This presentation was given by Ann Agee at the California Academic and Research Libraries (CARL) 2018 Conference on April 14, 2018.
Mike Caulfield is the author of this short, open access book called “Web Literacy for Student Fact-Checkers.” Mike is the Director of Blended and Networked Learning at Washington State University in Vancouver, Washington. Mike is also the editor of the New Horizons column for the EDUCAUSE Review.
In his spare time, Mike is one of the leads of the Digital Polarization Initiative, and he wrote “Web Literacy for Student Fact-Checkers” to support its goals. Using Mike’s fact-checking techniques, this initiative is seeking to improve civil discourse by developing web literacy skills in undergraduates. San Jose State is one of 11 campuses chosen to participate. This initiative is part of the American Democracy Project, which is sponsored by the American Association of State Colleges and Universities. A little confusing. Luckily, ...
The Digital Polarization Initiative has a nickname: DigiPo. Much easier to remember and also sounds like a Pokemon character. Digipo has three student learning objectives.
DigiPo's 3 Learning Goals:

Students will learn to:

1. Perform basic verification and contextualization tasks (90-second fact checks)

2. Understand the larger social impact of mis-, dis-, and mal-information

3. Intervene in their information environment to make a difference


The first is for students to learn practical fact-checking techniques that they can use to verify information they find online.
The second is to have students gain an understanding of the danger false information poses to society.
And the final goal is to give students ways to intervene and help reduce information pollution.
DigiPo Learning Goal #1

Perform basic verification and contextualization tasks (90-second fact checks)

Mike’s book addresses the first learning goal, and in it he presents four moves and a habit.
Slide 7

The four moves are very practical, very specific search strategies students can use to evaluate information they find online.

The first is check for previous work – This means searching fact-checking sites such as Snopes and Sourcewatch
Go upstream to the source – these are strategies for determining where the information originated and its context
Read laterally – I think this one is the most valuable. This teaches students to step out of the site they’re evaluating and look for what others say about it.
Circle back – This emphasizes the iterative nature of research; the more you research the better and more focused your search terms will get.

So those are the four moves and this is the habit.
Four Moves & a Habit

The Habit: Check your emotions

“When you feel strong emotion — happiness, anger, pride, vindication — and that emotion pushes you to share a “fact” with others, STOP. Above all, it’s these things that you must fact-check.”

Michael Caulfield

Check your emotions. “When you feel strong emotion — happiness, anger, pride, vindication — and that emotion pushes you to share a “fact” with others, STOP. Above all, it’s these things that you must fact-check.” So let’s practice:
“Pennsylvania school district supplies classrooms with buckets of rocks to combat school shooters.” No matter which side of the gun debate you’re on, a post like this is bound to create an emotional response. I think that the “check your emotions” habit is the hardest part of Mike’s techniques. By the way, this is not fake news; it is true.
Four Moves & a Habit

1. Check for previous work
2. Go upstream to the source
3. Read laterally
4. Circle back

The Habit: Check Your Emotions

The habit all by itself is challenging. So how to cover the four moves and a habit in a one-shot session?

Now a typical one-shot library session is already jammed so it is not realistic to try and cover all of these skills, but it is possible to integrate a technique of your choice into your current instruction.

Of course, these would only make sense when students have an assignment that allows online resources. If you’re teaching for an instructor who wants students to use only primary resources in print, you would want to save these techniques for another day.
1. Check for previous work

- Snopes.com
- Politifact.com
- FactCheck.org
- SourceWatch.org

The first move, check for previous work, is probably the quickest and easiest to incorporate. This technique is simply to check if a claim has already been fact-checked by a reputable source. I’ve listed four of the major players here: Snopes, Politifact, Factcheck, and Sourcewatch.
Introducing this move can be as simple and quick as introducing some basic online search techniques. These should include using **quotes**, which instructs Google to search on a phrase, and using the **site:** tool, which tells Google to search on these terms only in the Snopes.com website. In this example, I’m searching on “Obama” and the phrase “birth certificate.”

In classes I’ve taught, these search techniques come as a revelation to students. The quotes to search on a phrase, the “site:” technique, and the existence of fact-checking sites might all be new information to them and should be reinforced in a handout or research guide.

