Wikipedia, iPods, and Chickens: An Active Learning Exercise to Teach Evaluation of Information

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This paper documents the creation of an interactive session at the University of Louisville's Ekstrom Library to teach evaluation of information to undergraduate students in a beginning communications class. The class is designed to help students learn evaluation skills through group activities, and ultimately to allow them to demonstrate what they have learned by presenting information at the end of the class session.

Context

The University of Louisville is a large metropolitan university with 17,214 FTE and 21,689 students overall (University of Louisville, 2007). In 2007, 4373 degrees were conferred. The Information Literacy Program at the University of Louisville focuses on curriculum integration. We have one for-credit information literacy elective course that is housed in the Department of Chemistry and considered a part of that department's curriculum, and we offer drop-in classes only for EndNote, as we found that classes on other topics were not well-attended. In 2007, we taught 312 library instruction sessions with a staff of eight librarians.

Over the years, the program has developed relationships with some of the larger general education course programs such as Campus Culture (the university's 1-credit hour welcome to campus course), English Composition, and Speech Communications 111/112 (Introduction to Public Speaking). Ideally, students visit the library with each of

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these three courses. In the Communications 111/112 course, we initially taught a very traditional instruction session that mirrored the assignment: we showed students how to find a book and how to find an article. The only unique element of their library assignment was to begin in the reference stacks and find a reference book related to their speech topic, and then use the bibliography to find another book to look up in our catalog. The session was not interactive and the librarians were bored with it, not to mention the students. Many students felt it was simply a repeat of what they had learned in previous library sessions. We were approached by the coordinator of the program who asked us to brainstorm a revision to the library assignment and also to see how we might help them address plagiarism, which had become an issue of significant concern for their department. As we considered our options, it became clear to us that nowhere in our program were we consistently teaching to ACRL Information Literacy Standard Three, which is focused on critical evaluation of information sources. This seemed like it could perhaps be an opportunity to do that.

What Does the Literature Say?

We went to the information literacy literature to find good practices in designing this type of session. Several articles discuss teaching students how to evaluate web information (Doyle & Hammond, 2006; Sabo, 2007), but we found Meola's article "Chucking the Checklist" (2004) to be the most useful in thinking about the creation of a class that would accomplish our goals. Even though Meola focuses mostly on web information, and clearly that is what students prefer to use, we didn't want to fall into the trap of asserting that only web information needs to be evaluated. We wanted students to realize that all information needs to be carefully considered and evaluated, no matter what its original format. Meola's approach is about contextualizing and that is the focus of our class because in the age of Google,

students constantly find decontexualized information (Williams, 2007). Meola doubts that students are as gullible as the library literature makes them out to be, and in our experience, we would generally agree. Meola is also especially critical of the checklist approach to web evaluation because he claims that it poses questions without helping students determine the answers and that the approach is "mechanical and algorithmic" (Meola, 2004, p. 337). We tried to address this in our evaluation rubric to a certain extent by incorporating his suggestion of evaluating information with information "external to" [it] (Meola, 2004, p. 338) and by providing places where the students could look for information to answer our list of questions student groups are given to complete.

Our second goal was for the session to be as interactive as possible with very little lecture. The information literacy literature abounds with examples of librarians incorporating active learning. Quigley and McKenzie (2003) trace the evolution of a traditional information literacy course to an active learning based one, and Smith discusses incorporating these techniques in a Chemical Information Resources course (Smith, 2007). Some call for more incorporation of active learning (Munro, 2006). We found the article "Active Learning and Cooperative Learning: Understanding the Difference and Using Both Styles Effectively" to be the most useful as it discusses both active and cooperative learning with practical kinds of examples (Keyser, 2000). We drew from this article in creating our exercise, which falls under both of these models.

The Session

The session begins with a five-minute introduction that is designed to get students thinking about the process of evaluating information. We discuss print and online materials and the importance of critically evaluating sources before deciding to use them in research. We touch on the fact that most print sources go through some kind of editing or peer review process. As food for thought, we mention examples that show how even with expert reviewing, less than creditable material can slip through the cracks.

