

Assignment 1: Baseline video research diary*

Objective: Understand how students search for science/health/political information at baseline under casual circumstances.

Your assignment is to spend **no more than 15 minutes** recording how you would go about researching a question from the following scenario. Remember, this assignment is NOT GRADED (only that you complete it). Do not try to impress us-- we want to know what you would actually do. Nobody will view these videos besides Prof. Dailey and Meggan Smith (Library).

Scenario: Over break your extended family all met up for dinner at your house to celebrate a holiday. After dessert your family got into a heated argument about climate change and health. Knowing that you are a Gettysburg College student getting a liberal arts education, your family members ask you for your opinion. Not feeling comfortable speaking on demand, you ask to be excused and you sneak off to a private room to do a quick online search. You're looking for a reputable article or two to bring back to the discussion. This is not a terribly scientifically literate crowd, so you don't go straight for medline or pubmed (although you might decide to do that later). Please record your search using Screencast-O-Matic so that you can share your experience with your professor and librarian friends.

1. Record your process for searching for reputable information on climate change and health. The Screencast-O-Matic tool will record your voice and the screen. Make sure to talk out loud describing all of the decisions that you make.
2. Tell us which articles you choose to bring to the discussion and why. If you dismiss any links/articles that you open tell us why. Tell us the reasons behind the links/articles you choose.
3. Don't be shy or worried about doing it the "right way." There is no right way. Have fun with this!
4. Upload your video file.

Creating a Video Research Diary

You will use **Screencast-O-Matic** to create a 15-minute video research diary. The diary will include screen capture and an audiorecording of your voice. Please verbalize your thoughts as you do your research – understanding why you do what you do will help us!

What is Screencast-O-Matic?

- See <http://www.screencast-o-matic.com/>
- Online screen recorder
- One-click recording from your browser on Windows, Mac, or Linux
- No install, no account registration or setup, FREE



Before you begin

- If you are using a lab computer, make sure you know how to access your network drive.
- Make sure your Java is working and updated (you need Java 1.5 or later).
<http://java.com/en/download/testjava.jsp>
- If prompted, you need to allow the java plugin.
- Make sure you have a microphone. (If you are using your laptop, you probably have one built in. If you are using a desktop machine without a microphone, you may ask to borrow one at the Research Help Desk.)
- Watch the quick demo online: <http://www.screencast-o-matic.com/watch/cXhbbqb9C>
- Make a very short test video to make sure you can capture both your screencast AND your voice. Make sure you are capturing as much of your screen as possible – but we suggest leaving a small space at the bottom so that the S-O-M controls don't obscure your taskbar. The S-O-M control box isn't resizable.
- Then proceed with your assignment.

Your assignment: Record a 15-minute video research diary

- Spend ONLY 15 minutes (maximum) on this assignment (see Moodle for additional details about this assignment). There are no right or wrong answers; you will only be graded on whether you completed the assignment or not. We want an honest peek at how you begin to tackle a research question in real-life.
- Remember that if you need to PAUSE your recording, use ALT-P (for best results try not to pause).
- When you are done:
 - Choose the **SAVE TO VIDEO FILE** option. (You needn't preview the video – it will take time and you're not going to revise it anyway!)
 - Save as **Quicktime (MP4)**.
 - Name your file with your last name.
 - Save it to your network drive. *This may take a few minutes – be patient.*
 - Then upload your video to Moodle. Your video will not be publically available.

*Creating a Video Research Diary, Instructions by Janelle Wertzberger for Professor Divonna Stebick's EDUC 340 class, Spring 2012; modified by A. Dailey and M. Smith for HS 326, Spring 2017

Assignment 2: Assessing popular media articles about peer-reviewed scientific literature

IL Objectives:

1. Examine and compare information from 2 sources in order to evaluate accuracy, authority, currency and point of view.
2. Recognize the cultural, physical, or other context within which information is created and how that context impacts interpretation.
3. Recognize the cultural, physical, or other context within which information is created and how that context impacts interpretation.
4. Recognize that information may be perceived differently based on the format in which it is presented.

After reading the media article about a deadly outbreak in India and the peer-reviewed journal article from the Lancet, answer the following questions:

1. Does the New York Times article do an adequate job reporting on the scientific aspects of the investigation? Who is the audience?
2. Comment on the New York Times as a journalistic source. How do you know whether this is a source you can trust or not? Why was this scientific investigation chosen to be highlighted in the New York Times?
3. Does the Lancet article do an adequate job reporting on the scientific aspects of the investigation? Who is the audience? Comment on the Lancet as a scientific source. How do you know whether this is a source you can trust or not?
4. What does the "OA" box on the Lancet article mean? Do you think this is a positive aspect of this publication? Why or why not?

Articles:

Barry, E. Dangerous Fruit: Mystery of Deadly Outbreaks in India Is Solved. New York Times. January 31, 2017.

Shrivastava A, Kumar A, Thomas JD, Laserson KF, Bhushan G, Carter MD, Chhabra M, Mittal V, Khare S, Sejvar JJ, Dwivedi M. Association of acute toxic encephalopathy with litchi consumption in an outbreak in Muzaffarpur, India, 2014: a case-control study. The Lancet Global Health. 2017 Apr 30;5(4):e458-66.

Assignment 3: Vaccines and Autism: Examining source type, audience, agendas and personal position

Objectives

1. Distinguish between different types of articles with scientific health information.
2. Identify the audiences for different types of articles with scientific health information.
3. Reflect on how you interpret scientific health information from different sources including the role of your own beliefs, your previous knowledge, attitudes, etc.