How you incorporate this move into your instruction depends on the class and the assignment. An obvious fit is as part of evaluating sources. If students need news on current events, this could also be easily incorporated.
2. Go upstream to the source

The second move is to go upstream to the source. That is, find the original report, photo, or statistic cited in a story and evaluate it. Is the source reputable? Is the information taken out of context? Are the researchers qualified?

This example is from a Fox News tweet citing a Bank of America study. Their headline is that 1 in 6 millennials say they have $100,000 or more in savings.

As in checking for previous work, there are some simple search techniques to go upstream to the source. By highlighting a relevant portion of the text then right-clicking the mouse (control-click on a Mac), you’re given the option to search Google for that phrase.
When discussing this technique, you can also bring in the concept of click constraint. As Mike writes in his book, novices scan the titles in their results, but pros scan the URLs beneath the titles, looking for clues as to which sources are best; they don’t automatically click on the first link in the list. Here our choices are *USA Today*, *Fortune*, and the *Washington Post*. I chose the *Fortune* article. It shows that BofA surveyed millennials ranging in age from 23 to 37—a range of 14 years.

Only 5% of younger millennials have $100,000 or more in savings, compared to 21% of older millennials. So the Fox News tweet was partially correct but taken out of its full context.
The right-click technique can also be used on photos. As with text, it will search the web for other instances of the photo. This photo has been altered with PhotoShop.

As with checking for previous work, going upstream to the source is an obvious fit with the evaluating sources portion of a one-shot session. The reverse image search also works on charts and graphs so could be used in classes requiring authoritative statistics. If you have more time, you can distribute examples of fake and real news and have students go through this process themselves.
So now we’re up to #3: read laterally. As you may have picked up by now, Mike is no fan of the checklist approach to web evaluation. The reason for his opinion springs from the research of Dr. Sam Wineburg of the Stanford History Education Group.
Dr. Wineburg and his team published a study in 2016 on how middle school, high school, and college students evaluate information they find online. The short answer is: very, very badly.

Their research showed that students tried to evaluate the credibility of a source by reading the source itself very closely.

Professional fact-checkers, on the other hand, immediately got off the site and used the internet to check the internet. These fact-checkers opened multiple tabs to see what Wikipedia and Google News said about a source, rather than relying on the source itself. Sam Wineburg and his Stanford research team dubbed this technique “lateral reading.”
“In reality, most literacies are heavily domain-dependent, and based not on skills, but on a body of knowledge that comes from mindful immersion in a context.”

*Michael Caulfield*

The fact-checkers’ rate of success in determining fake from real information was far, far better than that of the students.

In a small study conducted in 2017, Dr. Wineburg also tested Stanford history faculty; they also didn’t do well in distinguishing what was real from what was false. So research experience was not a factor.

It’s this research that led to Mike’s conclusion: “In reality, most literacies are heavily domain-dependent, and based not on skills, but on a body of knowledge that comes from mindful immersion in a context.” The skills he is referencing here refer back to the checklist approach to evaluation.

So this is what the lateral reading technique seeks to do: help students become immersed in a context.
When talking about this technique in class, a first step is to define your terms. I had the opportunity to observe Dr. Wineburg teach a class on vertical versus lateral reading, and this simple graphic overlaid on a web page really helped clarify the concept for the students.

He made the distinction between close reading—starting at the top, reading straight down, and analyzing a site within its own context—and reading across connected sites. Checking laterally to see what others had to say about the source.

This is a true news story, by the way. 20% of the women in Japanese prisons are seniors and of that group 9 out of 10 were convicted of shoplifting. Some of them did it just because they were bored. The moral is: plan your retirement.
As with the other techniques, there is a search you can demonstrate to quickly check on outside opinions about a website. This is the "-site:" technique. In Google the hyphen acts as the Boolean operator "NOT", so this search will look for mentions of a website but rule out the website itself.
This search technique can also be used to check on organizations and individuals outside of any websites they might maintain. This search will show that the American College of Pediatricians is a fringe anti-LGBT hate group.
Another technique is to search on a website’s address at ICANN WHOIS. ICANN is a not-for-profit organization that is the central repository for domain names and IP addresses. This search will often show who actually administers a site. I say "often" because some sites subscribe to ICANN privacy services so only a proxy will show up.