We also talk about who is creating the information and how biases can influence the quality of the material. We use the example of entertainment giants that own newspapers, radio stations or movie production companies and how a writer may feel obligated to give a favorable review if their newspaper is owned by the same company that made the movie.

After the brief introduction we direct students to the online *Critical Evaluation of Sources Handout* which lists the six criteria for evaluating information (see appendices). These include authority, objectivity, quality, coverage & corroboration, currency, and relevance. The handout not only provides students with questions they should consider when trying to determine the credibility of a particular source or author, but also provides suggestions for finding the answers. We try to spend five minutes or less on the discussion of the criteria.

After showing the students how to access the handout, we go right into the assignment, which we explain will help them get practice on evaluating sources. The class usually has 24 students, so we break them up into six groups with four students in each one. Each group is given a source to evaluate (i.e., a book, scholarly journal, magazine article, Wikipedia entry, webpage, and newspaper article) and a set of questions for their source on "hint" cards (see appendices for two examples). The questions are tailored to the specific publication type and focus on two or three of the evaluative criteria.

The students are given about 15-20 minutes to find information on the sources using tools such as article databases, *Magazines for Libraries,* local and universal online catalogs, search engines, biographical databases, and the sources themselves. Each group then chooses a reporter (or sometimes the whole group stands up together) to present their answers to the questions about their source and give an assessment of its quality.

The examples used in the assignment can be changed as needed. This provides the librarian with the flexibility to adapt the session in order to focus on certain aspects of evaluation, cater to a particular class, or just to keep students and librarians from getting bored.

One interesting example is that of chickens! Students are asked to compare www.tyson.com which is the Tyson Chicken website, and www.chickenindustry.com, which is owned by the animal advocacy organization Compassion Over Killing. The students compare the sites and evaluate them on objectivity as well as authority. Such graphic examples create more interest for the class, and in some cases, they can lead to lively discussion.

Student Responses

Overall, students are very engaged in the exercise, but we have encountered some unexpected student responses. Before we started using the chicken example, we had students compare websites on bioengineered foods. We reviewed websites for Monsanto, a large agricultural company, and the Organic Consumers Association. Students were charged with finding the biases of each organization. One student, who was the presenter for his group was very pro Monsanto and adamantly tried to convince the class of why it is necessary to use bioengineering to provide food for large masses of people. He believed the Organic Consumers Association website was unreliable because it was not as visually appealing. Other students have taken the opposite viewpoint, favoring the Organic Consumers Association because it is a non-profit that advocates against bioengineered foods, and for protecting consumers. The librarian always tries to stress that we are not promoting one particular side or site; both sites have biases and it is important to recognize what they are.

The Jayson Blair/ *New York Times* example we included stumped many of the students originally. The students were asked to do a keyword search on the former New York Times reporter in an article database but were not picking up on the hints about the plagiarism scandal he was involved in. After we changed the questions a bit for this example we

received more accurate answers from students. However, from time to time a group still completely misses the point and so the librarian always checks up on this group to make sure that they understand this key piece.

We have been quite impressed with student responses for the comparison of a Wikipedia entry on Alice Walker to another library literary resource. The students usually mention in their presentations that the Wikipedia article focuses more on Walker's personal life, whereas the scholarly articles discuss her writing. This is encouraging and supports Meola's belief that students are not as gullible as we sometimes think. We stress that one source is more appropriate for a college-level paper and students seem to understand this.

STRENGTHS AND WEAKNESSES

The main benefit of this assignment is that students appear to enjoy it more than the typical information literacy session. The motivation of knowing they are presenting at the end of the class seems to help them stay focused and serves as a kind of informal assessment of the session. There are also a few unintended benefits, for example, some students have never heard of Alice Walker and learn who she is by the end of class.

There are a few noted weaknesses of the assignment. Although there should be 24 students in each class it does not always work out that way. When this is the case, there may be fewer than four students in a group. If one group has fewer members they may end up doing more work and they may also finish later than the other groups in the class. Also, some groups don't divide up the work as well as others and occasionally one or two students do the work for the whole group, thereby defeating the purpose of the cooperative aspect of the experience.

