorks.
- Use the bibliographic management tools available within many of the Library's databases to develop bibliographies using a specific citation style.
- Use an assigned theme or issue, and create a shared bibliography of online readings. This could be done in Blackboard or with a shared RefWorks account.

Quantitative Literacy Options:

- Identify statistical sources for use as evidence.
- Use reports such as the Statistical Abstract of the United States or other compilations to locate a table related to the topic.
- Summarize the data in the table or graph in the annotated bibliography.

Compare and Contrast Sources

Students locate one article published in a popular magazine and one article published in a scholarly journal on a related topic. Students analyze the sources in terms of content, language and purpose.

Objective: Students will be able to explain the differences between popular and scholarly texts and describe the role and use of discipline specific journals.

- Use specialized/subject databases to locate articles.
- Recognize and document different types of publication formats.
- Develop evaluation, comparison and analytical skills.

Quantitative Literacy Options:

- Ask students to locate data on a specific topic from more than one type of source (research article, a government statistical source, a magazine article or data found on the web).
- Compare and contrast the presentation of data on a specific topic.

Analysis of Database Results and Web Search Engine Results

Students compare results of a search in an article database and an Internet “search engine” such as Google or Bing. Students discuss the results of their search in terms of what kinds of sources they found and the quality of the sources they found. Databases and search engines both have a role to play in the research process. *The information literate student is able to know when and how to use sources based on the information need.*

Objective: Students will develop an understanding of the difference between the content available on the “free” web and content available in Library subscription databases. Students will consider when each tool is appropriate for a given task.

Information Literacy Skills:

- Use library databases appropriate to the subject area.
- Develop appropriate and refine search strategies.
- Evaluate the results found in both databases and web search using established criteria.

Technology Options:

- Discuss the value and function of using different types of search tools when conducting research.
- Ask students to email one good article to the class or post the article in Blackboard for discussion.

Quantitative Literacy Options:

- Locate information using a dataset, such as census data by starting from the U.S. Census Bureau webpage contrast with similar information using a search engine.

Citation Examination

Students can review a bibliography found in their textbooks (research articles, subject encyclopedias). Ask students to identify what type of resource is denoted by each entry. Students can identify the type of resource and then locate and obtain a copy of one (or several) of the listed sources. Students often have difficulty identifying the type of source and therefore can't determine how to cite accurately. They also overlook the usefulness of bibliographies at the end of research articles, subject encyclopedias and book chapters.

Objectives: Students will learn to identify sources of information through citations and be able to differentiate among citations for books, journal and magazine articles and web sites. Students will also recognize the importance and value of utilizing a bibliography or works cited list in gathering additional sources of information on a particular topic.

Information Literacy Skills:

- Use citation information to locate additional information on a topic.
- Navigate library resources to determine availability of specific sources.
- Increase familiarity with scholarly resources and the importance of accurately citing sources.

Technology Options:

- Ask students to locate a known journal article in a research database such as Business Source Premier, PsycInfo or Sociological Abstracts.
- Many databases and Google Scholar include cited references/bibliography in the record. These can potentially be used to locate additional sources on a topic.

Opposing Viewpoints

Select an issue or topic that offers the opportunity to defend or reject a particular position. Divide the class into two groups (pro or con) and have students gather evidence in support of their assigned position. Have students discuss their findings during an in-class debate.

Objectives: Students will learn to formulate search statements specific to their needs, identify and evaluate sources of information and use that information to construct arguments (pro or con).

Information Literacy Skills:

- State a research problem and articulate an information need.
- Locate, organize and use information for a debate.

- Analyze and critically evaluate alternative sources of information and opinion.
- Use evidence to construct arguments.

Technology Options:

- Students representing the pro or con “side” can work together to summarize their arguments in one or two slides for a presentation.

Quantitative Literacy Options:

- Are crime rates increasing or decreasing? Are abortions among teenage women increasing or decreasing? Use statistical data such as tables from a Current Population Report in support of an argument.
- Develop and present a graph to best communicate the data findings.

Analyze a Study Published in a Scholarly Journal

Select an article reporting the results of a scholarly study within a specific discipline. Provide students with a rubric showing the criteria for evaluating a research study. Ask students to identify and describe the various elements of the article including the literature review, hypothesis, variables, methodology, population, data analysis, findings, citation style (as appropriate to the discipline) and then to comment critically in the study.

Objectives: Students will be introduced to the scholarly communication and research methodologies of the discipline. They will become familiar with the presentation of research in the sciences and social sciences.

Information Literacy Skills:

- Use an appropriate library database to locate and retrieve a study; use search terms appropriate to the discipline.
- Summarize key points in an organized manner.
- Identify valid and invalid arguments.
- Analyze data as presented in the study.

Technology Options:

- Share and discuss articles through posting in Blackboard.
- If students are all working on the same general topic, their combined efforts can be re-organized as a group literature review.

Quantitative Literacy

- Explain & analyze the information presented in the data presented by the study.