So these search techniques are some of the mechanics but students also need criteria for evaluating a source.
What Makes a Trustworthy Source?

- **Process**
  A reliable source has a process in place for verifying facts

- **Aim**
  What the publication, author or media source is attempting to accomplish

- **Expertise**
  Depends on context, but researchers are favored

Reading laterally raises the question, “How do you know to trust a source about the source you’re researching.” That is, what makes a trustworthy source? The DigiPo initiative uses Wikipedia’s guidelines for determining reliability: process, aim, and expertise.

**Process** means a reliable source should have a process in place for encouraging accuracy, verifying facts, and correcting mistakes.

Mike Caulfield writes that **Aim** is defined by what the publication, author, or media source is attempting to accomplish. Aims are complex. Respected scientific journals, for example, aim for prestige within the scientific community, but must also have a business model. A site like the New York Times relies on ad revenue but is also dependent on maintaining a reputation for accuracy” (2017, *Evaluating a Website*).

**Expertise** depends on context, which, of course, equals the frame: Authority Is Constructed and Contextual. According to Wikipedians, researchers in a field get precedence as far as reliability.

In class, your could walk students through these criteria or “what makes a trustworthy source?” could also be used as a discussion question. The technique of reading laterally would again fit in evaluating sources, but would also fit in a more skills-based session on online search techniques. If you have more time, students can practice these techniques on news samples that you supply.
Another topic to hit on when discussing lateral reading is **confirmation bias**.

This is our natural tendency to look for sources that confirm our existing beliefs, and something that lateral reading is designed to work against.

A good way to introduce the concept of confirmation bias is this 2-minute video from Countable. Countable is an online platform for civic education. (Countable. (2017, July 5). 5 ways to beat confirmation bias [YouTube video]. Retrieved from https://youtu.be/xwZj_72Mawk)
4. Circle back

So, this video is quick and attention-getting and a good way to help break up your session. As I did just now.

The final technique, circle back, is simply the iterative nature of search. This is a natural fit with most library sessions that revolve around finding resources for an assignment. It simply reinforces the repetitive nature of search. That as you find more information, you can make your search more targeted. It also highlights persistence. If one fact-checking site doesn’t work, try the next one. Of the four techniques, I think this one is prebaked into most library instruction.
Recap

1. **Check for previous work:**
   Has the site been fact-checked already?

2. **Go upstream to the source:**
   Where did this content originate?

3. **Read laterally:**
   What are other people saying about this source?

4. **Circle back:**
   Start from the beginning with the new search terms you discovered.

**The Habit:**
Check your emotions

To circle back myself, here’s a recap of the four moves and the habit.

**Check for previous work**
**Go upstream to the source**
**Read laterally**
**Circle back**

And the habit: Check your emotions.
So the techniques we’ve looked at are practical and handy, but they need to be placed in context. Students need to know why they should bother fact-checking. This brings us to DigiPo’s second learning goal: understanding the impact of misinformation. Let’s look at this example.
So this piece of fake news says that Coca-Cola had to recall Dasani water because it was infected with a clear parasite worm. This photo that ran with the original story is actually a picture of an eel larva, not a parasite, and the photo comes from a fisheries research institute. So the question to ask students is: what type of harm does this misinformation do? Does this piece of fake news affect society in other ways?

So what do you think? What are some of the larger issues here?
The Effects of Fake News

Fake news...

- Destroys trust
- Can hurt you
- Undermines the benefits of evidence-based information
- Undermines your credibility

Fake news destroys trust. Civilization is built on trust. To have a civilization, we need to trust individuals, systems, and institutions. To attend this conference, you may have trusted an airline not to steal your money, a pilot not to fly into the ocean, an Uber driver to know where she was going, and a hotel to honor your reservation. All of that for just one conference. When fake news creeps into a society it undermines trust and replaces it with cynicism and suspicion.

Fake news can hurt you. This is especially true of pseudo-science articles, such as the misinformation that HIV and AIDS aren’t related. Incorrect information can harm your personal welfare—politically, socially, and physically.

Real news, especially about politics or business, can help you make informed decisions. If you want to invest or vote wisely, you need accurate information. Fake news can lead to poor decisions.