CONCLUSION

We feel that the exercise we have created follows best practices in information literacy in terms of its interactivity and the ACRL Information Literacy Standards, but we don't want to become complacent. We would like to include some of the helpful and interesting examples provided by LOEX attendees and we would like to work toward more formal assessment in the future. At the moment, however, we are enjoying teaching this fun session and we are thinking of ways to expand the principles it embodies to other information literacy sessions we teach.

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Critical Evaluation of Sources

This guide is adapted from the outstanding "Critical Evaluation of Information Sources Or, But Is It Credible? by Colleen Bell at the University of Oregon Libraries. It is used with her permission.

Authority | Objectivity | Quality | Coverage & Corroboration | Currency | Relevance

It is always important to critically evaluate information that you are using, either in a paper or to make a decision in your personal life. Sometimes this is easier to do than others. Many printed sources go through an editorial review process which means that either one person or several people agree that the information is credible before allowing it to be published. Newspaper articles, magazine articles, and scholarly journal articles all go through this process.

But just because something is printed, doesn't automatically mean you should trust it. Consider the supermarket tabloids like the *Weekly World News*. Certainly that information source is suspect! Here are some other scenarios that should cause you to think more critically about what you read:

- Magazines accept advertising. In theory, journalists are not supposed to take this into account when writing an article criticizing a company or a product, but it is something that you as a reader should consider as a possibility.

- Newspapers, magazines, and television stations are now often owned by large entertainment companies (for example, Time Warner owns *Time* Magazine, CNN, HBO, New Line Cinema, AOL, and Warner Bros., *Sports Illustrated*, and Warner Books). Think about that the next time you read a review of a new album, book, movie, or television show.

- Even scholarly journals are not exempt. In the mid-1990's, Alan Sokal wrote an article that was complete nonsense which passed the peer-review process and was published in a scholarly journal.

Just because you find information on the Web does not mean it is automatically false NOR does it mean you can automatically trust it. It needs to be critically evaluated just as any printed source, and in some cases even MORE critically since many websites have no editor or reviewers. There are some websites which are completely fictitious. Using reviewed sources, comparing the information you find in one source to other sources on the same topic, and corroborating information are three useful strategies for ensuring the quality of your information.

Below are some questions that can guide you through the process of thinking critically about the information source you are considering using. Keep in mind that this process may take some time. It isn't necessary to answer all the questions, but it is important that you think through them before using ANY source of information from a book, to a website to an "expert" whom you interview.

Authority	
Questions to Ask	**Finding the Answers**
Who is the author?	- Look at the Title page (book or report) - Title information at the top of the first page (articles or book chapters) - End of the article (encyclopedias) - Top or bottom of page (web pages)
What are the author's credentials? - Relevant university degree - Institutional affiliation (where does he/she work?) - Relevant field or employment experience - Past writings on same subject	- Look in biographical sources - Look in directories, e.g. Who's Who or National Faculty Directory (Ekstrom Ref. Desk L901 .N34 for latest edition) - Search the Web for author's home page Search article indexes or the online catalog for other works by that author

Source: Wikipedia

1. **Authority:** Before searching Wikipedia for an article, look at the section in the left sidebar and click on About Wikipedia. Read the first three paragraphs, and then list 2 problems with relying on Wikipedia for information.

2. Now look for the article about the author Alice Walker. As you scan through this article, write down one point that you would want to verify with another source for accuracy. Also note how much information relates to her books.

3. **Corroboration:** Now look at the end of the article. Look at the "Works About Alice Walker" section or the References section. Look for each of the books listed in these sections in UofL's online catalog Minerva. Could you check these out from UofL?

4. **Coverage:** Now go to the Databases link from the Research section of the UofL Libraries Web page. Find the database called Literature Online. Look up Alice Walker. Click on the link under Authors (1 result) that is the biographical article about Alice Walker. Write down at least 2 differences you find between this biography and the Wikipedia biography. Which one would be the more reliable one to use in your research? Which one has more information about her books?