Persona in a Debate

Have students in the class adopt a role as a specific player in a debate. For example, an economics class might debate issues pertaining to reforming health care. One student/or team can represent the physician, another can be the patient, another the insurance company, etc. The students can focus their research around a specific persona and present arguments based on that perspective. This can be both a group and individual project with each student preparing a written summary of their research in addition to participation in the debate. The debate can be videotaped.

Objective: Students can focus their research and analyze an issue from a particular perspective. The debate format provides an opportunity to present arguments and evidence in support of their persona's point of view.

Information Literacy Skills:

- Use appropriate databases to locate selected articles on a specific issue.
- Identify relevant web pages or organizations such as the American Medical Association or the Insurance Industry or AARP that might provide data to support the perspective of a senior citizen, a physician, an insurance industry executive.
- Summarize and organize findings in preparation for a debate.

Technology Options:

- Videotaping (consider ethical issues such as securing permission for taping from all of the participants – this is especially an issue if the material could end up on the Internet).

Nature of Evidence

Begin with a simple statement or hypothesis, such as "Child Poverty is a major problem in the U.S.". Each student will be asked to find and bring to class at least two pieces of evidence to support or contradict the statement. This evidence can be in the form of an article in a newspaper or magazine, a speech or presentation, a research study, a government statistical report or other source, interview with an expert or some other relevant source.

Students can discuss their evidence in teams or with the entire class, explore contradictory information and discuss criteria for evaluating this information.

Information Literacy Skills:

- Use a variety of sources to locate information on a specific topic.
- Analyze information based on specific criteria.
- Compare and contrast information from different sources.
- Discuss reliability and validity of evidence.

Technological Literacy:

- Keep a log of the path used to locate the evidence and discuss any problems with the search process.

Quantitative Literacy Options:

- Are crime rates increasing or decreasing? Are abortions among teenage women increasing or decreasing? Consider the use of data as evidence.
- Make judgments about a trend based on the data.

What do the numbers mean?

Using tables from a standard statistical source, such as the Statistical Abstract of the U.S., students can locate a table on a specific topic (crime in the U.S., foreign aid, teen pregnancy, demographic changes etc. and analyze the data as reported. Students can develop a list of possible research questions based on the data.

Objective: Introduce students to sources of quantitative data. Students learn to locate, analyze and evaluate the reliability and validity of the data. Students learn to use published data as appropriate to support an argument.

Information Literacy Skills:

- Locate statistical data from authoritative sources.
- Interpret a table using all relevant headers and footnotes.
- Develop possible research questions based on the data.

Technology Options:

- Download data into Excel, and create a graph to summarize key findings.

Quantitative Literacy Options:

- Students should explain the information presented in the data source.
- Ask students to make judgments about the data presented and to draw conclusions based on the data.

Community Analysis

Select a municipality in the United States and prepare a statistical overview of that community including demographic, economic, education, health, energy use and other desired variables.

Information Literacy Skills:

- Locate data on a community using a variety of sources.
- Evaluate data sources based on selected criteria.

- Include historical data to analyze changes in a community over a specified time period.
- Organize the data into a structured presentation (report, presentation, webpage).
- Prepare a bibliography of statistical sources to accompany a report or presentation.

Technology Options:

- Use a spreadsheet or database management tool to organize the data.
- Prepare a slide presentation on the selected community.

Quantitative Literacy Options:

- Prepare a chronology of events or trends in the community.
- Develop a graph or chart about the community for a specific audience.

Become Familiar with the Journals in a Discipline

Have students select a journal (s) from a list of journals in the discipline and review the content of each over the last 2 volumes or years. (Make sure the library has access to the journals). Based on this review, each student could report on the content and audience for each journal and identify some of the research trends.

Information Literacy Skills:

- Locate journals by title (for example, find an article in the Harvard Business Review).
- Become familiar with the research trends in a discipline.
- Summarize findings and share with other students.

Technology Options:

- These summaries could easily be shared within Blackboard. Students could identify areas for possible research projects.

A Week in the Life of.../Primary & Secondary Sources

Students can select an individual (historical, contemporary, real or imaginary) and research the events and issues of the time and develop & present a portrait of that individual. This could fit any discipline – what would it have been like to be an artist during the 19th century in Europe or a worker in one of the first steel mills, etc.

Information Literacy Skills:

- Use a variety of resources (books, articles, newspapers, including primary sources) to provide evidence of what it would have been like to have lived at a specific point in time.

- Prepare citations for the resources used.
- Think creatively to find evidence that would make the presentation interesting.

Technology Options:

- Develop a presentation incorporating sound, media, images, artwork to illustrate the life of this individual.
- Develop a course webpage where the results of the student research can be shared.
- Discuss issues concerning copyright and plagiarism.

Class Poster Session

Working individually or in teams, students develop poster sessions on a course-related topic or research project. This assignment could also require students to report on the results of a survey or experiment conducted for the class. Require students to document sources or to include the literature review used for the project. This assignment could easily be adapted to simulate a presentation at a professional conference or to a specified audience providing students an opportunity to practice their oral communication skills.

