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Where the Recipe Goes Wrong: Stirring Bias into the Information Mix

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Stirring Bias into the Information Mix

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NUTRITION INFORMATION

This instruction session was developed to address an engineering professor's concern that his students weren't able to discern between factual and biased information. They weren't evaluating the information they found, and readily accepted as truth anything pertinent to their research topic. While this plan was done in an elective civil engineering class, it could easily be adapted for any class using controversial and biased sources.

LEARNING OUTCOMES

Students learn to evaluate information from the internet and to recognize and explain how the creation of information, namely building a document by citing other sources, can lead to bias. Students also learn to counter an argument by searching library databases for reliable information.

COOKING TIME

This recipe calls for a one-shot session in a longer 100-minute time frame. To adjust this recipe or a shorter 60-minute class, skip the first exercise on evaluating websites and begin with the document selected and the analysis of its citations.

NUMBER SERVED

This recipe was cooked by a small class and students worked individually. However, for larger classes, recommend cooking in pairs or small groups.

DIETARY GUIDELINES

Students examine the ACRL Frame Information Creation as Process and how that process can create bias. They also discover that being deemed an "authority" doesn't always mean the information you created is credible.

INGREDIENTS AND EQUIPMENT

- One computer lab
- One librarian
- Class of students
- LibGuide (example: https://libguides.scu.edu/CENG161) which will include websites on two sides of a controversial issue
- Evaluation guidelines for internet websites and other documents
- A controversial document with references as the example for Activity 2 (50 minutes), such as https://tpusa.com/wp-content/uploads/2016/12/10WaysFossilFuelsImproveOurDailyLives.pdf
- Links to the full text (if possible) of the references
- Worksheet as an aid for students evaluating the document and sources they cited
- Here are some examples for this particular class for Activity 1 (30 minutes) where C label is Conservative and an L label is Liberal:
  ◊ CATO Institute Global Warming (https://www.cato.org/research/global-warming) — C
  ◊ Heartland Institute (https://www.heartland.org/Center-Climate-Environment/index.html) — C
  ◊ IPCC Intergovernmental Panel on Climate Change (https://www.ipcc.ch/report/ar5/) — L
  ◊ National Climate Assessment (https://nca2014.globalchange.gov/) — L

PREPARATION

Set up the ingredients (as listed in Ingredients and Equipment) in the LibGuide.

COOKING METHOD

1. Introduction
   a. Explain what the students are expected to learn.
2. Activity 1 (30 minutes)
   a. Students view the website they're assigned and discuss their opinion on the evaluation criteria, such as purpose, authority/trustworthiness, advertising/sponsorship, etc.
3. Activity 2 (50 minutes)
   a. Students move on from evaluating websites (or start here if they are in

a class of about an hour) to examining a document from a controversial organization. Assign each student or each student group to a section of the document making sure that it cites references.

b. Ask the students to read through the short section and click on the cited references which are given in the LibGuide.

c. Assign the worksheet.

d. Discuss the students' findings.

ALLERGY WARNING

If you decide to select your own sources for these two exercises, here are two recommendations:

1. Select a variety of websites on obvious ends of the liberal/conservative spectrum.

2. Select a document, again from an obvious end of the liberal/conservative spectrum that has chapters and references for each chapter for the students to evaluate.

CHEF'S NOTES

The faculty member chose *10 Ways Fossil Fuels Improve Our Daily Lives* for this exercise because the conservative campus organization (Turning Point) was already well-known to students. Turning Point was first denied registration as a student organization on campus, but then that decision was reversed. This notoriety and reputation got the students' attention and their eager participation.

An "Ah-ha" moment came when students were shocked by how data was presented in the book *The Moral Case for Fossil Fuels*, by

Alex Epstein. This book was cited numerous times in the document. For example, two charts were placed next to each other, one showing the increase in fossil fuel use and the other showing the decline in cases of tuberculosis. The title of the figure was "More fossil fuel use, less tuberculosis." Use of evidence from sources like this one showed students how data can be manipulated to show desired outcomes.

There was a lively conversation among students, their professor, and the librarian throughout this library session. The faculty member said the goals of the class were reached, it exceeded his expectations, and he would be telling other faculty members about it.

ADDITIONAL RESOURCES

NOTES

Epstein, Alexander J. 2014. *The Moral Case for Fossil Fuels*. New York, New York: Portfolio/Penguin.

Hjorland, Birger. 2012. "Methods for Evaluating Information Sources: An Annotated Catalogue." *Journal of Information Science* 38 (3): 258–268. https://doi-org.libproxy.scu.edu/10.1177/0165551512439178.

Turning Point, USA. 2016. *10 Ways Fossil Fuels Improve our Daily Lives*. Lemont, IL: Turning Point USA.

Directions and questions on Google Forms worksheet for Activity 2:
You'll be assigned to ONE of the *Ten Ways Fossil Fuels Improve Our Daily Lives* in the document by Turning Point USA.

Answer the questions below:
- What is your opinion on point? [Note which number]
- Besides their website, where would you search for information on the organization that published this document?
- Read the content of point [note which number] carefully. What source(s) do they use to back up their contention?
- Can you find your own evidence for or against point [note which number]? Use library resources (preferably one or more peer-reviewed articles) as evidence.

Recommended environmental databases: Agricultural and Environmental Science Collection or GreenFILE. Recommended statistical databases: Data-Planet or Statista.