Source: Web pages: http://www.chickenindustry.com/ & http://www.tyson.com/

1. **Authority:** Write down the names of the organizations behind each of the websites.

2. **Objectivity:** What is the bias of each of these groups?

   2a. Use Hoover's Company Records database (click on the link to Databases from the main library webpage Research section) to look up the company behind the second website. What is the amount of total sales for this company from the most recent year listed? (Hint: the number is in thousands of millions of dollars!)

   2b. For the first website, look on the website and find their "COK homepage" link. Visit this page and write down the purpose of this organization.

3. **Corroboration:** For the first website, take a look at the Broiler Industry Report (link on left nav bar). In the section on Confinement, find footnote #37. Click on the link to that footnote and check to see if UofL subscribes to any of the journals listed there. If so, write down the one that you could find to read and see if this is an accurate statement.

For the second website, look at http://www.tyson.com/Corporate/AboutTyson/LiveProduction/Chicken.aspx. What claims does Tyson make? How would you go about verifying or corroborating the claims that are made here?

4. **Quality:** Look for articles in reputable academic journals about the chicken industry (use Ebsco Academic or ProQuest Direct databases). How many do you find? Write down the citation for one that looks promising.

This is the summary chart that librarians can use to make sure that the student groups hit the key points of each example.

	Authority	Quality	Currency	Objectivity	Coverage
Book: *Enough: staying human in an engineered age* by (Bill) McKibben	Find author qualifications in Who's Who? Also see how many more books he's written in Minerva	Find reviews in Book Review Digest	Find publication date of book		
Students should notice: McKibben went to Harvard; has written a number of other books; has had several fellowships. Citation they are to look up is from Commentary which we have electronically through Ebsco.					
Newspaper article: "Family Waits, Now Alone, for a Missing Soldier/ NYT/ Jayson Blair	Search ProQuest Direct for other articles he's written	Look up in Magazines for Libraries	Date of article		
Searching ProQuest under Blair's name reveals articles dealing with the plagiarism scandal he was involved with. Cautionary tale that even the most well-respected sources can have problems.					
Magazine article: "John Edwards Will Give You Free Health" by William F. Buckley Jr. and "Single-Payer: Good for Business" by Morton Mintz	Look in Who's Who for author qualifications		Date of article	Look up in *Magazines for Libraries;*	
Who's Who notes that Buckley is a Republican and a prolific writer. Other writer is a Washington Post journalist and also a writer of books. The Nation has a liberal bias; National Review has a conservative bias.					
Scholarly journal article: "The iPod phenomenon: identifying a market leader's secrets through qualitative marketing research" in *Journal of Product and Brand Management*	Use Google to find information on the authors	Look Up in Ulrichs	Date of article		
Some of the author bio data has changed since the article was written; we do have the book that it references in Minerva; it is a scholarly article; according to journal website it is double-blind refereed; executive summary at the end is interesting as it is unusual for scholarly articles to have this.					
Web pages http://www.chickenindustry.com http://www.tyson.com	Look for info about the group	Look for articles in reputable journals about the issue.	Find updated date	Recognize the bias of each group	
One page is sponsored by Compassion over Killing (COK), an animal-rights/vegetarian promotion organization and the other is the giant food company Tyson. Each has a bias, but the COK website does provide a report complete with bibliography of scholarly sources. We're not trying to persuade students that one website is better than the other, but simply that they would need to recognize the inherent bias of each organization and find corroboration of any claims made on each site.					
Wikipedia article on Alice Walker			Date of publication		Brainstorm where to find more current information.
Wikipedia articles can be edited by anyone (might want to show the edit this page tab to the class); newer articles tend to be less reliable than older articles because they have had a chance to be edited. The Wikipedia article about Alice Walker is somewhat random and brief (e.g., it talks about Reggie Watts being her second cousin and her love affair with Tracy Chapman but does not include much if any commentary on her works. The material in the libraries Literature Online is much more extensive about her work. (I realize that this really isn't a fair comparison—a general encyclopedia and a specialized source, but the idea is to encourage students to think about moving beyond the free web resources.					