

REAL STRATEGIES TO ADDRESS FAKE NEWS

LIBRARIANS, DATA LITERACY AND THE POST-TRUTH WORLD

IN THE NEWS



<http://publiclibrarians.org/2017/02/fake-news/>
<http://www.fox.com/news/graphics/fox-fake-news-map/>

What is Fake News?

The term "fake news" has been used in a lot of situations. For the purpose of our work, fake news can be any of these 3 things:

- **Fake News:** Manipulative/mislead up content. Many times this material is created online by content farms and shared via social media.
- **Bad Information:** News stories, labeled as fake, by some politicians who think it is unfavorable to themselves.
- **Bad Information:** Slippy reporting, clickbait headlines, and/or news created by well intentioned folks who don't know any better.

About the Project.

In public zones are calling a "post truth world" where student seem to focus on numbers 1st. Student believe that if a number is connected to information, that has to be a fact, but numbers are manipulated all of the time. We want students to have a toolkit of questions that they can use to question the data that is out there.

Supporting Librarians in Adding Data Literacy Skills to Information Literacy Instruction is a two year project running from October 2015 to September 2017. It is designed to help librarians design and facilitate digital literacy skills training school librarians so they can better support critical comprehension skills in their students. You can find more information at <http://data.literacyalliance.org/>.

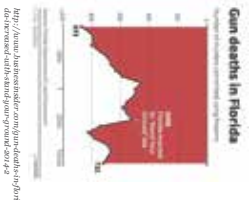
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Be Aware of How Color, Font, and Design Elements May Be Swaying Your Reaction to Graphical Content.

Is there a lot of red in a visualization? How does that make you feel? Is the font in the image the same as the font on warning signs? Graphic design elements can cause a more just reaction that is not supported by the data. Support graphic design elements and check yourself to see if they are supported by the data.

Keep an Eye on the Y-Axis.

The y-axis is the vertical axis, usually labeled on the left side of a graph. Look at the intervals on the y-axis. Are they at the same interval throughout the graph? Does it start with zero? Are the numbers increasing or decreasing? How does that impact your reading of the graph?



<http://www.khbs.com/news/2014/06/02/gun-deaths-in-florida/>
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What is Being Counted?

When you look at research being presented as news, make sure you know who was studied, how they were selected, and what data points were being counted.

For example, when unemployment numbers are reported in the news, consider who were counted as unemployed. Does that include retired people? Children under 16? People who aren't looking for jobs any more? To see how the U.S. calculates unemployment, see the Bureau of Labor Statistics. For international guidelines, consult the International Labour Organization's standards.

SPECIAL COVERAGE

- MEAN
- MEDIAN
- MODE

Don't Settle for Average!!

'Average' is sometimes used as a synonym for three distinct mathematical concepts: mean, median, and mode. "How was this average calculated?"

Mean = Adding up all numbers and dividing by the quantity of numbers
 Mode = Most Common Number

When considering statistics with major outliers, the mean may skew way out of the range of numbers. For example, the mean income for the top 1% of earners in the United States is around \$1.1 million. The median income for the same group is around \$200,000. The median is a much more realistic number. Mode could help us know where there are clusters of identical net worth, which might help us identify trends for further inquiry.

MOST RECENT

Is That a Big Number? Compared to What?

Keep some nearby reference numbers in your toolkit and be ready to compare any number you encounter in the news to what you already know. These numbers are known as statistical benchmarks. For example:

- U.S. Population: 325 million (U.S. Census 2017)
- World population: Just over 7.3 billion (U.S. Census 2017)
- Number of U.S. births each year: Just under 4 million (NCES 2016)

Know the statistical benchmarks that impact your world. Consider that if jobs in the energy industry are an important aspect of the news, you should know that the coal industry is declining. Alternatively, the solar industry employs 260,000 people – and it's rising <http://www.theoakfoundation.org/coal/>.



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Causation ≠ Correlation.

Because of headlines saying one thing causes another, that degree of certainty is very difficult to achieve. It's more likely correlation (two variables moving in sync with one another, but without knowing for certain that there isn't coincidence or other factors involved).

For example, just because people in a certain geographic area searched online for information about flu symptoms, doesn't mean that Google can predict flu trends. There could be other factors involved.



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Where is this Data Coming From?

Is the data coming from a reliable source? Dig deeply to find out.

Consider the chocolate milk research that came out in 2016. Conducted at the University of Maryland, a respected university, it turns out that the study was paid for by the dairy industry, the study wasn't peer reviewed, and there are some serious questions about whether the study's sponsors had any input into the design of the study. The study's sponsors are the same used to advertise chocolate milk. The study's design was not peer reviewed. Researchers are supposed to declare any potential conflicts of interest. And this researcher didn't.

RECOMMENDED

Are You Comparing Apples to Apples?

Is the comparison using the same units of measurement? Time periods? Are the comparisons these two (or many) things?

For example, is it fair to compare the 2009 video streaming ceremony to the 2017 ceremony? Video streaming is more prevalent and earlier (2017 than 1998) and the 2009 ceremony had 2.5 million streaming CNN viewers in 2017 to 1.3 million in 2009; you are not comparing apples to apples.



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Is the Evidence Biased?

Big data is used to make a lot of claims, but Big Data algorithms can be biased on biased data. For example, software used to predict criminality has been proven to be biased against African Americans. The software used to predict the 2016 election was biased – there could be impact bias hiding beneath its algorithms.

When was the data collected?

Is the data you looking at still relevant? Is it fair to use the data you're reading in another situation? If someone is discussing the cost of college today, make sure they have current data!

IN THE NEWS

Pie Charts Should Add Up To 100%.

Sometimes they don't...



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POPULAR

If It's Too Good to Be True, It Probably Is!



If what you're reading radically validates what you are feeling, you should question it! So... if you really want to believe that Coca Cola is good for you so that you can keep drinking it by the gallon, and then you read that it cures cancer, take a moment to read <http://www.khbs.com/news/2014/06/02/gun-deaths-in-florida/>

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