Fake news destroys your credibility. If you retweet or share false information, it will be much more difficult for people to believe you in the future. If I know you have poor judgement or can be easily fooled, why should I listen to your opinion?
So this brings us to the third learning goal: how to intervene. I think this one is very important. Students need to feel like active participants in the information landscape and not passive victims.
What Students Are Using

• 88% use social media
• Facebook and Instagram are the most popular platforms
• 74% of Facebook users and 60% of Instagram users use their accounts daily

According to a February 2018 study from the Pew Research Center, 88% of people aged 18-29 use social media, Facebook and Instagram are the most heavily used, and more than half of the users are using their accounts on a daily basis.

Social media is a big part of our students’ lives and their social interactions. Correcting information means contradicting and correcting their friends and relatives. It’s not just an information problem, it is also an etiquette problem.
Possible Strategies

• “Cool picture! Have you ever seen the original?” along with a link to the original, valid info.

• Reshare it yourself, but provide the context “I know this is fake, but it’s how I feel right now,” along with a link to the valid information.

In a blog post, Mike Caulfield suggested these two strategies. In the first instance, you start with something positive then ask a question. It's non-confrontational and a piece of it is even complimentary. It avoids the traps of being overbearing or condescending.

The second strategy aligns you with the sender, but also points out that the information is false.

No one likes to be wrong and no one likes to be fooled. Being taken in by fake news puts people in both of these states. In a workshop setting, asking students “What would you do?” makes a good discussion question.

Interventions can be small like these: providing context and sharing a better source. Also let students know they can think bigger, such as creating a blog devoted to correcting misinformation or updating Wikipedia articles on controversial topics.
A good visual and a good term for teaching this is “information pollution.” Students have learned about all types of pollution and the importance of controlling it since they were little. Talking about information pollution is a good way to stress the importance of pushing back against fake news.
You have to trust something

• Be selective
• Cynicism vs. skepticism

To keep students from feeling overwhelmed, point out that not everything that passes through their social media needs to be fact-checked. Does it really matter if that cute kitten is actually playing the piano? No, not really. The yardstick can be the habit: if a piece of news makes you furious, outraged, or shocked, check before sharing.

Teach students that they need to get out of what Mike Caulfield calls “the mushy middle.” Being a cynic, having the world view that everyone is lying, is just as bad as being gullible and believing everything you’re told. Being skeptical, however, asking for evidence before accepting a piece of news, makes students responsible web citizens.
I want to end with a couple of practical tips.
Where to Find Fake News Artifacts

- fourmoves.blog
  Mike Caulfield’s blog is regularly updated with new examples of fake news

- Searches that gives students a mix of high- and low-quality resources
  Caulfield, M. (2018, March 14). 300+ web searches for your online literacy class. Retrieved from https://hapgood.us/2018/03/14/300-web-searches-for-your-online-literacy-class/

If you’ve taught fake news workshops, you’ll know that finding examples of fake news can be time consuming, and the examples tend to get dated. Mike’s FourMoves blog is updated regularly with new examples of fake news that you can use. These examples are also often aligned with his four moves strategies.

Mike also did a blog post that provides more than 300 web searches that will give students a variety of good and bad resources to sift through. For example, one search is: can an algorithm be racist?
Another problem with fake news examples is their impermanence. One way around this is with screenshots and physical handouts. If you want students to work online, here are some resources for creating stable links. The first is, of course, the Internet Archive Wayback Machine. Started in 1996, it is the granddaddy of web archiving, and creating a link here gives you a permalink and also archives the page.
Perma.cc is another approach. Perma.cc is developed and maintained by the Harvard Law School Library. Individual accounts allow you to create ten links per month, and if you sign up your library for an institutional account, you have no usage limit.

There are some advantages to using this service over the Wayback Machine. Perma.cc creates both a web archive file (WARC) and a screenshot (PNG). Also, their links tend to be shorter.
To close, just a reminder that fake news isn’t new. This is the detail of a cartoon published in an 1894 edition of *Puck* magazine, well over a century ago. Fake news has been known as disinformation, misinformation, propaganda, yellow journalism, and many other names. And with the proper techniques, we and our students can fight back.