Information Literacy Skills:

- Use information for a specific purpose and audience.
- Locate relevant information sources of all types and provide accurate documentation.
- Select best sources based on the purpose of the project.

Technology Options:

- Design a webpage or pamphlet to complement the poster session.
- Address copyright issues associated with the use of sources.

Maintain a Weekly Journal/Blog Based on Readings on a Specific Topic/Problem

Students choose or are assigned a topic based on the content of the course. Throughout the semester, students read a variety of materials and write commentary or analysis based on their readings. This journal can include images in addition to the text. Throughout the semester and/or at the end of the semester, students prepare a summary of what they have learned and these readings can provide the basis for a literature review or research paper.

Information Literacy Skills:

- Use information research as a process of inquiry.
- Locate relevant information sources of all types and provide accurate documentation.

Technology Options:

- Maintain an online journal or blog using Blackboard or other tools.

Interview

Students prepare for an interview with (a community leader, a family member, an entrepreneur, an immigrant, a senior citizen, a person with a specific career, etc.). They develop a set of interview questions based on research into the background of the individual, their position in society, their area of expertise, a research question, etc. Students can prepare a written summary of what they learned, provide a transcript of the questions and answers, prepare a brief biography or prepare an oral history. Students write a comparative essay comparing the experiences of the interviewee with their own experiences.

Information Literacy Skills:

- Research the individual, their career, what life was like when they were of college age, etc. to help formulate interview questions.
- Locate relevant information sources of all types and provide accurate documentation for citation.
- Learn how to cite interviews, recordings, email messages, and text messages.

Technology Options:

- Use recording devices (cassettes, CD, mobile phones) to record interviews.
- Use email, texts to conduct interview.

Case Study/Problem Solving

Students are presented with a case or real problem to analyze and determine possible courses of action. The case can be framed in a variety of ways but allow students to determine relevant questions, research the issue and present their recommendations to an specific audience (planning board, community association, decision-maker, school board, etc.).

Information Literacy Skills:

- Determine research question(s) and apply appropriate search strategies; revise strategy as needed.
- Summarize and organize findings.
- Present and share results with specific audience.

University Core Curriculum Program Outcome #5

Students will be able to formulate strategies to locate, evaluate and apply information.

Information Research Skills/Information Literacy Student Learning Outcomes

Students will be able to

- Identify, locate and access appropriate sources of information,
- Evaluate and think critically about information,
- Use information effectively for a specific purpose,
- Use information ethically and legally.

Summary of Outcomes	Novice Below Expectations	Intermediate Meets Expectations	Advanced Exceeds Expectations
Identifies, locates and accesses appropriate sources of information.	Fails to identify relevant and appropriate resources for the research project.	Selects some appropriate resources but lacks sufficient discipline specific resources.	Identifies relevant resources including discipline specific items. Identifies key resources related to the research topic.
Evaluates and thinks critically about information.	Rationale for selection of resources is unclear. Relies heavily on popular, dated or non-authoritative sources.	Selects resources based on designated criteria for the project.	Selects resources based on designated criteria demonstrating depth and breadth of the topic. Analyzes and evaluates the content of the sources used,
Uses information effectively for a specific purpose.	Information resources provide little or weak evidence in support of the project outcomes. Fails to identify key points or findings for sources used.	Incorporates information from an appropriate variety (quantity, medium and quality, etc.) of resources. Demonstrates ability to integrate resources into the research product,	Effectively synthesizes and integrates information from a variety of sources. Uses evidence to support arguments and draws meaningful conclusions.
Uses information ethically and legally.	Does not demonstrate an ability to incorporate or paraphrase ideas with proper attribution. Citations are often incomplete or fail to follow required style.	Properly cites most sources consistent with the required style. Demonstrates ability to properly attribute or paraphrase content and ownership of original source materials.	Properly cites all sources consistent with the required style. Accurately builds on and incorporates the ideas of others into the research product, distinguishing between common knowledge, attribution and independent thought.

Rubric for use with UCC Program Outcome #5

For additional information, please contact
Nancy Weiner at weinern@wpunj.edu or call ext. 2161
Kathy Malanga at malangak@wpunj.edu or
call ext. 3189.

To schedule a library instruction session, please contact
Leah Zamora at zamoral2@wpunj.edu or call ext. 2663.

You may also submit a request by completing a form at:
http://ezproxy.wpunj.edu:2048/loggedin/instruction_request.html

LIBRARY HOURS

FALL AND SPRING SEMESTERS

Monday-Thursday	7:45 a.m. - 11:45 p.m.
Friday	7:45 a.m. - 10:00 p.m.
Saturday	8:00 a.m. - 8:00 p.m.
Sunday	Noon - 11:45 p.m.

SUMMER SESSIONS

Monday-Thursday	7:45 a.m. - 10:00 p.m.
Friday	Closed
Saturday	10:00 a.m. - 4:00 p.m.
Sunday	Closed

Changes in hours are posted on the webpage
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