Instructions

1. Identify ONE recent article (not older than 2015) that argues that vaccines are unsafe because they may be linked to autism. Provide the title, author and URL here.
 - a. What kind of article is this?
 - b. Is it peer reviewed?
 - c. What do you know about the author? Is h/she an expert? How do you know?
 - d. What do you know about the source? Is it credible? How do you know?
 - e. Does the article cite scientific sources to support their argument? If so, which ones?
 - f. What kind of emotions were you feeling when you read this article?
2. Identify ONE recent article (not older than 2015) that argues that vaccines are safe and do not cause autism. Provide the title, author and URL here.
 - a. What kind of article is this?
 - b. Is it peer reviewed?
 - c. What do you know about the author? Is h/she an expert? How do you know?
 - d. What do you know about the source? Is it credible? How do you know?
 - e. Does the article cite scientific sources to support their argument? If so, which ones?
 - f. What kind of emotions were you feeling when you read this article?
3. Identify ONE recent peer-reviewed scientific article from a reputable journal that addresses whether vaccines are linked to autism. Provide the title, author and URL here.
 - a. What kind of study was this?
 - b. What do you know about the source? Is it a credible journal? How do you know?
 - c. Was there sufficient scientific evidence to support the article's conclusions? What were the conclusions?
 - d. Was this article cited in either of the articles that you found for question 1 or 2?
4. How do you make sense of these articles in terms of what to believe? Do you think there is enough scientific evidence to make good policy (e.g. mandatory vaccination for school entry?) Justify.

Assignment 4: Climate change and health: Examining source authority

OBJECTIVES:

1. Assess the media article's portrayal of the link between climate change and mental health after reviewing some of the peer-reviewed scientific evidence.
2. Integrate knowledge of scientific aspects of cohort studies to inform your assessment.

DIRECTIONS:

Read the following media article about climate change and mental health:

Gunaratna S. "A Sense of Despair": The Mental Health Cost of Unchecked Climate Change. CBS News. February 27, 2017. <http://www.cbsnews.com/news/despair-mental-health-trauma-cost-unchecked-climate-change/>

Next, skim the following peer-reviewed scientific article that was referenced in the above article.

Rataj E, Kunzweiler K, Garthus-Niegel S. Extreme weather events in developing countries and related injuries and mental health disorders - a systematic review. *BMC Public Health*. 2016;16:1020. doi:10.1186/s12889-016-3692-7. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5041325/>.

ANSWER THE FOLLOWING QUESTIONS

1. What is a meta analysis? What kind of studies were included in this meta analysis? Do you think it makes sense to combine study designs in this meta analysis?
2. How many cohort studies were reviewed in this study?
3. How was the cohort study by Amstatder et al. 2009 determined to be at low risk for bias? What factors were considered?
4. Comment on the outcome(s) observed in Amstatder et al. 2009. Do you trust this information more than the information from the cross-sectional studies? Why or why not?
5. What does the meta analysis conclude about the relationship between climate change and mental health? Does the evidence support their conclusions?
6. Assess the CBS article's portrayal of the link between climate change and health. Who was the audience? Comment on the title. Were the conclusions drawn fair? Was the article biased? If you were an independent peer-reviewer for this article, what feedback would you give the author?

Assignment 5: Scientific authority: Asking an author

Objectives:

1. Critically evaluate a peer-reviewed publication using established criteria.
2. Question an author to understand accuracy, agendas, bias, etc. in the scientific process.

Read the following article:

Cozzi GD, Samuel JM, Fromal JT, et al. Thresholds and timing of pre-operative thrombocytosis and ovarian cancer survival: analysis of laboratory measures from electronic medical records. *BMC Cancer*. 2016;16:612. doi:10.1186/s12885-016-2660-z.

Answer the following questions:

1. Identify the study design.
2. What is the primary exposure of interest?
3. What is the primary outcome of interest?
4. Identify the appropriate STROBE checklist to use to critique this article (all are on moodle, but you can also find them here: (<https://strobe-statement.org/index.php?id=available-checklists>)). Which did you choose?
5. Using the STROBE checklist as your guide, what are the strengths and limitations of this study? Organize your critique according to the STROBE checklist items.
6. If you could ask one of the authors of this study anything to help you better understand this study or its implications, what would you ask? Please list at least 3 questions.

In-class assignment:

One of the authors of this paper was invited to class. Students were able to ask the author questions about motivations for doing the study, funding for the study, academic pressures, etc.

Assignment 6: Integrating epidemiologic assessment with assessing popular media presentation of scientific information

Objectives:

1. Use epidemiologic principles to critically assess scientific and popular media presentations of information.
2. Examine and compare information from different sources in order to evaluate accuracy, authority, currency, and point of view.
3. Recognize the cultural, physical, or other context within which information is created and how that context impacts interpretation.
4. Recognize that information may be perceived differently based on format in which it is presented.

Find one media article from the past year that reported on the effects of alcohol and health using data from a recent epidemiological study. Access the scientific article. **Assess the study for bias and confounding.** Do the authors of the scientific article draw appropriate conclusions about the relationship between alcohol and their outcome? Did the author of the media article adequately report on the results of the study? Your essay should be 1-2 pages double spaced. Be sure to include proper citations with URLs so that I can find your media article and scientific article.